

**E-racing the Genetic Family Tree: A Critical Race Analysis of the
Impact of Familial DNA Searching on Canada's Aboriginal Peoples**

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ABSTRACT

Canada established its National DNA Data Bank (NDDB) in 2000. Since that time, the NDDB has assisted in the solving of numerous criminal investigations. The NDDB has two indexes: the convicted offender index, which holds the identifiable DNA of persons convicted of designated crimes, and the anonymous crime scene index, which holds anonymous DNA collected from crime scenes. A match to a crime scene profile provides criminal investigators with extremely valuable evidence linking a suspect to a crime scene and the NDDB has been used to identify perpetrators in thousands of crimes in Canada.

By limiting the identifiable DNA in the NDDB to convicted offenders, Canada has aimed to balance the crime-solving benefits of the data bank with competing rights issues, particularly the individual right to privacy. Some have encouraged expansions to the NDDB scheme in order to increase the number of crimes that can be resolved through the use of DNA evidence. One possible expansion is to introduce familial searching, a technique in DNA analysis that enables suspect identification based on the existence of a partial match between an identifiable DNA profile and an anonymous profile retrieved from the scene of a crime. Where closely matching profiles indicate that a close genetic relationship likely exists between the identifiable offender and an anonymous perpetrator, police will have a useful lead for follow-up and may be able to locate a suspect by testing the DNA of the identified offender's close relatives.

The use of familial searching is controversial. As a crime-solving tool, it has helped solve crimes in other jurisdictions in which it is currently used. At the same time, it introduces legal and ethical questions that have not been fully explored in Canada. One of the crucial questions is whether and to what extent familial searching may discriminate against Canada's Aboriginal peoples, who suffer the effects of systemic bias in the criminal justice system generally and who are likely to be overrepresented in the NDDB. Applied in an inherently unequal system, familial searching would disproportionately impact Aboriginal peoples and perpetuate or possibly worsen this existing inequality.

To help inform Canada's decision about the use of familial searching as part of NDDB operations, this dissertation examines the issue from a Critical Race Theory perspective. It outlines the various ways in which familial searching would disproportionately impact Aboriginal peoples. The dissertation further examines international approaches to familial searching and evaluates the extent to which these policies protect against racial inequality concerns relating to the use of familial searching in each jurisdiction considered. It argues that Canada should prohibit familial searching of NDDB data in order to avoid a situation in which the technique would perpetuate or worsen systemic bias against Aboriginal peoples in the Canadian criminal justice system.

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CHAPTER ONE: Introduction

1.1 Introduction to the Research

The world of forensic investigations was forever changed in 1984 with Sir Alec Jeffreys' now famous discovery of the identifying powers of deoxyribonucleic acid, or more commonly 'DNA'.¹ With that discovery, it became possible for forensic investigators to identify and confirm criminal suspects using 'DNA profiling'. The process involves the extraction of a suspect's unique genetic profile from anonymous genetic tissue left behind at a crime scene and comparison of that profile to one obtained from the genetic material of an identified person.² A match between two profiles in such circumstances provides police with compelling evidence linking the person to the crime under investigation. The first murder conviction resulting from DNA profiling brought the science and the potential it held for criminal investigations directly into the spotlight. The case occurred in Britain in 1988, and led to Colin Pitchfork being found guilty of sexually assaulting and murdering two young women.³ The crimes had been committed in 1983 and 1986,

¹ Alec Jeffreys, "Genetic Fingerprinting" Chapter 2 in Torsten Krude (ed.), *DNA: Changing Science and Society* (New York: Cambridge University Press, 2004), at 44. The discovery and modern knowledge of DNA science are explored in detail in Chapter Two in order to explain the scientific basis of familial searching and connect this science to the risks outlined in the dissertation as well as the protections built into the international frameworks examined in Chapter Six.

² A.O. Ramey, "DNA Typing Evidence: Splitting Hairs" (1993) 55(9) R.C.M.P. Gazette 1, at 1 and Jonathan Kimmelman, "Risking Ethical Insolvency: A Survey of Trends in Criminal DNA Databanking" (2000) 28 Journ. of Law, Med. and Ethics 209, at 209.

³ Due to its significance in the history of DNA evidence in criminal law, this case has been widely reported and discussed in the literature. See, for instance, Trevor R. McDonald, "Genetic Justice: DNA Evidence and the Criminal Law in Canada" (1999) 26 Man. L.J. 1, at 4; Robert E. Astroff, "Identity Crisis: The Charter and Forensic DNA Analysis in the Criminal Justice System" (1996) 5 Dal. Journ. Of Legal Studies 211, at 215; Craig Nydick, "Comment: The British Invasion (of Privacy): DNA Databases in the United Kingdom and United States in the Wake of the Marper Case" (2009) 23 Emory Int'l L.

and although investigators had not determined any immediate suspects in the case, they had collected and stored semen samples left on the bodies of the victims.⁴ A mass search for the individual whose DNA would match the crime scene DNA led to the identification of Pitchfork as the perpetrator. Pitchfork would likely have continued to evade police suspicion had it not been for the DNA evidence and the solving of the crime showcased the potential of DNA profiling.⁵

Since the Pitchfork case, DNA profiling has helped solve numerous criminal investigations, including many in Canada.⁶ Based on its successes in crime solving,

Rev. 609, at 613; and Robin M. White & Jeremy J.D. Greenwood, "DNA Fingerprinting and the Law" (2011) 51:2 *The Modern Law Review* 145, at 149. In terms of media coverage, see Craig Seton, "Life For Sex Killer Who Sent Decoy to Take Genetic Text" *The Times*, UK (23 January, 1988); Lynda Mann & Dawn Ashworth, "Crime-fighting Successes of DNA" *BBC News* (4 October, 2006) online: http://news.bbc.co.uk/2/hi/uk_news/5405470.stm; and Stephen Michaud, "DNA Detectives" *The New York Times* (6 November, 1988) online: <http://www.nytimes.com/1988/11/06/magazine/dna-detectives.html?pagewanted=all&src=pm>.

⁴ Seton, *supra* note 3.

⁵ In addition to identifying Pitchfork as the culprit, DNA profiling was used to clear another suspect named Richard Buckland. Investigators had initially believed that they had caught a break in the case when in 1986, one month after the second assault and murder, seventeen-year old Buckland was seen lingering near the scene of the crime. Based on reports that Buckland had been consumed with details of one of the crimes, police suspected the teenager and proceeded to collect samples of his blood for testing against the crime scene evidence. By this time, investigators felt certain about two things: that the same man had attacked the two victims, and that this perpetrator was Buckland. Detectives were reportedly left "dumbfounded" when the DNA evidence exonerated their prime suspect. See discussion in: J.D. Aronson, "DNA Fingerprinting on Trial: The Dramatic Early History of a New Forensic Technique" (2005) 29(3) *Endeavour* 126, at 128. The article by Aronson reproduces the original article printed in the *Times*, which discussed the significance of the DNA evidence in the case: Seton, *supra* note 3. See also Simon A. Cole, *Suspect Identities: A History of Fingerprinting and Criminal Identification* (Cambridge, Massachusetts: Harvard University Press, 2001), at 291. The potential for familial searching to exonerate the wrongfully convicted is sometimes offered as a potential benefit of the technique. I examine and rebut this argument in Chapter Four.

⁶ In 2010, the National DNA Data Bank Advisory Committee (an expert panel tasked with overseeing the operation of the NDDDB) reported that Canada's DNA data bank has assisted in the investigation of over 1000 homicides, 1933 sexual assaults, 366 attempted murders, and 1700 armed robberies: National DNA Data Bank Advisory Committee, "National DNA Data Bank Advisory Committee Annual Report" (Ottawa: Government of Canada, 2009-2010), at 6. In its 2013-2014 report, the Committee reported that there had been over 3000 offender hits in each year since the release of the above statistics: National DNA Data Bank Advisory Committee, "National DNA Data Bank Advisory Committee Annual Report" (Ottawa: Government of Canada, 2013-2014) online: <http://www.rcmp-grc.gc.ca/dnaac-adncc/annurp/2013-2014-annurp-eng.htm#13>.

efforts to increase the utility of DNA in the criminal context continue.⁷ ‘Familial searching’ represents an emerging application of DNA science that allows police to identify potential suspects based on the likelihood that genetically related individuals share similar DNA profiles.⁸ Canada’s National DNA Data Bank Advisory Committee recently defined familial searching as:

[T]he deliberate targeting and evaluation of DNA profiles within a data base that does not include the DNA profile from the subject of interest, but may include a relative who can be identified by looking at close but not perfect “matches”. This typically involves the interrogation of a large DNA profile data base composed of known individuals with an unknown DNA profile developed from a crime scene”.⁹

⁷ Beyond the forensic context, DNA has proven to be actually and potentially useful in a wide range of contexts and for numerous purposes. For instance, while there are important issues to address such as the need to obtain individual consent for the use of genetic information, research into the genetic linkage to diseases has had clear utility in the delivery of healthcare and health research: see Elaine R. Mardis, “A Decade’s Perspective on DNA Sequencing Technology” (2011) 470 *Nature* 198; Nola M. Ries, “Growing up as a Research Subject: Ethical and Legal Issues in Birth Cohort Studies Involving Genetic Research” (2008) 15 *Health L.J.* 1; Timothy Caulfield, “Gene Banks and Blanket Consent” (2002) 3 *Nat. Rev. Genet.* 577. There is an emerging direct-to-consumer research industry that provides information to interested consumers about their genetic makeup. This growing industry similarly introduces important questions about the need for strong regulation and oversight: J.A. Gniady, “Regulating Direct-To-Consumer Genetic Testing: Protecting the Consumer Without Quashing a Medical Revolution” (2008) 76 *Fordham L. Rev.* 2429; M. Everett, “The Social Life of Genes: Privacy, Property and the New Genetics” (2003) 56:1 *Social Science & Medicine* 53 at 54. There is also a growing interest in applying the information revealed by genetic testing to decision-making in the insurance and employment contexts. This potential use introduces legal and ethical questions including how to properly manage the risk of genetic discrimination for individuals whose tests show a predisposition to certain conditions: Trudo Lemmens, Daryl Pullman & Rebecca Rodal, “Revisiting Genetic Discrimination Issues in 2010: Policy Options for Canada” (Ottawa: Genome Canada, 2010). Additional works on the use of genetic information in the insurance and employment context are listed in the literature review, below.

⁸ Amelia Bellamy-Royds and Sonya Norris, “New Frontiers in Forensic DNA Analysis: Implications for Canada’s National DNA Data Bank” (Ottawa: Library of Parliament, 2009), at 10.

⁹ NDDB Advisory Committee Annual Report 2013-2014, *supra* note 6. It is worth noting that this definition emphasizes that familial searching involves an examination of the genetic similarities between “relatives”. This characterization overlooks the complexity of the concept of a familial relative, which should not necessarily imply a genetic connection. There may also be a genetic relationship between two or more individuals without a familial relationship. On that basis, Erica Haimes has asked whether it may be inappropriate to call the technique familial searching: Erica Haimes, “Social and Ethical Issues in the Use of Familial Searching in Forensic Investigations” (2006) *Journ. of Law, Med. and Ethics* 263, at 264. I do not attempt to resolve the question of whether

As the above definition emphasizes, familial searching may be especially useful when applied to a large collection of samples like the one reflected on Canada's National DNA Data Bank (NDDDB).¹⁰

The first country to secure a conviction through use of familial searching was the United Kingdom in 2004, when Craig Harmon was convicted for manslaughter.¹¹ While intoxicated, Harmon dropped a brick from an overpass into oncoming traffic.¹² The brick broke the windshield of a truck driven by Michael Little, who had a heart attack and died.¹³ Police first attempted to use DNA profiling to solve the case, testing the blood from the brick against the UK's DNA database for an exact match, which was not produced.¹⁴ Investigators then searched for a partial match, which returned the profile of a man with an individual genetic code that was very similar to the one obtained from the anonymous crime scene DNA.¹⁵ Because the anonymous crime scene profile and identified profile did not match, the man was excluded as a suspect; however, the similarities between the profiles led police to investigate his genetic family members, which led them to a brother, Craig Harmon.

familial searching should be renamed, but I do aim to place proper emphasize on the genetic component of familial searching as I discuss its use and implications in the coming chapters.

¹⁰ The introduction and scope of Canada's NDDDB is discussed in greater detail below.

¹¹ Bellamy-Royds & Norris *supra* note 8, at 10; Erin Murphy, "The New Forensics: Criminal Justice, False Certainty, and the Second Generation of Scientific Evidence" (2007) 95 Cal. L. Rev. 721, at 731.

¹² Henry T. Greely et al., "Family Ties: The Use of DNA Offender Databases to Catch Offenders' Kin" (2006) *Journ. of Law, Med. and Ethics* 248, at 248; Murphy, "The New Forensics" *supra* note 11, at 731.

¹³ Greely, *supra* note 12, at 248; Murphy, "The New Forensics" *supra* note 11, at 731.

¹⁴ Greely, *supra* note 12, at 248.

¹⁵ Greely, *supra* note 12, at 248.

A confession was obtained after Harmon's genetic profile produced an exact match to the crime scene DNA found on the brick.¹⁶

Since Harmon's case, many investigations around the world have been solved through familial searching.¹⁷ Each follows a similar pattern: DNA is found at a crime scene and an anonymous profile is derived from the genetic material. When no match to the profile is obtained from the available DNA information, a search for a partial match is attempted. If a profile is revealed that is sufficiently similar to the anonymous crime scene DNA to suggest the existence of a genetic relationship, it becomes the 'pivot' profile¹⁸ and a potentially useful lead. Once the source of the pivot profile is identified, police can turn their attention to family members of the identified individual¹⁹ in an attempt to locate an exact match for the crime scene

¹⁶ Greely, *supra* note 12, at 248; Murphy, "The New Forensics" *supra* note 11, at 731.

¹⁷ Additional examples of successful uses of familial searching are provided throughout this dissertation.

¹⁸ The term 'pivot' profile is borrowed from: Haimes, *supra* note 9, at 269.

¹⁹ For the purposes of examining the equality implications of familial searching, I distinguish between family members (who may or not be genetically related) and genetic family members (who may or may not belong to the same social family unit). The familial search follow-up process specifically targets genetic family members. Police will therefore target persons who they (rightly or wrongly) assume share a genetic relationship with the identified person. This introduces a complex concept of the family, as the targeted family members may in fact include social but not genetic family members (i.e. where there is a false presumption of a genetic relationship between two or more individuals who identify as social family members). It may also exclude social family members who are presumed not to share a common genetic link (e.g. in the case of an openly discussed adoption). Finally, it may exclude genetic family members who are not identified as family members because of a lack of any social connection or awareness of the genetic relationship (e.g. in the case of a birth about which the genetic father was unaware). A complex notion of "family" is therefore introduced in that the type of discrimination I discuss in this thesis is facilitated by the use of genetic information, but does not necessarily depend on either a shared genetic lineage or a shared social family connection. I use the term "family" to refer to members of a family group who would be identified as family members for the purpose of a familial search investigation. It is important to point out that Aboriginal peoples may experience other types of discrimination that is directly based on their genetic makeup and that is therefore based on a different conception of the family (the genetic family tree). For examples of research exploring genetic discrimination against Aboriginal peoples based on genetic commonalities see: Michael Dodson and Robert Williamson, "Indigenous Peoples and the Morality of the Human Genome Diversity Project" (1999) 25:2 *Journal of Medical Ethics* 204; Colin Tatz, "Coming to Terms: "Race', Ethnicity, Identity and Aboriginality in Sport" (2009) 2 *Australian*

DNA. Exclusionary samples are then tested to determine whether the DNA of any of the person's relatives matches the anonymous crime scene DNA.

Although successful uses of familial searching illustrate the crime-solving benefits of the technique, Canada should prohibit familial searching of the NDDB. I argue this position based on a Critical Race Theory (CRT) analysis of the ways in which familial searching of the NDDB would discriminate against Canada's Aboriginal peoples.²⁰ My analysis of the issue includes consideration of potential challenges to familial searching under sections 15, 8, and 7 of the *Canadian Charter of Rights and Freedoms* (the *Charter*),²¹ as well as potential policy outcomes of integrating familial searching into forensic investigations in Canada.²² These arguments are framed by a detailed explanation of the science of familial searching in Chapter Two and an analysis of the leading international frameworks on familial searching in Chapter Six. In this chapter, I establish a foundation for advancing these different arguments under a CRT framework in which equality acts as a unifying

Aboriginal Studies 15. See also discussion in the literature review below on the risk of genetic discrimination that may occur on racial lines based on inadequate attention being paid to social factors.

²⁰ The broad term "Aboriginal peoples of Canada" has been historically and constitutionally defined to include First Nations, Inuit, and Métis peoples: *Constitution Act, 1982*, Schedule B to the *Canada Act, 1982*, (UK) 1982, c. 11, at s. 35(2); John Curry, Han Donker, and Richard Krehbiel, "Land Claim and Treaty Negotiations in British Columbia, Canada: Implications for First Nations Land and Self-Governance" (2014) 58:3 *The Canadian Geographer* 291, at 292. The plural "Aboriginal peoples" is used throughout this dissertation to reflect the great diversity among the group as a whole (see similar comment in Christopher Sewrattan, "Apples, Oranges, and Steel: The Effect of Mandatory Minimum Sentences For Drug Offences on the Equality Rights of Aboriginal Peoples" (2013) 46 *U.B.C. L. Rev.* 121).

²¹ *Canadian Charter of Rights and Freedoms* Part I of the *Constitution Act 1982*, being Sched. B of the *Canada Act 1982* (U.K.) c. 11, at ss. 15, 7, and 8. The main *Charter* challenges to familial searching are discussed in detail in Chapter Three.

²² The potential policy objections to familial searching are examined in Chapter Four and include the extent to which discretionary judgment is involved in the familial searching process (part 4.2.1), the relationship that would arise between familial searching and abandoned DNA (part 4.2.3) as well as between familial searching and phenotyping (part 4.2.5), and the potential impact on family cohesion (part 4.2.7).

theme. Towards that objective, I outline below the general principles of CRT and explain my choice of methodology. I then provide background information on the NDDB scheme and the current overrepresentation of Aboriginal offenders in the Canadian criminal justice system relative to the number of Aboriginal people in the general population. I argue that this problem logically translates to the NDDB and that the situation represents a crucial equality concern in Canada. I review existing literature upon which this dissertation builds and end with an outline of the remaining chapters.

1.2 Methodology

The term ‘Critical Race Theory’ (CRT) was popularized in the 1980s, representing a theoretical framework that offers a racial analysis of legal and social issues.²³ The methodology both critically responds to and informs pre-existing theories and methodologies that consider race²⁴ and its effects in society, including traditional civil rights theories, the Critical Legal Studies movement, liberal race discourse, and feminist legal scholarship.²⁵ It offers a new approach to studying race, one that aims to expose and deal with systemic forms of racism in the modern

²³ Kimberlé Williams Crenshaw has been a central figure in the introduction and early development of CRT. Her efforts were assisted from an early period by Mari Matsuda as well as a number of other scholars, including Richard Delgado, Linda Greene, Denise Carty-Bennia, and Neil Gotanda: Kimberlé Williams Crenshaw, “The First Decade: Critical Reflection, or ‘A Foot in the Closing Door’” (2002) 49 U.C.L.A. L. Rev. 1343, at 1350.

²⁴ The concept of “race” as it is used in this dissertation is discussed in further detail below.

²⁵ Athena D. Mutua, “The Rise, Development and Future Directions of Critical Race Theory and Related Scholarship” (2007) 84 Denv. U. L. Rev. 329, at 339; Cheryl Harris, “Critical Race Studies: An Introduction” (2002) 49 UCLA L. Rev. 1215, at 1221; Williams Crenshaw, “The First Decade”, *supra* note 23, at 1343.

world.²⁶ CRT uses racialized power and oppression as the central driving force of the methodological inquiry and criticizes academic research in which such matters are considered as sideline issues.²⁷ It exposes a society that is fundamentally unequal and systematically controlled through racialized hierarchies of power that allow racial minorities to remain subjugated by white advantage.²⁸ It aims to empower those that have been systematically excluded or oppressed by acknowledging the effects of racism and by working to develop solutions that will avoid the perpetuation or worsening of ongoing racial disparities.²⁹ The overarching methodological goal is to destabilize oppressive orders and transform today's society into one in which marginalized groups are free from subordination and

²⁶ Richard Delgado, "Rodrigo's Reconsideration: Intersectionality and the Future of Critical Race Theory" (2011) 96 Iowa L. Rev. 1247, at 1252.

²⁷ Williams Crenshaw, "The First Decade", *supra* note 23, at 1345.

²⁸ Kevin Hylton, "Talk the Talk, Walk the Walk: Defining Critical Race Theory in Research" (2012) 15:1 Race, Ethnicity and Education 23, at 24; Dorothy Brown, "Fighting Racism in the Twenty-First Century" (2004) 61 Wash. & Lee L. Rev. 1485, at 1487. It is important to note that while social hierarchies are referred to throughout this chapter as a way to explain the main goal of CRT research, social hierarchies are not simple constructions. In reality, these hierarchies are based on complex intersectional identities and drastic differences between those who might be categorized as "white", "Black", "Indigenous" or "Asian", including differences based on gender, sexual orientation, or class. For a discussion on the complexity of the "hierarchies" often referred to in CRT research, see Devon W. Carbado, "Race to the Bottom" (2002) 49 UCLA L. Rev 1283, at 1296.

²⁹ Hylton, *supra* note 28, at 26. This type of systematic exclusion was seen, for instance, when UCLA School of Law eliminated its affirmative action program from its admission policies in the 1999-2000 academic year. The decision to exclude race and ethnicity as factors in the selection process led to a drastic reduction in representation within the student body of non-white students. The University's policy of colourblindness ignored the reasons for the predominance of white students and intensified the existence of a clear white advantage. A similar situation occurred as the CRT movement emerged in the early 1980s. In this instance, students at Harvard advocated for the hiring of a Black professor to teach a course on Constitutional Law and Minority Issues. The situation had followed the resignation of Professor Derrick Bell, who had previously taught the course and who had resigned in order to become the Dean of the University of Oregon Law School. The Dean argued that there was no reason to hire on any basis other than academic qualification and merit and that there were few qualified Black candidates. The approach clearly ignored the oppressive conditions that had led to the predominance of white candidates. See discussion in Mutua, *supra* note 25, at 335; Harris, *supra* note 25. Kimberlé Crenshaw would later note that this experience with the hiring of faculty at Harvard and the organized student protest (as well as the response that followed) may have provided the catalyst for the CRT movement: Williams Crenshaw, "The First Decade", *supra* note 23, at 1351.

racialized power and control.³⁰ The social hierarchies that enable that power and control are deeply entrenched, and effecting this change often requires defense of unpopular positions.³¹

I approach the question of whether and to what extent Canada should allow familial searching of the NDDDB through a CRT lens in order to expose the racial implications of the technique. Crucial to this choice of methodology is the concept of 'race'. While race was historically considered as a biological categorization of humans,³² it is now understood as a social rather than biological construct. CRT is not ultimately concerned with race as a biological concept but instead the social reinforcement of racial categorizations. In this dissertation the term race is used to emphasize different experiences arising from social hierarchies that reflect racial categorizations of individuals and the groups to which they belong or are perceived to belong. Viewed in this sense, racial distinctions are relevant in that they reflect different experiences, choices, and opportunities, both past and present, which were determined and reinforced by societal structures.

³⁰ Mutua, *supra* note 25, at 336, 352-354; Hylton, *supra* note 28, at 24 and 27-28; Brown, *supra* note 28, at 1486.

³¹ See comments to this effect in Hylton, *supra* note 28, at 36. The arguments presented in this dissertation indeed reflect an increasingly rare approach to familial searching of national DNA data banks. As seen in Chapter Five, few jurisdictions have formally committed to this approach as a way to address concerns over racial inequality (see in particular comments at *infra* note 814). As noted in Chapter Five, Maryland has made the exceptional choice to ban familial searching of its state DNA data bank (based in part on concerns about racial inequality within the criminal justice system) while more and more jurisdictions choose to allow the technique.

³² These biological categorizations were first defined on the basis of inherited genetic physical characteristics, including skin, hair, and eye colour. In the 1950s, the term race was somewhat replaced with "ethnicity" in an effort to reflect differences relating to ancestral origin, language, belief, nationality, religion, and other social, political, economic, and geographic factors. See discussion in: Constance Backhouse, *Colour-Coded A Legal History of Racism in Canada, 1900-1950* (Toronto, ON: University of Toronto Press, 1999), at 4-6; Theo Gavrielides, "Bringing Race Relations Into the Restorative Justice Debate: An Alternative and Personalized Vision of 'the Other'" (2014) 45:3 *Journal of Black Studies* 216, at 221.

CRT was initially aimed at exposing and addressing racism against Black³³ people in America.³⁴ Moreover, the traditional identity of CRT was that of a theoretical framework focused solely on race and racism.³⁵ As the movement progressed, however, it was gradually applied to other racialized groups around the world along with those oppressed based on their gender, sexuality, ethnicity or other factors.³⁶ This expansion includes a modern commitment to applying CRT to study the effects of colonization, an application of the scholarship that is still early in its development.³⁷

In addressing the familial searching issue from a CRT perspective, it is important to emphasize that Aboriginal peoples cannot be adequately described as a race. Indeed, the term 'Aboriginal' refers to a group within which there is great diversity that has been masked by the racist and assimilative policies that are

³³ Within this dissertation, terms used to describe racialized groups, such as 'First Nations', 'Aboriginal', and 'Black', are capitalized, while 'white' when used as a race is not. This is in keeping with the practice of other CRT scholars: see comments in Backhouse *Colour-Coded*, *supra* note 32, at 8.

³⁴ Mutua, *supra* note 25, at 349.

³⁵ Hylton, *supra* note 28, at 27.

³⁶ Mutua, *supra* note 25, at 350; Hylton, *supra* note 28, at 24; Delgado, "Rodrigo's Reconsideration" *supra* note 26, at 1260. Modern CRT scholars emphasize the importance of this progression on the basis that the effects of racism have not been targeted at a single race. In fact, as emphasized by Carbado, "[t]he bottom of discrimination is and historically has been *multiracial*": Carbado, *supra* note 28, at 1305. The author also notes at 1306 that CRT has embraced the view that the study of oppression and of the experiences of a particular group can inform the experience of other marginalized peoples.

³⁷ See references to CRT's application to the experiences of Indigenous peoples and to the study of the effects of colonization in Mutua, *supra* note 25, at 351. See also Bonita Lawrence and Enakshi Dua, "Decolonizing Antiracism" (2005) 32:4 *Social Justice* 120, at 128, where the authors criticize the previous applications of CRT to the Aboriginal experience on the basis that these fail to properly account for the particular effects of colonization and thus tend to erase the presence of Aboriginal peoples. Other areas in need of development include the application of CRT to the complicated connection between class and race: Mutua, *supra* note 25, at 379; Carbado, *supra* note 28, at 1292. I discuss the existing CRT scholarship as it relates to this dissertation in further detail as part of the literature review, below (part 1.5).

continuously reflected in Canada's criminal justice system.³⁸ While it makes sense to reject the classification of Aboriginal peoples as a race, it remains important to acknowledge that racial designations were relied upon to oppress Aboriginal peoples.³⁹ CRT provides a means of confronting the implications of racism against

³⁸ See Larry Chartrand, "Métis Identity and Citizenship" (2001) 12 Windsor Rev. Legal & Social Issues 5, at 5 noting that "a common misperception is that Aboriginal peoples are a homogenous group with common political, cultural and social realities". The author states, however, that Canadian institutions are finally beginning to acknowledge the great diversity among Canada's Aboriginal peoples. See also Bonita Lawrence, *'Real' Indians and Others: Mixed-Blood Urban Native Peoples and Indigenous Nationhood* (Lincoln: University of Nebraska Press, 2004), discussing the government's use of the *Indian Act*, RSC 1985 c. I-5 to control Native identity. Lawrence explains the state's actions in classifying Native groups and its assertion of control over who could identify with such classifications. She discusses at 26 the challenge of having Indigenous groups regain control over their identities many generations after these categories were enforced as follows: "[t]o speak of how pervasively the Indian Act – and identity legislation in the United States – has permeated the ways in which Native people understand their own identities is not to deny us the agency to move beyond its logic, or to suggest that we have lost all access to traditional cultural ways of understanding the relationships between people, their communities, and the land. It does, however, suggest that we have to think very carefully about how concepts of self and community have been violated by generations of living under colonial laws. It means we have to carefully deconstruct the various categories that have been created by the Indian Act, such as *status Indian*, and *Métis*, and consider the possibility of choosing new paths that might create common goals, rather than the separate – and competing – roads that each group at present has had to take toward empowerment".

³⁹ In approaching the issue from this perspective, I was influenced by the work of Constance Backhouse and in particular her comments in *Colour-Coded: A Legal History of Racism in Canada*, in which she uses the terms 'Aboriginal', 'First Nations', 'Black', 'Chinese', and 'white' to examine racial hierarchies while explaining that: "[o]bviously, given the slippery fictions of racial designation, these labels are not meant to imply any definitive or fixed groupings. At particular times, however, these classifications enveloped certain individuals and communities, ushering in substantial legal, political, economic, and social consequences in their wake. It is critical to study how racial designations, whether accepted or resisted in the circumstances, functioned in historical context": Backhouse *Colour-Coded*, *supra* note 32, at 8. Chris Andersen also acknowledges that while it is overly simplistic to reduce issues affecting Aboriginal peoples to race, class, or ethnicity, this is true of all marginalized people. He continues to argue that "such terms nonetheless assist greatly in reflecting upon the relationships between our communities and the various nation-states, and not only because they possess symbolic power in dominant society": Chris Andersen, "Critical Indigenous Studies: From Diversity to Density" (2009) 15:2 Cultural Studies Review 80, at 96. Finally, the Ontario Human Rights Commission acknowledged that while describing Aboriginal peoples of Canada as a "minority group" or "ethnic group" is problematic, it remains important to examine the ways in which Aboriginal peoples have been "racialized", particularly with respect to the criminal justice system: Ontario Human Rights Commission, "The Impact of Racial Profiling on the Aboriginal Community" online: <http://www.ohrc.on.ca/en/paying-price-human-cost-racial-profiling/impact-racial-profiling-aboriginal-community>.

Aboriginal peoples.⁴⁰ Within this dissertation it exposes the ways in which racism in the Canadian criminal justice system has created an imbalanced data banking system within which the use of familial searching would have a discriminatory impact.

As the goal is to empower the oppressed, CRT emphasizes mobilization of the results of its scholarship, particularly through participation from the marginalized population at the center of the research.⁴¹ In this respect, it is important to acknowledge that offshoots of CRT have emerged to provide additional options for

⁴⁰ As a theoretical framework, CRT ultimately examines the effects of the law and legal traditions on members of a group rather than on individuals. While the methodology aims to understand and act on categories of disadvantage, it acknowledges that in reality there exists great individuality within each group being studied. See Delgado, "Rodrigo's Reconsideration" *supra* note 26, at 1264, noting that categories of races based on intersectional identities may be infinitely divisible. See also Mari Matsuda, "I and Thou and We and the Way to Peace" (2002) 6 *Issues in Legal Scholarship: The Origins and Fate of Antisubordination Theory* 1, at 1, noting that group identity is "[n]ot fixed, not hard-edged, and certainly not uni-dimensional" and further that the experience of race is "fluid, and socially constructed, and intersectional". One of the ways in which the intersectional identities are reflected in CRT research is through the use of personal narratives, which are used in order to reflect the voices of oppressed persons who have traditionally been silenced and whose stories provide personal insight into the impact of the type of historical racism being considered. While CRT scholars acknowledge that no single voice will represent the group experience, personal narratives can enrich the general understanding of how racism is experienced and may serve to counteract traditional perspectives on racial experiences within society. The inclusion of individual voices reflects the view that CRT fosters research "for" instead of "on" the populations it considers: Hylton, *supra* note 28, at 35. See also Mutua, *supra* note 25, at 354-356; Brown, *supra* note 28, at 1485 and 1488; and Carbado, *supra* note 28, at 1284-1285 and at 1305 noting that voices are sometimes included in CRT research in order to combat the trend of having "[w]hite people speak for and definitively about the people on the bottom". As I cannot offer a personal account of the type of discrimination about which I speak, I include throughout this dissertation personal stories of and commentary by others in an attempt to include their perspectives on the issues about which I speak.

⁴¹ See Elizabeth Sheehy, "Advancing Social Inclusion: The Implications for Criminal Law and Policy" (2004) 46 *Canadian J. Crim & Crim. Just.* 73, at 76, where the author makes a related argument regarding social inclusion generally, explaining that "[p]rocess is critical to social inclusion: it is simply impossible to practice inclusion in theory. Inclusive outcomes can be achieved reliably only through the participation of the excluded in the process". This perspective is crucial to my research in that it forces an acknowledgment of its limitations and emphasizes that the conversation about familial searching would greatly benefit from further research on the matter from within the Aboriginal community.

examining Indigenous issues, including Tribal Critical Race Theory,⁴² Critical Indigenous Theory,⁴³ and Critical Inuit Theory.⁴⁴ The application of these theories to the familial searching issue as it arises in Canada would offer a unique and valuable perspective, one that is rooted in Indigenous knowledge and traditions.⁴⁵ For instance, it would be relevant to link familial searching to broader criticism of the exclusion of Aboriginal traditions and beliefs from the Canadian criminal justice

⁴² Tribal Critical Race Theory was first introduced by Bryan McKinley Jones Brayboy in an effort to reframe CRT in a way that would specifically “address the complicated relationship between American Indians and the United States federal government and begin to make sense of American Indians’ liminality as both racial and legal/political groups and individuals”: Bryan McKinley Jones Brayboy, “Toward a Tribal Critical Race Theory in Education” (2005) 37:5 *The Urban Review* 425, at 427. See also discussion of how Tribal Critical Race Theory can help ‘unmask, expose, and confront’ continued colonization in the field of education in Jeanette Haynes Writer, “Unmasking, Exposing, and Confronting: Critical Race Theory, Tribal Critical Race Theory and Multicultural Education” (2008) 10:2 *International Journal of Multicultural Education* 1; and comments in Hannah McGlade, *Our Greatest Challenge: Aboriginal Children and Human Rights* (Canberra ACT: Aboriginal Studies Press, 2012), at 29.

⁴³ See especially a significant contribution to this emerging area of scholarship in Tracey Lindberg, *Critical Indigenous Legal Theory* (LL.D. Thesis, University of Ottawa, 2007). See also Andersen, *supra* note 39; and Dale A. Turner, *This is Not a Peace Pipe: Towards a Critical Indigenous Philosophy* (Toronto, ON: University of Toronto Press, 2006).

⁴⁴ Keavy Martin, “‘Are We Also Here For That?’: Inuit Qaujimagatuqangit – Traditional Knowledge, or Critical Theory” (2009) *The Canadian Journal of Native Studies* 183.

⁴⁵ In her explanation of Critical Indigenous Theory, Tracey Lindberg emphasizes that in order to establish a framework for critical Indigenous legal thought, we must “recogni[ze] that we are talking about entirely different worlds with entirely different mores, philosophies, understandings and laws”: Lindberg, *Critical Indigenous Legal Theory supra* note 43, at 117. She identifies at 121 as the first requirement for developing a framework of critical Indigenous legal theory “starting with Indigenous understandings and grounding yourself in Indigenous knowledge”. She later explains at 356 that “[d]eveloping a critical framework, particularly an Indigenous critical framework, means that we have to develop that toolkit, those glasses that allow us to look at the world in a different way. In a real sense, it means that you have to do an internal audit to know what your perspective is, what your tools are, and which tools you need to gain”. It is worth noting here that involvement of white scholars in the CRT movement was a point of debate in the early years. One of the major questions that arose was whether the predominance of white Critical Race Theorists would limit the power of the movement: Mutua, *supra* note 25, at 348. Kimberlé Williams Crenshaw has noted that one of the most important changes brought on by CRT was that it supported the rejection of traditional ways of looking at race and the law that had forced oppressed persons to study racial injustice in a way that distanced the scholarship from the personal experience. While working to emphasize the need for an approach to studying race and racism that reflected the personal experience of those most affected however, Crenshaw advocated a view of CRT as the “product of any scholar engaged in a critical reflection of race” as opposed to being a “product of people of color”, and regarded the exclusion of white people from the scholarship as an unfortunate development: Williams Crenshaw, “The First Decade”, *supra* note 23, at 1353 and 1363.

system.⁴⁶ In addition, it is important to point out that the application of these models to the current issue may involve rejection of the problem as a minority rights issue in favour of a nation-to-nation model in which the starting point is the right to self-governance for Indigenous groups.⁴⁷ I recognize the importance of these perspectives and view my analysis as a starting point to what I hope will be an ongoing discussion about the role that familial searching (along with other new and emerging forensic investigative techniques) might play in the continued colonization of Aboriginal peoples.⁴⁸ As a starting point, CRT provides a mechanism for challenging the racialized privilege that exists in today's Canada and that would lead to a very different experience with familial searching for my genetic family

⁴⁶ While it is deserving of further and specific inquiry, this issue is included as one part of the overall argument in this dissertation. I discuss the exclusion of Aboriginal traditions and beliefs in Chapter Four (part 4.3.1), where I examine the argument that familial searching may help to address the overrepresentation of Aboriginal peoples as victims. In that chapter I argue that the solution to this pressing problem lies in recognition of its systemic nature and in empowering Aboriginal groups to make the criminal justice system more inclusive of Aboriginal beliefs. The disconnect between Aboriginal authority and the law is not only relevant to the criminal justice system, but the justice system generally. Concepts that underpin the justice system have been culturally influenced and have excluded Aboriginal traditions and beliefs. For example, Tracey Lindberg considers the notion of "fairness" and notes that this crucial concept "can be culturally constructed and imbued with cultural norms": Lindberg, *Critical Indigenous Legal Theory supra* note 43, at 332 note 831.

⁴⁷ Suzanne Von Der Porten, "Canadian Indigenous Governance Literature" (2012) 8:1 *AlterNative: An International Journal of Indigenous Peoples* 1.

⁴⁸ In addition to alternative perspectives that would enrich the current discussion, there is a need to examine the equality implications of other emerging techniques in the forensic sciences. For example, there are questions about the extent to which forensic phenotyping (discussed in Chapter Four at part 4.2.5) would disproportionately impact racialized groups in Canada. It is also important to note that the scholarship could benefit from specific consideration of how familial searching may impact other groups that have suffered systemic racism in the Canadian criminal justice system. The systemic racism suffered by Aboriginal peoples and effected by the Canadian criminal justice system is unparalleled within any other racialized group. Still, familial searching may have a discriminatory effect in other racialized groups, in particular Black Canadians, who are also disproportionately represented in the criminal justice system relative to their numbers in the general population. See discussion on the overrepresentation of Black Canadians in the criminal justice system in: Mark Carter, "Of Fairness and Faulkner" (2002) 65:1 *Sask. L. Rev.* 63, at 71; Sewrattan, *supra* note 20, at 147.

members and myself compared to what would likely be experienced by Aboriginal peoples in Canada.

The value in analyzing the issue from a CRT perspective can further be explained through reference to the central tenets of the methodology, which include a firm rejection of policies of 'colourblindness' as a method of addressing racial inequality.⁴⁹ Colourblindness reduces race to a colour and views it as socially irrelevant and comparable to other biological characteristics such as eye colour.⁵⁰ The concept is linked with the classic legal principles of meritocracy, neutrality, and objectivity.⁵¹ It is ultimately rejected within CRT because it "ignores and cements the racial caste system constructed by law".⁵² The acknowledgment and understanding of systemic forms of racism underpin CRT's rejection of colourblindness as an appropriate response to controlling or ending racism in the modern world.⁵³ In this way, race is viewed as a continuously meaningful and

⁴⁹ While CRT remains relatively new in comparison to other research methodologies, some foundational concepts for the methodology have been clarified and are set out below as a foundation for the analysis within this dissertation. See comments on the developing methodology in: Hylton, *supra* note 28, at 23; and Chantal Thompson, "Critical Race Theory and Postcolonial Development Theory: Observations on Methodology" (2000) 45 *Vill. L. Rev.* 1195, at 1202; Brown, *supra* note 28, at 1486.

⁵⁰ Harris, *supra* note 25, at 1229.

⁵¹ Mutua, *supra* note 25, at 353.

⁵² See Mutua, *supra* note 25, at 334. It has been said that colourblindness does not actually ignore race, but rather "reflects an investment in a *particular* conception of race in which race is divested of its historical, societal, or experiential meaning": Harris, *supra* note 25, at 1229.

⁵³ Mutua, *supra* note 25, at 353. This rejection of colourblindness as a value emerged in part as a response to political discourse of the 1970s and 1980s, when conservative judges and politicians maintained that racism was a thing of the past. The liberal response was to fight against race consciousness based on the view by claiming that this race consciousness was itself a form of racism, and that society should move forward based on a colourblind approach: Harris, *supra* note 25, at 1220. Liberal legal ideology had been previously criticized by the Critical Legal Studies movement, a primary influence on early CRT scholarship, for having masked its own flaws in terms of its role in "perpetuat[ing] social inequality through legitimating the status quo": Thompson, *supra* note 49, at 1212.

powerful social construct that corresponds to an entrenched societal hierarchy.⁵⁴ The centrality of this viewpoint within CRT methodology offers a principled means of challenging arguments that familial searching has no potential to have a discriminatory impact.⁵⁵ The application of CRT reveals that familial searching would have a discriminatory impact on Canada's Aboriginal peoples if used in the current criminal justice system in which Aboriginal peoples are drastically overrepresented. The deep-rooted effects of racism as evidenced in that imbalance are central to evaluating the use of familial searching despite the tendency to view DNA analysis as an objective approach to crime solving.

The rejection of 'colourblind' policies relates to another of CRT's central beliefs, one that is equally relevant to the current discussion: that individual rights do not provide an answer to social inequality.⁵⁶ The rejection of individual rights as the answer to societal inequality is based on the reality that longstanding hierarchies provide subtle but powerful support for racial divides despite the move away from more overt forms of racism, including for example the Residential School System.⁵⁷ CRT recognizes that the law has been complicit in creating and

⁵⁴ Harris, *supra* note 25, at 1229. See also Mutua, *supra* note 25, at 353, arguing that colorblindness has become "a proxy for whiteness".

⁵⁵ The various ways in which familial searching may have a discriminatory impact on a racialized group are explained throughout Chapters Three and Four. Within that conversation I specifically criticize the argument that familial searching would not have a discriminatory impact and that it may even alleviate discrimination in the criminal justice system (see discussion on the causes of crime (part 4.3.1)).

⁵⁶ See comments in Leslie Brown and Susan Strega (eds.), *Research as Resistance: Critical, Indigenous, & Anti-Oppressive Approaches* (Toronto, ON: Canadian Scholars' Press/Women's Press, 2004), at 210; Carol A. Aylward, *Canadian Critical Race Theory: Racism and the Law* (Halifax: Fernwood Publishing, 2008), at 24; and Mutua, *supra* note 25, at 348.

⁵⁷ The atrocities of the residential school system and the intergenerational effects of its racist actions are further examined below in this chapter (part 1.4). American CRT scholars have similarly emphasized that racism continues despite the move away from the overt forms of racism such as

perpetuating white supremacy.⁵⁸ The offsetting of overt support for formal and legal segregation does not remove the conditions that maintain white privilege.⁵⁹ For Aboriginal peoples in Canada, societal dependence on rights as the threshold for equality can be described as a continued form of colonization since existing societal inequality negatively impacts the ability of Aboriginal peoples to assert their rights (both individually and collectively).⁶⁰ The law therefore plays a role in supporting longstanding racial hierarchies through its traditional reliance on objectivity and rules against arbitrariness.⁶¹ Through this perspective, I examine potential *Charter* challenges to familial searching for reasons that go beyond an inquiry into the likely outcome of such claims. The analysis highlights the risks of familial searching that (i) would not receive *Charter* protection because they would not be found to violate the *Charter*, and (ii) are likely to be experienced at a disproportionate⁶² rate by Aboriginal peoples.⁶³ The overall point of the *Charter* inquiry is to demonstrate that

those experienced by Black Americans during the Jim Crow period: Mutua, *supra* note 25, at 350. See also Brown, *supra* note 28, at 1490, arguing that unconscious forms of racism represent “today’s enemy”.

⁵⁸ Mutua, *supra* note 25, at 333; Harris, *supra* note 25, at 1217; Thompson, *supra* note 49, at 1205. See also Williams Crenshaw, “The First Decade”, *supra* note 23, at 1349, discussing how the emergence of CRT was based in part on the desire to understand “how law constituted the problem of race in the first place”.

⁵⁹ See similar comments in Carbado, *supra* note 28, at 1287.

⁶⁰ See discussion in Lawrence and Dua, *supra* note 37, at 122, where Enakshi Dua prefaces her research by examining how her own complicity in ongoing colonization flows in part from the fact that she holds individual “rights and privileges that are denied to Aboriginal peoples collectively”.

⁶¹ Mutua, *supra* note 25, at 344; Thompson, *supra* note 49, at 1212.

⁶² I refer throughout to the disproportionate impact that familial searching would have on Aboriginal peoples and to the disproportionate representation of Aboriginal peoples within the criminal justice system (and more specifically the NDDDB). Where I comment on the disproportion in these circumstances, it is in relation to (i) the disproportionate representation of Aboriginal peoples in the NDDDB compared to their numbers in the general population or (ii) the impact of familial searching that would be experienced within the Aboriginal peoples compared to the impact that would be experienced by the non-Aboriginal population.

⁶³ The potential *Charter* challenges are discussed in Chapter Three. In that part, I explain how many of the equality risks relating to familial searching and Aboriginal peoples fall beyond the scope of

constitutional rights would not sufficiently protect against the risk of discrimination that arises with the use of familial searching in Canada.

The next section describes the current DNA data banking system in Canada. As seen in the above definition of familial searching provided by Canada's NDDB Advisory Committee, the technique is most useful when applied to an existing data bank of identified DNA profiles. Canada's NDDB holds such a collection of profiles, making the scope of the NDDB scheme crucial to the familial searching issue contemplated in this dissertation.

1.3 Canada's NDDB

As noted above, DNA profiling has been successfully used to assist in numerous criminal investigations in Canada and around the world. In Canada, the widespread use of DNA profiling has largely been facilitated by the NDDB,⁶⁴ which is

sections 15, 8, and 7. My argument that Canada should continue to prohibit familial searching of the NDDB is not based on *Charter* values, but rather on a broad assessment of the expected impact of familial searching for Aboriginal peoples in Canada. In this way, the argument is not constrained by the limits of the *Charter* and acts as a criticism of the *Charter's* ability to deal with racial inequality in Canada. The recommendation for a continued ban on familial searching thus becomes part of a broader argument for commitment to societal change in Canada beyond that which the Constitution compels. While I confront in this dissertation the limited utility of *Charter* rights in supporting equality rights for Aboriginal peoples as these arise with familial searching, there is a much larger discussion that problematizes the use of constitutional rights as a method of addressing issues facing the Aboriginal community in Canada. This broader conversation relates to the fact that the development of the doctrine of Aboriginal rights still needs to confront the fact that the Canadian legal system continues to be based upon colonial power and control over Indigenous groups: Larry Chartrand, "Eagle Soaring on the Emergent Winds of Indigenous Legal Authority" (2013) 18:1 *Review of Constitutional Studies* 49, at 78; and Turner, *supra* note 43, at 4.

⁶⁴ The worldwide trend in establishing DNA data banks has not been limited to the forensic context. Since Jeffreys' discovery of DNA in 1984, a number of DNA data banks have been established for use in other areas, including clinical banks, which contain genetic samples collected and used in the health treatment setting, and research banks, which contain samples collected and used for the purpose of genetic research in numerous areas. The clinical and research purposes are often performed using the same data banks. One example is the large-scale data bank meant to facilitate the multi-billion dollar 'Human Genome Project', which took place in the United States. The purpose

regulated by the *DNA Identification Act*.⁶⁵ The Act and the NDDDB itself were both introduced during a period in which national forensic data banks were emerging around the world in order to support efforts in crime solving.⁶⁶

of the project was to break ground in the area of medical research by mapping every single human gene: See "Human Genome Project Information" online: http://www.ornl.gov/sci/techresources/Human_Genome/home.shtml. Another well-known example is the national data bank run by a private firm called 'DeCODE Genetics', which was implemented in order to collect and store comprehensive genetic information about the Icelandic population. This project became the subject of intense criticism by the academic community: see, for example, Bogi Andersen & Einar Arnason, "Iceland's Database is Ethically Questionable" (1999) 318 B.M.J. 1565; and Jocelyn Kaiser, "Population Databases Boom, from Iceland to the U.S." (2002) 298 Science 1158. Reproductive data banks, for which genetic information is collected in the form of sperm and ova for use in assisted human reproduction, have also been established around the world. Here, genetic samples may be collected for in-vitro fertilization between the two donors, or stored in an anonymous sperm or egg donation bank for later use. The issue of information rights for the offspring of persons involved in the donation process was brought to the forefront of Canadian law with the case of *Pratten v British Columbia* [2012] BCCA 480. For discussion of the case see Angela Cameron, Vanessa Gruben and Fiona Kelly, "De-Anonymising Sperm Donors in Canada: Some Doubts and Directions" (2010) 26 Can. J. Fam. L. 95; and Dave Snow, "Reproductive Autonomy and the Evolving Family in the Supreme Court of Canada: Implications for Assisted Reproductive Technologies" (2014) 48:1 Journal of Canadian Studies 153. For additional discussion on the legal, ethical, and policy issues relating to DNA data banking, see Michael Yeo, "Looking out From Inside the Panopticon: A Privacy Perspective on Biobanking" (Ottawa: Office of the Privacy Commissioner of Canada, 2007); and Clayton, E. Wright, "Informed Consent and Biobanks" (2005) 33:1 Journ. of Law, Med. and Ethics 15.

⁶⁵ *DNA Identification Act* S.C. 1998, c. 37. The NDDDB was preceded by legislative amendments made in 1995, providing police with statutory authorization to collect DNA samples from suspects in order to allow for exclusionary testing in the investigation of specific crimes. The provisions exist in ss. 487.05 of the *Criminal Code* R.S.C. 1985, c C-46. This step was less controversial than the introduction of the NDDDB and was considered much needed in light of uncertainties about the limits on police power to compel DNA samples from suspects where crime scene DNA was available for testing. In several cases, the courts had allowed DNA evidence collected from individuals in circumstances that raised serious concerns over breaches of *Charter* rights, and prior to the warrant scheme there has been great uncertainty about the boundaries of the law (See, e.g. *R v Baptiste* (1994) 88 CCC (3d) 211 (B.C.C.A.); *R v Paul* (1994) N.B.C.A. (unreported), *R v Stillman* (1995) N.B.C.A. (unreported)). The Supreme Court of Canada upheld the DNA warrant provisions in *R v S.A.B* [2003] S.C.J. No. 61. The Court noted that the provisions had struck an appropriate balance between "the truth-seeking interests of law enforcement and the equally essential respect for individual rights": *R v S.A.B.* 2003 SCC 60, [2003] SCJ No. 61, at para 43 and 58. I consider this decision again in Chapter Three as part of the *Charter* analysis.

⁶⁶ The first country to launch a national forensic database was the UK in 1995. While the UK's database was enacted without specific statutory authority, it was supported by existing statutes including the *Police and Criminal Evidence Act* 1984, c. 60 and the *Criminal Justice and Public Order Act* 1994, c. 33. The UK's move was followed closely by New Zealand in 1996, this data bank being authorized by the *Criminal Investigations (Blood Samples) Act* Put. Act 1995 No. 55. The federal data bank in the United States opened in 1998, by which time authorizing legislation had been enacted in all fifty states so that data banks could also be created at the individual state level. The authorizing federal Act in the United States is the *DNA Identification Act*, 1994 U.S.C. 14132; for details on the

Canada's NDDB scheme was preceded by a formal public consultation process that took place in 1996 and that involved stakeholders such as the provincial and territorial governments, police services and their associations, corrections officials, victims groups, privacy officials, civil liberties groups, the legal community, national voluntary organizations, women's organizations, and medical and forensic science associations.⁶⁷ The consultation process highlighted a number of controversies relating to the establishment of the data bank. It was argued, for instance, that there were serious concerns about the government controlling the intensely personal information contained within an individual's DNA.⁶⁸ Another argument was that the data bank was not the right approach to dealing with the crimes that it promised to address, in particular crimes of sexual violence against

establishment of databases in the individual states, see Rosemary Walsh, "The United States and the Development of DNA Data Banks" *Privacy International* (20 February, 2006). A number of European data banks began operations around the same time, including in Germany (s. 3 Identitätsfeststellungsgesetz and ss. 2, 7, 8 Bundeskriminalamtgesetz (*Act for the Federal Criminal Investigation Office*)), the Netherlands (*Law on DNA Investigation in Criminal Proceedings* s. 4, Art. 14(4)(a)), France in 1998 (Law of 17th June 1998 relating to the repression of sexual infringements, Law of 18th March relating to the FNAEG), and Finland in 1999 (*Coercive Measures Act*, (30 April 1987/450), ss.5). Denmark established its national data bank in the same year as Canada: Law No. 434 of 31 May 2000. Australia updated its legislation to coordinate new state-level data banks and establish a new national data bank in 2001: Peter Stringer, "Forensic Sampling and DNA Databases: Background/Issues Paper" (Victoria: Victorian Parliament Law Reform Committee, 2002), at 30. Over the next decade, more and more countries continued to follow the trend, and there are few countries without a national DNA data bank today. A few countries that remain without a data bank, including Albania, Barbados, Costa Rica, Greece, and Uruguay, have announced plans to create forensic data banks in the near future: Andrew D. Thibedeau, "National Forensic DNA Databases" (Cambridge, Massachusetts: Council for Responsible Genetics, 2009), at 175.

⁶⁷ Responses from these stakeholders were specifically invited by the Solicitor General through the publication of a consultation document: Solicitor General, "Establishing a National DNA Data Bank: Consultation Document" (Ottawa: Minister of Supply and Services Canada, 1996), at 2-3. See also Solicitor General, "Establishing a National DNA Data Bank: Summary of Consultations" (Ottawa: Minister of Supply and Services Canada, 1997).

⁶⁸ Solicitor General, Summary of Consultations *supra* note 67, at 6.

women where the issue often comes down to a dispute over consent.⁶⁹ Others agreed that the data bank was needed, but wanted to ensure that reasonable restrictions on NDDB operations were in place in order to protect individual privacy interests.⁷⁰

The NDDB formally began operations in 2000.⁷¹ Based on the legislative framework reflected in the *DNA Identification Act*,⁷² the data bank currently houses the identified profiles of offenders convicted of designated crimes but does not contain the DNA profiles of suspects, arrestees, or volunteers.⁷³ The fact that the NDDB only includes the identifiable DNA of convicted offenders distinguishes

⁶⁹ See Canada, Solicitor General, Summary of Consultations *supra* note 67, at 6, discussing the matter in terms of the root causes of sexual assault. A similar discussion over the root causes of serious and violent crime (including sexual assault) and the ability of familial searching to address those issues is held in Chapter Four (part 4.3.1) as part of the policy analysis.

⁷⁰ See, for instance, Privacy Commission of Canada, “Obtaining and Banking DNA Forensic Evidence” (Ottawa: Privacy Commission of Canada, 1995); and discussion in Neil Gerlach, *The Genetic Imaginary: DNA in the Canadian Criminal Justice System* (Toronto: University of Toronto Press, 2004), at 70.

⁷¹ *DNA Identification Act*, *supra* note 65. The stated purpose of the *Act* is found at s. 3, and is to “establish a national DNA data bank to help law enforcement agencies identify persons alleged to have committed designated offences, including those committed prior to the coming into force of the *Act*”. See the outline of the statutory process on the Royal Canadian Mounted Police website at <http://www.rcmp-grc.gc.ca/pubs/nddb-bndg/ann-08-09/sec-5-eng.htm>; and Janna Kerr, “Canada’s DNA Data Bank up and Running” *Forensics* (September, 2000).

⁷² *DNA Identification Act*, *supra* note 65.

⁷³ All designated crimes are listed under s. 487.04 of the *Criminal Code* *supra* note 65. Court authority to compel DNA samples in relation to these offences is granted in accordance with the rules outlined at s. 487.05. The potential for including arrestee DNA was specifically considered as part of the consultations that took place prior to the NDDB’s establishment. The exclusion of arrestees from the NDDB scheme was based on the argument that use of arrestee samples within the NDDB and without the consent of the arrestee would constitute a warrantless search and contravene the *Charter* right to privacy: Michael Zigayer, “Establishment of a National DNA Data Bank” (Ottawa: Department of Justice, 2001), at 12. As discussed in Chapter Four (part 4.3.4), the current Conservative government has expressed its interest in expanding the scheme to include arrestees and suspects, though this step has not yet been taken: Canadian Civil Liberties Association, “CCLA Concerned About Potential Expansion of DNA Databank” (Canadian Civil Liberties Association, 2012), online: <http://ccla.org/2010/05/14/ccla-concerned-about-potential-expansion-of-dna-databank/>. The inclusion of arrestee DNA may amplify concerns over racial bias in the NDDB since racialized groups are overrepresented as arrestees (and all other parts of the criminal justice system). See below for specific discussion of the overrepresentation of Aboriginal peoples as offenders, arrestees, suspects, and generally within the criminal justice system.

Canada from a number of international jurisdictions, which may include arrestees, suspects, and sometimes volunteers.⁷⁴ In Canada, judicial approval is required for the orders to submit genetic samples to the NDDB, though the amount of discretion available to judges varies depending on the severity of the offense. The RCMP separates the designated offences into four categories: primary mandatory offences (e.g. murder, manslaughter, and numerous sexual offences), presumptive primary offences (e.g. facilitating terrorist activity, infanticide, and breaking and entering), listed secondary offences (e.g. assault, criminal harassment), and generic secondary offenses (e.g. perjury, causing bodily harm by criminal negligence).⁷⁵ Judicial discretion can be understood in relation to these categories. A judge *must* issue an order upon application in relation to a primary compulsory offence; *must* issue an order for sample collection in relation to primary presumptive offences *unless* he or she is convinced that the impact on the privacy of the offender would be grossly disproportionate to the public interest in the protection of society and the proper administration of justice; and *may* make an order in relation to listed secondary offences or generic secondary offences if satisfied that it would be in the best interests of the administration of justice to do so.⁷⁶ Only the profile is needed for the

⁷⁴ This broader scope is reflected in the data banks of all three jurisdictions studied in Chapter Five. The UK includes DNA from individuals suspected of, reported for, cautioned for, charged with, or convicted of an offence along with volunteers who provide exclusionary DNA in any criminal investigation (part 5.2.1). California includes DNA from individuals who are convicted of, arrested for, or charged with a felony offence (part 5.3.1). Maryland includes DNA from individuals convicted of felony crimes and certain misdemeanor offences along with persons arrested and charged with violent crimes and some burglary offences (part 5.4.1).

⁷⁵ Royal Canadian Mounted Police, "DNA Designated Offences – Section 487.04 of the Criminal Code of Canada" online: <http://www.rcmp-grc.gc.ca/nddb-bndg/form/ddo-did-eng.htm>.

⁷⁶ Royal Canadian Mounted Police, "DNA Designated Offences – Section 487.04 of the Criminal Code of Canada", *supra* note 75. The risk of racial bias in areas of judicial discretion is discussed in Chapter

matching process used in forensic DNA profiling, and profiles are separated from the genetic samples once the requisite information has been obtained.⁷⁷ Profiles collected and stored under the NDDB scheme are either classified as anonymous crime scene profiles, in which case they are stored on the 'Crime Scene Index' (CSI), or as identified convicted offender profiles, in which case they are stored on the 'Convicted Offender Index' (COI).⁷⁸

Canadian criminal investigators are authorized to use the information that is uploaded and stored in the NDDB in three ways.⁷⁹ First, investigators can conduct a search of an anonymous crime scene profile to see if there is a matching profile within the identified convicted offender profiles (CSI to COI match).⁸⁰ A match obtained in this way provides investigators with an extremely valuable lead and a possible suspect in their investigation. The second way in which the information can be used is to conduct a search for matching anonymous crime scene profiles, which would indicate the presence (though not the identity) of a serial offender (CSI to CSI

Three (part 3.3.4) as part of the examination of warrants as a protective measure to counter systemic discrimination related to the use of familial searching.

⁷⁷ See Royal Canadian Mounted Police, "National DNA Data Bank: Privacy & Security" online: <http://www.rcmp-grc.gc.ca/nddb-bndg/privacy-privee-eng.htm>, explaining that the genetic and personal information that is stored for NDDB purposes has been separated in order to protect individual privacy.

⁷⁸ NDDB Advisory Committee Annual Report 2009-2010, *supra* note 6, at 3.

⁷⁹ When comparing the profiles, analysts do not examine every locus on the human genome. Instead, a standard is set out that requires examination of 'core loci' to be used in the comparison. Under the Canadian scheme, thirteen loci are examined, which matches the American standard. The UK only requires examination of ten of the core loci, and Australia only nine. New Zealand has added two additional loci to the core thirteen used in Canada and the US, for a total of fifteen loci: Liz Campbell, "Non-Conviction DNA Databases and Criminal Justice: A Comparative Analysis" (2011) *Journal of Commonwealth Criminal Law* 55, at 58. The scientific process of profile comparison is further explained in Chapter Two (part 2.3).

⁸⁰ NDDB Advisory Committee Annual Report 2009-2010, *supra* note 6, at 3.

match).⁸¹ Finally, investigators can compare a suspect profile to the crime scene profiles in search of information relating to a specific investigation, though the suspect's DNA profile is not uploaded onto the NDDB for use in future investigations.⁸²

When the above types of searches are used, the *DNA Identification Act* authorizes the Commissioner to communicate the following information to Canadian law enforcement agents for the purposes of investigating a criminal offence:

- (a) If the DNA profile is not already in the data bank, the fact that it is not;
- (b) If the DNA profile is already contained in the data bank, the information contained in the data bank in relation to that DNA profile;
- (c) If the DNA profile is, in the opinion of the Commissioner, similar to one that is already contained in the data bank, the similar DNA profile; and
- (d) If a law enforcement agency or laboratory advises the Commissioner that their comparison of a DNA profile communicated under paragraph (c) with one that is connected to the commission of a criminal offence has not excluded the former as a possible match, the information contained in the data bank in relation to that profile.⁸³

Canada's National DNA Data Bank Advisory Committee has interpreted the above provision as a ban on familial searching and has indicated that a legislative change

⁸¹ NDDB Advisory Committee Annual Report 2009-2010, *supra* note 6, at 3.

⁸² Where the suspect's consent for profile comparison is not given, police may be able to compel a sample according to the warrant procedures outlined in the *Criminal Code supra* note 65, s. 487.05(1). Under s. 487.09(1), a judge may order retention of the sample following this testing if he or she is satisfied that the DNA may reasonably be required for the purposes of prosecuting the offence in relation to which it was tested; however, the police have no authority to upload the information onto the NDDB for use in other investigations unless and until a conviction and order is obtained.

⁸³ *DNA Identification Act, supra* note 65, at s. 6.

would be required before the police could conduct familial searches of the NDDB.⁸⁴ Although the law does not explicitly prohibit familial searching, it bars use of the technique within the current structure of NDDB operations. Convicted offender profiles are given a unique bar code and the identifying information is kept separate from the genetic information contained on the COI.⁸⁵ As noted above, the Commissioner is authorized to release the identifying information in specific circumstances. Beyond situations in which an exact match to a crime scene profile has been located on the COI (in which case the identifying information can be communicated to investigators), the law allows the Commissioner to report that a similar profile has been located; however, pursuant to subsection (d) above, the identifying information attached to that similar profile may only be revealed if investigators are unable to rule out the possibility that the similar profile may be a match to the crime scene DNA.⁸⁶ The government has concluded that in order for familial searching to be used on NDDB data and partially matching profiles to be linked with an identity, a statutory amendment would be required.⁸⁷

⁸⁴ NDDB Advisory Committee Annual Report 2013-2014, *supra* note 6. See also Bellamy-Royds & Norris *supra* note 8, at 12; and House of Commons Standing Senate Committee on Legal and Constitutional Affairs, “Public Protection, Privacy and the Search for Balance: A Statutory Review of the DNA Identification Act, Final Report” (Ottawa: Canada Senate, 2010), at 62, both similarly concluding that the provision bars the use of familial searching of NDDB data.

⁸⁵ Royal Canadian Mounted Police, “The National DNA Data Bank of Canada: Annual Report” (Ottawa: Royal Canadian Mounted Police, 2012-2013), at 8.

⁸⁶ Bellamy-Royds and Norris have concluded that subparagraph (c) leaves open the possibility that the Commissioner may communicate a “questionable” match, which might occur where a sample has been contaminated or degraded. In such circumstances, however, the identifying information of the source of the profile can be revealed only if the possibility of an exact match cannot be excluded: Bellamy-Royds & Norris *supra* note 8, at 12.

⁸⁷ See comments in House of Commons Standing Senate Committee on Legal and Constitutional Affairs, *supra* note 84, at 62. Though there appears to be a consensus that the above provision acts as a prohibition on familial searching, I recommend in the final chapter that the prohibition be made explicit for reasons discussed throughout the dissertation.

The option of allowing familial searching of the NDDB was not thoroughly considered when the data bank was introduced, mainly because the technique was not fully developed and understood at the time.⁸⁸ As discussed in Chapter Two, a greater understanding of the scientific basis of familial searching now exists. Furthermore, as evidenced by the international cases in which familial searching provided a crucial lead (a number of which are discussed throughout this work), familial searching sometimes leads to the resolution of serious crimes. As knowledge of how to use familial searching continues to advance and as the technique continues to become increasingly common around the world, Canada must face the decision of whether or not to maintain the current situation in which familial searching is considered prohibited within the NDDB scheme. In its review of the *DNA Identification Act* in 2010, the Standing Senate Committee on Legal and Constitutional Affairs identified familial searching as “one of the most controversial subjects” under review, and indicated a need for further research into the issue.⁸⁹ The decision about how to proceed has yet to be made.

The perceived need for an amendment to be made to the *DNA Identification Act* before familial searching of NDDB data can occur is beneficial. It provides an opportunity for careful reflection about the future of Canada’s use of the technique within the NDDB scheme. Other international jurisdictions have quietly introduced

⁸⁸ Royal Canadian Mounted Police, “The National DNA Data Bank of Canada: Annual Report” (Ottawa: Royal Canadian Mounted Police, 2007-2008), at 9.

⁸⁹ Specifically, the Committee recommended that “before kinship analysis or familial searching be permitted, the Department of Justice further study the matter to determine how to appropriately craft a provision that would balance the need to protect society, the need to protect privacy rights, and the need to preserve the presumption of innocence”: House of Commons Standing Senate Committee on Legal and Constitutional Affairs, *supra* note 84, at 64.

familial searching because the relevant legislation did not bar its use.⁹⁰ With this dissertation, I support the need for further consideration by scrutinizing the issue as it applies to Canada and do so from an equality perspective. Because I specifically examine the matter in terms of the potential for familial searching to perpetuate or worsen existing inequality for Canada's Aboriginal peoples, it is necessary to establish the foundation of that argument: that the NDDB is prone to an overrepresentation of Aboriginal peoples on the COI based on the known overrepresentation of Aboriginal offenders in the Canadian criminal justice system. This argument is thus explored in the next section.

1.4 Aboriginal Overrepresentation on Canada's NDDB

It is well documented that relative to their numbers in Canada's general population⁹¹ Aboriginal peoples are drastically overrepresented as offenders in Canadian prisons.⁹² The disparity has been characterized as, "so stark and appalling

⁹⁰ See Natalie Ram, "Fortuity and Forensic Familial Identification" (2011) *Stanford Law Review* 751, at 776 and 809, noting that a number of American states have quietly introduced familial searching based on a gap in the law, though many claim to follow policy guidelines that have not been formally published. Ram further notes that within the U.S., open and formal addressing of the familial search issue through law or formal policy is still relatively rare. As noted above, Canadian authorities have interpreted the *DNA Identification Act* as prohibiting use of familial searching of NDDB data, it is worth noting that the technique was used in at least one specific investigation where DNA was collected outside of NDDB operations (and therefore outside the scope of the *DNA Identification Act*, *supra* note 65). The case is discussed in Chapter Two (part 2.5).

⁹¹ Recent statistics indicate that Aboriginal peoples make up 4.3% of Canada's population: Statistics Canada, "Aboriginal Peoples in Canada; First Nations People, Métis and Inuit" online: <http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-011-x/99-011-x2011001-eng.cfm>.

⁹² See, for example, Royal Commission on Aboriginal Peoples, "Bridging the Cultural Divide: A Report on Aboriginal People and Criminal Justice in Canada" (Ottawa: Ministry of Supply and Services, 1996); *R v Gladue*, [1999] 1 SCR 688, at para 58; *R v Ipeelee*, 2012 SCC 13, [2012] 1 SCR 433, at 57; Hadley Friedland, "Different Stories: Aboriginal People, Order, and the Failure of the Criminal Justice System" (2009) 72 *Saskatchewan L. Rev.* 105; Sheehy, "Advancing Social Inclusion" *supra* note 41, at 80; Carol La Prairie, "Aboriginal Over-representation in the Criminal Justice System: A Tale of Nine Cities" (2002) 44 *Can. J. Criminology* 181; Sewrattan, *supra* note 20, at 126; Jane Dickson-Gilmore and Carol La Prairie, *Will the Circle be Unbroken? Aboriginal Communities, Restorative Justice and the*

that the magnitude of the problem can be neither misunderstood nor interpreted away”.⁹³ The extent of the problem has received increased attention since the Royal Commission on Aboriginal Peoples released its report in 1996, which indicated that almost 10 percent of inmates in federal penitentiaries were Aboriginal peoples despite only about 2 percent of the general population being of the same background.⁹⁴ In federal women’s prisons, the Aboriginal representation was estimated at 13 percent.⁹⁵ Moreover, the report emphasized that the disparities could be expected to get worse.⁹⁶

Indeed, since the release of the Royal Commission’s report, the disproportionality has grown, and the numbers reflect an even worse situation today.⁹⁷ The overrepresentation of Aboriginal offenders in Canadian criminal prisons is now at a crisis point. The issue goes beyond conviction rates and Aboriginal peoples are overrepresented at every stage of the criminal justice system.⁹⁸ There is a need for better data to document the issue,⁹⁹ as the scope of the

Challenges of Conflict and Change (Toronto, Ontario: University of Toronto Press, 2005), at 31; Raymond R. Corrado, Sarah Kuehn and Irina Margaritescu, “Policy Issues Regarding the Overrepresentation of Incarcerated Aboriginal Young Offenders in a Canadian Context” (2014) 14:1 Youth Justice 40; Akwasi Owusu-Bempah, et al., “Years of Life Lost to Incarceration: Inequities Between Aboriginal and Non-Aboriginal Canadians” (2014) 14 BMC Public Health 585.

⁹³ Michael Jackson, “Locking up Natives in Canada” (1989) 23 U. Brit. Colum. L. Rev. 215, at 215.

⁹⁴ Royal Commission on Aboriginal Peoples, “Bridging the Cultural Divide” *supra* note 92, at 29.

⁹⁵ Royal Commission on Aboriginal Peoples, “Bridging the Cultural Divide” *supra* note 92, at 29.

⁹⁶ Royal Commission on Aboriginal Peoples, “Bridging the Cultural Divide” *supra* note 92, at 29.

⁹⁷ Corrado, Kuehn and Margaritescu, *supra* note 92; Owusu-Bempah, et al, *supra* note 92.

⁹⁸ See *R v Gladue*, *supra* note 92, at para 61, where the Supreme Court of Canada acknowledged that “the excessive imprisonment of [A]boriginal people is only the tip of the iceberg” and that the population is “overrepresented in virtually all aspects of the [criminal justice] system”.

⁹⁹ This lack of data is discussed at several points in the dissertation and represents a crucial issue in understanding the discriminatory impact of familial searching. It is particularly relevant to the possibility of advancing a section 15 claim in this context. As discussed in Chapter Three (part 3.2), the claim is one of adverse effects discrimination, which means that the courts will likely seek evidence of both the initial disadvantage and of the negative impact of familial searching for the

problem is not yet fully understood.¹⁰⁰ Current research has identified this general inequality at a number of points in the criminal justice system, including a greater degree of police surveillance for Aboriginal peoples than for the non-Aboriginal public,¹⁰¹ and a general problem with racial police profiling against Aboriginal persons.¹⁰² Furthermore, Aboriginal peoples spend more time in pre-trial detention before having their cases heard, are less likely to be granted bail, tend to serve a greater percentage of their sentences before being released from prison, and are more likely to return to prison after release.¹⁰³ Crucially, Aboriginal peoples are also overrepresented as victims of crimes.¹⁰⁴ As David Tanovich argues, racial inequality in the criminal justice system has had particularly harmful effects for racialized groups, including “physical and severe psychological harm (in some cases death),

claimant group. This requirement would most readily be satisfied by data on the racial composition of the NDDB.

¹⁰⁰ See comments in David Tanovich, “The Charter of Whiteness: Twenty-Five Years of Maintaining Racial Injustice in the Canadian Criminal Justice System” (2008) 40 S.C.L.R (2d), 655, at 659; Sewrattan, *supra* note 20, at 132, noting that Canadian police do not generally collect data on the race of those charged or arrested for crimes and noting the specific lack of statistical data on the number of Aboriginal people arrested or convicted for drug offences in Canada; and Dickson-Gilmore and La Prairie, *Will the Circle be Unbroken?* *supra* note 92, at 43.

¹⁰¹ This reality has been recognized as relevant to all racialized groups, but is particularly evident for Aboriginal peoples: Lawrence and Dua, *supra* note 37. See also: Scot Wortley, “Hidden Intersections: Research on Race, Crime, and Criminal Justice in Canada” (2003) Canadian Ethnic Studies 99; Tanovich, *supra* note 100, at 661; Sewrattan, *supra* note 20, at 133; La Prairie, “The Role of Sentencing in the Over-Representation of Aboriginal People in Correctional Institutions” *supra* note 92, at 431.

¹⁰² Sewrattan, *supra* note 20, at 133.

¹⁰³ Sheehy, “The Discriminatory Effects of Bill C-15’s Mandatory Minimum Sentences” (2010) C.R. 6th 302; Sewrattan, *supra* note 20, at 139 citing Sara Johnson, “Returning to Correctional Services after Release: A Profile of Aboriginal and Non-Aboriginal Adults Involved in Saskatchewan Corrections from 1999/00 to 2003/04” (2005) 25:2 Juristat 1; John J. Borrows and Leonard I. Rotman, *Aboriginal Legal Issues: Cases, Materials & Commentary*, 4th ed. (Markham: LexisNexis Canada, 2012), at 1055-1056.

¹⁰⁴ The overrepresentation of Aboriginal peoples as victims of crimes is further discussed in Chapter Four (part 4.3.1) in order to highlight the root causes of crime and the limitations of familial searching as a crime-prevention technique. Within that discussion I argue that the overrepresentation is a complex problem borne of colonialism and racism and that familial searching represents another law enforcement response that does not provide any promise of addressing the root causes of the problem.

isolation, alienation and mistrust, behaviour changes, breakdown of or damage to family and social networks, and labour market exclusion”.¹⁰⁵ This broader impact represents a modern form of control over Aboriginal peoples and a continued form of colonialism.¹⁰⁶

Canadian police have not collected race-based data while building the NDDDB,¹⁰⁷ which would provide a way to confirm that the racial disparities within the criminal justice system (and the prison population in particular) are mirrored within the NDDDB. The overrepresentation of Aboriginal peoples in the NDDDB may be inferred¹⁰⁸ from the known and documented disparities within the Canadian prison system and criminal justice system generally, and from the fact that the NDDDB only

¹⁰⁵ Tanovich, *supra* note 100, at 661. Further to Tanovich’s point that racism in policing can sometimes result in the death of racialized persons, this has occurred in Canada, where several Aboriginal persons have died following neglect and abuse while in police custody. Examples include the deaths of Eugene Migwans (Don Umpherson, “Ojibway taken from hospital died in cell” *The Toronto Star* (22 February 1991)); Vincent Wassigijik (“Police handling of intoxicated probed” *The Globe and Mail* (20 February 1990)); and Minnie Sutherland (John Nihmey, *Fireworks and Folly: How We Killed Minnie Sutherland* (Toronto: Hushion House, 1998)).

¹⁰⁶ Tanovich, *supra* note 100, at 661.

¹⁰⁷ Although the RCMP publishes statistics on NDDDB data collections, these do not make reference to race, ethnicity, or any other individual characteristics: RCMP, “Statistics for National DNA Data Bank” (2014) online: <http://www.rcmp-grc.gc.ca/nddb-bndg/stats-eng.htm>. I consider this issue again in the coming chapters. First, I consider in Chapter Three the argument made by Anita Allen that less privacy may actually serve the group needs of racial minorities by exposing the effects of racism (see in particular comments at *infra* note 321). I later discuss in Chapter Five the fact that the UK has collected racial information while building its DNA data bank. While this information confirms the overinclusion of racialized minorities in the system, there are also known problems with the quality of the data (see *infra* notes 834, 835 and accompanying text).

¹⁰⁸ The reason the overrepresentation needs to be inferred is that not all those in prison are convicted of offences for which DNA submission is required. In some cases there will be judicial discretion for crimes that may lead to imprisonment (see *supra* note 75-76 and accompanying text). Moreover, many people may have submitted DNA because they have been convicted of a criminal offence, but may not have been sentenced to imprisonment for that offence. Nevertheless, the overall representation of Aboriginal peoples in the offender population and in the criminal justice system generally (e.g. as suspects, arrestees (see *supra* note 101-102 and accompanying text)) is cause for concern in terms of the equality implications of familial searching.

contains the DNA of convicted offenders.¹⁰⁹ The situation is a cause for concern in regards to the potential for familial searching to discriminate against Aboriginal peoples (and other racialized groups).¹¹⁰ It would do so by extending the reach of the NDDB to include the family members of Aboriginal offenders currently represented on the data bank. It would perpetuate the oppression of Aboriginal peoples who are overrepresented in the criminal justice system generally.¹¹¹ This form of expansion to NDDB operations is ethically questionable because it appears to hold Aboriginal people responsible for “who they are rather than what they’ve done”.¹¹² Although familial searching would have an impact on many non-

¹⁰⁹ The problem would persist, however, if the NDDB were expanded to include arrestees and suspects, since (as explained above) Aboriginal peoples are overrepresented in that aspect of criminal justice as well. In Chapter Four (part 4.3.3) I examine the argument that a universal data bank could potentially address some of the concerns over the racialized impact of familial searching by making the data representative of the public. I reject that option for reasons explained in that chapter.

¹¹⁰ This concern has also been expressed in Eugene Oscanella, “Genetic Privacy and Discrimination: An Overview of Selected Major Issues” (Vancouver: BC Civil Liberties Association, 2012), at 20; Parliament of Canada, “Proceedings of the Standing Senate Committee on Legal and Constitutional Affairs: Issue 5 – Evidence for April 2, 2009” online: http://www.parl.gc.ca/Content/SEN/Committee/402/lega/05ev-e.htm?comm_id=11&Language=E&Parl=40&Ses=2. The same logic has been accepted in general discussions about national forensic DNA data banking and in relation to international data banks: Simon J. Walsh, James M. Curran, and John S. Buckleton, “Modeling Forensic DNA Database Performance” (2010) 55:5 J. Forensic Sci. 1174, at 1182; Mark K. Rothstein and Meghan K. Talbott, “The Expanding Use of DNA in Law Enforcement: What Role for Privacy?” (2006) Journ. of Law, Med. and Ethics 153, at 155; Peter A. Chow-White and Troy Duster, “Do Health and Forensic DNA Databases Increase Racial Disparities?” (2011) 8:10 Plos Medicine e1001100, 1, at 2.

¹¹¹ As discussed in Chapter Three (part 3.2), in relation to section 15, the issue is one of adverse effects discrimination since the use of familial searching would appear facially neutral, but would have a discriminatory effect when used on a data bank that reflects a disproportionate number of Aboriginal peoples. The issue has also arisen in relation to mandatory minimum sentences, which may likewise appear to be facially neutral but have a discriminatory impact when imposed in a criminal justice system in which Aboriginal peoples are overrepresented: Rosemary Cairns Way, “An Opportunity for Equality Kokopenance and Nur at the Supreme Court of Canada” (2014) Criminal Law Quarterly 465, at 487; Sewrattan, *supra* note 20.

¹¹² See Ellen Nakashima, “From DNA of Family, a Tool to Make Arrests” *Washington Post* (April 21, 2008) online: http://www.washingtonpost.com/wp-dyn/content/article/2008/04/20/AR2008042002388_2.html?wpisrc=newsletter&sid=ST2008042100610, quoting Jeffrey Rosen on the same problem as it occurs for racial minorities in the United

Aboriginal people in this same way, the increased surveillance that would become possible based on familial connections between non-convicted persons and Aboriginal offenders included in the NDDB would be experienced at a disproportionate rate in the Aboriginal community.

It is crucial to specify the ways in which the technique will further oppress Aboriginal peoples. Once the expected impact is explained, it becomes possible to weigh those factors against the anticipated benefits of familial searching in Canada. This inquiry into how Canada should balance the competing considerations relevant to the familial searching question must take account of the broader social context in which Aboriginal peoples have experienced and continue to experience discrimination and oppression. The potential for familial searching to perpetuate oppression suffered by Aboriginal peoples is considered not only as a problem in and of itself, but also as part a more general problem in Canada. This broader problem exists because Aboriginal peoples in Canada descend from generations that have suffered assimilative policies and abusive treatment that aimed to destroy communities and erase Indigenous identities.¹¹³ The present realities of Canadian society, including the racial disparities within the criminal justice system, are rooted in a long and dark history of oppression of Aboriginal peoples.¹¹⁴ This history includes numerous instances in which the government wielded its criminal law power as a mechanism of enforcing assimilative policies. For instance, the trial and

States. Rosen states: "The idea of holding people responsible for who they are rather than what they've done could challenge deep American principles of privacy and equality".

¹¹³ Lawrence and Dua, *supra* note 37, at 121.

¹¹⁴ Friedland, "Different Stories" *supra* note 92, at 120.

execution of Louis Riel followed Riel's fight for the land rights of Métis people; along with Riel, eight Cree chiefs were publicly executed after having joined Riel's cause.¹¹⁵ In another example, the late nineteenth and early twentieth century saw Indian and Inuit accused forcefully taken from Northern regions of Canada to face murder charges that were based on culturally irrelevant laws; this was done in part as an assertion of government power and control over the inhabitants of these communities.¹¹⁶ In a third example, the criminal law was used to prohibit Aboriginal dancing in the late nineteenth and well into the twentieth century in order to support and enforce policies of assimilation.¹¹⁷

The experience of colonization in Canada is forever marked by the atrocities of the Residential School System, which tore apart numerous Aboriginal families and reinforced racist beliefs about Aboriginal cultures.¹¹⁸ The schools were run by churches and the federal government and involved the use of education as a vehicle to assert control over and assimilate Aboriginal peoples.¹¹⁹ The purpose of the institutions was to "civilize and Christianize" Aboriginal children, effected through

¹¹⁵ Royal Commission on Aboriginal Peoples, "Bridging the Cultural Divide" *supra* note 92. See also Cyril Greenland, "The Last Public Execution in Canada: Eight Skeletons in the Closet of the Canadian Justice System" (1986) 29 *Crim LQ* 415, discussing how the criminal law was enforced against many other Indian and Métis persons who were imprisoned for having fought with and supported Louis Riel.

¹¹⁶ Cornelia Schuh, "Justice on the Northern Frontier: Early Murder Trials of Native Accused" (1980) 22 *Crim. L. Q.* 74.

¹¹⁷ Backhouse *Colour-Coded*, *supra* note 32, at 56.

¹¹⁸ Larry N. Chartrand, Tricia E. Logan and Judy D. Daniels, *Métis History and Experience and Residential Schools in Canada*, (Ottawa, ON: Aboriginal Healing Foundation, 2006), at 111; Amy Bombay, Kimberly Matheson and Hymie Anisman, "The Intergenerational Effects of Indian Residential Schools: Implications for the Concept of Historical Trauma" (2014) 51:3 *Transcultural Psychiatry* 320, at 322.

¹¹⁹ Chartand, Logan and Daniels, *supra* note 118, at 109.

the forceful removal of children from their families, homes, and communities.¹²⁰ The system facilitated psychological, physical, and sexual abuse of Aboriginal children and led to the death of an unknown number of children in government care (one review of the first 45 years of the Residential School System indicated that half of the children in the system had not survived).¹²¹ Children were malnourished and forced to provide free labour for the schools.¹²² Individual experiences included the cutting of braids that had spiritual and cultural significance and, as one survivor recalled, being told upon arrival that he was “no longer an Indian”.¹²³

The continued suffering within the families of children forced into this system is seen in high rates of mental illnesses, suicide, homelessness, unemployment, poverty, sexual abuse, and domestic violence.¹²⁴ As the Truth and Reconciliation Committee recently explained:

The legacy from the schools and the political and legal policies and mechanisms surrounding their history continue to this day. This is reflected in the significant education, income, health, and social disparities between Aboriginal people and other Canadians. It is reflected in the intense racism some people harbour against

¹²⁰ Truth and Reconciliation Commission of Canada, “They Came for the Children: Canada, Aboriginal Peoples, and Residential Schools” (Winnipeg, Manitoba: Truth and Reconciliation Commission of Canada, 2012), at 10.

¹²¹ Truth and Reconciliation Commission of Canada, “They Came for the Children” *supra* note 120, at 29. See also discussion in: David B. MacDonald and Graham Hudson, “The Genocide Question and Indian Residential Schools in Canada” (2012) 45:2 Canadian Journal of Political Science 427, at 431; Bombay, Matheson and Anisman, *supra* note 118, at 323; Hadley Friedland, “Tragic Choices and the Division of Sorrow: Speaking About Race, Culture, and Community Traumatization in the Lives of Children” (2009) Canadian Journal of Family Law 223, at 224; Laurence Kirmayer, Cori Simpson, and Margaret Cargo, “Healing Traditions: Culture, Community and Mental Health Promotion with Canadian Aboriginal Peoples” (2003) 11 Australasian Psychiatry S15, at S18.

¹²² Truth and Reconciliation Commission of Canada, “They Came for the Children” *supra* note 120, at 34-35.

¹²³ Truth and Reconciliation Commission of Canada, “They Came for the Children” *supra* note 120, at 22.

¹²⁴ Bombay, Matheson and Anisman, *supra* note 118; Friedland, “Different Stories” *supra* note 92, at 107-112; Friedland, “Tragic Choices and the Division of Sorrow” *supra* note 121, at 240.

Aboriginal people and in the systemic and other forms of discrimination Aboriginal people regularly experience in this country. It is reflected too in the critically endangered status of most Aboriginal languages.¹²⁵

Canada's Truth and Reconciliation Commission has stated that the Residential School experience lies at the root of the overrepresentation of Aboriginal peoples in the Canadian prison system.¹²⁶ Unfortunately, the Residential School System was only part of an enormous and ongoing problem. In the latter half of the twentieth century, child welfare policies gradually took over for the Residential School System, resulting in the forceful taking of Aboriginal children from numerous homes and families for adoption into non-Aboriginal homes or for placement in foster care.¹²⁷ The devastating impact of these actions is a continuing part of the colonization experience for the numerous living children who were apprehended.¹²⁸ The damaging effects of this state intervention include physical and sexual abuse perpetrated against Aboriginal adoptees by their adoptive families, exploitation of adopted children as household servants, erosion of culture, and

¹²⁵ Truth and Reconciliation Commission of Canada, "Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada" (Ottawa, ON: Truth and Reconciliation Commission of Canada, 2015), at 135.

¹²⁶ The Truth and Reconciliation Commission of Canada, "What We Have Learned: Principles of Truth and Reconciliation" (Ottawa, ON: Truth and Reconciliation Commission of Canada, 2015), at 109.

¹²⁷ The Truth and Reconciliation Commission of Canada, "Honouring the Truth", *supra* note 125, at 186; Arthur Milner, "The Sixties Scoop Thirty Years Later" (2001) 10 *Inroads: A Journal of Opinion* 1. In this instance, child welfare laws provided the mechanism for forced assimilation instead of the education system that had been used in the residential schools: Borrows and Rotman, *supra* note 103, at 887.

¹²⁸ This includes those taken from their homes during the 'sixties scoop', a mass apprehension of Aboriginal children that occurred between the 1960s to the 1980s: Borrows and Rotman, *supra* note 103, at 1055; Joanna Lina Pierce, Dawn Hemingway and Glen Schmidt, "Partnerships in Social Work Education" (2014) 34 *Journal of Teaching in Social Work* 215, at 216; Chinta Puxley, "Compensation, Counselling Sought for 60s Scoop Victims" *CBC Manitoba* (May 19, 2014).

continuing overrepresentation of Aboriginal children in today's Child Welfare System.¹²⁹

Past and ongoing experiences of colonization are far from uniform and differ greatly among the distinct groups within the broad category of Aboriginal peoples. For instance, the experiences of the Inuit included forceful relocation of their people to the high arctic regions. These actions by the government were motivated by a desire to avoid having to provide further support to a population made vulnerable by the colonization process, as well as a desire to have a human presence in the northern regions of the colony in order to support sovereign claims in the event of Soviet attacks in the area.¹³⁰ The experience was characterized by great hardship and abuse suffered by the families relocated to the areas. Weather conditions were extreme and the families were expected to adapt and find a way to support themselves without much government help; families were forced to pick through garbage for food, Inuit women were raped by government authorities, and Inuit sled dogs, which were crucial to survival in the region, were killed in a mass slaughter.¹³¹ Another example of distinct experience with oppression is that of Aboriginal women, who suffer discrimination not only because of their Aboriginal identities, but also as women and girls. Racism and sexism against women are both evident, for

¹²⁹ Friedland, "Tragic Choices and the Division of Sorrow" *supra* note 121, at 223; Puxley, *supra* note 128. There are also additional women's issues to face in the reconciliation process on top of the unconscionable rates of sexual assault and domestic violence discussed in this chapter.

¹³⁰ Borrows and Rotman, *supra* note 103, at 595-599, citing Zebedee Nungak, "Exiles in the High Arctic" (Iqaluit: Nunavut Department of Education, 2002).

¹³¹ Borrows and Rotman, *supra* note 103, at 595-599, citing Zebedee Nungak, "Exiles in the High Arctic" (Iqaluit: Nunavut Department of Education, 2002).

instance, in the historical denial of status under the *Indian Act*¹³² for Indian women who married non-Indian men (a rule that did not apply to Indian men who married non-Indian women).¹³³ Furthermore, Aboriginal women are drastically overrepresented as victims of crimes of sexual violence, and Canada has only recently begun to acknowledge its failure in addressing these crimes and the continuing crisis of missing and murdered Aboriginal women.¹³⁴

In the remaining chapters, I explore a number of ways in which familial searching would perpetuate the oppression of Aboriginal peoples and worsen existing inequality for the Aboriginal population in Canada. I also consider the crime control advantages of the technique and whether familial searching would help to address the needs of victims of crime, particularly Aboriginal women who are overrepresented in that category. I review these arguments together in Chapter Six and conclude with a recommendation for continued prohibition of familial searching of the NDDB.

1.5 Literature Review

Familial searching in the forensic context has only been in use since 2002, and academic study of the investigative technique is still in its early stages.¹³⁵ Much

¹³² RSC 1985 c. I-5.

¹³³ For a good discussion on this and other issues facing Aboriginal women, see Chapter 9 in Borrows and Rotman, *supra* note 103.

¹³⁴ The overrepresentation of Aboriginal women as victims of crimes and particularly of crimes of sexual and other violence is discussed in greater detail in Chapter Four (part 4.3.1).

¹³⁵ See Erin Murphy, “Relative Doubt: Familial Searches of DNA Databases” (2010) 109:3 Michigan Law Review 291, at 303, where the author similarly states: “[g]iven that familial searching only began in earnest in 2002 in the United Kingdom, it is perhaps not altogether surprising that discussion of the practice in the academic literature both as a matter of empirical inquiry and legal study has only recently begun”.

of the existing literature derives from the United States, where the individual approaches taken by the different states have prompted an ongoing discussion about the potential value and risks of familial searching as a crime-solving tool.¹³⁶ International discussion has been instrumental to this dissertation, particularly because it provides examples of different approaches to regulating familial searching. Yet, the international positions are based on societal contexts that differ from Canada's situation. The reference to the international situation therefore does not determine whether and to what extent Canada should allow familial searching of the NDDB.

Because of the unique factors relevant to the Canadian perspective, there is a need for further research on the implications of familial searching of the NDDB.¹³⁷ Existing literature discussing the Canadian situation with respect to familial searching has briefly commented on the matter as part of the wider issue of DNA

¹³⁶ Numerous works have emerged from the United States and are relied upon throughout this dissertation. Early supporters of familial searching Frederick R. Bieber, Charles H. Brenner, and David Lazer wrote an influential article entitled "Finding Criminals Through DNA of Their Relatives" (2006) 312 *Science* 1315. Erin Murphy's more recent article "Relative Doubt" *supra* note 135 is cited numerous times within this dissertation and in the surrounding literature. In addition, a recent article (co-authored by Murphy) provided much-needed insight into the success rates of familial searching: Rori V. Rohlf et al., "The Influence of Relatives on the Efficiency and Error Rate of Familial Searching" (2013) 8:8 *Plos One* e70495 1. A particularly detailed analysis of the constitutional questions in the American context has been provided in David H. Kaye, "The Genealogy Detectives: A Constitutional Analysis of 'Familial Searching'" (2013) 50 *Am. Crim. L. Rev.* 109. Other notable contributions to the legal and policy discussion relating to familial searching in the United States include: Jessica Gabel, "Probable Cause from Probable Bond: A Genetic Tattle Tale Based on Familial DNA" (2010) 21 *Hastings Women's L. J.* 3; Jules Epstein, "'Genetic Surveillance' – The *Bogeyman* Response to Familial DNA Investigations" (2009) *U. Ill. J.L. Tech. & Policy* 141; Greely, *supra* note 12; Ram, *supra* note 90; Daniel J. Grimm, "The Demographics of Genetic Surveillance: Familial DNA Testing and the Hispanic Community" (2007) 107 *Colum. L. Rev.* 1164; and Sonia M. Suter, "All in the Family: Privacy and DNA Familial Searching" (2010) 23 *Harvard J. Law & Tech.* 309.

¹³⁷ See again comments in House of Commons Standing Senate Committee on Legal and Constitutional Affairs, *supra* note 84, at 64.

data banking.¹³⁸ When it is noted, the familial searching question is often viewed as primarily an issue of individual privacy.¹³⁹ While the privacy implications are indeed considered crucial in this dissertation, they are examined as a component of the equality analysis rather than on the basis of privacy as an independent value. I address the issue from a CRT perspective in which equality is the central value in order to ensure that the equality implications feature prominently within the continuing policy discussions on the future of familial searching in Canada.¹⁴⁰ To meet that objective, I specifically build on five key areas of research exploring: (i) the uniqueness of DNA and the resulting need for individualized regulation of its use

¹³⁸ See Oscapella *supra* note 110, at 25, which includes a brief discussion on the potential for familial searching to lead to discrimination in Canada. Familial searching as a technique that is not currently employed in Canada's data bank is briefly noted in Emmanuel Milot et al., "The National DNA Data Bank of Canada: A Quebecer Perspective" (2013) 4: 249 *Frontiers in Genetics* 1. Where international works have mentioned the Canadian situation in discussing familial searching, this is typically limited to brief comments noting that Canada has not yet allowed familial searching of the NDDDB. See, for example: Rohlf's et al. *supra* note 136, at 2; and Murphy, "Relative Doubt" *supra* note 135, at 301.

¹³⁹ My discussion on the privacy issues that arise due to the relationship between familial searching of the NDDDB and the use of abandoned DNA is included in Chapter Four (part 4.2.2). My arguments in that part were previously published in Amy Conroy, "Combining Familial Searching and Abandoned DNA: Potential Privacy Outcomes and the Future of Canada's National DNA Data Bank" (2014) 12 *Can. J. L. & Tech.* 171. Other works characterizing the familial searching question in Canada as a privacy issue include: NDDDB Advisory Committee Annual Report 2013-2014, *supra* note 6; Bellamy-Royds & Norris *supra* note 8, at 10; and House of Commons Standing Senate Committee on Legal and Constitutional Affairs, *supra* note 84, at 64. Note that in addition to emphasizing the need to ensure that the crime solving advantages of familial searching are balanced against the individual rights issues, the Standing Senate Committee noted the importance of considering the effect of familial searching on the presumption of innocence. The relationship between familial searching and the presumption of innocence is considered in Chapter Three in the context of the section 7 analysis (see specifically comments in *infra* note 548 where I note that the presumption of innocence as a constitutional principle is traditionally viewed as a safeguard that applies in the context of criminal trials, not to the investigation that precedes the prosecution of a crime. As such, the courts would be highly unlikely to extend the scope of this principle to find a conflict between familial searching and the presumption of innocence, as familial searching is used exclusively as an investigative technique and would not support a finding of guilt absent further evidence against a given suspect). Finally, see Rohlf's et al. *supra* note 136, at 2, explaining that "Canada has explicitly rejected familial searches on what appear to be privacy grounds".

¹⁴⁰ Literature has emerged in the American context examining familial searching as an equality concern for specific racialized groups (without limiting the discussion to a constitutional rights analysis): Grimm, *supra* note 136; Brett Mares, "A Chip off the Old Block: Familial DNA Searches and the African American Community" (2011) 29 *Law & Inequality* 395.

in various contexts; (ii) society's increasing acceptance of DNA and general surveillance technologies in the forensic context; (iii) the potential for genetic information to be used in a discriminatory manner; (iv) knowledge revealed by CRT scholarship with respect to inequality in the criminal justice system; and (v) theories of group rights that support the broad conception of equality taken in CRT scholarship and in this work.

(i) The Uniqueness of DNA

Genetic information is viewed as different from other types of personal information for a number of reasons, including that: (i) it reveals information about the genetic relatives of the individual from whom it is derived (which may have consequences for entire groups and for future generations); (ii) it allows for the retrieval of personal information from bodily tissues that are routinely shed by individuals in the course of their daily activities; (iii) it has the power to predict the future health of an individual; and (iv) it may lead to discriminatory treatment based on predictions about future health status.¹⁴¹ These unique properties provide reasons to consider a customized approach to regulating uses of DNA, including in

¹⁴¹ See the UNESCO *International Declaration on Human Genetic Data*, (2003), at Article 4, which confers a special status on DNA, in part because of its ability to have a significant intergenerational impact on a person's genetic relatives. See Murphy, "The New Forensics" *supra* note 11, at 730, emphasizing that unique privacy considerations attach to the DNA profile because it has the ability to reveal familial associations. See also discussion of the unique characteristics of DNA within the debate on the concept of genetic exceptionalism: Ilhan Ilkic, "Coming to Grips with Genetic Exceptionalism: Roots and Reach of an Explanatory Model" (2009) *Medicine Studies* 131; Ruth H. Wilkinson, "Genetic Information: Important but not Exceptional" (2010) 3(3) *Identity in the Information Society* 457; R.A. Spinello, "Property Rights in Genetic Information" (2004) 6:1 *Ethics and Information Technology* 29; Deborah Hellman, "What Makes Genetic Discrimination Exceptional?" (2003) 29 *American Journal of Law & Medicine* 77; T. Murray, "Genetic Exceptionalism and Future Diaries: Is Genetic Information Different from other Medical Information?" in M. Rothstein (ed.), *Genetic Secrets: Protecting Privacy and Confidentiality* (New Haven: Yale University Press, 1997).

the forensic context. This dissertation emphasizes the heightened concerns over the potential to exploit DNA information and in particular information about the genetic relatives of the person from whom a specific genetic sample is derived. By arguing for particularized consideration of familial searching, I highlight that even within the forensic genetic sciences, different types of activities bring on unique considerations that are not as directly relevant to traditional DNA profiling.¹⁴²

(ii) Societal Acceptance of Forensic Surveillance Technologies

As mentioned above, DNA has become a central feature of forensic investigations around the world.¹⁴³ There exists an abundance of literature examining the legal and ethical implications of using genetic information for forensic purposes.¹⁴⁴ The increasing use of genetic information in the criminal

¹⁴² This discussion is particularly relevant to Chapter Two, where the science of DNA profiling and familial searching as an extension of that science is explained. As explained in that chapter (part 2.5), certain theories of probabilities and subjective judgment play into the familial searching process (which are not required with DNA profiling). The subjective element of familial searching is again emphasized through examination of the world's experience with forensic fingerprinting in Chapter Four (part 4.2.1). In this way, my discussion aims to support the view that familial searching requires an individualized approach rather than simply being regulated as an extension of DNA profiling. As a broader comment, issues in law and technology often bring on unique questions and require individualized assessment from a legal standpoint; however, this does not always mean that an individualized regulatory framework must be devised. See discussion in: Elizabeth F. Judge, "Cybertorts in Canada: Trends and Themes in Cyber-Libel and Other Online Torts" in The Honourable Justice Todd Archibald and Michael G. Cochrane *Annual Review of Civil Litigation* (Toronto: Carswell, 2005).

¹⁴³ In discussing familial searching, I consider a number of other forensic activities involving DNA. In addition to the emergence of DNA data banks discussed above (part 1.3 and in particular notes 64 and 66) and DNA profiling discussed in Chapter Two (part 2.3), I examine the use of abandoned DNA and forensic phenotyping in Chapter Four (parts 4.2.2 and 4.2.3).

¹⁴⁴ In addition to the above-noted literature on familial searching, the following works have contributed to my analysis: Sheldon Krinsky and Tania Simoncelli, *Genetic Justice: DNA Data Banks, Criminal Investigations and Civil Liberties* (New York: Columbia University Press, 2011); Gerlach, *supra* note 70; Oscapeella *supra* note 110; Candace Roman-Santos, "Concerns Associated With Expanding DNA Databases" (2010) 2 *Hastings Science & Tech. L. J.* 267; Robin Williams and Paul Johnson, "Inclusiveness, Effectiveness and Intrusiveness: Issues in the Developing Uses of DNA Profiling in Support of Criminal Investigations" (2005) 33 *J.L. Med. & Ethics*, 545; Scott N. Cameron, "Chapter 906: California's DNA Data Bank Joins the Modern Trend of Expansion" (2002) 33

context highlights two key points that are considered within this dissertation: the tendency for DNA to be viewed as an ideal type of evidence and a clear indicator of guilt in relation to criminal activities for which it is tested,¹⁴⁵ and the gradual normalization of increasingly invasive surveillance techniques in policing.¹⁴⁶ Both trends may be relied upon as reasons to support familial searching as an expansion to the current NDDDB scheme.¹⁴⁷ The equality-based argument offered in this dissertation emphasizes competing factors to be considered as part of the decision-making process relating to the future of familial searching in Canada.

McGeorge L. Rev. 219; Tania Simoncelli and Barry Steinhardt, "California's Proposition 69: A Dangerous Precedent for Criminal DNA Databases" (2005) *Journ. of Law, Med. and Ethics* 279; Michael Lynch, "God's Signature: DNA Profiling, the New Gold Standard in Forensic Science" (2003) 27:2 *Endeavour* 93; Aronson, *supra* note 5; John Burchill, "Mr. Stillman, DNA and Discarded Evidence in Criminal Cases" (2006) 32:2 *Man. L. J.* 5; Bert-Jaap Koops and Maurice Schellekens, "Forensic DNA Phenotyping: Regulatory Issues" (2008) *Columbia Science and Technology Law Review* 158; Charles E. MacLean, "Creating a Wanted Poster From a Drop of Blood: Using DNA Phenotyping to Generate an Artist's Rendering of an Offender Based Only on DNA Shed at the Crime Scene" (2013) 36 *Hamline L. Rev.* 357; Julianne Parfett, "Canada's DNA Databank: Public Safety and Private Costs" (2003) 29 *Man. L. J.* 33; Tania Simoncelli, "Dangerous Excursions: The Case Against Expanding Forensic DNA Databases to Innocent Persons" (2006) 34 *J.L. Med. & Ethics* 390; Kimmelman, *supra* note 2; Rothstein & Talbott, *supra* note 110, at 153.

¹⁴⁵ This trend is illustrated in what has become known as the 'CSI effect', which refers to the tendency among juries to (i) be unwilling to convict in the absence of DNA evidence implicating the accused, and (ii) overestimate the reliability of DNA evidence when it is presented at trial.

¹⁴⁶ See Anita L. Allen, "Driven Into Society: Philosophies of Surveillance Take to the Streets of New York" (2009) 1:4 *Amsterdam L. Forum* 35; Ian Kerr, Max Binnie & Cynthia Aoki, "Tessling on My Brain: The Future of Lie Detection and Brain Privacy in the Criminal Justice System" (2008) 50:3 *Can. Journ. of Crim. & Crim. Justice* 367; Teresa Scassa et al., "Consumer Privacy and Radio Frequency Identification Technology" (2006) 37 *Ottawa L. Rev.* 215, at 241; Valerie Steeves, "If the Court Were on Facebook: Evaluating the Reasonable Expectation of Privacy Test From a Social Perspective" (2008) *Canadian Journal of Criminology and Criminal Justice* 331; Dorothy Nelkin and Lori Andrews, "Surveillance Creep in the Genetic Age" in David Lyon (ed.), *Surveillance as Social Sorting: Privacy, Risk, and Digital Discrimination* (NY: Routledge, 2002); Jane Bailey, "Framed by Section 8: Constitutional Protection of Privacy in Canada" (2008) *Canadian Journal of Criminology and Criminal Justice* 279; Don Stuart, "Police Use of Sniffer Dogs Ought to be Subject to *Charter* Standards: Dangers of *Tessling* Come to Roost" (2005) 31 *C.R.* (6th).

¹⁴⁷ Other possible types of expansions to the NDDDB are discussed in Chapter Four (part 4.3.3) including the potential to add DNA obtained from arrestees and the option of introducing a population-wide data bank.

(iii) Genetic Discrimination

Existing research on the potential for genetic information to be used in a discriminatory manner is largely focused on the insurance and employment context, where the primary risk is that individuals may face discrimination based on their predisposition to certain medical conditions.¹⁴⁸ Although genetic discrimination may also occur along racial lines, it is important to recognize that the minute genetic differences that exist between humans do not correlate with racial categorizations.¹⁴⁹ This knowledge supports CRT's argument that racialized hierarchies are socially constructed. Although genetic research does not validate racial categorizations, it has sometimes supported racial inequality by offering genetically based rationalizations for group differences that do not account for alternative explanations based on historical and social factors.¹⁵⁰ The risk is

¹⁴⁸ See, for example, Oscapeila *supra* note 110; Elizabeth Adjin-Tettey, "Potential for Genetic Discrimination in Access to Insurance: Is There a Dark Side to Increased Availability of Genetic Information?" (2013) 50:3 Alberta Law Review 577; Anya Prince & Myra Roche, "Genetic Information, Non-Discrimination, and Privacy Protections in Genetic Counseling Practice" (2014) 23: 6 Journal of Genetic Counseling 891; Karen Eltis, "Genetic Determinism and Discrimination: A Call to Re-Orient Prevailing Human Rights Discourse to Better to Better Comport with the Public Implications of Individual Genetic Testing" (2007) Journ. of Law, Med. and Ethics 282; Bartha M. Knoppers & Yann Joly, "Physicians, Genetics, and Life Insurance" (2004) 170(9) C.M.A.J.; Bartha M. Knoppers & Yann Joly, "Genetics and Life Insurance in Canada" (2004) 170:9 Can. Med. Association 1421; Bryce A. Lenox, "Genetic Discrimination in Insurance and Employment: Spoiled Fruits of the Human Genome Project" (1997) 23 U. Dayton L. Rev. 189; Trudo Lemmens, "Selective Justice, Genetic Discrimination, and Insurance: Should we Single out Genes in our Laws?" (2000) 45 McGill L.J. 347; Lemmens, Pullman & Rodall, *supra* note 7; Trudo Lemmens, "Genetics and Insurance Discrimination: Comparative Legislative, Regulatory and Policy Developments and Canadian Options" (2003) Special Edition Health L. J. 41.

¹⁴⁹ Rose M. Brewer, "Thinking Critically About Race and Genetics" (2006) 34 J. L. Med. & Ethics 513, at 514; Troy R. Duster, *Backdoor to Eugenics* (New York: Routledge, 2003); Troy Duster, "Race and Reification in Science" (2005) 307 Science 1050; Richard Delgado and Jean Stefancic, "Critical Race Theory and Criminal Justice" (2007) 31 Humanity & Society 133, at 134.

¹⁵⁰ Troy Duster, "A Post-Genomic Surprise: The Molecular Reinscription of Race in Science, Law and Medicine" (2015) 66:1 The British Journ. of Sociology 1, at 5; Brewer, *supra* note 149, at 514. Bahrad

particularly acute in the health research and treatment context, where social influences on healthcare outcomes may be dismissed in favour of genetic explanations for differences that reinforce racialized groupings. For instance, Tang and Browne note that although some may assume that Canada's healthcare system is "discrimination-free", healthcare professionals have sometimes accepted discriminatory assumptions about genetic propensities towards conditions like alcoholism. In the course of being interviewed for the study, one healthcare practitioner said the following about Canada's Aboriginal population:

It comes down to their personal choices and I mean if unfortunately some of them are already going to be prone to alcohol abuse and drug addition [sic] because it is in their genetic makeup from birth, at some point there comes a time that they are responsible for where they are at. So as I said, you can provide all the stuff in the world yet still they are not able to access it because they just can't, or *they do not want to for whatever reason*.¹⁵¹

To guard against the risk that genetic research will "reify biological determinism and perpetuate unfounded stereotypes" Wang and Sue recommend that:

[R]esearchers and clinicians who rely on self- or investigator-reported racial categories and attribute their research findings to race or population...clearly operationalize what they mean by race, population, or culture and include measures about the constructs underlying their population assumptions...rather than doing post hoc deductions. Additionally, population-based conclusions should be

A. Sokhansanj, "Beyond Protecting Genetic Privacy: Understanding Genetic Discrimination Through its Disparate Impact on Racial Minorities" (2012) *Columbia Journ. of Race and Law* 279.

¹⁵¹ Emphasis in original. Sannie Y Tang and Annette J. Browne, "'Race' Matters: Racialization and Egalitarian Discourses Involving Aboriginal People in the Canadian Health Care Context" (2008) *13:2 Ethnicity & Health* 109, at 118. See also comments in Jennifer Poudrier, "'Racial' Categories and Health Risks" in David Lyon (ed.), *Surveillance as Social Sorting: Privacy, Risk, and Digital Discrimination* (NY: Routledge, 2002); Duster, "A Post-Genomic Surprise", *supra* note 150, at 14; and Rebecca Tsosie and Joan L. McGregor, "Genome Justice: Genetics and Group Rights" (2007) *Journ. of Law, Med. and Ethics* 352.

considered only when other possible proxy or other confounding factors (e.g., socioeconomic status, insurance coverage, racial identity status) have been taken into account.¹⁵²

Research into the existence of a “criminal gene”¹⁵³ introduces a risk similar to the one highlighted by Wang and Sue, above. This area of research introduces the same need to avoid conclusions about genetic predispositions that do not properly account for the results of oppression that have been facilitated by racialized societal hierarchies. The issue relates directly to familial searching, where use of the technique may support the idea that crime runs in families.¹⁵⁴ In this context it is again important to emphasize the social factors that have led to a racialized criminal justice system and ask whether reliance on familial searching within that system is discriminatory. For that reason, I underscore the underlying reasons for the overrepresentation of Aboriginal peoples in Canada’s offender population. This

¹⁵² Vivian Ota Wang and Stanley Sue, “In the Eye of the Storm: Race and Genomics in Research and Practice” (2005) 60:1 *American Psychologist* 37.

¹⁵³ An example of such a study occurred in the 1960s and 1970s when a group of scientists believed that men who had an “XYY” chromosome abnormality (instead of the usual “XY” composition) were predisposed to criminal or anti-social tendencies. The theory was subsequently refuted. See discussion in Office of the Privacy Commissioner of Canada, *Genetic Testing and Privacy* (Ottawa, Canada: Minister of Supply and Services Canada, 1995), at 49. See also more recent discussions of the link between criminality and genes in: Gregory Bock and Jamie Goode, *Genetics of Criminal and Antisocial Behaviour* (London: Ciba Foundation, 1995); John Paul Wright, Stephen G. Tibbetts, and Leah E. Daigle, *Criminals in the Making: Criminality Across the Life Course* (Los Angeles: Sage, 2008); Kevin M. Beaver, “Genetic Influences on Being Processed Through the Criminal Justice System: Results from a Sample of Adoptees” (2011) 69:3 *Biological Psychiatry* 282; David Lazer, *DNA and the Criminal Justice System: The Technology of Justice* (Cambridge, Mass: MIT Press, 2004); Jamie Vaske, *Genes and Abuse as Causes of Offending* (El Paso, TX: LFB Scholarly Pub, 2011); T. Frisell, P. Lichtenstein, and N. Langström, “Violent Crime Runs in Families: A Total Population Study of 12.5 Million Individuals” (2011) 41 *Psychological Medicine* 97.

¹⁵⁴ See discussion in Bieber, Brenner, and Lazer, *supra* note 136, at 1316; Frisell, Lichtenstein, and Langström, *supra* note 153. I return to the issue in Chapter Three (part 3.2.2) where I consider a possible section 15 equality challenge to familial searching based on the argument that it discriminates on the basis of genetic family status.

discussion occurs in Chapter Four and is informed by existing CRT research and other anti-racism scholarship, outlined immediately below.

(iv) CRT on Inequality in the Criminal Justice System

While CRT has previously been applied to study issues affecting Indigenous peoples, the methodology has not been extensively applied to the examination of inequality in the criminal justice system. Richard Delgado and Jean Stefancic recently noted that “[d]espite a few articles about policing, racial profiling, and the costs of White and Black crime, the critical literature on race and crime is seriously underdeveloped”.¹⁵⁵ Dua, Razack, and Warner have also noted a lack of scholarly dialogue connecting antiracist theories and Aboriginal theories.¹⁵⁶ They argue that where this connection is made, antiracism theories have “ignore[d] the ongoing colonization of Aboriginal peoples in the Americas” and have thus “fail[ed] to integrate an understanding of Canada as a colonialist state into antiracist frameworks”.¹⁵⁷

With this in mind, I emphasize the impact of colonialism on the issue of familial searching in this dissertation. This focus is especially evident in Chapter Four where I discuss the overrepresentation of Aboriginal peoples as victims of

¹⁵⁵ Delgado and Stefancic, “Critical Race Theory and Criminal Justice”, *supra* note 149, at 134. Since noting the gap in the research, Delgado and Stefancic have published an edited collection that includes a section on crime in the US context: Richard Delgado and Jean Stefancic (eds.), *Critical Race Theory: The Cutting Edge* (Philadelphia: Temple University Press, 2013).

¹⁵⁶ Dua, Razack, and Nyasha Warner, *supra* note 157, at 3.

¹⁵⁷ Enakshi Dua, Narda Razack, and Jody Nyasha Warner, “Race, Racism, and Empire: Reflections on Canada” (2005) 32:4 *Social Justice* 1, at 123. See also the same work at 8, where the authors argue that “critical race scholarship must integrate the ongoing colonization of aboriginal peoples into theories of ‘race’ and racism”.

crime and the underlying causes of crime in relation to Aboriginal offenders.¹⁵⁸ More generally, the analysis is informed by the numerous works examining the relationship between colonialism and current rates of incarceration of Aboriginal peoples in Canada.¹⁵⁹ Ongoing colonization through continued exclusion of Aboriginal peoples from the development of the criminal justice system is viewed as a crucial issue in this conversation.¹⁶⁰ I have also been assisted by broad research examining the complex relationship between race and crime¹⁶¹ as well as the potential racial impact of different forensic activities.¹⁶²

¹⁵⁸ Literature examining the relationship between colonialism and the overrepresentation of Aboriginal peoples as victims (with emphasis on the experiences of Aboriginal women) includes: Elizabeth A. Sheehy (ed.), *Sexual Assault in Canada: Law, Legal Practice, and Women's Activism* (Ottawa, ON: University of Ottawa Press, 2012), at 89; Gillian Balfour and Elizabeth Comack (eds.) *Criminalizing Women: Gender and (In)justice in Neo-Liberal Times* (Halifax, NS: Fernwood, 2006); Emma Cunliffe and Angela Cameron, "Writing the Circle: Judicially Convened Sentencing Circles and the Textual Organization of Criminal Justice" (2007) 19 Can. J. Women & L. 1; Maya Seshia, "Naming Systemic Violence in Winnipeg's Street Sex Trade" (2010) 19:1 Canadian Journ. of Urban Research 1; and Friedland, "Different Stories" *supra* note 92; Royal Canadian Mounted Police, "Missing and Murdered Aboriginal Women: A National Operational Overview" (Ottawa: Royal Canadian Mounted Police, 2014); Julia Kubanek and Fiona Miller, "DNA Evidence and a National DNA Databank: Not in Our Name" (Vancouver Rape and Relief Women's Shelter) online: <http://www.rapereliefshelter.bc.ca/learn/resources/dna-evidence-and-national-dna-databank-not-our-name>; Wallace T. Oppal, "Forsaken: The Report of the Missing Women Commission of Inquiry (Executive Summary)" (Vancouver: Missing Women Commission of Inquiry, 2012), at 129.

¹⁵⁹ Dickson-Gilmore and La Prairie, *Will the Circle be Unbroken?* *supra* note 92; Jane Dickson-Gilmore, "Aboriginal People in Canada: Culture, Colonialism, and Criminal Justice" in Barbara Perry (ed.) *Diversity, Crime, and Justice in Canada* (Don Mills, ON: Oxford University Press, 2011); Brown and Strega *supra* note 56; Sewrattan, *supra* note 20; Corrado, Kuehn and Margaritescu, *supra* note 92; Owusu-Bempah, et al, *supra* note 92; Johnson, *supra* note 103; Lawrence and Dua, *supra* note 37, at 121; Backhouse *Colour-Coded*, *supra* note 32; Chartand, Logan and Daniels, *supra* note 118, at 111; Larry N. Chartrand and Ella M. Forbes-Chilibeck, "The Sentencing of Offenders with Fetal Alcohol Syndrome" (2003) 11 Health L. J. 35; Bombay, Matheson and Anisman, *supra* note 118; MacDonald and Hudson, *supra* note 121; Friedland, "Tragic Choices and the Division of Sorrow" *supra* note 121; Milner, *supra* note 127.

¹⁶⁰ These factors are particularly prominent in Chapter Four (part 4.3.1), where I emphasize that while the Canadian criminal justice process has introduced changes meant to address current rates of incarceration for Aboriginal peoples, these have come in the form of piecemeal adjustments to the existing adversarial process instead of reforms that would make the criminal justice process more just and culturally relevant for Aboriginal peoples.

¹⁶¹ See for example: Elizabeth Comack, *Racialized Policing: Aboriginal People's Encounters with the Police* (Black Point, N.S.: Fernwood Pub, 2012); Michael Rowe, *Race & Crime* (London: Sage, 2012); Josine Junger-Tas, "Ethnic Minorities and Criminal Justice in the Netherlands" (1997) 21 Crime &

(v) Theories of Groups Rights

A final key area of the existing literature for the purposes of this dissertation is the scholarship on group rights. By employing a CRT methodology, the equality issue relating to familial searching on Canada's NDDB is viewed with a broad lens through which racialized groups may suffer a disproportionate impact of numerous rights and interests. As previously noted, these broad issues are considered as part of the overall equality analysis and are not limited to what is protected by individual rights or more specifically the *Charter*. Existing scholarship in this area has emphasized group rights to genetic privacy¹⁶³ with particular consideration for the interests of Indigenous groups.¹⁶⁴ Within this discussion it has been argued that

Justice 257; Wendy Chan, *Racialization, Crime and Criminal Justice in Canada*, (Toronto Ontario: University of Toronto Press, 2014); Michael J. Lynch, E. Britt. Patterson & Kristina K. Childs, *Racial Divide: Racial and Ethnic Bias in the Criminal Justice System* (Monsey, N.Y.: Criminal Justice Press, 2008); Marable Manning and Ian Steinberg, *Racializing Justice, Disenfranchising Lives: the Racism, Criminal Justice, and Law Reader* (New York: Palgrave Macmillan, 2007); Ronald-Frans Melchers, *Inequality Before the Law: The Canadian Experience of "Racial Profiling"* (Ottawa, ON: Royal Canadian Mounted Police, 2006).

¹⁶² Duster, "A Post-Genomic Surprise", *supra* note 150, at 20; Troy Duster, "Explaining Differential Trust of DNA Forensic Technology: Grounded Assessment or Inexplicable Paranoia?" (2006) *Journ. of Law, Medicine & Ethics* 294; Grimm, *supra* note 136; Shaun Gabbidon, *Race, Ethnicity, Crime, and Justice: An International Dilemma* (Los Angeles: SAGE, 2010); Dorothy Roberts, "Exclusion: Collateral Consequences, Genetic Surveillance, and the New Biopolitics of Race" (2011) 54 *How. L.J.* 567; Krimsky and Simoncelli, *supra* note 144, at Chapter 15; Keith Wailoo & Alondra Nelson, *Genetics and the Unsettled Past: The Collision of DNA, Race, and History* (New Brunswick, N.J.: Rutgers University Press, 2012); Sokhansanj, *supra* note 150, at 295; David Skinner, "'The NDNAD Has No Ability in Itself to be Discriminatory': Ethnicity and the Governance of the UK National DNA Database" (2013) *Sociology* 47:5 976.

¹⁶³ Martha Nussbaum, *Women and Human Development: The Capabilities Approach* (Cambridge, NY: Cambridge University Press, 2000); Eltis, *supra* note 148; Jennifer Nedelsky, "Embodied Diversity and the Challenges to Law" (1997) 42 *McGill L. J.* 91; Tsosie and McGregor, *supra* note 151; L.S. Underkuffler, "Human Genetics Studies: The Case for Group Rights" (2007) *Journ. of Law, Med. and Ethics* 35:3 383.

¹⁶⁴ Rebecca Tsosie, "Cultural Challenges to Biotechnology: Native American Genetic Resources and the Concept of Cultural Harm" (2007) 35:3 *Journ. of Law, Med. and Ethics* 396; Kimberley TallBear, "Narratives of Race and Indigeneity in the Genographic Project" (2007) 35:3 *Journ. of Law, Med. and Ethics* 412; Kimberly Self, "Self-Interested: Protecting the Cultural and Religious Privacy of Native Americans Through the Promotion of Property Rights in Biological Materials" (2010) 35 *Am. Indian L. Rev.* 729.

while genetic studies may embed socially constructed categories of race,¹⁶⁵ strong privacy protection may also be harmful to racialized groups in that it may result in a lack of data that can be used to demonstrate racial inequality in the criminal justice system and in others areas of society.¹⁶⁶ With respect to the NDDB and the arguments advanced in this dissertation, this proves particularly relevant.¹⁶⁷ Scholarship on group rights also considers different approaches to addressing historical and continuing oppression,¹⁶⁸ which informs the current discussion on the need for a prohibition of familial searching as a measure to avoid perpetuating the oppression of Aboriginal peoples.

1.6 Division of Chapters

The remaining support for the argument that Canada should continue to prohibit familial searching of the NDDB has been divided into five chapters. In the next chapter, I explain the science of familial searching, which provides a foundation for understanding the equality risks inherent in the familial searching process as well as the frameworks examined in Chapter Five. Chapter Three considers possible

¹⁶⁵ See above-noted works discussing this risk in the clinical treatment and research context.

¹⁶⁶ Anita L. Allen, "Privacy Law: Positive Theory and Normative Practice" (2013) 126 Harvard L. Rev. Forum 241, at 246.

¹⁶⁷ In Chapter Three, I return to the issue of group privacy and the extent to which privacy rights have resulted in a lack of data that would demonstrate issues like the overrepresentation of Aboriginal peoples on Canada's NDDB (see in particular *infra* note 321 and accompanying text).

¹⁶⁸ See Anita L. Allen, "Was I Entitled or Should I Apologize? Affirmative Action Going Forward" (2011) 15 J. Ethics 253 and Nedelsky, *supra* note 163. I include in this category some of the specific attempts to address inequality for Aboriginal peoples in the Canadian criminal justice system and particularly the *Gladue* principles, which have not had the expected impact of reducing overrepresentation of Aboriginal peoples in the Canadian criminal justice system (see comments in Sheehy, "Advancing Social Inclusion" *supra* note 41, at 85 as well as Julian V. Roberts and Ronald Melchers, "The Incarceration of Aboriginal Offenders: Trends From 1978 to 2001" (2003) 45 Canadian Journal of Criminology & Crim. Justice 211 and further discussion in Chapter Four (*infra* notes 761-766 and accompanying text).

Charter challenges to the use of familial searching on Canada's NDDB under sections 15 (the right to be free from unlawful discrimination), section 8 (the right to be free from unreasonable search and seizure), and section 7 (the right to life, liberty, and security of the person). I examine each of these rights in order to highlight ways in which familial searching may disproportionately impact Aboriginal peoples in Canada. In this way, the rights to privacy and to life, liberty and security of the person become part of the overall equality analysis. As previously mentioned, the *Charter* is not viewed as an upper limit of rights; however, this analysis provides a helpful method of highlighting some of the potential harms of familial searching and the ways in which these would disproportionately affect Aboriginal peoples (which is especially important in relation to risks that are unlikely to receive *Charter* protection). Following the *Charter* analysis, Chapter Four considers a number of potential policy arguments relevant to the use of familial searching on Canada's NDDB.¹⁶⁹ Again, this discussion highlights risks that are heightened for Aboriginal peoples who are likely to experience the negative effects of familial searching at a disproportionate rate. Chapter Four also considers counterarguments that may be directed at my recommendation for continued prohibition of familial searching on Canada's NDDB.¹⁷⁰ In Chapter Five, I examine current frameworks regulating

¹⁶⁹ The policy issues examined include additional ways in which familial searching may impact Aboriginal peoples in Canada. These are drawn out in a discussion of: (i) the extent to which the familial searching process involves judgment on the part of criminal investigators; (ii) the potential relationship between the use of familial searching and abandoned DNA; (iii) the potential relationship between the use of familial searching and forensic phenotyping; and (iv) the possible effects of familial searching on family cohesion.

¹⁷⁰ Specifically, these are related to the crime-solving benefits of familial searching; the potential for familial searching to prevent or expose wrongful convictions; and (vii) the possibility that a population-wide data bank would address the equality concerns with familial searching of the NDDB.

familial searching in select international jurisdictions,¹⁷¹ specifically for the purpose of determining the extent to which these laws protect against the equality concerns highlighted up to that point in the dissertation. In the sixth and final chapter, I restate the main reasons for my recommendation that Canada continue to prohibit familial searching of the NDDB.

¹⁷¹ For reasons detailed in Chapter Five (part 5.1), the familial searching laws examined are those in place in the United Kingdom, California, and Maryland.

CHAPTER TWO: The Science Behind Familial DNA Searching

2.1 Introduction

As noted in Chapter One, there is a tendency to view DNA as an objective form of evidence with no ability to be discriminatory. This general trust in the reliability of DNA underlies the prevalence of DNA evidence in the criminal justice system. Commentators have identified what is known as the “CSI trend”, which refers to the tendency among juries to (i) be unwilling to convict in the absence of DNA evidence implicating the accused, and (ii) overestimate the reliability of DNA evidence when such evidence is presented at trial.¹⁷² The trend has been attributed in large part to the popularization of police procedural television shows such as the “Law and Order” and the “CSI” series where DNA evidence is routinely used. The popularization of DNA evidence has arguably changed how prosecutors present their cases and how accused persons must frame their defense in the real world. The general trust in DNA as an ideal form of evidence is also illustrated by the fact that Canada and most other countries have invested a great deal in the planning, funding, and managing of forensic DNA data banks.¹⁷³

¹⁷² N.J. Schweitzer & Michael J. Saks, “The CSI Effect: Popular Fiction About Forensic Science Affects the Public’s Expectations About Real Forensic Science” (2007) 47 *Jurimetrics* 357; Donald E. Shelton, Gregg Barak & Young S. Kim, “A Study of Juror Expectations and Demands Concerning Scientific Evidence: Does the ‘CSI Effect’ Exist?” (2007) 9:2 *Vanderbilt Journ. Of Entertainment & Tech. Law* 331; and Andrew P. Thomas, “The CSI Effect: Fact or Fiction” (2006) *The Yale Law Journal Pocket Part* 70. It has been said that “[f]act finders are no longer impressed by the presentation of DNA evidence but rather are critical of its absence”: C.H. Asplen, “Report: The Non-Forensic Use of Biological Samples Taken for Forensic Purposes: An International Perspective” (Boston, MA: American Society Of Law & Ethics, 2006), at 1.

¹⁷³ See again discussion in Chapter One (part 1.3 and comments in *supra* note 66).

While DNA profiling has proven extremely useful in the forensic context, it is important to emphasize that its application in this environment involves subjective decision-making. In particular, familial searching as an extension of DNA profiling involves both probability assessments in the initial familial analysis as well as judgment and discretion within the follow-up investigation. The explanation of the science behind familial searching provided in this chapter serves three main purposes within the overall dissertation. First, as explained in Chapter One, my equality argument is founded on the assumption of a disproportionate representation of Canada's Aboriginal peoples in the NDDDB relative to the number of Aboriginal peoples in the general population. This chapter explains in more detail how the science supports the searching of the NDDDB data to produce potentially useful leads and how that process would implicate Aboriginal families at a disproportionate rate. Next, the chapter draws an important distinction between the science of DNA profiling and the scientific process of familial searching in order to highlight the unique considerations that apply to the use and regulation of the latter.¹⁷⁴ The unique issues attached to the scientific process of familial searching include a greater level of subjective judgment than is required with DNA profiling, particularly with respect to the obtaining of exclusionary samples from individuals who come under police suspicion in the familial searching process.¹⁷⁵ The subjective

¹⁷⁴ I noted in Chapter One (part 1.5) that the existing literature has emphasized the uniqueness of DNA and the need for particularized regulation of DNA. I extend that discussion to the current context and argue through this chapter and generally in the dissertation that familial searching requires particularized regulation and cannot be viewed for regulatory purposes as simply an extension of DNA profiling. The scientific background outlined in this chapter underscores that point.

¹⁷⁵ The options for obtaining such samples include collection of abandoned DNA, which is discussed in Chapter Four (part 4.2.2) as a policy concern.

judgment issue plays into the equality arguments presented in Chapters Three and Four.¹⁷⁶ Third, an understanding of the scientific background of familial searching is required in order to assess the safeguards that may be used to limit the risks of the technique. Options for protecting against the equality risks are reflected in the international frameworks examined in Chapter Six.

Towards the above goals, I describe within this chapter the science of DNA profiling, including certain key historical discoveries relating to the inheritance of genes and the structure of each person's genome. I then explain the science of familial searching, which is based on the logic of DNA profiling combined with probabilities relating to the inheritance of genes. I end the chapter with an overview of how this process would be applied to Canada's NDDB and how the initial familial search of data bank information would disproportionately impact Aboriginal peoples in Canada.¹⁷⁷

¹⁷⁶ In Chapter Four (part 4.2.1), I explain how the subjective judgment required in the follow-up of a familial search lead can be compared to the world's experience with forensic fingerprinting throughout the twentieth century. As recounted in that discussion, forensic fingerprinting was introduced and routinely used based on mistaken assumptions about its scientific reliability and without proper acknowledgment of its subjective nature. I use that experience to emphasize the need to acknowledge the subjective elements of familial searching and the potential harms that may result from use (or overuse) of the technique.

¹⁷⁷ In this chapter I deal with the initial search of the data bank information and explain why (in relation to that initial search) it matters that Aboriginal peoples are disproportionately reflected within the NDDB. The ways in which the follow-up investigation would disproportionately affect Aboriginal peoples are explored in detail in Chapters Three and Four.

2.2 Towards the Discovery of the Identifying Power of DNA: Nineteenth and Early Twentieth Century Achievements in the Genetic Sciences

While curiosity about “heritability” in genetics has existed for many centuries,¹⁷⁸ the nineteenth century marked the beginning of a period of significant growth in the field of human genetic sciences. The findings made in this era provide the foundation for the modern science of DNA profiling. In roughly the first half of the nineteenth century, the foundation for human genetic sciences was laid through a series of publications and formal inquiries into the nature of life. In 1809, in the first formal publication of an evolutionary theory, Jean-Baptiste Lamarck suggested that living organisms were gradually becoming increasingly complex through a combination of inherited characteristics and environmental influences.¹⁷⁹ Formal investigation into the nature of life continued with Charles Darwin’s 1859 publication of the *Origin of Species*, which introduced a theory of evolution and further contemplated the way that living beings had become increasingly complex

¹⁷⁸ There is evidence of a certain awareness of heredity of traits in humans as far back as the prehistoric era, in the form of an understanding that desirable and undesirable traits were being passed from one generation to the next. In Hippocratic times (approximately 400 BC), it was suggested that substances produced by the human body might form reproductive matter when those substances meet in the sexual organs, which indicates at least a preliminary understanding of the fact that personal characteristics are passed down at conception. It is also interesting to note that the use of the vocabulary surrounding “inheritance” stems from the historical use of the word in reference to real property rights or duties: Gulzar A. Niazi, “Genetics and Biotechnology in Historical Perspective: A Review” (2007) 2:2 World Journal of Medical Sciences 65; Wilhelm Johannsen, “The Genotype Conception of Heredity” (1911) 45:531 The American Naturalist 129, at 129; Jane Taylor, “Explaining Inheritance” (2003) Catalyst 16, at 16.

¹⁷⁹ Jean-Baptiste Pierre Antoine de Monet, Chevalier de la Marck, *Philosophie Zoologique ou Exposition des Considérations Relatives à L’Histoire Naturelle des Animaux* (Paris: Dentu et L’Auteur, 1809) and discussion in Adam E. Handel & Sreeram V. Ramagopalan, “Is Lamarckian Evolution Relevant to Medicine?” (2010) 11:73 BMC Medical Genetics 1, at 1.

over time.¹⁸⁰ Darwin's publication inspired interest in understanding the nature of life, and led to further investigation of the chemical structure of living beings.¹⁸¹ What followed was an era of intense scientific study into the genetic makeup of living organisms and suggestions that a relatively simple chemical compound was responsible for the origin of life.¹⁸² This idea led to new studies on the highly complex chemical structure existing within the human cell, and demonstrated an early understanding of the link between cellular processes and the inheritance of genetic traits.¹⁸³

A significant moment in the development of human genetic sciences came through the work of Gregor Mendel, whose critical findings in the 1860s resulted in his legacy as the "father of genetics".¹⁸⁴ Through a painstaking process of breeding and observing garden pea plants, Mendel drew conclusions about the process through which dominant and recessive traits are passed down in living organisms.¹⁸⁵ These findings provided valuable quantitative evidence of how characteristics of living organisms were transmitted over time, along with a theory

¹⁸⁰ Stephen C. Meyer, "DNA and the Origin of Life: Information, Specification, and Explanation" in John Angus Campbell and Stephen C. Meyer, *Darwinism, Design and Public Education* (East Lansing: Michigan State University Press, 2003) 225; Johannsen, *supra* note 178, at 129.

¹⁸¹ Meyer, *supra* note 180, at 225.

¹⁸² Meyer, *supra* note 180, at 225.

¹⁸³ Meyer, *supra* note 180, at 225.

¹⁸⁴ See references to Mendel's contributions and status as the "father of genetics" in Robin Marantz Henig, *The Monk in the Garden: The Lost and Found Genius of Gregor Mendel, the Father of Genetics* (Boston: Houghton Mifflin, 2000); Jan Sapp, "The Nine Lives of Gregor Mendel" (1990) 8 *Australasian Studies in History and Philosophy of Science* 137; and Alain Corcos & Floyd Monaghan, *Gregor Mendel's Experiments on Plant Hybrids: A Guided Study* (New Brunswick, New Jersey: Rutgers University Press, 1993).

¹⁸⁵ Marantz Henig, *supra* note 184, at 2; Niazi, *supra* note 178, at 65.

that could be tied to the outward expression of genetic traits in humans.¹⁸⁶ Mendel proposed that dominant and recessive units of heredity (later to be known as genes) were passed down from both parents to their genetic children, so that every individual carries two copies of a given gene.¹⁸⁷ Originally published in 1865, Mendel's findings would have a monumental impact on the development of genetic sciences that would not be realized until after his death.¹⁸⁸ Both DNA profiling and familial searching, discovered more than a century after Mendel's experiments, rely heavily on the principles of "Mendelian genetics".¹⁸⁹

In 1869, Swiss physician Friedrich Miescher made great progress towards "unravel[ing] the fundamental principles of the life of cells".¹⁹⁰ His experiments on human tissues revealed an unknown substance that Miescher considered to be part

¹⁸⁶ Robert B. Macgregor Jr. & Gregory M.K. Poon, "The DNA Double Helix Fifty Years On" (2003) 27 *Computational Biology and Chemistry* 461, at 461.

¹⁸⁷ Niazi, *supra* note 178, at 66.

¹⁸⁸ See the Prologue in Marantz Henig, *supra* note 184 for an explanation of how, following Mendel's death, the important findings were revived by zoologist William Bateson. Some of Bateson's work is discussed further on in this chapter (*infra* notes 197 and 198 and accompanying text). See also James F. Crow, "Two Centuries of Genetics: A View From Halftime" (2000) 1 *Annual Rev. Genomics Hum. Genet.* 21, at 22.

¹⁸⁹ In addition to having influenced the application of human genetics to the field of criminal investigations, Mendel's theories have led to important discoveries in other areas. For instance, Mendelian genetics have provided a basis for key developments in the biological and medical sciences, including an understanding of how diseases are passed down through genetic family members, and how sex is determined at conception. See Chapter Two "Mendelian Inheritance" in Marschall Stevens Runge & Cam Patterson, *Principles of Molecular Medicine*, 2nd ed. (Totowa, New Jersey: Humana Press, 2006). To address questions about whether determination of sex followed Mendel's laws (i.e. whether a sex gene existed) a woman named Nettie Stevens showed that a female insect had two X chromosomes and a male insect had an X and a Y chromosome. This led to further experiments and the eventual conclusion that the X and Y chromosomes determine sex at conception. See discussion in Crow, *supra* note 188, at 23.

¹⁹⁰ To access the human tissues needed to study human cells, Miescher collected fresh surgical bandages and studied the human secretions that they contained. He was initially focused on the different proteins contained in the human tissues, believing that these might hold the key to understanding how cells function in humans. When he separated the substance later identified as DNA from the known proteins, he confirmed that what he was working with was not a protein: Ralf Dahm, "Friedrich Miescher and the Discovery of DNA" (2005) 278:2 *Developmental Biology* 274, at 276.

of the nuclei, a part of the cell about which little was known at the time.¹⁹¹ Miescher called the unknown substance “nuclein”, which would eventually become known as deoxyribonucleic acid and shortened to DNA.¹⁹² Although he still did not understand the purpose of the substance, Miescher correctly assumed that it played an important role in the functioning of cells.¹⁹³ He published his findings but remained doubtful that one substance could be responsible for a diverse population within a given species.¹⁹⁴ The publications attracted interest from the scientific community, particularly from embryologists studying advanced concepts such as embryo development and the passing down of traits between generations.¹⁹⁵ Though many questions remained about the substance Miescher had discovered, his findings provided a foundation for investigation into the molecular substance that would eventually facilitate both DNA profiling and familial searching.¹⁹⁶

¹⁹¹ Dahm, *supra* note 190, at 276.

¹⁹² Leslie Pray, “Discovery of DNA Structure and Function: Watson and Crick” (2008) 1 *Nature Education* 1, at 1; Robert Olby, “Quiet Debut for the Double Helix” (2003) 421 *Nature* 402, at 403. In 1929, scientist Phoebus Levene, who had previously shown that nucleic acid contained a sugar called ribonucleic acid (RNA), revealed the existence of the deoxyribonucleic acid (DNA) as being part of the chemical composition of nucleic acid: *supra* Choudhuri, “The Path From Nuclein to Human Genome: A Brief History of DNA With a Note on Human Genome Sequencing and Its Impact on Future Research in Biology” (2003) 23 *Bulletin of Science, Technology & Society* 360, at 361. Two decades later, use of the acronym “DNA” appears to have become commonplace: Nicholas Bakalar, “First Mention DNA, 1947” *The New York Times* (27 February, 2012) online: http://www.nytimes.com/2012/02/28/health/lifes-blueprint-slow-to-newsprint.html?_r=0.

¹⁹³ Choudhuri, *supra* note 192, at 361; Dahm, *supra* note 190, at 279.

¹⁹⁴ These findings required some resourcefulness on Miescher’s part, as he initially lacked the experimental resources that would provide sufficient quantities of nuclein. He determined that the substance was readily available in the sperm of freshly caught salmon and collected the specimens in quantities needed to refine the method for isolating the nuclein. He later expanded his studies to include the sperm of carp, frogs, chicken, and bulls, though these experiments reportedly had less success than those involving the salmon: Dahm, *supra* note 190, at 282.

¹⁹⁵ Dahm, *supra* note 190, at 282.

¹⁹⁶ Though this chapter focuses on the studies that revealed the identifying power of DNA, several other scientific findings of this period are worth noting. In 1882 Walter Flemming discovered a substance within the human cell that he initially called “chromatin”, but that would eventually become known as the human chromosome. Theodor Boveri would later propose that the sperm and

William Bateson later renewed the focus on Mendelian genetics and aimed to expand on how characteristics are inherited.¹⁹⁷ Building directly upon Mendel's theories, Bateson introduced the concept of the "allelomorph" (later shortened to "allele").¹⁹⁸ This term was meant to relay the fact that, in addition to the forces of dominance and recessiveness exhibited in the inheritance of traits, genes can change over time by way of natural selection, a process that relates to the pairing up or "crossing" of characteristics that remain together when passed down to

egg contribute half of the chromosomes at fertilization: Taylor, *supra* note 178, at 16. Boveri later combined Flemming's finding with Mendel's theories on the laws of inheritance to propose that chromosomes contained hereditary material: Dahm, *supra* note 190, at 275. Further studies revealed that sex is determined through the passing down of the sex chromosomes at conception. Designated as the twenty-third chromosome, the sex chromosome is either passed down as an "XX" pairing for females or an "XY" pairing for males. Another crucial finding was revealed in 1900, when Karl Landsteiner introduced his theory about how human blood groupings work. Landsteiner concluded that blood types were being passed down in accordance with Mendelian rules, and indicated that his theory could be applied to forensic investigations. This use involved the classification of blood samples within blood grouping types and allowed for exclusion of an individual as the source of a crime scene blood sample that did not match his or her type. Landsteiner also indicated that his theory could be applied in paternity disputes. For this purpose Landsteiner presented a formula that made it possible to draw conclusions about the likelihood of a parent/child relationship, in some cases excluding the possibility of parentage entirely: Karl Landsteiner, "Forensic Application of Serologic Individuality Tests" (1934) 103:14 JAMA 1041, at 1043; Hans Peter Schwarz & Friedrich Dörner, "Karl Landsteiner and his Major Contributions to Haematology" (2003) 121:4 British Journal of Haematology 556; Mark A. Jobling & Peter Gill, "Encoded Evidence: DNA in Forensic Analysis" (2004) 5 Nature Reviews Genetics 739, at 740. Other scientists conducting important work into blood groupings include Karl Pearson, who in 1900 developed the ABO blood groups to provide the first polymorphic genetic mark, and Felix Bernstein who in around the year 1920 demonstrated what the blood groupings revealed about modes of inheritance: Crow, *supra* note 188, at 22.

¹⁹⁷ During this early twentieth century period, despite Miescher's discovery of the DNA molecule, relatively little consideration was paid to DNA as the carrier of genetic information. The oversight was largely based on the misconception that DNA was chemically and structurally too simple to be responsible for the inheritance of genes. At the time, much more attention was being given to the cellular proteins, which were considered far more diverse and complex than the nucleic acids: Macgregor Jr. & Poon, *supra* note 186, at 461; George P. Redei, Csaba Koncz, and Jane D. Phillips, "Changing Images of the Gene" (2006) 56 Advances in Genetics 53, at 54; Wendell M. Stanley, "The 'Undiscovered' Discovery" (1970) 21 Arch Environ Health 256, at 257. In contrast, Mendel's theories were receiving renewed attention, though this was partly in the form of questions about whether dominance and recessiveness of genes provided a full explanation of this matter. It was becoming increasingly clear that traits were not either present or absent in human physiology, and that there were discontinuities in the hereditary process that could not be explained by simple dominance and recessiveness: Elof Axel Carlson, "Defining the Gene: An Evolving Concept" 49 Am. J. Hum. Genet. 475, at 478; Walter S. Sutton, "The Chromosomes in Heredity" (1903) The Biological Bulletin 231, at 240; E.B. Ford, "The Theory of Dominance" (1930) 64(695) The American Naturalist 560, at 560.

¹⁹⁸ Redei, Koncz and Phillips, *supra* note 197, at 58.

subsequent generations.¹⁹⁹ Alleles represent the alternative forms that a gene can take, which may or may not be expressed in each individual.²⁰⁰ The result of the inherited alleles is the expression of a wide variety of traits seen among humans (for example different eye colours).²⁰¹ The expressed and unexpressed patterns of alleles are discernable today through analysis of the individual genetic code.

Four key developments towards the discovery of DNA profiling occurred throughout the 1940s and 1950s. First, a 1944 publication led by Canadian scientist Oswald Avery showed that, despite doubts over its complexity, DNA was indeed the key factor accounting for the hereditary differences between certain bacterial strains.²⁰² Second, Frederick Sanger showed that the sequence of amino acid in the bovine insulin molecule was both unique and constant, or in other words, that

¹⁹⁹ Numerous studies were conducted throughout the twentieth century in order to understand the complex process by which alleles are inherited. For instance, theories on allelic variations and inheritance were tested on different living organisms (such as rodents): L.C. Dunn, "Unit Character Variation in Rodents" (1921) 2:3 125, at 126. Elsewhere, studies were performed on maize corn, which has a naturally occurring diversity (for instance in terms of visible traits like colour and form of individual kernels), making it an excellent source for studying discontinuities in patterns of inheritance: Edward H. Coe Jr., "The Origins of Maize Genetics" (2001) 2 Nature Reviews Genetics 898, at 899. Maize corn has in fact had a strong presence in genetic studies, and was later used in experiments by Barbara McClintock, leading to her discovery of "jumping genes". The term refers to the fact that some kind of "controlling element" was found to be moving around on the chromosome and influencing the development of organisms in the corn. See discussion in Christian Biemont & Cristina Vieira, "Junk DNA as an Evolutionary Force" (2006) 443 Nature 521, at 522; and Carlson, *supra* note 197, at 479.

²⁰⁰ F. Clarke Fraser, "Taking the Family History" (1963) American Journal of Medicine 34 585, at 587.

²⁰¹ Jenny Choi, "California and the Future of Partial Match DNA Investigations" (2012) 39:3 Hastings Constitutional Law Quarterly 713, at 715.

²⁰² Meyer, *supra* note 180, at 228; Tarunendu Ghose, "Oswald Avery: The Professor, DNA, and the Nobel Prize That Eluded Him" (2004) 21:1 Canadian Bulletin of Medical History 135, at 136 and 139. It was in fact a specific experiment conducted by Fred Griffith in 1928 that had prompted the investigation undertaken by Avery and his team. Griffith had found that a benign form of pneumococcal bacteria could be transformed into a highly infectious strain. It was interest in identifying this transforming agent that led the scientists to their conclusions on DNA: Maclyn McCarty, "Discovering Genes are Made of DNA" (2003) 421 Nature 406. Experiments conducted subsequent to those performed by Avery and his team would support these crucial findings. In particular, experiments by researchers Al Hershey and Martha Chase showed that DNA was responsible for carrying the genetic information of bacterial viruses: Stanley, *supra* note 197, at 260; Olby, "Quiet Debut for the Double Helix", *supra* note 192, at 402.

“every molecule of insulin in every cow is exactly like every other”.²⁰³ Sanger’s work was significant in that it suggested the existence of a genetic code that was providing instructions to the insulin protein that told it exactly how to exist.²⁰⁴ The third crucial discovery became known as “Chargaff’s Rule” and resulted from Erwin Chargaff’s study of the chemical composition of DNA.²⁰⁵ Chargaff showed that the chemical compatibilities of the nucleotide bases: adenine, thymine, cytosine, and guanine (A, T, C, and G) meant that A and T could only bond with one another, while G and C could only bond with one another.²⁰⁶ By repeating the base pairings of AT and GC in different quantities and forming sequences of different lengths, it became possible to formulate a remarkable number of distinct sequences (an early estimate was made at 10^{1500} sequences).²⁰⁷ It thus became possible to view DNA as being

²⁰³ Horace Freeland Judson, “Frederick Sanger, Erwin Chargaff, and the Metamorphosis of Specificity” (1993) 135 *Gene* 19, at 21. This discovery was part of a series of experiments that provided a greater understanding of the role of proteins in living organisms and the connection between those proteins and the DNA molecule. As previously mentioned, there was a persisting misconception that proteins, not DNA, were responsible for the inheritance of genes. While the direct attribution of genetic inheritance to proteins was misguided, the assumption that proteins played a vital role in human functioning was correct. In fact, proteins are ultimately responsible for forming the structure and process within every cell existing within a living organism: Subbiah Thangadurai, “The Human Genome Project: the Role of Analytical Chemists” (2004) 20 *Analytical Sciences* 595, at 596.

²⁰⁴ Freeland Judson, *supra* note 203, at 22. Further experiments revealed that the molecule responsible for bridging the transformation from DNA is messenger RNA (mRNA). This process of protein synthesis is now commonly described through what is known as the “central dogma” of molecular biology, which holds that “DNA makes RNA makes protein”: Thangadurai, *supra* note 203, at 596; Philip Leder, “Marshall Warren Nirenberg (1927-2010)” (2010) 327 *Science* 972, at 972; Macgregor Jr. & Poon, *supra* note 186, at 462; Christiaan Van Ooij, “Nature of the Genetic Code Finally Revealed!” (2011) 9 *Nature Reviews Microbiology* 835, at 835.

²⁰⁵ Chargaff was building upon experiments that had been conducted by Phoebus Levene several decades earlier, in which Levene had introduced his “tetranucleotide hypothesis”. This hypothesis correctly held that DNA included four different nucleotide bases: adenine, thymine, cytosine, and guanine (A, T, C, and G), but incorrectly assumed that the four bases always presented in equal quantities and in the same sequential order within the DNA molecule: Meyer, *supra* note 180, at 227; Istvan Hargittai, “The Tetranucleotide Hypothesis: A Centennial” (2009) 20 *Struct. Chem.* 753; Dahm, *supra* note 190, at 284; Choudhuri, *supra* note 192, at 362.

²⁰⁶ Meyer, *supra* note 180, at 228; Freeland Judson, *supra* note 203, at 22; Choi, *supra* note 201, at 714.

²⁰⁷ Meyer, *supra* note 180, at 227; Ghose, *supra* note 202, at 140.

capable of accounting for the vast differences between species and individuals.²⁰⁸

The fourth discovery involved the presentation of a structural model of the DNA molecule by scientists James Watson and Francis Crick.²⁰⁹ This three-dimensional model was introduced in 1953 using the now familiar twisting double helix ladder, and embodied the up-to-date understanding of DNA to depict its complex chemical and structural makeup.²¹⁰ The model included a “backbone” or “spine” made up of alternating molecules of sugar-phosphate and stabilized by the base nucleotides A, T, C, and G, grouped according to Chargaff’s one-to-one equivalency ratios.²¹¹

²⁰⁸ Meyer, *supra* note 180, at 228. In addition to his findings on the base pairings that contradicted the tetranucleotide hypothesis, Chargaff showed that proportions of the four bases remained constant within a given species, but differed between species: Freeland Judson, *supra* note 203, at 22; Choudhuri, *supra* note 192, at 362. Other findings on DNA made during this time period include that DNA remains consistent in quantity within the nucleus in which it is contained, even under strenuous conditions that would cause alterations in other cellular compounds. This was tested in various ways, for instance, by observing the consistency of DNA within the cell following a two-day fasting period for rats: Robert Olby, “DNA Before Watson-Crick” (1974) 2 *Molecular Biology* 782, at 784. These conclusions would eventually be used to develop explanations of how DNA is damaged and repaired, and how failure of this process can lead to the development of certain diseases in some individuals: Errol C. Friedberg, “DNA Damage and Repair” (2003) 421 *Nature* 436.

²⁰⁹ The field of genetic sciences is often divided into pre-1953 and post-1953, which highlights the overall significance of the Watson and Crick model for the understanding of human genetics: Crow, *supra* note 188, at 21; Choudhuri, *supra* note 192, at 360. The enhanced understanding of genetics brought on by this structural model led to new explanations for processes such as cell division and genetic inheritance: Macgregor Jr. & Poon, *supra* note 186, at 462. Additionally, in 1958, scientists Matthew Meselson and Franklin Stahl examined a crucial requirement of genetic material, being its ability to achieve precise self-duplication. Using Watson and Crick’s double helix structure, Meselson and Stahl showed how DNA replication resulted in two new “daughter” DNA molecules, one from the original “parent” strand and another synthesized from the same original strand, leading to two duplicate strands that exist as the double helix: Olby, “Quiet Debut for the Double Helix”, *supra* note 192, at 403. Watson and Crick were not the first to attempt to portray DNA in its structural format. Prior to the introduction of the Watson and Crick model, Rosalind Franklin and Maurice Wilkins had used X-ray technology to investigate the structure of DNA. Watson and Crick drew from this early information in building the model presented in 1953: Niazi, *supra* note 178, at 68.

²¹⁰ Meyer, *supra* note 180, at 228; Dahm, *supra* note 190, at 283. For the original publication of findings, see J.D. Watson & F.H.C. Crick, “A Structure for Deoxyribose Nucleic Acid (1953) *Nature* 737; Choudhuri, *supra* note 192, at 362.

²¹¹ The key to this model was the pairing of these bases along the spine, as this presented the structural means by which genetic information might be encoded along the ladder: Meyer, *supra* note 180, at 228-229; Olby, “DNA Before Watson-Crick” *supra* note 208, at 785; Macgregor Jr. & Poon, *supra* note 186, at 461; Laurel Beeler and William R. Wiebe, “DNA Identification Tests and the Courts” (1988) 63 *Washington Law Rev.* 903, at 910; Freeland Judson, *supra* note 203, at 22.

2.3 Genetic Sequencing and the Discovery of DNA Profiling

Believing that a genetic code existed and was awaiting discovery, scientists set out to elucidate the human genetic code as the next major contribution to the field of genetic sciences. In 1965, Marshall Nirenberg and his team successfully uncovered the first sequence of nucleotides responsible for the synthesis of the amino acids contained in proteins.²¹² This accomplishment marked the official beginning of the age of genetic sequencing,²¹³ which would support a great deal of development in the genetic sciences.²¹⁴ The biggest achievement in applying this

²¹² Volker A. Erdmann & Jan Barciszewski, “2011: 50th Anniversary of the Discovery of the Genetic Code” (2011) *Angewandte Chem. Int. Ed.* 9546, at 9548.

²¹³ Thangadurai, *supra* note 203, at 597. A further achievement in DNA analysis came in 1972 when Stanley Cohen and Herbert Boyer introduced recombinant DNA technology, a method of isolating and amplifying DNA segments for both simple and complex organisms. This process provided scientists with a new and extremely useful way of analyzing the structure and function of a gene: Sally Smith Hughes, “Making Dollars Out of DNA: The First Major Patent in Biotechnology and the Commercialization of Molecular Biology, 1974-1980” (2001) 92:3 *Isis* 541, at 542. Over time, use of recombinant DNA technology has led to numerous successes, including the manufacturing of insulin as the first human gene product, development of cloning techniques, and improvements in DNA diagnostics: Niazi, *supra* note 178, at 66. For an in-depth discussion of how recombinant DNA technology has been used, see Susan Wright, “Recombinant DNA Technology and Its Social Transformation, 1872-1982” (1986) 2 *Osiris* 303. In the late 1970s, a team led by Fred Sanger (the same scientist who had earlier performed the experiments on insulin in cows as described above) developed the “dideoxy chain termination sequencing method”, which became central to most genome sequencing projects undertaken thereafter: Eric D. Green, “Strategies for the Systematic Sequencing of Complex Genomes” (2001) 2 *Nature Reviews Genetics* 573, at 574. Prior to the development of this method, Sanger had been part of a team that had developed what was known as the “plus and minus” method. Also developed during this period was the “chemical degradation method”, put forth by scientists Allan Maxam and Walter Gilbert: Thangadurai, *supra* note 203, at 597; Wright, *supra* note 213, at 323. Improvements to the “Sanger sequencing method” provided scientists with increasingly efficient ways of sequencing the genes of humans and other species. These enhanced methods would eventually allow automated detection of molecules of specific interest, ways to analyze multiple samples in parallel, and overall improvements in terms of quality and cost: Green, *supra* note 213, at 574.

²¹⁴ Gene sequencing has enabled the large-scale “Human Genome Project”, a project launched in 1990 that aimed to map the entire human genome sequence. Beyond simply aiming for dissemination of information relating to how humans are built, the human genome project has provided valuable information to be applied to the study of genetic health in humans, including causes, diagnostic methods, and treatments for genetically linked diseases: Niazi, *supra* note 178, at 68. For further information on the outcomes of this project, which was deemed completed in 2003, see National Human Genome Research Institute, “All About the Human Genome Project (HGP)” (2013) online: <http://www.genome.gov/10001772>. The human Genome Project has been cited as one of the

knowledge to the forensic context was borne out of an accidental discovery of the identifying properties of the genetic code by UK scientist Sir Alec Jeffreys.²¹⁵ Jeffreys' finding was made in 1984 and took place within an evolutionary study of the genes of sea-dwelling mammals.²¹⁶ In the midst of this study, Jeffreys observed different gene patterns belonging to the research subjects and thought that this might relate to the genes responsible for different traits.²¹⁷ Further examination into the genetic patterns revealed that the different gene patterns that Jeffreys had noticed appeared to have been inherited in "Mendelian fashion".²¹⁸ Upon further investigation into how this discovery was reflected in humans, Jeffreys determined that every individual has a genetic code that is unique when viewed in its entirety; he went on to conclude that the chance that two random individuals would end up with the same genetic code was infinitesimal (the only exception being the case of monozygotic twins).²¹⁹

reasons for the expansion of familial identity testing in the forensic context, particularly in the US, as it has drawn attention to the fact that DNA analysis can be done relatively cheaply and efficiently: Erica Haimes, "Familial searching in Forensic Investigations: Insights From Family and Kinship Studies" (2006) *Journ. of Law, Med. and Ethics* 263, at 267.

²¹⁵ Jeffreys, *supra* note 1, at 44.

²¹⁶ Aronson, *supra* note 5, at 127.

²¹⁷ Aronson, *supra* note 5, at 127.

²¹⁸ Aronson, *supra* note 5, at 127.

²¹⁹ Aronson, *supra* note 5, at 127; Jobling & Gill, *supra* note 196, at 740; Keiji Tamaki & Alec Jeffreys, "Human Tandem Repeat Sequences in Forensic DNA Typing" (2005) 7:4 *Legal Medicine* 244, at 244. Regarding the uniqueness of the individual genetic code, understanding about the special situation of identical twins is evolving. While it was once a widespread belief that identical twins shared DNA sequences, new evidence has called the idea into question. See discussion in Anahad O'Connor, "The Claim: Identical Twins Have Identical DNA" *The New York Times* (11 March, 2008) and the original research findings in: Carl E.G. Bruder et. al, "Phenotypically Concordant and Discordant Monozygotic Twins Display Different DNA Copy-Number-Variation Profiles" (2008) 82 *The American Journal of Human Genetics* 763. The fact that identical twins have some distinguishable features in terms of their genetic makeup has been explained as being the result of mutations of the genetic sequence that occur after conception: Kristine Barlow-Stewart, "Variations in the Genetic Code, Fact Sheet 4" (Centre for Genetics Education, 2012), online:

The essence of the discovery was the existence of genetic sequences called “minisatellite core sequences”, which Jeffreys found could be discerned through examination of specific loci on the human genome.²²⁰ He introduced a technique by which the minisatellite regions could be isolated and analyzed for comparison.²²¹ The purpose was to isolate and examine the above-noted nucleotide sequences (AT and GC) to distinguish one individual from the next.²²² Because a complete copy of an individual’s DNA exists within every cell, only minute samples of biological material were required for the analysis.²²³ The kind of samples that were needed include those routinely left being at crime scenes, including blood, semen, hair, or saliva.²²⁴ The combination of the knowledge about the individuality of DNA and the

<http://www.genetics.edu.au/Information/Genetics-Fact-Sheets/Changes-to-the-Genetic-Code-FS4>. A group of scientists recently developed a test that may distinguish identical twins through analysis of rare and random mutations that occur after the splitting of the ovum. They have proposed use of the test for paternity disputes and for suspect identification. The findings are significant because there have been numerous paternity disputes and criminal cases in which it has not been possible to determine with certainty that one of two identical twins is either the parent or source of crime scene DNA. See Jacqueline Weber-Lehmann et al., “Finding the Needle in the Haystack: Differentiating ‘Identical’ Twins in Paternity Testing and Forensics by Ultra-Deep Next Generation Sequencing” (2014) 9 Forensic Science International: Genetics 42. Slight differences between the genetic codes of identical twins have no direct bearing on the issue of familial searching as it is considered in this research, and therefore will not be explored in detail.

²²⁰ Alec Jeffreys, Victoria Wilson & Swee Lay Thein, “Hypervariable ‘minisatellite’ regions in Human DNA” (1985) 314 Nature 67, at 67.

²²¹ The technique allowed for “probing” of the minisatellite regions where the distinguishable sequences could be found: Jobling & Gill, *supra* note 196, at 740. The first sequencing technique used to apply Jeffreys’ discovery to the forensic context was called Restriction Fragment Length Polymorphisms method (RFLP). In 1986, on the heels of Jeffreys’ discovery, Kary Mullis developed an improvement on this technique that allowed for amplification and analysis of small tissue samples: Thangadurai, *supra* note 203, at 597. Sequencing techniques were incrementally improved through collaboration among the scientific community. The new standard in DNA profiling is the Short Tandem Repeat (STR) method, discussed in more detail below.

²²² Thangadurai, *supra* note 203, at 596.

²²³ Aronson, *supra* note 5, at 129.

²²⁴ It is interesting to note that DNA tests cannot be performed using mature red blood cells (though white blood cells can be used), urine, or fecal matter, as none of these contain DNA: Beeler and Wiebe, *supra* note 211, at 904 and 909.

ability to analyze minute genetic materials left behind at crime scenes enabled the beginning of forensic DNA profiling.²²⁵

Both DNA profiling and familial searching are based on the composition of the nucleotide sequences that exist within the genetic code of every individual. Every DNA molecule contains two sequences of base pairs, each being approximately three billion base pairs long.²²⁶ There are always two sequences in the genome, one inherited from the genetic mother, the other from the genetic father.²²⁷ As previously noted, these consist of various combinations of the base pair nucleotides and present in accordance with Chagraff's rule (AT and CG). In the Watson and Crick model, these sequences represent the two "rungs" for the double helix ladder.²²⁸ When a base pair is repeated several times over the course of the sequence, it is referred to as a "short tandem repeat" (STR).²²⁹ A full STR forms an allele (one of many alternative forms of a gene passed down from the genetic mother or father).²³⁰

²²⁵ By this time it was commonplace for criminal investigators to trace suspects back to crime scenes using fingerprints, and Jeffreys' discovery had introduced the option of using the same investigative logic with DNA (with the promise of much greater accuracy). Jeffreys decided to call the technique "DNA fingerprinting", purposefully seizing upon the longstanding credibility attached to traditional fingerprinting: Beeler and Wiebe, *supra* note 211, at 904. As explained in Chapter Four (part 4.2.1), forensic fingerprinting eventually suffered a downfall due to the exposure relating to mistaken assumptions about its scientific basis. Wanting to more accurately convey that genetic science is a science of probabilities and not one of certainties, geneticists would abandon the term 'DNA fingerprinting'. The terms 'DNA typing' and 'DNA profiling' are now the common expressions used to refer to the science: Cole, *Suspect Identities supra* note 5, at 290.

²²⁶ Choi, *supra* note 201, at 715; Greely, *supra* note 12, at 249.

²²⁷ Greely, *supra* note 12, at 249.

²²⁸ Greely, *supra* note 12, at 249.

²²⁹ Choi, *supra* note 201, at 715.

²³⁰ Choi, *supra* note 201, at 715.

While there are potentially over a million loci in the human genome, only 3% hold STRs.²³¹ At each locus where the alleles can be found, there will in fact be two STRs: one inherited from the genetic mother and one from the genetic father.²³² The complete set of alleles detected at all loci represents the DNA profile.²³³ While two people might share common profile characteristics at one or more loci, when all allelic traits are taken together, each person's arrangement is unique. DNA profiling provides a way to depict this information through various sequences that form a code. A direct match requires that the loci compared match perfectly; if one allele differs, the chance that the samples originated with the same individual can be eliminated.²³⁴ Although the evidence of a match becomes more reliable as more loci are compared, every STR locus does not need to be compared in order to conclude that two samples originated from the same individual. The likelihood of a coincidental match between two individuals when thirteen loci are examined has been estimated at between 1 in 200 trillion and 1 in 2 quadrillion.²³⁵ It is therefore

²³¹ John M. Butler, "Genetics and Genomics of Core Short Tandem Repeat Loci Used in Human Identity Testing" (2006) 51:2 *Journ. Forensic Science* 253, at 260; Tamaki & Jeffreys, *supra* note 219, at 244; William C. Thompson, "The Potential for Error in Forensic DNA Testing (and how that complicates the use of DNA Databases for Criminal Identification)" (Council for Responsible Genetics, 2008), at 4; Greely, *supra* note 12, at 249.

²³² Campbell, *supra* note 79, at 57; Thompson, *supra* note 231, at 4.

²³³ Thompson, *supra* note 231, at 4.

²³⁴ See Jianye Ge et al., "Comparisons of Familial DNA Database Searching Strategies" (2011) 56:6 *Journal of Forensic Sciences* 1448, at 1448, where the authors define a direct match as being one where "all alleles at all interpretable evidentiary loci are the same as those in the candidate sample".

²³⁵ Note that the probability statistics require that certain assumptions be made about the sample population and about the prevalence of certain genetic characteristics. Nevertheless, the likelihood of a coincidental match between two individuals at thirteen loci is extremely small: Thompson, *supra* note 231, at 4. Early forensic analysis compared four STRs; however, it was recognized that this level of analysis had a high probability of a false match (estimated at 1 in 10,000): Jobling & Gill, *supra* note 196, at 742.

considered statistically safe to draw assumptions about the source of a DNA profile based on examination of the core thirteen loci.²³⁶

2.4 DNA Profiling in the Courtroom

Following Jeffreys' discovery, the potential to use DNA profiling to solve crimes was rapidly incorporated into criminal investigations around the world.²³⁷ The analysis was initially used to confirm or exclude suspects identified by other means. These early uses of DNA profiling include a 1987 case in which a patient suffering from Alzheimer's disease was sexually assaulted in Washington.²³⁸ Police determined that a bus driver had been alone with the victim around the time that the assault had occurred, and a DNA test provided highly convincing evidence of the man's guilt and led to a conviction.²³⁹ In another case that occurred in 1988, an eleven-year old British girl gave birth to a child that investigators believed had been fathered by the girl's stepfather.²⁴⁰ In the face of his denials, police were able to confirm that he was the biological parent of the child through DNA testing.²⁴¹ The UK's Pitchfork case (discussed in Chapter One) occurred in 1988 and was the first

²³⁶ Butler, *supra* note 231, at 261.

²³⁷ Note that before the science of DNA profiling was applied in the criminal context, Jeffreys had the opportunity to illustrate the potential of DNA by determining genetic relationships in an immigration dispute. The situation occurred in 1986, with immigration officials questioning Andrew Sarbah's claim that a British citizen was his genetic mother. Jeffreys was asked to assist by investigating the claim through analysis of DNA obtained from both Sarbah and his mother. The analysis proved that the genetic relationship was one of genetic mother and son. The case received attention in the press, which fueled public and media excitement over the newly discovered DNA profiling. For discussion of the case, see Michael Kurland, *Irrefutable Evidence: Adventures in the History of Forensic Science* (Chicago: Ivan R. Dee, 2009), at 217; and Aronson, *supra* note 5, at 128. For additional immigration cases that relied on DNA profiling, see White & Greenwood, *supra* note 3, at 151.

²³⁸ *State v Haynes*, No. 87-1-02309-7 (Pierce County Sup. Ct., Wah., Mar. 28, 1988); Beeler and R. Wiebe, *supra* note 211, at 904.

²³⁹ *State v Haynes*, *supra* note 238; Beeler and Wiebe, *supra* note 211, at 904.

²⁴⁰ White & Greenwood, *supra* note 3, at 149.

²⁴¹ White & Greenwood, *supra* note 3, at 149.

murder investigation solved through DNA profiling.²⁴² By that time, DNA evidence was also becoming increasingly common in American criminal courtrooms.²⁴³ Canada's introduction to DNA profiling came with the 1988 case of *R v Parent*.²⁴⁴ The case involved eleven sexual assaults and while investigators believed that a single perpetrator was responsible for all of the crimes, the accused only admitted his guilt in relation to one of the charges.²⁴⁵ He was eventually cleared of involvement in seven of the remaining incidents, with four of these findings being based on evidence obtained from DNA profiling.²⁴⁶

In 1989, the New Brunswick Court of Appeal heard the case of *R v Legere*, which brought a great deal of publicity to the use of DNA in the Canadian criminal justice system (much like the Pitchfork case had done in Britain).²⁴⁷ The case followed Legere's dramatic escape from prison, where he was serving a life sentence

²⁴² See Chapter One (part 1.1). As a brief review of the facts, Colin Pitchfork was found guilty of sexually assaulting and murdering two young women after having evaded police for years. He was identified as the perpetrator after his DNA matched that of semen samples left on the bodies of the victims.

²⁴³ See for instance, *Andrews v State* 553 So. 2d 841 (1988); *People v Wesley* 140 Misc. 2d 306, 553 N.Y.S. 2d 643 (1988). See also Eric S. Lander, "DNA Fingerprinting on Trial" (1989) 339 *Nature* 501, at 501, explaining that from 1988, when DNA profiling was first used in the United States as part of a Florida trial, to publication of the article in 1989, DNA had been used in over 80 American criminal trials. An example of early use of DNA to exonerate the wrongfully convicted is seen in the story of Gary Dotson (wrongfully convicted of sexual assault and subsequently granted a new trial when DNA evidence proved his innocence). The state decided not to proceed with the prosecution: Leigh C. Lawson, "DNA Fingerprinting and Its Impact Upon Criminal Law" (1990) 41 *Mercer L. Rev.* 1453, at 1461. Next, see the story of Bruce Godschalk, who was wrongfully convicted of two counts of sexual assault in Pennsylvania and later exonerated based on DNA testing: Lynch, *supra* note 144, at 93.

²⁴⁴ *R v Parent* [1988] 91 AR 307; 46 CCC (3d) 414; 65 Alta LR (2d) 18.

²⁴⁵ *R v Parent*, *supra* note 244.

²⁴⁶ *R v Parent*, *supra* note 244, at paras 27-34. One year later in *R v McNally*, another sexual assault case, the court allowed the admission of DNA evidence based on the finding that it was no different than other common types of evidence, including fingerprints, fiber expertise, and blood analysis: *R v McNally*, [1989] O.J. No. 2630 (Ont. Gen. Div.).

²⁴⁷ *R v Legere*, (1994) 95 CCC (3d) 139.

for the 1986 murder of a shopkeeper.²⁴⁸ Following the escape, several violent crimes including four murders were committed in the surrounding area, and the incidents caused an intense fear among community residents.²⁴⁹ When Legere was finally captured and charged with the murders, the RCMP and the prosecutor were eager to obtain a conviction in relation to each offense.²⁵⁰ Police tested a tissue that Legere had used to blow his nose with while in custody against semen left on the bodies of two women who had been sexually assaulted and murdered.²⁵¹ The DNA profiling evidence played a large role in Legere's eventual conviction for the string of violent crimes.²⁵²

Within a few years of its discovery, DNA became known around the world as the gold standard in forensic science,²⁵³ and was being described as "infallible".²⁵⁴

²⁴⁸ *R v Legere*, *supra* note 247; K. Cox "Legere Charged With Four Murders" *The Globe and Mail* (21 November, 1990).

²⁴⁹ John Jack Walsh, "R v Allan Joseph Legere and DNA Evidence: Reminiscences" (Paper prepared for the University of New Brunswick Law School, Digital Law Collection Project, 2006) online: http://www.unb.ca/fredericton/law/library/_resources/pdf/legal-materials/allan-legere/comms_bibliography/legere_trial_digital_collection_r_v_allan_joseph_legere_.pdf, at 1.

²⁵⁰ Walsh, *supra* note 249.

²⁵¹ Ramey, *supra* note 2, at 2; Kevin Cox, "Legere Expelled From Trial 4th Time" *The Globe and Mail* (19 October, 1991).

²⁵² Legere in fact made loud objections to the use of the DNA evidence: he was thrown out of court for his outbursts and went on a hunger strike to protest the fact that his lawyer was not properly trained to contest this new type of evidence at trial: Kevin Cox, "Legere Expelled From Trial 4th Time" *The Globe and Mail* (19 October, 1991); University of New Brunswick Digital Law Collection: Allan Legere Digital Archive, "Chronology of Events" online: <http://www.unbf.ca/law/library/Legeretoppage.php>; *R v Legere*, *supra* note 247, dismissing the appeal, which was in part based on the argument that the trial judge erred in allowing the Crown to adduce evidence of DNA typing.

²⁵³ DNA had become the "new gold standard" in that it had to a large degree taken over for forensic fingerprinting, which had suffered a downfall due to new revelations about its scientific reliability (discussed at length in Chapter Four (part 4.2.1)). Noting DNA's status as the "new gold standard", see Lynch, *supra* note 144, at 93; Margaret A. Berger, "Expert Testimony in Criminal Proceedings: Questions *Daubert* Does Not Answer" (2003) 33 *Seton Hall L. Rev.* 1125, at 1126; and Simon A. Cole, "Grandfathering Evidence: Fingerprint Admissibility Rulings From Jennings to Llerra Plaza and Back Again" (2004) 41 *Am. Crim. L. Rev.* 1189, at 1211.

²⁵⁴ The characterization of DNA evidence was initially guarded in order to avoid the same mistake that had been made with fingerprinting. For instance, when relaying an estimation on the probability of false profile matches, Beeler and Wiebe explained that "[u]nder ideal conditions, the probability

As noted in Chapter One, since Canada's NDDDB was introduced, DNA profiling has helped solve numerous crimes in Canada.²⁵⁵ The successes of forensic DNA data banking have led to the current situation in which further expansions to the NDDDB scheme are being considered.²⁵⁶ One such option for expansion is familial searching, which builds on the science of DNA profiling and is described below.

2.5 Familial Searching: An Extension of the Science of DNA Profiling

The science of familial searching represents an extension of the logic behind DNA profiling and incorporates knowledge about the likelihood that genetically related individuals have similar genetic profiles.²⁵⁷ The process is based on the fact that individuals inherit one allelic sequence for each STR locus from each genetic parent, which results in many commonalities between one person's genetic profile

that two samples matching by chance is estimated to be greater than one in thirty billion, or one in six times the present population of the earth" (citations removed, emphasis added): Beeler and Wiebe, *supra* note 211, at 917. There were also early publications warning of the need to enforce standards for the admission of DNA evidence at trial: Lander, *supra* note 243; Lawson, *supra* note 243, at 1465; and Anthony Pearsall, "DNA Printing: The Unexamined 'Witness' in Criminal Trials" (1989) 77:3 California L. Rev. 665. The courts were also at times cautious in receiving claims about DNA analysis, particularly testimony based on probabilities: see the US case of *People v Castro*, 144 Misc 2d 956, 545 NYS 2d 985 (NY Sup 1989) and the Canadian case of *R v Bourguignon*, [1990] OJ No. 1205. This caution eventually waned and it became commonplace to refer to DNA science as infallible (see discussion in: Thompson, *supra* note 231; Parfett, *supra* note 144, at 35; John P. Tribuiano, "The Continued Expansion of the DNA Database: California's Response to September 11th" (2003) 34 McGeorge L. Rev. 405, at 406; and Clare M. Tandy, "DNA Typing: A New Investigatory Tool" (2989) Duke L. J. 474).

²⁵⁵ See recent numbers put forth in: NDDDB Advisory Committee Annual Report 2009-2010, *supra* note 6, at 6; NDDDB Advisory Committee Annual Report 2013-2014, *supra* note 6.

²⁵⁶ As noted in Chapter Four (part 4.3.3), familial searching represents just one of several ways in which the NDDDB might be expanded. In that chapter, I examine general policy considerations relating to NDDDB expansions, and discuss possibilities that include expansions to the list of designated crimes, the addition of new indexes such as a missing persons index and an arrestee index, and the option of a population-wide data bank.

²⁵⁷ Bellamy-Royds & Norris *supra* note 8, at 10.

and the profiles of his or her genetic parents.²⁵⁸ By extension full genetic siblings will also share many commonalities in genetic profiles.²⁵⁹ To a lesser extent, individuals are likely to share common genetic features with their genetic half siblings, first cousins, nieces and nephews, aunts and uncles, and so on.²⁶⁰

The partial matching process that is undertaken in a familial search reflects a science of probabilities. Estimates indicate that first-degree relatives (those in a genetic parent/child or full sibling relationships) will share an average of fifty percent of the thirteen DNA variants that are examined through the standard STR analysis.²⁶¹ Parents each pass on exactly half of the DNA inherited in their offspring. It is possible for a genetic parent/child relationship to show more than fifty percent shared allelic traits; this is because certain traits are common in a given population and can coincidentally be part of the parent's DNA as well as the offspring's DNA (the latter having inherited the trait from the other genetic parent).²⁶² Second-degree relatives (genetic half-brother/half-sister relationships, uncles or aunts to nieces and nephews, and grandparents to grandchildren) will share an average of one quarter of the DNA variations.²⁶³ Finally, third-degree relatives (which include a number of possible connections such as genetic first cousins and great-grandparents to great-grandchildren) typically share one eighth of the DNA variants.²⁶⁴

²⁵⁸ Murphy, "Relative Doubt" *supra* note 135, at 295.

²⁵⁹ Murphy, "Relative Doubt" *supra* note 135, at 295.

²⁶⁰ Thompson, *supra* note 231, at 8.

²⁶¹ Greely, *supra* note 12, at 251.

²⁶² Greely, *supra* note 12, at 252.

²⁶³ Greely, *supra* note 12, at 252.

²⁶⁴ Greely, *supra* note 12, at 252.

According to these calculations, scientists can draw conclusions about whether a genetic relationship is likely to exist between two individuals by examining their separate genetic profiles for similarities. As explained in Chapter One, evidence of a partial match is potentially useful in the forensic context where no direct match is obtained. Due to the implicit prohibition on familial searching of the NDDDB within the *DNA Identification Act*,²⁶⁵ Canadian police cannot apply this process to NDDDB data. This ban does not apply to familial searching of information collected outside of the NDDDB context, and Canadian police have used the technique in at least one such circumstance. The investigation took place in 2002 and related to a sexual assault and murder in Alberta in which DNA had been left on the body of the victim.²⁶⁶ Police collected DNA samples from a random group of males in the community but the process did not result in a match. A partial match comparison allowed police to identify two individuals with DNA that was sufficiently similar to the crime scene evidence to indicate a genetic relationship between them and the unknown offender.²⁶⁷ Follow-up on this lead identified the son of one of the two men as the offender; DNA profiling confirmed his identity and was used to support his conviction.²⁶⁸

²⁶⁵ See discussion in Chapter One (part 1.3) regarding the wording in *DNA Identification Act*, *supra* note 65, at s. 6.

²⁶⁶ National DNA Data Bank Advisory Committee, "National DNA Data Bank Advisory Committee Annual Report" (Ottawa: Government of Canada, 2007-2008) at 9.

²⁶⁷ NDDDB Advisory Committee Annual Report 2007-2008, *supra* note 266, at 9.

²⁶⁸ The offender attempted to challenge his conviction but was denied a new trial by the Alberta Court of Appeal, and later denied leave to appeal to the Supreme Court of Canada: Karen Kleiss, "Supreme Court Won't Allow Killer to Appeal" *The Edmonton Journal* (28 March, 2008). Though this dissertation is focused on familial searching of the NDDDB, it is worth noting that Supreme Court guidance would have been helpful in this scenario. One question that remains open is whether police needed to obtain proper consent for the collection of information from each person whose

As the Alberta case²⁶⁹ and others discussed throughout this dissertation illustrate, familial searching may help solve serious crimes.²⁷⁰ Overall the technique is reliable in its identification or exclusion of suspects, as DNA profiling represents the final step in confirming a familial search lead.²⁷¹ Yet, it is important to separate familial searching from the more statistically reliable DNA profiling to emphasize that the techniques differ in important ways. A familial search can only lead investigators to potential suspects who are thought to have a genetic relationship with the source of the pivot profile. Where a follow-up process is undertaken, exclusionary samples must be obtained from family members (who may be numerous, particularly when the lead suggests something other than a first-degree genetic relationship). Although an indication of a familial match may turn out to be a

information is reflected in the DNA (i.e. from the family members, information about whom is reflected in the DNA of their relatives). There is some support for the idea that consent is needed from all parties whose information is being collected, and that the consent of one party is insufficient. This was considered in *R v Duarte*, [1990] 1 SCR 30, for instance, where police obtained consent from one individual who wore an electronic recording device to record his conversation with another individual who had not consented to the recording. The recording was made without prior authorization through a warrant. As a warrantless search, the police action was deemed an infringement of the second individual's section 8 rights. In a familial search of volunteered DNA, police may be able to avoid the same result by specifically requesting (and limiting use of the DNA sample) to a search for evidence of a genetic relationship between the person who provides the DNA and the person who left behind the anonymous crime scene tissue. The case is discussed in Chapter Four (*infra* note 485) as part of the section 8 analysis.

²⁶⁹ I refer to this case as the "Alberta case" throughout as it is an unnamed investigation that has been reported in the policy documents, including for instance the NDDB Advisory Committee Annual Report 2007-2008, *supra* note 266, at 9.

²⁷⁰ This benefit should be considered against the discussion held in Chapter Four (part 4.3.1), where I assess the argument that familial searching should be used because it provides a way to solve serious crimes. The need to facilitate the solving of serious crimes is directly linked to Aboriginal equality given that Aboriginal peoples (and particularly women) are overrepresented as victims of crime. Within that forthcoming discussion, I explain that familial searching (and DNA evidence more broadly) is often unhelpful in solving violent crimes because of the availability of defences for more serious crimes (as noted in *infra* note 737). In sexual assaults, for instance, the issue is often one of consent rather than the identity of the perpetrator.

²⁷¹ Claims of reliability must, however, be considered against the risk of error, which rises as DNA data banks are expanded. The issue is discussed in Chapter Four (part 4.3.3) where I examine proposals for a population-wide data bank as a response to the equality risk that arises with familial searching.

false lead, there are several ways to strengthen the assumption of a genetic link. First, while partial matches can exist between unrelated persons due to the existence of common alleles passed down among the population,²⁷² it is less likely that a first-degree relationship will be falsely suggested compared to a second or third-degree relationship.²⁷³ Evidence of a first-degree relationship can therefore be viewed as more reliable. Similarly, the sharing of rare alleles may reinforce the conclusion that a genetic relationship exists.²⁷⁴

An additional way to validate a familial search lead is to verify parental lineage. This may be accomplished by testing additional markers beyond the thirteen core loci.²⁷⁵ Alternatively, Y-STR or mt-DNA testing can be performed. Y-STR testing is based on the fact that all males inherit their Y-chromosome DNA from their father and share the same Y-chromosome with all males in the paternal lineage.²⁷⁶ The analysis can therefore provide highly convincing evidence of a

²⁷² One estimate has been given using the Caucasian population as an example, showing that within this population, a father and his genetic child will share an average of 15.7 of the twenty-six alleles that are normally tested (thirteen pairs), while two random individuals in the same population will share an average of 8.7 alleles in common: Greely, *supra* note 12, at 252. See also discussion in Joyce Kim et al., “Policy Implications for Familial Searching” (2011) 2:22 Investigative Genetics 1, at 3.

²⁷³ See Rohlf et al. *supra* note 136; and Gabel, *supra* note 136, at 24, where the author explains that a non-match at a single locus would exclude the possibility of a genetic parent/child match (but would indicate the strong probability of a genetic sibling relationship if there was a high degree of correlation across the remaining alleles).

²⁷⁴ Greely, *supra* note 12, at 252; Kim et al., *supra* note 272, at 4.

²⁷⁵ Kim et al., *supra* note 272, at 4.

²⁷⁶ Fathers always pass on their Y-chromosome DNA to their male genetic offspring, and genetic brothers with the same father will always have identical Y-chromosome DNA, save for extremely rare random mutations: Sophie Rushton, “Familial Searching and Predictive DNA Testing for Forensic Purposes: A Review of Laws and Practices” (Victoria Law Foundation, Australia/New Zealand Policing Advisory Agency, 2010), at 10; Hillary Mayell, “Genghis Khan a Prolific Lover, DNA Data Implies” *National Geographic News*, (14 February, 2003); Eva Steinberger & Gary Sims, “Finding Criminals Through the DNA of Their Relatives – Familial Searching of the California Offender DNA Database” (2008) 31 Prosecutor’s Brief 28, at 31. Note that the reliability of the test increases when the family shares a rare Y-chromosome. This was demonstrated when geneticists studied the rare Y-chromosome that was carried within President Thomas Jefferson’s paternal lineage. The scientists

genetic relationship among males who share the same Y-chromosome.²⁷⁷ If analysis shows that two males identified as potential genetic relatives in a partial match have different Y-chromosomes, investigators can safely conclude that the individuals do not share paternal ancestry.²⁷⁸ Estimates indicate that narrowing down the potential suspect pool in this way eliminates 99% of suspects who are not related by male lineage.²⁷⁹ The technique is, however, limited by two factors: it cannot be used to narrow down fortuitous matches where a female offender is sought, and cannot identify male relatives who are linked through their maternal but not paternal lineage.²⁸⁰ Where a paternal link exists, the technique can be extremely useful in that it can confirm a genetic link between suspects.²⁸¹ Though it is less discriminating, mt-DNA testing performs a similar analysis of maternal lineage on the mitochondrial DNA, which is inherited by all individuals from their genetic mother, and therefore can be applied to both male and female suspects.²⁸²

provided convincing evidence that Jefferson was the genetic father of Eston Hemings, son of one of Jefferson's slaves, Sally Hemings, and substantiated the belief that he was also the father of Eston's sisters: Mark A. Jobling, "Father Figures" (2011) 2:21 Investigative Genetics 1. In another study, geneticists were able to link approximately 16 million living men back to their common ancestor, 13th century Mongolian ruler Genghis Khan, whose genetic legacy resulted from his having fathered numerous children with the women living under his control as well as similar actions by his male descendants: Michael Chamberlain, "Familial DNA Searching: A Proponent's Perspective" (2013) 27 Crim. Just. 18, at 27; Mayell, *supra* note 276.

²⁷⁷ Murphy, "Relative Doubt" *supra* note 135, at 315.

²⁷⁸ Chamberlain, *supra* note 276, at 27.

²⁷⁹ Suter, *supra* note 136, at 389, citing Bieber, Brenner, and Lazer, *supra* note 136, at 1315. See also Rohlfs et al. *supra* note 136, at 7.

²⁸⁰ Chamberlain, *supra* note 276, at 27.

²⁸¹ Suter, *supra* note 136, at 390. See also Gabel, *supra* note 136, at 49. The utility of Y-STR testing was illustrated in a UK investigation in which Y-STR analysis of a partial match provided police with a direct route to a suspect. In the case, a man was arrested for driving under the influence; his DNA was used in a familial search to reveal evidence of a genetic relationship with the male offender in an unsolved rape and murder. Police located the man's father and two uncles from the paternal lineage and proved that the father was the perpetrator: Murphy, "Relative Doubt" *supra* note 135, at 320.

²⁸² Suter, *supra* note 136, at 389; Rushton, *supra* note 276, at 10.

The above options for reducing the number of false leads are particularly useful for validating partial matches obtained from a large sample like the one that exists in the NDDB.²⁸³ Yet, the options for verifying familial search leads can only reduce, not eliminate, false indications. Moreover, the initial step of checking for partial matches only brings investigators to the point of identifying a genetic relationship between the source of the pivot profile and the anonymous offender. Where a follow-up process is taken, it requires the obtaining of exclusionary samples from family members (which again may be numerous when the lead suggests something other than a first-degree genetic relationship).

If introduced into the NDDB scheme, this process would further oppress Aboriginal peoples due to their overrepresentation as offenders in the Canadian criminal justice system. Given the disproportionate offender rates in the Aboriginal population and the likelihood that this translates onto the NDDB's criminal offender index,²⁸⁴ the partial matching process is likely to return a disproportionate number of identifiable profiles that belong to Aboriginal offenders. These may include both false and true genetic matches. The process cannot be described as objective in its approach to solving crimes because it would be applied to a racialized DNA data bank, and because it links the genetic family members of Aboriginal offenders who have been included in the NDDB to the data bank at a rate that is disproportionate to what would be experienced in the rest of the population. The nature of the

²⁸³ The options for scientific verification of leads are later discussed in Chapter Five (parts 5.2.2 and 5.3.2). Y-STR testing features as part of the limitations built into the UK and California policies on familial searching.

²⁸⁴ See discussion of offender rates and the general overrepresentation of Aboriginal peoples in the Canadian criminal justice system in Chapter One (part 1.4).

problem places it squarely within the scope of what CRT aims to address. As noted in Chapter One, CRT scholarship works to expose the ways in which society is fundamentally unequal and systematically controlled through racialized hierarchies.²⁸⁵ These inequalities have resulted from the longterm oppression of racialized groups. The use of familial searching in a racially unequal situation cannot be unbiased because it would occur in a society in which racial disparities already exist.

While further scientific analysis of the partial match may help reduce the false leads, where follow-up on a lead is attempted, innocent family members will be expected to provide exclusionary samples. Thus, the family members of Aboriginal offenders (who are disproportionately tied to the NDDDB) can be expected to suffer the impact of the follow-up process at a rate that is disproportionate to their representation in the general population. In the next Chapter, I develop the first stage of arguments further explaining the impact of the initial familial search and expanding on the impact that can be expected from the follow-up investigation. The conversation centers on the potential challenges to familial searching under sections 15, 8, and 7 of the *Charter*.

²⁸⁵ See again comments in Hylton, *supra* note 28, at 24; Brown, *supra* note 28, at 1487.

CHAPTER THREE: The Limits of Individual Rights: A CRT Analysis of Potential *Charter* Challenges to Familial Searching of the NDDB

3.1 Introduction

CRT argues that reliance on individual rights is an insufficient mechanism for addressing the social inequalities that have resulted from historical racism.²⁸⁶ The view is based on the reality that longstanding hierarchies provide subtle but powerful support for racial divides.²⁸⁷ The law plays a central role in supporting these longstanding racialized hierarchies through its traditional reliance on objectivity.²⁸⁸ It allows inequality to persist even if racial factors are not explicitly acknowledged.²⁸⁹ For Canada's Aboriginal peoples, current Canadian law, including the individual rights set out under the *Charter*, provides an insufficient response to current social realities, one that continues to exclude the group interests of Aboriginal peoples. Ovide Mercredi, National Chief of the Assembly of First Nations has emphasized the issue as follows:

In law, with law, and through law, Canada has imposed a colonial system of government and justice upon our people without due regard to our treaty and aboriginal rights. We respect law that is fair and just, but we cannot be faulted for denouncing those laws that degrade our humanity and rights as distinct peoples.²⁹⁰

²⁸⁶ See discussion in Chapter One (part 1.2) as well as comments in Brown and Strega *supra* note 56, at 210; Aylward, *supra* note 56, at 24; and Mutua, *supra* note 25, at 348.

²⁸⁷ Mutua, *supra* note 25, at 350.

²⁸⁸ Mutua, *supra* note 25, at 344; Thompson, *supra* note 49, at 1212.

²⁸⁹ Harris, *supra* note 25, at 1217.

²⁹⁰ Quoted from A.C. Hamilton and C.M. Sinclair, "The Justice System and Aboriginal People: Report of the Aboriginal Justice Inquiry of Manitoba" Vol 1 (Winnipeg: Queen's Printer, 1991), at 6 and cited in Royal Commission on Aboriginal Peoples, "Bridging the Cultural Divide" *supra* note 92, at 57.

In addition to being built on a system of colonial control, Canadian law reflects a Constitution that is largely focused on individual rights.²⁹¹ For Aboriginal peoples, who have been oppressed both individually and as a group, this framework does not provide a favorable approach to addressing the discriminatory impact of state actions like familial searching.²⁹²

To effect greater societal change that will begin to address the effects of colonialism in Canada for Aboriginal people today, Canada will need to look beyond the limits prescribed by the individual rights framework set out in the *Charter*. Accordingly, my recommendation for continued ban of familial searching of NDDDB data does not depend on the likelihood of establishing a successful *Charter* challenge to the use of the technique. Nevertheless, if Canada moves to introduce familial searching of the NDDDB, *Charter* rights will feature prominently in the debate. Moreover, a *Charter* analysis provides a useful starting point for detailing the ways

²⁹¹ Section 15 represents a possible exception on this point in that equality claims may be advanced based on disadvantages imposed on the basis of characteristics of an individual or group: *Andrews v Law Society of British Columbia*, [1989] 1 SCR 143. Though section 15 is open to claims that are based on group disadvantage, the issue in the present context (as discussed below) is that there is a lack of data to support the relevant claims and to satisfy the requirements of a section 15 challenge.

²⁹² The reliance on entrenched constitutional rights as a way to create a more just society is the basis of a broader discussion on the impact of the *Charter*. When the *Charter* was proclaimed into force in 1982, many had a hopeful view of positive changes to come, for instance that it would help maintain a united Canada in the face of tensions arising from the separatist movement in Quebec (see Paul C. Wiler, "Rights and Judges in a New Democracy: A New Canadian Version" (1984) 18 U. Mich. J. L. Reform 51; Peter W. Hogg, "The New Canadian Constitution" (1984) 32 Am. J. Comp. L. 221) and that traditionally marginalized groups would benefit from the equality guarantee under section 15 (Diana Majury, "The *Charter*, Equality Rights, and Women: Equivocation and Celebration" (2002) 40 Osgoode Hall L. J. 297). It was also argued at the time, however, that the individualistic values promoted by the constitutional amendments were dissociated from the cultural identity of Aboriginal communities: Menno Boldt & Anthony Long, "Tribal Philosophies and the Canadian Charter of Rights and Freedoms" (1984) 7:4 Ethnic and Racial Studies 478. Another criticism was that the *Charter* failed to address economic rights, which were viewed as a real problem for many Canadians: Patrick Fitzgerald, "Canadian Rights and Freedoms – First Class or Charter?" (1983) 13 Man. L. J. 277, at 278 and 283.

in which familial searching will disproportionately impact Aboriginal peoples in Canada.

The nature of familial searching suggests three likely avenues for challenging its use within the NDDB: section 15 (the right to be free from unlawful discrimination), section 8 (the right to be free from unreasonable search and seizure), and section 7 (the right to life, liberty, and security of the person).²⁹³ In this chapter, I examine these three possibilities in order to demonstrate ways in which familial searching may discriminate against Aboriginal peoples.²⁹⁴ In examining these issues I suggest likely outcomes for each potential challenge based on previous case law. I determine that the *Charter* safeguards against some of the risks that arise with familial searching while others lie beyond its scope. Aboriginal peoples, who are overrepresented in the criminal justice system, will be disproportionately impacted by those risks that do not command *Charter* protection.

²⁹³ As Jennifer Koshan notes, *Charter* challenges advanced under sections other than 15 may prove instrumental to addressing inequality in Canada. This is partly due to continuing uncertainties about the scope of section 15 as well as the restrictive approach sometimes taken by the courts. Koshan notes that section 7 can sometimes serve equality interests that may not fit within the confines of section 15: Jennifer Koshan, “Redressing the Harms of Government (In) Action: A Section 7 Versus Section 15 *Charter* Showdown” (2013) 22 Const. F. 31. As explained in the section 7 analysis below, with respect to familial searching, section 7 requires certain specific limitations that would protect against potential harms to individual security interests. Specifically, it would require that a familial searching scheme protect against the risk of psychological harm resulting from the disclosure of genetic family secrets as well as the risk of psychological harm and increased stigma due to public exposure of police suspicions that an individual within a given Aboriginal family has been involved in a crime. While meaningful in relation to those particular risks, section 7 does not provide adequate means to address the equality implications of familial searching as it does not address the many other potential harms that would result from use of the technique and that would disproportionately impact Aboriginal peoples in Canada.

²⁹⁴ Additional issues relating to the impact of familial searching that are not directly relevant to the *Charter* rights considered in this chapter are examined in Chapter Four.

Through this analysis, I identify the following harms as relevant to the overall equality argument advanced in the dissertation:

- Perpetuation and possible worsening of the overrepresentation of Aboriginal peoples in the criminal justice system (both in terms of conviction rates and levels of genetic surveillance);
- Reinforcement of discriminatory views regarding the propensity towards criminal behaviour for Aboriginal peoples;
- Disproportionate loss of privacy rights;
- Risk of psychological harm resulting from the disclosure of genetic family secrets;
- Risk of psychological harm and increased stigma due to public exposure of police suspicions that an individual within a given Aboriginal family has been involved in a crime.

I begin with the equality argument under section 15, followed by section 8 and ending with section 7. I end each section with an overview of the findings from a *Charter* standpoint and a discussion of the broader CRT perspective in which group interests include both the risks that would potentially receive protection under the *Charter* as well as those that would not meet the constitutional thresholds. This broader assessment of the impact of familial searching will be used to support my recommendation for continued prohibition of familial searching on Canada's NDDB in the final chapter.²⁹⁵

²⁹⁵ The *Charter* analysis of familial searching is complex due to the many factors that must be considered under each potential challenge and because the nature of the familial searching process sometimes suggests more than one possible claimant. In the notes below, I rely on a case example to assist in the analysis. I use the only known Canadian case involving familial searching (which was previously discussed in Chapter Two (part 2.5)) to illustrate the positions of the potential claimants in the different *Charter* challenges discussed throughout this chapter. To recap the facts of the case, the investigation took place in 2002 and related to a sexual assault and murder in Alberta in which DNA had been left on the body of the victim. Police collected DNA samples from a random group of males in the community but the process did not result in a match. A partial match comparison allowed police to identify two individuals with DNA that was sufficiently similar to the crime scene evidence to indicate a genetic relationship with the unknown offender. Both men therefore provided pivot profiles that offered useful leads for follow-up in the investigation. One of these profiles belonged to the father of the perpetrator. Based on the familial search lead, his son was identified as the perpetrator and subsequently convicted for the crime based on DNA profiling evidence.

3.2 Familial Searching and the Right to Equality Under Section 15

Section 15(1) of the *Charter* sets out the basic framework for the constitutional right to equality in Canada and provides that:

Every individual is equal before and under the law and has the right to the equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, colour, religion, sex, age or mental or physical disability.²⁹⁶

The enumerated grounds listed within section 15 are not exhaustive, and the courts will recognize “analogous” grounds where appropriate.²⁹⁷ Section 15(2) specifically qualifies the above by allowing the government to offer ameliorative programs that address the circumstances of oppressed groups protected by section 15(1).²⁹⁸ Section 15 is meant to ensure more than mere procedural equality or equality before the law; it also aims to secure equality under the law, entitlement to equal benefit of the law and entitlement to equal protection of the law.²⁹⁹ These aims are

²⁹⁶ *Charter supra* note 21, at s. 15(1).

²⁹⁷ *Andrews v Law Society of British Columbia, supra* note 291.

²⁹⁸ *Charter supra* note 21, at s. 15(2). The approach to assessing the validity of such programs was recently revisited in *R v Kapp*, 2008 SCC 41, [2008] 2 SCR 483. In *Kapp*, the Court confirmed that section 15(2) leaves it open to the government to show that a program is constitutional because it was implemented in order to improve the situation of a disadvantaged group. The circumstances of *Kapp* were that the government had implemented a program that involved a communal fishing license for certain Aboriginal bands who were economically disadvantaged due to historical injustices (the effects of which were still being experienced). Non-Aboriginal fishers who had been excluded from the benefits of the program argued an infringement of their right to equality under the *Charter*. The Court determined that the program qualified for the ameliorative purpose exemption and was constitutional. As an investigative technique employed for the purpose of solving crime, familial searching does not have an ameliorative purpose, and therefore does not require assessment under s. 15(2). For further discussion on *Kapp* and the s. 15(2) exception, see Sophia Moreau, “*R v Kapp*: New Directions for Section 15” (2009) 40 *Ottawa L. Rev.* 283.

²⁹⁹ The Right Honourable Beverley McLachlin, P.C. “Equality: The Most Difficult Right” (2001) 14 *Supreme Court Law Review* (2d) 17, at 17. The courts have delineated the differences between these various rights, explaining that “equality before the law is designed to advance the value that all persons be subject to the equal demands and burdens of the law and not suffer any greater disability in the substance and application of the law than others”: *R v Turpin*, [1989] 1 SCR 1296. Equality under the law aims to ensure that the law has an equal impact on individuals. The principle therefore

encompassed under an overarching goal of ensuring substantive equality through section 15.³⁰⁰ Sections 15(1) and 15(2) are meant to work together in pursuit of that aim.³⁰¹

Instead of requiring equal treatment, substantive equality sometimes compels different treatment that takes account of the effects of oppression experienced by traditionally marginalized groups.³⁰² This reflects an approach to equality that recognizes all persons as equally deserving of concern, respect, and

recognizes that “every difference in treatment between individuals under the law will not necessarily result in inequality” and that “identical treatment may frequently produce serious inequality”: *Andrews v Law Society of British Columbia*, *supra* note 291, at 164. Equal benefit of the law is denied where a law “confers a benefit on some while denying that same benefit to others”: *Egan v Canada*, [1995] 2 SCR 513, at 587. Finally, equal protection of the law is denied where a law excludes some from its protection while ensuring the protection of others: *Vriend v Alberta*, [1998] 1 SCR 493, at para 84.

³⁰⁰ Though substantive equality is the goal, commentators have noted that the *Charter* has not yet effected a dramatic improvement with respect to racial inequality in Canada. David Tanovich argues that “narrow approaches to judicial review and lack of judicial imagination have played a role in limiting the impact of Charter litigation on racial injustice”. He further argues that while there are reasons to be optimistic about the future when it comes to the *Charter* and substantive equality goals, racial inequality has not yet received the type of attention in Canadian law that is required to effect real change. He comments on missed opportunities within the courts (such as failure to give proper weight to the racial injustices when admitting evidence under section 24(2)) but sees hope for the future in that both lawyers and the courts have over time gained a clearer picture of the more direct and purposeful actions that are required to address inequality: Tanovich, *supra* note 100, at 662. Note that there is a continuing question of whether the government has a positive duty to promote equality under section 15 of the *Charter*. Clear recognition of a positive duty would have particular importance with respect to the racial disparities suffered by Aboriginal peoples; however recent Supreme Court of Canada decisions suggest that section 15 only supports a positive duty to ensure equality to the extent that section 15(2) sets out an exception to the government’s obligations under section 15(1). See *Withler v Canada (AG)*, 2011 SCC 12, [2011] 1 S.C.R. 396, at para 31, where the Court described the purpose of section 15 as ensuring that individuals are afforded the right to be “free from” discrimination. See also discussion in Koshan and Watson Hamilton, *supra* note 346, at 48.

³⁰¹ *R v Kapp*, *supra* note 298, at paras 16 and 17.

³⁰² See Patricia Hughes, “Supreme Court of Canada Equality Jurisprudence and ‘Everyday Life’” (2012) 58 S.C.L.R. (2d) 245, at 246, where substantive equality is explained as a concept that “requires acknowledgment of and response to differences that members of a particular group might experience in order to be treated equally. It takes into account patterns of disadvantage that may require proactive responses to address”.

consideration.³⁰³ To promote these values, the law aims to ensure that “irrelevant personal differences [do not] have a more burdensome or less beneficial impact on one than another”.³⁰⁴ This negative result may sometimes occur through ‘direct discrimination’, which involves explicit and deliberate discriminatory treatment on the basis of an enumerated or analogous ground.³⁰⁵ Indirect discrimination, or ‘adverse effects discrimination’, occurs where a law, rule, or practice is facially neutral but has a disproportionate and discriminatory impact on an individual or group.³⁰⁶ The use of familial searching of NDDB data does not explicitly or directly target Aboriginal peoples at a disproportionate rate. Rather, in the context of section 15, the issue is one of ‘adverse effects’ or ‘indirect’ discrimination because familial searching constitutes an action that “purports to treat everyone the same [but] has a disproportionately negative impact on a group or individual that can be identified by factors relating to enumerated or analogous grounds”.³⁰⁷

³⁰³ See comments in *Andrews v Law Society of British Columbia*, *supra* note 291, at 171, cited with approval in *R v Kapp*, *supra* note 298, at para 15.

³⁰⁴ See comments in *Andrews v Law Society of British Columbia*, *supra* note 291, at 171, cited with approval in *R v Kapp*, *supra* note 298, at para 15.

³⁰⁵ See discussion of direct forms of discrimination in *Ontario Human Rights Commission v Simpson-Sears*, [1985] 2 SCR 536, at para 18 where the court examines the difference between direct and adverse discrimination occurring in the employment context and explains that “[d]irect discrimination occurs...where an employer adopts a practice or rule which on its face discriminates on a prohibited ground. For example, ‘No Catholics or no women or no blacks employed here’”.

³⁰⁶ See again discussion in *Ontario Human Rights Commission v Simpson-Sears*, [1985] 2 SCR 536 and explanation of adverse effects discrimination in *Eldridge v British Columbia (Attorney General)*, [1997] 3 SCR 624, at para 63; and *Rodriguez v British Columbia (AG)*, [1993] 3 SCR 584, at 547.

³⁰⁷ *Withler v Canada (AG)*, *supra* note 300, at para 64. The fact that familial searching involves an issue of adverse effects discrimination may make it more difficult to establish infringement under section 15 since, unlike with claims of direct discrimination, claimants arguing adverse effects discrimination need to show evidence of specific harms resulting from systemic bias. As seen in the analysis below, this may prove a significant barrier to establishing a successful claim against familial searching under section 15. See *Withler v Canada (AG)*, *supra* note 300, at para 64, where the Court explained that “[i]n some cases, identifying the distinction will be relatively straightforward because a law will, on its face, make a distinction on the basis of an enumerated or analogous ground (direct discrimination)...In other cases, establishing the distinction will be more difficult, because what is

The framework to be used to assess section 15 claims was restated in *R v Kapp*, decided by the Supreme Court of Canada in 2008.³⁰⁸ In this case, the Court confirmed a two-part test for showing discrimination under section 15(1), which asks (i) whether the law creates a distinction based on an enumerated or analogous ground, and (ii) whether the distinction creates a disadvantage by perpetuating prejudice or stereotyping.³⁰⁹ The decision in *Kapp* prompted questions about whether the scope of section 15 had been limited to inequality that results from stereotyping or prejudice.³¹⁰ In *Withler*, decided in 2011, the Supreme Court of Canada said that the “focus of the inquiry is on the actual impact of the impugned

alleged is indirect discrimination...In that kind of case, the claimant will have more work to do at the first step. Historical or sociological disadvantage may assist in demonstrating that the law imposes a burden or denies a benefit to the claimant that is not imposed on or denied to others. The focus will be on the effect of the law and the situation of the claimant group”. See also discussion in Cairns *Way*, *supra* note 111, at 478; and Koshan, “Redressing the Harms of Government (In) Action” *supra* note 293, at 33.

³⁰⁸ *R v Kapp*, *supra* note 298. *Withler v Canada (AG)*, *supra* note 300, at para 30.

³⁰⁹ *R v Kapp*, *supra* note 298, at para 17. This two-part test was initially set out in *Andrews v Law Society of British Columbia*, *supra* note 291. The Court then revised the test and restructured it into a three-part test in *Law v Canada (Minister of Employment and Immigration)*, [1999] 1 S.C.R. 497, asking (i) whether a law imposes differential treatment between the claimant and others, in purpose or effect, (ii) whether one or more enumerated or analogous grounds of discrimination are the basis for the differential treatment; and (iii) whether the law in question has a purpose or effect that is discriminatory within the meaning of the equality guarantee. The Court in *Kapp* stated that the return to a two-part test did not change the substance of the test. In *Law*, the Court approached the analysis with reference to four factors: (1) pre-existing disadvantage, if any, of the claimant group; (2) degree of correspondence between the differential treatment and the claimant group’s reality; (3) whether the law or program has an ameliorative purpose or effect; and (4) the nature of the interest affected. In *Kapp*, the Court preferred to ask whether the government activity or program “ha[d] the effect of perpetuating group disadvantage and prejudice; or impose[d] disadvantage on the basis of stereotyping”. The Court viewed this approach as one that addressed the substance of the four factors laid out in *Law*. See discussion in *R v Kapp*, *supra* note 298, at paras 19 – 25. The Court has been criticized for disguising its rejection of the *Law* test as an endorsement of the test and a simple rewording of the questions: Moreau, *supra* note 298, at 293.

³¹⁰ For instance, the characterization of discrimination as rooted in stereotyping or prejudice may not encompass discrimination that occurs through oppression or deprivation of benefits: Koshan, “Redressing the Harms of Government (In) Action” *supra* note 293, at 32. See also Claire Truesdale, “Section 15 and the *Oakes* Test: The Slippery Slope of Contextual Analysis” (2013) 43 *Ottawa L. Rev.* 511, at 516, where the author discusses the apparent elimination of the dignity analysis, which has led to some confusion about the role of dignity and other contextual factors that might be used to base a claim of discriminatory treatment for section 15 purposes.

law, taking full account of social, political, economic and historical factors of the group”.³¹¹ The *Withler* approach was reinforced by the Supreme Court of Canada in 2013 in *Quebec v A*, where the majority explained that with respect to the second question in the test, proof of prejudice and stereotyping is not a required component of a section 15 challenge.³¹² The Court stated that while attitudes of stereotype and prejudice may be common in cases of discrimination and may indeed help satisfy the second question, “they are not discrete elements of the test which the claimant is obliged to demonstrate”.³¹³ Instead, the question of prejudice and stereotyping in the second stage asks whether the law has a discriminatory *impact* (not whether it perpetuates discriminatory *attitudes*).³¹⁴ Accordingly, the second stage of the test may be satisfied by showing that the impugned law results in a discriminatory impact on members of the group with which the claimant identifies. One way to satisfy this part of the test is through evidence of disadvantage that is based on prejudice or stereotyping that does not reflect the actual circumstances of the members of the group.³¹⁵

In light of the above judgments, section 15 is still considered a work in progress.³¹⁶ There is some continuing confusion about the need for the claimant to

³¹¹ *Withler v Canada (AG)*, *supra* note 300, at paras 35 and 39.

³¹² *Quebec v A*, 2013 SCC 5, [2013] 1 SCR 61, at para 325.

³¹³ *Quebec v A*, *supra* note 312, at para 325.

³¹⁴ *Quebec v A*, *supra* note 312, at para 327.

³¹⁵ *Withler v Canada (AG)*, *supra* note 300, at paras 35 and 36.

³¹⁶ This view aligns with Chief Justice Beverley McLachlin’s argument that equality represents “the most difficult right”. Discussing the development of section 15, the Chief Justice has cited a combination of factors that make section 15 difficult to interpret and apply, including that there exist many different conceptions of equality, that equality is a value-laden concept, and that true and complete substantive equality is impossible to achieve in a diverse and market-driven society: The Right Honourable Beverley McLachlin, *supra* note 299.

identify a comparator group to illustrate differential treatment on an enumerated or analogous ground.³¹⁷ The courts have clarified the matter somewhat by stating that the requirement is satisfied if the claimant can show that he or she has been “denied a benefit that others are granted or carries a burden that others do not, by reason of a personal characteristic that falls within the enumerated or analogous grounds of s. 15(1)”.³¹⁸

3.2.1 Section 15: Discrimination on Grounds of Race

Because Aboriginal peoples are convicted at a disproportionate rate and because the NDDB contains the DNA of individuals convicted of designated crimes, there is reason to believe that familial searching of the NDDB will disproportionately affect Aboriginal peoples. The result would be that the inequalities within the criminal justice system would be perpetuated or would intensify as persons related to offenders included in the NDDB come under police surveillance as part of the familial search follow-up process. Based on this risk, a possible section 15 claim can be formulated based on discriminatory treatment on grounds of race. The claimant group in this particular situation would include all persons who would be considered likely to hold a genetic relationship with an

³¹⁷ Koshan and Watson Hamilton, *supra* note 346, at 43; Hughes, *supra* note 302, at 257.

³¹⁸ *Withler v Canada (AG)*, *supra* note 300, at para 62. It is possible that the return to contextualized position in *Withler* may actually open the door for a broader interpretation of section 15 claims. In relation to the inequality argument against familial searching that may be advanced by Aboriginal peoples, the Court may not need to see evidence of comparative burdens resulting from familial searching for Aboriginal and non-Aboriginal peoples, and might instead focus on the fact that familial searching would perpetuate the oppression of Aboriginal peoples. See similar comments in the context of a section 15 challenge to mandatory drug offences from the perspective of an Aboriginal claimant in: Sewrattan, *supra* note 20, at 149.

Aboriginal offender included in the NDDB (whether that assumption proves to be true or not).³¹⁹

Considering this situation against the two-staged approach to section 15, the first question to ask is whether the law creates a distinction based on an enumerated or analogous ground. A law allowing familial searching of NDDB data would create a distinction between Aboriginal and non-Aboriginal people. In accordance with previous section 15 case law, the distinction can be characterized as one based on race.³²⁰ The argument is that among members of the public who are not reflected in the NDDB, Aboriginal peoples are more likely than those in the non-Aboriginal population to become implicated in a familial search due to the overrepresentation of their Aboriginal relatives in the NDDB. Because the claim in relation to familial searching is one of adverse effects discrimination, the claimants may be required to show supporting evidence for the argument that familial searching imposes upon them a burden that is not suffered by non-Aboriginal

³¹⁹ In this instance the claimant group would not include the sources of the pivot profiles, as such persons can always be excluded through a direct comparison of the crime scene DNA to NDDB data and would not come under suspicion or be convicted of any new crimes based on a familial search lead. The difference in the positions of the two claimant groups can be seen in the Alberta sexual assault and murder discussed above, where two pivot profiles were returned in the search for a partial match. Having provided partial instead of full matches, the source of each pivot profile was immediately excluded as a suspect in the crime under investigation. The relatives of the pivot people, however, became suspects, with the son of the man who was the source of one of the pivot profiles eventually being convicted for the crime.

³²⁰ It is important to reiterate the point made in Chapter One (part 1.2) that while Aboriginal peoples have been victimized by racism they cannot adequately be described as a race. It is relevant to consider the potential for a section 15 challenge based on racial discrimination because it provides a possible means of challenging the effects of racism as they arise in relation to familial searching. The courts have previously considered discrimination against Aboriginal persons as a matter of racial inequality under section 15. See, for example, *R v Kapp*, *supra* note 298; *Corbiere v Canada*, [1999] 2 SCR 203; and *R v Williams*, [1998] 1 S.C.R. 1128.

persons. The lack of data on the racial composition of the NDDB may prove a significant hurdle for this particular section 15 challenge.³²¹

It is possible that the courts would accept that the overrepresentation of Aboriginal peoples in the offender population transfers to the NDDB as a result of systemic discrimination in the criminal justice system. In *R v Gladue*, the Supreme Court of Canada accepted that “the excessive imprisonment of [A]boriginal people is only the tip of the iceberg” and that the population is “overrepresented in virtually all aspects of the [criminal justice] system”.³²² While I acknowledge a potential

³²¹ As explained in Chapter One (part 1.4), Canadian police have not collected race-based data while building the NDDB. The lack of data is part of the reason to support a continued ban on familial searching, and is reviewed in Chapter Six where I summarize reasons to retain the prohibition. More generally, the problems associated with a lack of race-based data have been discussed in the literature on group rights and racial oppression. Discussing “so-called racial privacy” as a group consideration, Anita Allen has pointed out that less privacy rights may actually help minorities by allowing for the collection of statistics about racialization that would force transparency and that may work against colourblind policies: Allen, “Privacy Law” *supra* note 166, at 246. The lack of data and its importance in the familial searching context is returned to in the final chapter.

³²² *R v Gladue*, *supra* note 92, at para 61. See also *R v Williams*, *supra* note 320. Christopher Sewrattan has similarly argued that rates of over-incarceration present a group disadvantage for Aboriginal peoples and that this constitutes a race-based distinction within the meaning of s. 15(1). His argument relates to the *Gladue* principles (discussed in more detail in Chapter Four (part 4.3.1)). He concludes that any legislation that imposes mandatory minimum sentences and repudiates the sentencing considerations outlined in the *Gladue* principles would violate section 15 of the *Charter*. He supports this conclusion by arguing that “Aboriginal peoples must be allowed to benefit from a remedy that was enacted for their equality. The historical and current circumstances of Aboriginal peoples are markedly different from the rest of the population. Aboriginal peoples did not choose to be placed in a situation where the justice system would disadvantage and prejudice them so severely that a sentencing remedy would be necessary. Now that this remedy is available, it is paramount that it be given full effect. To do less would impose further injustice on Aboriginal peoples and deny them the equality guaranteed under the law”: Sewrattan, *supra* note 20, at 125 and 154. Recently, Canada’s Truth and Reconciliation Committee addressed the potential for mandatory minimum sentences to worsen Aboriginal overrepresentation in Canadian prisons, arguing that “the recent introduction of mandatory minimum sentences and restrictions on conditional sentences will increase Aboriginal overrepresentation in prisons. Such developments are preventing judges from implementing community sanctions even when they are consistent with the safety of the community and even when they have a much greater potential than imprisonment to respond to the intergenerational legacy of residential schools that often results in offences by Aboriginal persons”: The Truth and Reconciliation Commission of Canada, “Honouring the Truth”, *supra* note 125, at 220. See also discussion on the risk of discrimination through mandatory minimum sentences in relation to Aboriginal Canadians (as well as African-Canadians, Asian-Canadians, and women (particularly

weakness in terms of the lack of data for part two of the analysis, I consider the second part of the claim based on the possibility that the courts would accept that the NDDDB is highly likely to reflect the racial disparities inherent in the broader systemic problem.³²³

The second question asks whether the impugned law results in a discriminatory impact on members of the group with which the claimant identifies (which may be demonstrated, for instance, through evidence that the law perpetuates prejudice or stereotyping against members of the group). Familial searching of the NDDDB may lead to a reinforcement of systemic racism against Aboriginal peoples because it can be used to implicate (both falsely and accurately) individuals from within this group who are not already included in the NDDDB in new criminal investigations in which the technique is used.³²⁴ While this is arguably the type of situation that section 15 is meant to address, whether the court would accept this argument depends on the type of evidence that the courts would seek at this stage. While evidence that the law perpetuates discriminatory attitudes would

African-Canadian women)) in Sheehy, “The Discriminatory Effects of Bill C-15’s Mandatory Minimum Sentences” *supra* note 103.

³²³ At this stage, I consider the possibility that the courts may accept the *Charter* challenge despite a lack of supporting data in order to fully examine the potential *Charter* arguments. I acknowledge that the lack of data may prove to be a significant hurdle in addressing the equality implications of familial searching as these affect Aboriginal peoples and return to address this particular issue more fully in the concluding chapter.

³²⁴ The Alberta sexual assault and murder discussed above helps to illustrate how familial searching would lead to both increased surveillance of innocent persons and possibly new convictions. In the Alberta case, a pivot profile belonging to the father of the man convicted provided a useful lead in the investigation. This lead led to the eventual conviction of the man’s son, who may have remained at large without the use of the familial search. In the same case, an additional profile was returned as a partial match. If we imagine that the sons, brothers and/or nephews of that second individual were also investigated, we see how familial searching might involve false leads who are investigated and then excluded when their DNA provides a less than perfect match to the crime scene DNA. If used on NDDDB data, the family members of convicted offenders can also be expected to come under initial suspicion until they are either confirmed or excluded as suspects through DNA profiling.

not be required, a claimant may have difficulty with this kind of evidence in that it would be difficult to show the discriminatory impact of the law given the lack of data relating to the racial composition of the NDDB. I therefore consider it possible, but far from certain, that a section 15 violation could be established based on the situation described above.³²⁵

3.2.2 Section 15: Discrimination on Grounds of Family Status

Another potential section 15 claim in relation to familial searching of the NDDB argues discrimination based on a distinction between those who hold a familial relationship with a convicted offender represented in the NDDB and those who do not.³²⁶ The relevant claimant group in this situation includes all persons who would be considered likely to have a genetic relationship with that same offender (regardless of whether the assumption is true or not).³²⁷ In this case, the claim of discrimination is based on the idea that familial searching would perpetuate a stereotype about crime running in families, or about the heritability of criminal behaviour.³²⁸ If this assumption underlies the use of familial searching, it can be argued that the innocent relatives of the convicted offender are being treated as

³²⁵ Because it is possible that the courts might accept the arguments at both stages, I consider whether such an infringement of rights would be justified under section 1. I evaluate the section 1 considerations after examining (and rejecting) the additional possibilities of advancing a section 15 claim based on grounds of genetic relationship status and sex.

³²⁶ Suter, *supra* note 136, at 352; Murphy, “Relative Doubt” *supra* note 135, at 305.

³²⁷ Once again, the claimant group would not include the offenders reflected in the NDDB, as these individuals would be eliminated from suspicion prior to a familial search being attempted. Unlike in the first possible challenge above, race is not considered a factor. Accordingly, this challenge could potentially be advanced by both Aboriginal and non-Aboriginal family members of persons included in the NDDB.

³²⁸ McCarthy, *supra* note 343, at 401; Haimes, *supra* note 9, at 270.

more likely to have committed a crime than those who are not related to an offender reflected in the NDDB.

A major hurdle in presenting this issue as a section 15 *Charter* challenge is that family status is neither an enumerated ground nor has it been recognized as an analogous ground. The courts would need to accept that a person's familial relationship with a convicted offender represents an analogous ground for the purposes of section 15(1). The courts have previously accepted sexual orientation,³²⁹ citizenship,³³⁰ marital status,³³¹ off reserve band-member status³³² and receipt of social assistance as analogous grounds.³³³ They have also indicated, however, that homelessness is unlikely to qualify³³⁴ and have specifically rejected poverty as an analogous ground.³³⁵ According to the Supreme Court of Canada, the "thrust of identification of analogous grounds...is to reveal grounds based on characteristics that we cannot change or that the government has no legitimate interest in expecting us to change to receive equal treatment under the law".³³⁶ Certainly, individuals have no control over the family into which they are born or within which they are raised; however more is required to satisfy the threshold. In recognizing marital status as an analogous ground in *Miron v Trudel*, McLachlin J.

³²⁹ *Egan v Canada*, *supra* note 299, *Vriend v Alberta*, *supra* note 299.

³³⁰ *Andrews v Law Society of British Columbia*, *supra* note 291, *Lavoie v Canada*, 2002 SCC 23, [2002] 1 SCR 769, [2002] SCJ No. 24.

³³¹ *Miron v Trudel*, [1995] 2 SCR 418.

³³² *Corbiere v Canada*, *supra* note 320.

³³³ *Falkiner v Ontario (Minister of Community and Social Services)*, (2002) 59 OR (3d) 481.

³³⁴ *Tanudjaja v Canada (AG)* 2013 ONSC 5410.

³³⁵ *Polewsky v Home Hardware Stores Ltd.* (1999) 68 CRR (2d) 330 (ONSC). See also Hughes, *supra* note 302, at 263, discussing the Supreme Court of Canada's consistent refusal to recognize analogous grounds representing economic status.

³³⁶ *Corbiere v Canada*, *supra* note 320, at para 13.

explained that the key to identifying an analogous ground is to show that the characteristic may “serve as a basis for unequal treatment based on stereotypical attributes ascribed to the group, rather than on the true worth and ability or circumstances of the individual”.³³⁷ Against this benchmark, it appears that the issue would turn on whether familial searching is based on the view that there is a familial element to crime. It is arguably not based on this view, but rather driven by the scientific support for the technique (which is simply being applied to as many DNA profiles as possible).³³⁸ If one accepts that the NDDB is extremely likely to be racially unequal, the use of the data bank in this way is unfair. Described in this way, this unfairness may more adequately be characterized as an unjustified expansion of the NDDB, which makes the problem better suited to a section 8 analysis (a perspective considered in the section 8 analysis below).

Even if it were possible to establish analogous grounds based on family status, the claim of discrimination would likely fail at the second stage of the analysis. The second question asks whether the impugned law has a discriminatory impact on members of the group with which the claimant identifies. As explained above, one way to satisfy the second stage of the test would be to show that the law

³³⁷ *Miron v Trudel*, *supra* note 331, at 495.

³³⁸ To the extent that the NDDB Advisory Committee has commented on the potential for familial searching to be introduced into NDDB operations, the reasoning appears to be that familial searching represents an investigative option that will sometimes produce useful leads where cases would otherwise go cold. No explicit reference has been made to indicate that the interest in familial searching is tied to an assumption that criminal behaviour runs in families. See, for instance, NDDB Advisory Committee Annual Report 2009-2010, *supra* note 6, at 19, where the Committee noted that familial searching (along with other novel searching methods) would “allow for the expanded use of the NDDB to aid in the identification of possible criminal suspects who may be closely related to known offenders in the COI. This type of analysis has been offered by the Forensic Science Service in the United Kingdom for several years and has led to the successful identification and conviction of offenders who would have otherwise remained unknown had familial searching not been pursued”.

perpetuates attitudes of prejudice and stereotyping against members of the group. It is not clear that there exists a prejudice or stereotype about criminality and family history. Studies have supported a familial risk for criminal behaviour, showing a complex interplay of genetic, environmental, and societal factors that may contribute to a higher propensity to commit crimes.³³⁹ Since the Supreme Court of Canada's decision in *Quebec v A*, however, evidence of discriminatory attitudes is not required; rather, the question in the second part of the test is concerned with the impact of the law (not the attitudes of prejudice). Even with this more flexible approach to the second question however, the lack of data on Aboriginal overrepresentation in the NDDB would once again likely represent an insurmountable hurdle. That is, it would not be possible to show that new instances of surveillance and convictions can be linked to familial searching of a racially unequal NDDB and that this result has an impact on Aboriginal families at a disproportionate rate. Based on these various weaknesses, the section 15 claim based on family status seems likely to fail.

³³⁹ Bieber, Brenner, and Lazer, *supra* note 136, at 1316; Frisell, Lichtenstein, and Langström, *supra* note 153. Examples of other works studying the interplay of genetics and environmental factors as these relate to criminal behaviour include: Jamie Vaske, Danielle Boisvert, and John Paul Wright, "Genetic and Environmental Contributions to the Relationship Between Violent Victimization and Criminal Behavior" 2012) 27:16 *Journal of Interpersonal Violence* 3213; M. Forsman and N. Långström, "Child Maltreatment and Adult Violent Offending: Population-Based Twin Study Addressing the 'Cycle of Violence' Hypothesis" (2012) 42:9 1977; Callie H. Burt and Ronald L. Simons, "Pulling Back the Curtain on Heritability Studies: Biosocial Criminology in the Postgenomic Era" (2014) 52:2 *Criminology* 223; and Anthony Walsh, *Social Class and Crime: A Biosocial Approach* (New York: Routledge, 2011).

3.2.3 Section 15: Discrimination on Grounds of Sex

A final possible section 15 challenge involves an argument that the use of Y-STR testing in familial searching would discriminate against individuals based on their sex.³⁴⁰ As explained in Chapter Two, Y-STR testing can be used to evaluate the strength of the leads produced by a familial search. The process analyzes the Y-chromosome, and can therefore only be applied to males.³⁴¹ Accordingly, the relevant claimant group would include the male relatives who would be considered likely to have a genetic relationship with an offender who has provided DNA for the NDDDB (regardless of whether the assumption is true or not).³⁴²

The challenge is likely to fail at the first stage of the two-part section 15 test. While the use of familial searching may be scientifically verifiable to a different degree for male versus female suspects, the difference is mitigated by the option of performing mt-DNA testing on both male and female suspects. Since it is becoming increasingly common to use mtDNA in the familial searching process, the courts

³⁴⁰ As with the section 7 and 8 challenges examined below, an equality challenge of grounds of sex would not necessarily need to be advanced by an Aboriginal male. If, however, it provided promising grounds upon which to advance a section 15 challenge it would potentially offer an indirect means of addressing the disproportionate impact that familial searching will have on Aboriginal peoples. As explained in this part, the challenge is likely to be rejected in any case (whether advanced by an Aboriginal or non-Aboriginal male claimant). It is worth noting that preliminary studies have begun to examine whether Y-STR analysis is more discerning when performed among some racial groups over others and have shown that Y-STR analysis may be particularly discerning in the African American population, moderately discriminating in the Caucasian population, and weakly discerning in the Asian and Hispanic populations: Murphy, “Relative Doubt” *supra* note 135, at 323; and discussion of results in Suter, *supra* note 136, at 371. While greater understanding of the science in this area may be relevant to a possible challenge, current application of Y-STR science does not support a section 15 argument based on the fact that the use of Y-STR testing would have a negative impact on Aboriginal peoples that would be disproportionate to that experienced in the non-Aboriginal population.

³⁴¹ Kim et al., *supra* note 272, at 3.

³⁴² Once again, the group would not include the offenders reflected in the NDDDB, as these individuals would be eliminated from suspicion prior to a familial search being attempted.

could (logically) conclude that the overall effect of any additional testing used to confirm familial search results does not discriminate against men in a way that makes the situation of concern for section 15.³⁴³ Moreover, even if the claim could pass the first stage, it would very likely fail at the second stage since Y-STR testing does not appear to have a discriminatory impact on males (at least not in any negative sense). In fact, if the disadvantage to men is characterized as a situation in which men are more likely to become implicated in a follow-up investigation relating to a partial match, the use of Y-STR analysis actually lessens the burden on individuals who might be falsely implicated. It is also important to point out that Y-STR analysis does not appear to be based on a stereotype that fails to reflect the actual circumstances of the males who might be affected by familial searching.³⁴⁴ Accordingly, I exclude the potential challenge to familial searching based on the sex of potential suspects.

3.2.4 Section 1: Assessing the Reasonable Limits

While it is far from clear that a section 15 challenge to familial searching could be established, it is possible that the courts would accept a challenge based on grounds of racial discrimination.³⁴⁵ If the courts do in fact accept this type of section

³⁴³ Mary McCarthy, “Am I My Brother’s Keeper’: Familial DNA Searches in the Twenty-First Century” (2011) 86 Notre Dame L. Rev. 381, at 402.

³⁴⁴ As an indicator of paternal lineage, analysis of the Y-chromosome is supported by science. See again the description of Y-STR testing in Chapter Two (part 2.5 and particularly *supra* note 279 and accompanying text explaining that the analysis is believed to accurately eliminate approximately 99% of suspects who are not related by male lineage): Suter, *supra* note 136, at 389, citing Bieber, Brenner, and Lazer, *supra* note 136, at 1315.

³⁴⁵ As noted above, the weakness of this claim flows from the fact that the claim is one of adverse effects discrimination, which means that claimants will need to show evidence of the specific harms resulting from systemic discrimination. This introduces a challenge with respect to familial searching, which relies on an assumption of Aboriginal overrepresentation in the NDDB. It may also

15 challenge, the next step would be to assess the infringement of rights under section 1. Section 1 represents the “reasonable limits clause”, simultaneously guaranteeing the rights and freedoms set out in the *Charter* while confirming that those rights and freedoms are not absolute, but are instead subject to section 1’s exclusive justificatory limits.³⁴⁶ The section reads:

The *Canadian Charter of Rights and Freedoms* guarantees the rights and freedoms set out in it subject only to such reasonable limits prescribed by law as can be demonstrably justified in a free and democratic society.³⁴⁷

The approach to applying section 1 was established in *R v Oakes*, where the Court explained that two criteria must be satisfied for the state to show that a limit on an individual right is reasonable and demonstrably justified in a free and democratic society.³⁴⁸ The first is that the objective must be of “sufficient importance to warrant overriding a constitutionally protected right or freedom” and must relate to concerns that are both pressing and substantial.³⁴⁹ The second requires that the means chosen to serve the objective be reasonable and demonstrably justified, which has been equated to a proportionality test.³⁵⁰ To be considered proportionate,

be necessary to show evidence of overrepresentation in terms of the effects of familial searching (i.e. in additional surveillance facilitated by a lead produced by a familial search, and new convictions resulting from investigations in which familial searching was used).

³⁴⁶ *R v Oakes*, [1986] 1 SCR 103. The courts have emphasized the need to separate the initial rights challenge and the section 1 analysis since the burden of proof is initially on the claimant for the rights challenge, but shifts to the state for the purposes of section 1. See comments in *Andrews v Law Society of British Columbia*, *supra* note 291, at 178 and 182. The courts themselves appear to have had some difficulty in separating the issues to be considered under section 15 and the section 1 analysis, and there have been criticisms of an “analytical blurring” of these lines: Jennifer Koshan and Jonnette Watson Hamilton, “Meaningless Mantra: Substantive Equality After *Withler*” (2012) 16 *Rev. Const. Stud.* 31, at 58; Truesdale, *supra* note 310, at 517.

³⁴⁷ *Charter supra* note 21, at s. 1.

³⁴⁸ *R v Oakes*, [1986] 1 S.C.R. 103, *supra* note 346, at 138.

³⁴⁹ *R v Oakes*, [1986] 1 S.C.R. 103, *supra* note 346, at 138.

³⁵⁰ *R v Oakes*, [1986] 1 S.C.R. 103, *supra* note 346, at 139.

an objective must not be arbitrary, unfair, or based on irrational considerations, should impair the right as little as possible, and should show a balance between the effects of the measures and the objective itself.³⁵¹

In relation to the first question, the answer to whether the objective of solving crimes (i) is of sufficient importance to warrant overriding the discriminatory impact of familial searching for Aboriginal peoples and (ii) relates to concerns that are both pressing and substantial will most likely depend on whether the state has limited its use of familial searching to a list of serious crimes.³⁵² Based on Canada's previous experience in attempting to show balance in DNA databanking activities, the state may offer a designated list of crimes for which public protection is of the highest importance (e.g. murder, sexual assault).³⁵³ The state would likely have difficulty satisfying the test that applies in the second stage of section 1 where the harms resulted during the investigation of relatively minor crimes as opposed to violent or otherwise very serious offences.³⁵⁴ Even when serious crimes are being

³⁵¹ *R v Oakes*, *supra* note 346, at 139. The Court has warned against viewing section 1 as a "rigid and technical provision, offering nothing more than a last chance for the state to justify incursions into the realm of fundamental rights": *R v Keegstra*, [1990] 3 SCR 697, at 735. The role of section 1 is rather to simultaneously guarantee the rights set out in the *Charter* while also accommodating circumstances under which limitations on those rights are justified: *Slaight Communications Inc. v Davidson*, [1989] 1 SCR 1038, at 1056.

³⁵² This is supported by the Supreme Court's decision in *R v S.A.B.*, *supra* note 65, where the Court held that the DNA warrant provisions that enable collection of DNA from suspects upon judicial authorization properly balanced the public interest in law enforcement and the individual right to privacy. The Court was specifically influenced (as noted at para 19) by the fact that the scheme was limited to "primarily violent and sexual offences that might involve the loss or exchange of bodily substances that could be used to identify the perpetrator through DNA analysis".

³⁵³ As explained in the first chapter, the designated crimes list currently sets out crimes for which individuals can be compelled to provide DNA samples for inclusion in the NDDB. Designated crimes are listed under s. 487.04 of the *Criminal Code* *supra* note 65.

³⁵⁴ An important point to note, and one that is explored in Chapter Four (see *infra* note 792) is that the list has been expanded several times. It now includes a number of crimes that do not appear to be of the most serious nature. Even if the state sets out a limited list of crimes for which familial searching will be used, it might still be possible for that list to expand over time.

investigated, however, it is crucial not to dismiss the gravity of the inequality experienced by Aboriginal peoples in Canada. As described in Chapter One, the rates of overrepresentation are drastic and getting worse. The state's interest in solving crimes does not obviously outweigh the deep-rooted social issues and injustices relevant to this claim. Indeed, the solving of crimes represents only one part of the state's responsibility to its people, and the state has other responsibilities that would compete with crime-solving techniques that threaten to perpetuate or worsen Aboriginal equality in Canada. Further to this point, the Truth and Reconciliation Committee has called the various levels of government in Canada to action, suggesting that the resources put into crime-solving and other areas of crisis may be better spent if diverted to addressing the need for reconciliation with Aboriginal groups:

[G]enuine reconciliation will not be possible until the broad legacy of the schools is both understood and addressed. Governments in Canada spend billions of dollars each year in responding to the symptoms of the intergenerational trauma of residential schools. Much of this money is spent on crisis interventions related to child welfare, family violence, ill health, and crime. Despite genuine reform efforts, the dramatic overrepresentation of Aboriginal children in foster care, and among the sick, the injured, and the imprisoned, continues to grow. Only a real commitment to reconciliation will reverse the trend and lay the foundation for a truly just and equitable nation.³⁵⁵

If, despite the above, the courts find that the state can satisfy the first stage of the section 1 analysis, the second question looks to whether the means chosen to serve the objective are proportionate to the infringement of rights. Familial

³⁵⁵ The Truth and Reconciliation Commission of Canada, "Honouring the Truth", *supra* note 125, at 228.

searching extends the use of profiles in the NDDB to include within the data-banking scheme the genetic relatives of convicted offenders. In this way, familial searching represents a form of genetic surveillance that targets individuals who are not directly reflected on the data bank (because they have not been convicted of a crime). The question is therefore whether the extension of the NDDB through familial searching is proportionate to the infringement of rights. Without data to substantiate the infringement of rights, it is difficult to assess its worth compared to the state's interest in solving crimes. The nature of the crime under investigation will again likely represent a crucial consideration, which makes the issue a matter of degree. For serious crimes like sexual assault and murder, it is possible that the claim of discrimination based on racial grounds would fail at this stage of the section 1 analysis.

Table 1: Summary of Section 15 findings

Claimant Group	Persons who would be considered likely to hold a genetic relationship with an Aboriginal offender in the NDDB	Persons who would be considered likely to hold a genetic relationship with an offender in the NDDB	Male relatives who would be considered likely to hold a genetic relationship with an offender in the NDDB
Basis for arguing Discrimination	Race	Family Status	Sex
Q1 satisfied (distinction based on an enumerated or analogous ground)?	Possibly	Possibly (requires acceptance that familial searching is based on assumption that crime runs in families)	Unlikely
Q2 satisfied (disadvantage through perpetuation of prejudice or stereotyping)?	Possibly (increased genetic surveillance, higher rates of convictions would perpetuate Aboriginal overrepresentation)	Unlikely (requires evidence of discriminatory impact based on genetic link in Q1)	No
Infringement justified under s. 1?	Possibly for most serious crimes	Not required	Not required

3.2.5 Equality and the Disproportionate Impact of Familial Searching on Canada's Aboriginal Peoples

Under section 15, Aboriginal peoples may have a valid claim to racial discrimination resulting from familial searching of the NDDB. The courts may, however, find the infringement justified when it comes to the most serious crimes

(such as sexual assault and murder). It is unlikely that a section 15 claim made on the grounds of family status would succeed. Both of these first two possible section 15 claims separately represent valid concerns relating to the discriminatory impact that would result from the use of familial searching within the NDDDB. As such, even if both claims would not be found to violate the *Charter*, they remain relevant for the purposes of assessing the equality issue from a CRT perspective.

Based on the overrepresentation of Aboriginal peoples as offenders and the resulting assumption of overrepresentation of Aboriginal peoples in the NDDDB, it is highly likely that the use of familial searching within the NDDDB would perpetuate the overrepresentation of Aboriginal peoples in the criminal justice system. The possible claim of racial discrimination highlighted that this effect would be seen not only in the rates of conviction, but in terms of increased surveillance of the population. Although the claim for discrimination based on family status does not appear to meet section 15 thresholds, it highlights the risk that familial searching would support discriminatory assumptions about the propensity towards criminal behaviour within the Aboriginal population. As noted above, this could result from familial searching being used to implicate (both falsely and accurately) Aboriginal peoples in new criminal investigations at a disproportionate rate. This may worsen the overall systemic bias from which the Aboriginal population suffers. In some cases, the “pervasive notion that [Aboriginal people] are inferior” may be

internalized by Aboriginal peoples themselves.³⁵⁶ Michael Hart explains this problem, which is rooted in the colonization process, as follows:

Once Aboriginal persons internalize the colonization processes, we feel confused and powerless...We may implode with overwhelming feelings of sadness or explode with feelings of anger. Some try to escape this state through alcohol, drugs and/or other forms of self-abuse.³⁵⁷

I include the above risks among the harms that will be disproportionately experienced by Aboriginal peoples through the use of familial searching of the NDDB. I return to these issues in the final chapter to reiterate the broad impact of familial searching and to support the recommendation for continued prohibition of the technique within the NDDB scheme. In relation to the equality impact on Aboriginal peoples in Canada, there appear to be no grounds to argue that Y-STR analysis may present a form of discrimination (even one that would fall below the threshold required for *Charter* protection). If anything, because it can reduce false leads, Y-STR analysis may decrease the overall negative impact of familial searching by eliminating persons who would otherwise have been falsely implicated in an investigation.

3.3 Familial Searching and the Right to be Free From Unreasonable Search and Seizure Under Section 8

Under section 8 of the *Charter*, “[e]veryone has the right to be free from unreasonable search and seizure”.³⁵⁸ This right has a long history as a fundamental

³⁵⁶ Jim Silver, *In Their Own Voices: Building Urban Aboriginal Communities* (Halifax, NS: Fernwood Publishing, 2006), at 19.

³⁵⁷ Michael Hart, *Seeking Mino-Pimatisiwin: An Aboriginal Approach to Helping* (Halifax: Fernwood Publishing, 2002), at 27.

³⁵⁸ *Charter supra* note 21, at s. 8.

principle in Canadian law, and is historically rooted in the law of trespass, and more specifically the right to privacy in the home.³⁵⁹ Over time, the right has come to encompass more complex interests, including those relating to informational privacy as well as privacy of the body.³⁶⁰ A broad conception of section 8 has been crucial to the law's response to forensic uses of investigative technologies, including DNA. In a general sense, analysis of the prevailing section 8 framework against the

³⁵⁹ The common law rule dates back to the oft-cited sixteenth century English decision in *Semayne's Case*, in which Lord Coke famously declared: "the house of every one is to him as his castle and fortress, as well for his defence against injury and violence as for his repose": *Semayne's Case* (1572) 77 Eng. Rep. 194, at 195. The principle quickly became central to the common law and was applied in a number of subsequent cases. See, for example, *Entick v Carrington* (1762) 95 E.R. 807; *Wilkes v Wood* (1763), 98 E.R. 489; and *Huckle v Money* (1763), 95 E.R. 768. Though the principle has been broadened to incorporate a more complex view of the right, freedom from unreasonable search and seizure of the home continues to be an important part of the rule, with new and difficult facts still being presented to the courts. See for instance, *R v Silveira*, [1995] 2 SCR 297, where police had arrested a suspect for drug trafficking and were planning to obtain a warrant to authorize a search of the suspect's house. Concerned that before the warrant could be issued individuals at the house would find out about the impending arrest and jeopardize the investigation by destroying or removing evidence, authorities entered the suspect's home with guns drawn and remained on the premises until the warrant was granted. Once it was issued, they proceeded to search the house, seizing evidence relating to the crimes for which Silveira had been arrested. The police actions were later found to have been an infringement of the accused's right to be free from unreasonable search and seizure. See also *R v Godoy*, [1999] 1 SCR 311, where the police forcefully entered an individual's apartment without a warrant while following up on a 911 call, despite the occupant's refusal to allow entry. In this case, the police actions were found to have been lawful under the ancillary powers doctrine.

³⁶⁰ The *Charter* has been crucial to this broader conception of the right. In the pre-*Charter* era, there was a clear and significant imbalance in the law in terms of the status of the right to bodily autonomy within state search and seizure powers. This was made particularly evident following an incident in 1974, when undercover agents from the RCMP and the Niagara Regional Police organized a drug raid at the Landmark Motor Inn Hotel in Fort Erie, Ontario. Acting under specialized statutory powers conferred through writs of assistance under the *Narcotic Control Act*, RSC 1970, c. N-1, fifty police officers conducted searches of one hundred and fifteen individuals, including forced vaginal and anal searches of thirty-five females who were present at the scene. No narcotics were found as a result of the strip searches and none of the women who were searched were arrested or charged as a result of the investigation. The raid resulted in the collection of a grand total of six ounces of marijuana. The events were a significant embarrassment to Canada, and a Royal Commission was appointed by the Government of Ontario to examine the police behavior. The Commission determined that although the strip-searches were "foolish and unnecessary", the police actions were legal. For a full account of the events that took place, see John A. Pringle, "The Royal Commission on the Conduct of Police Forces at Fort Erie on the 11th of May, 1974" (Toronto: The Commission, 1975). See also Dominique Clement, *Canada's Rights Revolution: Social Movements and Social Change, 1937-82* (Vancouver: UBC Press, 2008), at 137; and Lewis R. Katz, "Reflection on Search and Seizure and Illegally Seized Evidence in Canada and the United States" (1980) 3 Canada-U.S. L. J. 103, at 126 note 124.

potential for state use of familial searching in the NDDDB highlights the tension between individual rights protected under section 8 and the state's responsibility for ensuring the safety of the public. Although the individual right to privacy is vulnerable to increasingly sophisticated investigative technologies, the need to ensure safety of the public requires that police be afforded a certain latitude to employ useful technologies in the solving of crimes.³⁶¹

The first Supreme Court of Canada decision on section 8 came in 1984 with the case of *Hunter v Southam*.³⁶² In *Hunter*, the Court confirmed key guiding principles for the development of section 8 rights. First, the right to be free from unreasonable search and seizure encompasses a general right to privacy; this interpretation ensures that section 8 transcends the traditional realm of search and seizure law to protect "people, not places".³⁶³ Furthermore, the *Hunter* Court explained that the *Charter* was meant to constrain rather than authorize government action.³⁶⁴ Following *Hunter*, the courts emphasized the need to interpret *Charter* rights "generously, and not in a narrow or legalistic fashion".³⁶⁵

³⁶¹ The tension between these competing interests resulted in an influx of section 8 cases in the initial post-*Charter* era. See comments in: Tim Quigley, "The Impact of the Charter on the Law of Search and Seizure" (2008) 40 S.C.L.R. 117, at 118; Michal Fairburn, "Twenty-Five Years in Search of a Reasonable Approach" (2008) 40:2 S.C.L.R. 55, at 57; Alan D. Gold and Michelle Fuerst, "The Stuff That Dreams are Made of! – Criminal Law and the Charter of Rights" (1992) 24 Ottawa L. Rev. 16; and Robert Solomon, "Drug Enforcement Power and the Canadian Charter of Rights and Freedoms" (1983) 21 U.W. Ontario L. Rev. 219, at 249.

³⁶² *Hunter et al. v Southam Inc.*, [1984] 2 SCR 145.

³⁶³ *Hunter et al. v Southam Inc.*, *supra* note 362, at 159. See also comments in *R v Dyment*, [1988] 2 SCR 417, at para 15, where the Court stated that section 8 rights extend beyond "notions of property...which served to protect this fundamental human value in earlier times"; and *R v Tessling*, 2004 SCC 67, [2004] 3 SCR 432, at para 16.

³⁶⁴ Per Justice Dickson in *Hunter et al. v Southam Inc.*, *supra* note 362, at paras 19 and 24. See also discussion in Quigley, *supra* note 361, at 123; and James Stribopoulos, "In Search of Dialogue: The Supreme Court, Police Powers and the *Charter*" (2005) 31 Queen's L.J. 1, at 17.

³⁶⁵ *R v Big M Drug Mart Ltd*, [1985] 1 SCR 295, at 344; *R v Dyment*, *supra* note 363, at para 15.

In interpreting section 8, the Supreme Court of Canada has directed the lower courts to have regard for three non-mutually exclusive categories of privacy interests: territorial/spatial, personal, and informational privacy.³⁶⁶ In section 8 claims involving state use of DNA, both bodily and informational privacy are at stake.³⁶⁷ Territorial interests have not been influential in guiding the law as it relates to DNA profiling, and are excluded from this section 8 analysis of familial searching.³⁶⁸ Finally, early *Charter* case law set out a structured approach for the assessment of section 8 claims, requiring the courts to ask whether (i) there was a search or seizure by government, and (ii) whether that search or seizure was

³⁶⁶ *R v Dymont*, *supra* note 363, at para 34. All three categories may be implicated in some cases (as was the case in *Dymont*). In accordance with the use of section 8 to protect more than territorial privacy, there is no requirement that a claim be connected to the more traditional proprietary rights in order to succeed: *R v Plant*, [1993] 3 SCR 281, at 291.

³⁶⁷ *R v S.A.B.*, *supra* note 65, at para 40; *R v Borden*, [1994] 3 SCR 145, at 161; *R v Rodgers*, 2006 SCC 15, [2006] 1 SCR 554, at para 39.

³⁶⁸ Although there were some initial attempts to characterize DNA as property for regulatory purposes, a property interest in genetic information has been rejected in several contexts. For instance, Oregon became the first American state to officially confer property status to DNA through the *Oregon Genetic Privacy Act*, 1995. The law was amended in 2001 to remove the property interests from the framework following objections that the *Act* unduly inhibited genetic research: SB 276/95. See also Spinello, *supra* note 141, at 61. The leading U.S. decision on genetic information as property is *Moore v Regents of the University of California* (1988) 51 Cal. 3d 120, 271 Cal Rptr 146, (1990) 793 P.2d 479. The case arose after Moore received treatment for hairy-cell leukemia at the UCLA Medical Centre in 1976. When his physicians discovered that his unique blood cells were potentially of high commercial value, they performed tests without informing Moore of their intentions and obtained a valuable patent for the cell-line established from the genetic samples. Moore sued, claiming ownership over the cells that had been extracted from his body and seeking conversion of the end product of his cell line. The Supreme Court of California found that while the physicians had a duty to disclose to Moore their plans for his genetic material, Moore had no valid claim to conversion for the profits arising from the use of the samples without his consent. In Canada, in a recent medical malpractice case, an Ontario court decided that a hospital held ownership rights in a biological sample held by the institution, and that the person from whom the sample originated held no property rights in the same sample. The decision may be appealed, and may have important implications for the use of genetic information in various contexts (including medical treatment and research): *Piljak Estate v Abraham*, 2014 ONSC 2893; Richard Warnica, "Human Tissue Removed for Medical Tests is "Personal Property" of Institution, Not Person it Came From" *National Post* (5 June, 2014) online: http://news.nationalpost.com/2014/06/05/human-tissue-removed-for-medical-tests-is-personal-property-of-institution-not-person-it-came-from-ruling/?_federated=1. In the forensic context however, the rejection of the property approach was evident in the consultations that took place prior to the establishment of Canada's NDDDB, where the focus appears to have been on the individual privacy interests at issue: Solicitor General, Consultation Document, *supra* note 67, at 2.

unreasonable.³⁶⁹ This two-staged analysis guides the assessment of a potential section 8 challenge to state use of familial searching.

Before applying this two-staged analysis to the current issue, it is important to emphasize that section 8 (along with section 7 considered below), provides an indirect means of addressing the equality issue that arises with the potential use of familial searching in the NDDb. Aboriginal peoples are likely overrepresented in the NDDb and therefore likely to experience the impact of familial searching at a disproportionate rate; however, the section 8 privacy arguments (as well as the section 7 arguments outlined below) could be advanced by Aboriginal and non-Aboriginal persons. From a CRT perspective, this introduces a question about whether or not equality issues are being considered (or addressed) because they happen to serve the interests of whites. Within CRT, this is known as ‘interest convergence’.³⁷⁰ CRT scholars have previously identified incidents in which minority rights were framed as issues of equality, but were likely attended to because of a convergence of minority interests with the powerful majority. For instance, Derrick Bell, a leader of the CRT movement, has argued that the Supreme Court of the United States found segregated education unconstitutional in *Brown v Board of Education* not because of a true desire to improve the education and lives of Black American children, but rather because the move served the majority’s interest in gaining credibility on the international level during a time of conflict with

³⁶⁹ *R v Dymont*, *supra* note 363; Bailey, *supra* note 146, at 284.

³⁷⁰ See discussion of ‘interest convergence’ in CRT scholarship in Mutua, *supra* note 25, at 341; and Haynes Writer, *supra* note 42, at 4.

third world nations.³⁷¹ In the current context, the same risk arises in that non-Aboriginal people in Canada may become concerned about the ways in which they would suffer a negative impact from familial searching (particularly with respect to the privacy implications, which tend to feature prominently in the debate).³⁷² These same individuals may voice support for the prohibition of familial searching based on the equality grounds, an argument that may in fact be motivated by other considerations. Therefore, it is important to reiterate the overall goal of this dissertation and the purposes of examining the *Charter* issues in the present chapter. The goal is to examine issues that inform the equality analysis, not to confront concerns over the privacy impact for individuals who do not identify with a marginalized group but may nevertheless be affected by familial searching. With this in mind, I examine the privacy implications of familial searching through a section 8 lens and tie these to the equality argument because the risks highlighted below will disproportionately impact Aboriginal peoples in Canada.

3.3.1 Section 8, Stage 1: Determining Whether a Search or Seizure Took Place

The first question in a section 8 analysis asks whether there was a search or seizure by the government. On this point, the Supreme Court of Canada has confirmed that the *Charter* protects against unreasonable searches *or* seizures, read disjunctively.³⁷³ When considering familial searching, the only potential challenge is in relation to the search for the partial match, as police have the ability to lawfully

³⁷¹ See general discussion in Mutua, *supra* note 25, at 341, citing Derrick Bell, “*Brown v Board of Education* and the Interest-Convergence Dilemma” (1980) 93 *Harvard Law Rev.* 518, at 523.

³⁷² See comments at *infra* note 139.

³⁷³ *R v Dymont*, *supra* note 363, at para 28.

seize the DNA required to facilitate a familial search and (if an amendment were made to the *DNA Identification Act*) would not be barred from following up on any investigative leads that the search produces.³⁷⁴ The potential to establish an infringement of section 8 rights based on the state's use of familial searching therefore depends on whether a section 8 "search" would occur through a familial search of NDDDB data (and if so, whether such a search would be deemed unreasonable).

The courts have established that a section 8 search takes place where the claimant has a reasonable expectation of privacy in the information targeted by the state action.³⁷⁵ Not every search for information will qualify as a search for *Charter* purposes and it is not automatically the case that familial searching constitutes a search within the meaning of section 8. To determine whether a search for information intrudes on an individual's reasonable expectation of privacy (and thus constitutes a search under section 8) the courts apply a "totality of the

³⁷⁴ To conduct a familial search, police need access to the anonymous crime scene sample in relation to which they are seeking a suspect, identified DNA profiles to search for a partial match, and identified DNA from potential suspects to follow up on any useful leads. DNA is routinely collected from crime scenes, and there is no doubt that police have the authority to collect and test such evidence for forensic purposes. The identified profiles to be compared with the crime scene information for a partial match could be accessed in the NDDDB (if an amendment is made to the *DNA Identification Act*, *supra* note 65). In the case of the NDDDB, police are statutorily authorized to collect and upload samples as part of the data-banking scheme: *Criminal Code supra* note 65, at s. 487.051. The identified suspect sample could also be obtained with the consent of the individual to whom the information relates. Alternatively, police might collect and test an abandoned genetic sample. The use of abandoned DNA in this way as part of a familial search investigation is further discussed in Chapter Four (part 4.2.2).

³⁷⁵ *R v Wise*, [1992] 1 SCR 527; *R v Tessling*, *supra* note 363, at para 18; *R v A(M)*, 2008 SCC 19, [2008] SCJ No. 19, [2008] 1 SCR 456, at para 8; *R v Gomboc*, [2010] SCC 55, [2010] 3 SCR 211, at para 77; *R v Cole*, 2012 SCC 53, [2012] 3 SCR 34, at para 34; *R v Spencer*, 2014 SCC 43, [2014] 2 SCR 212, at para 16.

circumstances test”, which must be tailored to the situation that arises in each new case.³⁷⁶

The leading case on the totality of the circumstances test is the 2004 Supreme Court of Canada decision in *R v Tessling*.³⁷⁷ In *Tessling*, police used Forward Looking Infra-Red (FLIR) technology to capture images of heat patterns emanating from the accused’s home in order to find evidence of a marijuana grow-op operating within the residence.³⁷⁸ The Court of Appeal held that the use of the FLIR technology constituted a violation of Tessling’s right to a reasonable expectation of privacy; however, the majority of the Supreme Court of Canada overturned the decision and found no violation of section 8 under the circumstances.³⁷⁹ In coming to this conclusion, the Court confirmed that the approach to determining whether the accused held a reasonable expectation of privacy in the information targeted by the police activity was to assess the totality of the circumstances, specifying the following questions for the inquiry:

1. What was the subject matter of the FLIR image?
2. Did the respondent have a direct interest in the subject matter of the FLIR image?
3. Did the respondent have a *subjective* expectation of privacy in the subject matter of the FLIR image?

³⁷⁶ The test was formulated in the 1996 case of *R v Edwards*, [1996] SCJ No. 11, 45 CR (4th) 307, where the accused argued that police had infringed his right to be free from unreasonable search and seizure by conducting a warrantless search of his girlfriend’s apartment. The search of the apartment provided police with evidence to support his conviction for drug-related offences. Applying the test to the facts of the case, the Court concluded that based on the totality of circumstances, the accused had no reasonable expectation in his girlfriend’s apartment. This case has important considerations in terms of information held by third parties and is discussed in greater detail in relation to that point further below in this chapter (*infra* notes 406-417 and accompanying text).

³⁷⁷ *R v Tessling*, *supra* note 363.

³⁷⁸ Per Binnie J. in *R v Tessling*, *supra* note 363, paras 2, 3.

³⁷⁹ Per Binnie J. in *R v Tessling*, *supra* note 363, para 3.

4. If so, was the expectation *objectively* reasonable?³⁸⁰

Applying the above factors to the facts of *Tessling*, the Court concluded that the police action had not constituted a search *of* the home, but rather “an external search for information *about* the home which may or may not be capable of giving rise to an inference about what was actually going on inside, depending on what other information is available”.³⁸¹

Though the decision in *Tessling* was controversial for reasons discussed below, the Court’s reformulation of the totality of circumstances test has had a lasting impact, and the courts have since generally looked to the four main lines of inquiry set out in that case, tailoring the analysis under the final question to the facts of each case.³⁸² Accordingly, I apply this framework to familial searching, drawing from the reasons given in *Tessling* along with more recent cases to inform the analysis. Within this analysis, it is necessary to consider the question of whether a familial search constitutes a section 8 search from the perspective of two possible categories of claimants. The first includes the identifiable offender(s) who have provided DNA that produces the pivot profile(s) in a familial search investigation.³⁸³

³⁸⁰ *R v Tessling*, *supra* note 363, at para 32. The Court in *Tessling* listed seven factors to consider as part of the question of whether the expectation was objectively reasonable. These questions are listed below as part of the analysis of the objective reasonableness of an expectation of privacy in relation to the subject matter of a familial search.

³⁸¹ Per Binnie J. in *R v Tessling*, *supra* note 363, at para 27. See discussion in Richard Jochelson, “Trashcans and Constitutional Custodians: The Liminal Spaces of Privacy in the Wake of *Patrick*” (2009) 72 Saskatchewan Law Review 199, at 204.

³⁸² See the application of the test in *R v Patrick*, 1009 SCC 17, [2009] 1 SCR 579, at para 27, comments in *R v Cole*, *supra* note 375, at para 40; *R v Spencer*, *supra* note 375, at para 18, and discussion in Richard Jochelson, *supra* note 381, at 209.

³⁸³ As in the Alberta case discussed above, more than one individual may become a pivot person in a familial search investigation as more than one person may show a partial match with crime scene DNA. In the Alberta sexual assault and murder investigation, two profiles were returned, with one

The second group includes individuals who may be targeted as part of the follow up investigation because they are considered likely to hold a genetic relationship with the identifiable offender(s).³⁸⁴ For some parts of the analysis, the considerations are the same for each group, while other parts involve crucial differences. I highlight these differences as they arise throughout the analysis below.

What is the subject matter of the evidence gathered by police?

The first stage of the analysis aims to define the subject matter of a familial search. Not all subject matter gathered in the course of a police investigation will give rise to a reasonable expectation of privacy within the meaning of section 8. In *R v Plant*, decided in 1993, the Supreme Court of Canada emphasized that section 8 aims to protect information that falls within the “biographical core of personal information which individuals in a free and democratic society would wish to maintain and control from dissemination to the state” as well as information that may not itself be of that nature, but that “tends to reveal intimate details of the lifestyle and personal choices of the individual”.³⁸⁵ The characterization of the subject matter of a familial search represents a crucial step in the analysis. An overly narrow assessment may obscure the privacy interest in the information when it is considered in subsequent stages.

providing the pivot profile that led investigators to an individual whose own DNA matched the crime scene profile.

³⁸⁴ Referring again to the Alberta example, the second category of potential claimants would include the man who was eventually convicted of the crime as well as any other relatives identified as possible suspects based on the likelihood that they shared a genetic relationship with one of the two pivot persons in the investigation.

³⁸⁵ *R v Plant*, *supra* note 366, at 293.

A number of previous Supreme Court of Canada decisions requiring assessment of the subject matter of new and innovative investigative technologies assist in guiding this first stage of the totality of the circumstances test as it applies to familial searching. In *Tessling*, discussed above, the Court identified the subject matter of the search as the heat patterns emanating from the home and targeted by the FLIR technology; based on the view that this information was “meaningless”, the Court determined that no section 8 search had taken place.³⁸⁶ Four years later, the Court heard *R v Kang-Brown* and *R v A(M)*, two cases in which the Court had to determine whether police use of drug-sniffer dogs to detect the presence of illegal drugs constituted a search for section 8 purposes.³⁸⁷ The subject matter of the search was again the ‘emanations’, this time from the concealed drugs, though in both *Kang-Brown* and *A (M)*, a search was determined to have occurred.³⁸⁸ The distinction between *Tessling* and the later decisions in *Kang-Brown* and *A(M)* was somewhat muddled by the fact that the drug-sniffer cases were each divided into four judgments; however, it appeared to be based on the fact that the emanations in

³⁸⁶ *R v Tessling*, *supra* note 363, at para 36. This result had many concerned about section 8’s ability to protect against increasingly sophisticated investigative technologies that would threaten the already vulnerable individual privacy interest. See, for instance, Kerr, Binnie & Aoki, *supra* note 146, at 376, discussing the issue in terms of emerging brain scan technologies that detect lies; Teresa Scassa et al., *supra* note 146, at 241, examining the impact of *Tessling* in the criminal context and the way in which the rules translate to private uses of data collection technologies; Steeves, *supra* note 146, discussing privacy concerns related to people’s experiences and expectations online, especially with regards to surveillance technologies used on that forum.

³⁸⁷ *R v Kang-Brown*, 2008 SCC 18, [2008] SCJ No. 18, [2008] 1 SCR 456; *R v A(M)*, *supra* note 375.

³⁸⁸ *R v Kang-Brown*, *supra* note 387; *R v A(M)*, *supra* note 375.

Tessling were regarded by the Court as meaningless, while those detected by the dogs were, on their own, viewed as being quite meaningful to police.³⁸⁹

The Supreme Court of Canada has since clarified that the proper approach to characterizing the subject matter of a search is to examine the strength of the inferences that can be drawn from the information targeted by the police action.³⁹⁰ This encourages a broad characterization of the subject matter, one that looks beyond the raw information collected to what that information reveals in the wider sense.³⁹¹ An assessment of the inferences that can be drawn from a given piece of data is often a matter of interpretation about which different judges reach different

³⁸⁹ John S. McInnes, "Sniffing Out a Theory of Privacy After Kang-Brown and M.(A.)" (2009) 47 Supreme Court Law Review 53, at 58; James Stribopoulos, "Sniffing Out the Ancillary Powers Implications of the Dog Sniff Cases" (2009) 47 Supreme Court Law Review 35, at 39; Jochelson, *supra* note 381, at 210.

³⁹⁰ *R v Gomboc*, *supra* note 375. This rule was applied in *R v Patrick*, *supra* note 382 where the Court reiterated that the subject matter of a search should be construed broadly. The Court rejected the state's argument that the appellant had no reasonable expectation of privacy in the contents of the garbage bag because the subject matter of the search was mere "garbage". This characterization of the subject matter was viewed by the Court as an "oversimplification [that] misses (or assumes away) the point in issue". Binnie J. explained that "...a garbage bag may more accurately be described as a bag of 'information' whose contents, viewed in their entirety, paint a fairly accurate and complete picture of the householder's activities and lifestyle": *R v Patrick*, *supra* note 382, at para 30.

³⁹¹ This need to look more broadly at the inferences that can be drawn from information in a wider sense is apparent in other areas of the law. For instance, in the access to information context, it has become clear that information can be stored, cross-referenced, or shared in ways that reveal much more than what may initially be realized when the data is first disclosed. This highlights a tension between the need to ensure accountability and transparency in government while at the same time protecting personal privacy. In an effort to address these concerns, access to information laws recognize that "personal information" includes not only information that on its own specifically identifies an individual, but also information that may do so when combined with other sources of data. For further discussion, see Teresa Scassa, Jennifer Chandler, and Elizabeth F. Judge, "Privacy by the Wayside: The New Information Superhighway, Data Privacy, and the Deployment of Intelligent Transportation Systems" (2011) 74 Saskatchewan Law Review 117, at 140; and Elizabeth F. Judge "Canada's Courts Online: Privacy, Public Access and Electronic Court Records" in Patrick Molinari, *Dialogues About Justice: The Public Courts and the Media* (Montréal: Éditions Thémis, 2003). The issue also arises in the healthcare context, where the tension is between the need to allow access to information for research and treatment purposes and the need to protect individual privacy interests: Sabrina Fortin & Barbara M. Knoppers, "Secondary Uses for Personal Data for Population Research" (2009) 5(1) Genomics, Society, and Policy; Bradley A Malin, Khaled El Emam & Christine M. O'Keefe, "Biomedical Data Privacy: Problems, Perspectives, and Recent Advances" (2013) 21:4 Journal of the American Medical Information Association 714.

results. For example, in *R v Gomboc*, the Court considered a section 8 challenge to the use of a digital recording ammeter (“DRA”) to measure electrical power flowing into a residence, information that was used to support a search warrant to obtain evidence relating to a marijuana grow-operation.³⁹² The majority concluded that the search only revealed total electricity consumption within the home.³⁹³ The majority further argued that the information permitted no strong inferences about intimate personal activities in the residence, indicating that such inferences would “require specialized training...[and] most importantly, additional information about the home obtained from other sources”.³⁹⁴ The minority, in contrast, argued that the DRA pattern supported a strong inference of the presence of a marijuana grow operation, which was information about activities inside the home that is subject to a reasonable expectation of privacy.³⁹⁵ More recently in *R v Spencer*, the Court considered a section 8 challenge relating to evidence of illegal online activities, specifically downloading activities relating to images and video of child pornography.³⁹⁶ The police identified the accused through his computer’s Internet Protocol (IP) address after obtaining identifying information about the internet subscriber account holder (the accused’s sister) from the Internet Service Provider (ISP).³⁹⁷ While the lower courts viewed the subject matter as simply the name and address of an account holder, the Supreme Court characterized the object of the

³⁹² *R v Gomboc*, *supra* note 375.

³⁹³ *R v Gomboc*, *supra* note 375, at paras 14.

³⁹⁴ *R v Gomboc*, *supra* note 375, at paras 15.

³⁹⁵ *R v Gomboc*, *supra* note 375, at paras 38, and 80.

³⁹⁶ *R v Spencer*, *supra* note 375, at para 12.

³⁹⁷ *R v Spencer*, *supra* note 375, at para 2. Note that the initial gathering of evidence showing the illegal online activities was completed through use of publicly available software: *R v Spencer*, [2014] SCC 43, at para 11.

search more broadly as the “identity of an Internet subscriber which corresponded to a particular Internet usage”.³⁹⁸ The Court was influenced by the significance of the IP address, which had potential to tell a great deal about an individual once it was linked with an identity.³⁹⁹ Based on this more generous characterization of the subject matter, the Court found that the accused held a reasonable expectation of privacy in the information, which had been obtained in violation of section 8.

Although the courts have taken different approaches to the matter, it can at least be said that the proper approach to characterizing the subject matter of a search for section 8 purposes is to examine the inferences that can be supported by the information obtained through state action. Applied to familial searching, this suggests two possible results (which remain the same for both categories of claimants identified above). Based on the majority view in *Gomboc*,⁴⁰⁰ the subject matter of a familial search might be characterized as evidence of shared genetic characteristics between two individual DNA profiles. In keeping with the majority’s approach in that case, it might be argued that this information would not support a meaningful inference of a particular individual’s involvement in criminal activity. Even if a genetic relationship were verified (for instance through data from public sources that support the family connection), without more it would not be clear that the individual was the person involved in the crime under investigation. Based on the decision in *Spencer*⁴⁰¹ however, the subject matter of a familial search might be

³⁹⁸ *R v Spencer*, *supra* note 375, at paras 25, and 32.

³⁹⁹ *R v Spencer*, *supra* note 375, at para 32.

⁴⁰⁰ *R v Gomboc*, *supra* note 375.

⁴⁰¹ *R v Spencer*, *supra* note 375.

characterized as evidence of shared genetic characteristics between two individual DNA profiles, information that can be used to support a powerful inference relating to a genetic relationship between the sources of those profiles. There are two reasons to prefer the second interpretation. First, DNA, like the IP address in *Spencer*,⁴⁰² holds considerable meaning in terms of its potential to reveal a great deal of information about a specific person once linked with an identity. In addition, *Spencer*⁴⁰³ was a unanimous decision that was delivered more recently than the split decision in *Gomboc*.⁴⁰⁴ The section 8 analysis in this chapter proceeds based on the second, more generous, interpretation of the subject matter of a familial search.

Do potential claimants have a direct interest in the contents of the information that is searched?

The second stage of the analysis asks whether the claimant holds a direct interest in the subject matter of the search. A direct interest will be readily found in certain circumstances, for instance where the target of the search is the claimant's home, or where police action involves physical contact with a person's body.⁴⁰⁵ For both classes of possible claimants (the source(s) of the pivot profiles and the potential suspects identified as part of the follow-up process) the answer to this

⁴⁰² *R v Spencer*, *supra* note 375.

⁴⁰³ *R v Spencer*, *supra* note 375.

⁴⁰⁴ *R v Gomboc*, *supra* note 375.

⁴⁰⁵ In *Tessling*, for instance, the Court readily found that the accused held a direct interest in the contents of the information searched because he owned the house under surveillance. The Court also commented on the particularly strong constitutional claim in relation to bodily integrity, which flows from the "right not to have our bodies touched or explored to disclose objects or matters we wish to conceal": *R v Tessling*, *supra* note 363, at paras 21 and 37. See Bailey, *supra* note 146, at 292, where the author notes that past investigative technologies have often involved physical intrusions, while today's technologies make it possible for police to collect information from afar. She argues that based on this difference, previous cases assessing the reasonableness of police use of investigative technologies within the meaning of section 8 do not necessarily transfer to cases involving more modern investigative tools.

question is complicated by the fact that the information gathered is partially derived from a third party.⁴⁰⁶

The Supreme Court of Canada has previously rejected arguments of section 8 violations in relation to evidence seized from places belonging to or under the control of a third party. In *R v Edwards*, the Court found no violation of section 8 where evidence relating to the accused's illegal activities was seized from an apartment belonging to a third person.⁴⁰⁷ The Court has also rejected a section 8 claim relating to evidence obtained from a vehicle in which the claimant was a passenger, though the driver of the same vehicle was found to have had a reasonable expectation of privacy in the place searched.⁴⁰⁸ These decisions, however, can be distinguished from familial searching in two ways. First, the cases were decided prior to the reformulation of the totality of the circumstances test in *Tessling*,⁴⁰⁹ and therefore did not involve a full discussion of the direct interest issue that has since become a central part of the section 8 analysis. More importantly, both cases involved a question of a privacy interest in tangible property owned or under the control of a third party; the weight attributed to the property-oriented

⁴⁰⁶ The situation is the same for both sets of claimants because the evidence of a genetic relationship can only be inferred by comparing two profiles: the anonymous crime scene DNA and the identifiable profile. To use the Alberta example outlined above, the father whose DNA provided the pivot profile was linked to his son (eventually identified as the perpetrator) through comparison of his own DNA and the anonymous crime scene profile, an analysis that showed partial similarities between the two that indicated a close genetic relationship. Similarly, the information relating to the genetic relationship between the son and his father was produced through comparison of the son's own DNA and the DNA of his father (who had provided an identified exclusionary DNA sample).

⁴⁰⁷ *R v Edwards*, *supra* note 376.

⁴⁰⁸ *R v Belnavis*, [1997] 3 SCR 341, at para 22.

⁴⁰⁹ *R v Tessling*, *supra* note 363.

questions was clearly a factor in each decision.⁴¹⁰ Familial searching, in contrast, primarily implicates the individual interest in informational privacy, with secondary implications for bodily privacy. As such, the property-oriented analysis in the above cases cannot resolve the third party issue as it applies to the direct interest question for familial searching.

More recent guidance is provided in *R v Spencer*,⁴¹¹ discussed above as part of the characterization of the subject matter of a search, as the case also involved a question of privacy in evidence derived from a third party. On the facts of *Spencer*, the Court acknowledged that the issue was primarily one of informational privacy, which links the facts of the case more closely to the familial searching issue than cases focused squarely on territorial privacy.⁴¹² In *Spencer*, however, the Court also recognized a secondary claim to territorial privacy based on the fact that the computer monitored by police was located in the accused's place of residence and because the computer linked to the IP address was a personal computer belonging to the accused.⁴¹³ The territorial element of the claim was instrumental to the

⁴¹⁰ This focus on territorial privacy and ownership was reflected in the assessment of the totality of the circumstances test. Having been decided prior to *R v Tessling*, *supra* note 363, the Court in *R v Edwards*, *supra* note 376 did not follow the four main lines of inquiry set out in that case, though the Court did take a totality of the circumstances approach to determining whether a reasonable expectation of privacy existed. Answering the question in the negative on the facts of the case, the Court examined whether the accused: (i) had been present at the time of the search; (ii) had possession or control of the property or place searched; (iii) held ownership of the property of place; (iv) had demonstrated historical use of the property or item; (v) had the ability to regulate access, including the right to admit or exclude others from the place; (vi) had a subjective expectation of privacy; and (vii) had demonstrated an objective reasonableness of the expectation: *R v Edwards*, *supra* note 376, at para 6. A property-oriented approach came through in a discussion of the claimant's control over the vehicle searched by police in *R v Belnavis*, *supra* note 381. See further discussion in Quigley, *supra* note 361, at 135.

⁴¹¹ *R v Spencer*, *supra* note 375.

⁴¹² *R v Spencer*, *supra* note 375, at para 39.

⁴¹³ *R v Spencer*, *supra* note 375, at para 37.

Court's determination that the claimant held a direct interest in the subject matter of the search.⁴¹⁴ Nonetheless, the Court's general discussion on the third party issue provides some support for the argument that a potential suspect identified through a familial search may hold a direct interest in the subject matter of that search. Furthermore, while considering the nature of the privacy interest, the Court refused to exclude the possibility that the accused held a reasonable expectation of privacy in the subject matter of the search simply because it was in the hands of a third party, and cited with approval the following statement made by the Court of Appeal in the same case:

In my judgment, it matters not that the personal attributes of the disclosed information pertained to Mr. Spencer's sister because Mr. Spencer was personally and directly exposed to the consequences of the police conduct in this case. As such, the police conduct *prima facie* engaged a personal privacy right of Mr. Spencer and, in this respect, his interest in the privacy of the disclosed information was direct and personal.⁴¹⁵

Likewise, persons investigated as potential suspects following a familial search are exposed to police conduct as a result of the lead produced by the search. Based on the above comments, police conduct taken in the follow-up of a familial search may be said to *prima facie* engage a direct and personal interest held by potential

⁴¹⁴ See *R v Spencer*, *supra* note 375, at para 19, where the Court stated that a direct interest on the part of the accused was clear because "[t]hough he was not personally a party to the contract with the ISP, he had access to the Internet with the permission of the subscriber and his use of the Internet was by means of his own computer in his own place of residence". A majority of the Supreme Court similarly found that the accused held a direct interest in the subject matter of the search conducted in *R v Cole*, *supra* note 375. Without further explanation, Fish J. simply stated (at para 43) that such an interest existed because the accused had used his personal laptop to browse the internet and store personal information on the hard drive.

⁴¹⁵ *R v Spencer*, *supra* note 375, at para 51, citing *R v Spencer* 2011 SKCA 144, 377 Sask. R. 280, 528 W.A.C. 280, [2012] 4 W.W.R. 425, 283 C.C.C. (3d) 384, at para 27.

suspects in the subject matter of the search.⁴¹⁶ For the source(s) of pivot profile(s) that provide the initial lead in a familial search investigation, the answer is not as clear, as the follow-up investigation may or may not expose the individual to police conduct.⁴¹⁷ Nonetheless, it is possible that the courts would find that the pivot person has a direct interest in the subject matter of a familial search given the nature of the information (information about his or her genetic relationships).

Do potential claimants have a subjective expectation of privacy in the subject matter of the search?

Assuming the courts determine (on the authority of *Spencer*) that both sets of claimants have a direct interest in the subject matter of a familial search (a more likely result for potential suspects than the pivot person(s)), the third question in the test asks whether such claimants hold a subjective expectation of privacy in the information. Relative to the other questions within the totality of the circumstances test, the threshold for a subjective expectation of privacy is not high, and a claimant

⁴¹⁶ In addition to the decision in *R v Spencer*, *supra* note 375, support for the argument that potential suspects identified through a familial search have a direct interest in the subject matter of a familial search can be found in the growing recognition of a familial interest in DNA elsewhere in the law. In particular, there is an ongoing discussion in healthcare law about the extent to which healthcare practitioners and researchers studying genetically based conditions have a duty to warn the genetic family members of persons identified as being at risk of conditions for which there is a known genetic predisposition: Lee Black and Kelly A. McClellan, “Familial Communication of Research Results: A Need to Know?” (2011) 39 *Journal of Law & Medical Ethics* 605. In that context, there is tension between the individual’s right to privacy and the ‘right to know’ for genetic family members who have an interest in the results of a genetic test that has been performed on one of their relatives.

⁴¹⁷ It is possible to envision a scenario in which police would be able to follow-up on the lead without contacting the pivot person. For instance, investigators may compile a list of possible relatives (and suspects) through publicly accessible information. This option is reflected in some familial searching policies, including Colorado’s policy, which authorizes investigators to compile a list of possible relatives through use of various sources, which include criminal history checks, inmate profiles, presentence investigative reports, jail records including visitor logs and telephone logs, court records, public records, and state vital records: Colorado, Bureau of Investigation, “DNA Familial Search Policy (Colorado: Bureau of Investigation, 2009), at s. 5(c). It is also possible that investigators would simply ask the pivot person for a list of his or her relatives, which would expose the person to police action (though the action would not motivated by suspicion of the pivot person).

may not even need to establish that the subjective expectation was a reasonable one.⁴¹⁸ A subjective expectation of privacy will simply be presumed in certain circumstances, such as where searches target evidence held in homes, on personal computers, or information relating to a person's online activities.⁴¹⁹

Where the courts do seek evidence of the subjective expectation of privacy in the subject matter of a search, the focus sometimes turns to the claimant's efforts to conceal the evidence at issue, which is treated as a demonstration of the claimant's subjective expectation of privacy.⁴²⁰ Indifference to hiding the evidence from others has led the courts to conclude that no subjective expectation of privacy existed.⁴²¹ This approach to assessing a subjective expectation of privacy does not fit well with the nature of familial searching. For claimants in both categories (those with DNA in the NDDDB and potential suspects), it would be impossible to conceal the information sought by police since the subject matter of a familial search exists in part in the DNA of a third party. In any case, the courts have not allowed this practical issue to be determinative of the section 8 analysis.⁴²² Rather, in cases where the subjective expectation of privacy is practically difficult to demonstrate, the courts have held in

⁴¹⁸ *R v Patrick*, *supra* note 382, at para 37.

⁴¹⁹ *R v Tessling*, *supra* note 363, at para 38; *R v Cole*, *supra* note 375, at para 43; *R v Spencer*, *supra* note 375, at para 19.

⁴²⁰ For instance, efforts to conceal drugs have weighed in favour of a subjective expectation of privacy in *R v A(M)*, *supra* note 375, at para 67, and *R v Nguyen*, [2006] MJ No. 204 (QB). A subjective expectation was also inferred where evidence was concealed in a garbage bag (*R v Patrick*, *supra* note 382, at para 32) and where evidence was kept in a locked safe that had been stolen and reported missing to police (*R v Law*, 2002 SCC 10, [2002] 1 SCR 227, at para 18).

⁴²¹ See, for instance, *R v Rajaratnam*, [2006] 397 AR 126; [2007] 2 WWR 222; 67 Alta LR (4th) 22, where no subjective expectation of privacy was found because the accused, who was carrying illegal drugs in his bag, had shown indifference to the fact that an employee of the bus company on which he was travelling had searched the luggage.

⁴²² The Court readily found that the claimant's subjective expectation of privacy had been established in *Tessling*, noting that "[f]ew people think to conceal their home's heat loss profile, and would have great difficulty doing so if they did": *R v Tessling*, *supra* note 363, at para 41.

favour of the claimant on this point and have not allowed the issue to be determinative of the claim. In this respect, the Supreme Court of Canada has stated that while a subjective expectation of privacy is important, “its absence should not be used too quickly to undermine the protection afforded by s. 8 to the values of a free and democratic society”.⁴²³

If, despite the above, the courts were to require specific evidence of a claimant’s subjective expectation of privacy in the subject matter of a familial search, this may lead to a different result for the two possible claimant groups. Individuals who have provided DNA for the NDDB and who comprise the first claimant group are considered to have a lowered expectation of privacy in relation to that DNA information as a result of having committed a designated offence. The Supreme Court of Canada has stated that persons convicted of designated crimes “have a much reduced expectation of privacy” and that “by reason of their crimes, they have lost any reasonable expectation that their identity will remain secret from law enforcement authorities”.⁴²⁴ The Court’s reasoning regarding the lowered expectation of privacy for convicted offenders actually supports a finding of a subjective expectation of privacy for the second claimant group, as such individuals have not provided the state with the same justification for their inclusion in the

⁴²³ *R v Tessling*, *supra* note 363, at para 42.

⁴²⁴ *R v Rodgers*, *supra* note 367, at para 5. It is possible that the courts would find that this reduced expectation of privacy is only in relation to their identities and not their familial relationships. This leaves open the possibility that the first group of claimants would be able to satisfy the subjective expectation of privacy test. Yet, it is more sensible to argue an expectation of privacy in relation to that information from the perspective of the person about whom the information relates (the innocent family members that comprise the second group of claimants).

NDDB.⁴²⁵ Given that Parliament has specifically limited the NDDB to reflect only the DNA of offenders convicted of designated crimes, those who have not been convicted of such crimes have reason to expect that their genetic information will not be indirectly included in the data-banking scheme. In other words, they are in a position to argue a subjective expectation of privacy in relation to their DNA information insofar as this may be used for crime-solving purposes.

With respect to those who have not been directly included in the NDDB, there are two additional reasons to find a subjective expectation of privacy in relation to the subject matter of a familial search. First, given the low threshold for finding such a subjective expectation, the courts have sometimes approached the issue by assuming that if the police are interested in obtaining the information, the claimant has a subjective expectation of privacy in relation to that information.⁴²⁶ Applying this reasoning to the issue under consideration, it could be said that the police are interested in the subject matter of a familial search not for its own sake but for what the information reveals about the genetic relationship between an anonymous suspect and the source of the pivot profile (and the significance of that information as an indicator of guilt in relation to relatives of the pivot person). To the extent that this information is at issue, a subjective expectation of privacy should

⁴²⁵ Some might argue that persons who may be linked to a crime scene through familial searching have lost their reasonable expectation of privacy because they have left DNA at a crime scene. It is important to remember, however, that familial searching will typically lead police to suspect innocent family members in addition to (possibly) the perpetrator of the crime under investigation.

⁴²⁶ In *Tessling*, the Court noted that the police were interested in the heat profile at issue in that case “not for its own sake but for what it might reveal about the activities *inside* the home”: *R v Tessling*, *supra* note 363, at para 41. To the extent that information about activities within the home was in issue, the Court was willing to find that the accused had a subjective expectation of privacy in that information.

be accepted. Second, the courts have acknowledged that the subjective expectation of privacy is vulnerable to advancements in investigative technologies and have specifically refused to allow this trend to justify a lowered standard of constitutional protection for privacy.⁴²⁷ As a development in the area of forensic DNA analysis, familial searching makes it possible for investigators to access information about individuals who are not directly represented in the NDDDB through analysis of the DNA of one of their genetic relatives. Even if individuals have come to expect that information about their DNA is partially included in the NDDDB in this way, the courts may not be willing to allow this change in expectations to result in a lowered threshold of privacy protection.

I conclude that while individuals who have been directly included in the NDDDB have at best a weak claim of a subjective expectation of privacy in their personal information, the courts are likely to find a subjective expectation of privacy for the second group of claimants. For the second group, this conclusion is based on a combination of: (i) the low threshold set for this part of the analysis and the Court's willingness to accept the existence of a subjective expectation of privacy when it is difficult to demonstrate; (ii) the reasonableness of an individual's

⁴²⁷ In other words, the courts acknowledge the gradual normalization of surveillance technologies in policing and have not allowed this change in expectations to be determinative of section 8 claims. See comments by Justice Binnie in *R v Tessling*, *supra* note 363, at para 42: "In an age of expanding means for snooping readily available on the retail market, ordinary people may come to fear (with or without justification) that their telephones are wiretapped or their private correspondence is being read. One recalls the evidence at the Watergate inquiry of conspirator Gordon Liddy who testified that he regularly cranked up the volume of his portable radio to mask (or drown out) private conversations because he feared being 'bugged' by unknown forces. Whether or not he was justified in doing so, we should not wish on ourselves such an environment. Suggestions that a diminished *subjective* expectation of privacy should automatically result in a lowering of constitutional protection should therefore be opposed".

expectation that he or she will not be indirectly included in the NDDB without having been convicted of designated crimes; and (iii) the Supreme Court's refusal to allow the normalization of technology (and its effect on the subjective expectation of privacy) to be determinative of section 8 claims.

If a subjective expectation of privacy exists, is it objectively reasonable?

The final question in the totality of the circumstances test asks whether the claimant's subjective expectation of privacy is objectively reasonable. Various approaches have been taken at this stage of the test, resulting in some confusion in terms of the factors to be considered in this part. In *Tessling*, the Court set out the following list of factors to be considered:

- a. The place where the alleged "search" occurred;
- b. Whether the subject matter was in public view;
- c. Whether the subject matter had been abandoned;
- d. Whether the information was already in the hands of third parties; if so, was it subject to an obligation of confidentiality?
- e. Whether the police technique was intrusive in relation to the privacy interest;
- f. Whether the use of surveillance technology was itself objectively unreasonable;
- g. Whether the FLIR heat profile exposed any intimate details of the respondent's lifestyle, or information of a biographical nature.⁴²⁸

In contrast, the Supreme Court in *R v Cole* later chose to focus exclusively on the final question from the *Tessling* list.⁴²⁹ More recently in *Spencer*, the Court determined the objective reasonableness of the claimant's expectation of privacy almost solely on the basis of the impression given by the terms of the internet

⁴²⁸ *R v Tessling*, [2004] 3 S.C.R. 432, *supra* note 363, at para 32.

⁴²⁹ *R v Cole*, *supra* note 375, at para 46.

service contract insofar as they related to confidentiality of the user information.⁴³⁰ In this part, I consider the objective reasonableness of an expectation of privacy against each of these standards. I do so from the perspective of both sets of possible claimants, though as noted above a claim advanced by the first claimant group (the pivot person(s)) may in fact fail at the subjective expectation of privacy stage. I conclude in this part that the first claimant group does not have a strong argument for an objectively reasonable expectation of privacy in the subject matter of a familial search. In contrast, the approaches used in *Tessling*, *Cole*, and *Spencer* each support a finding of an objectively reasonable expectation of privacy in relation to the subject matter of a familial search of the NDDB for the second claimant group (the potential suspects).

Beginning with the approach taken in *Tessling*, the Court resolved the objective reasonableness issue in that case with reference to the following factors:

- 1) The place where the alleged “search” occurred;
- 2) Whether the informational content of the subject matter was in public view;
- 3) Whether the subject matter had been abandoned;
- 4) Whether the information was already in the hands of third parties, and if so whether it was subject to an obligation of confidentiality;
- 5) Whether the police technique was intrusive in relation to the privacy interest;
- 6) Whether the use of surveillance technology was itself objectively unreasonable;
- 7) Whether the informational content exposed any intimate details of the respondent’s lifestyle, or information of a biographical nature.⁴³¹

The above considerations were specifically presented as “helpful markers” to be taken together so that no one factor was meant to be determinative of the inquiry.⁴³²

⁴³⁰ *R v Spencer*, *supra* note 375, at paras 52 – 67.

⁴³¹ *R v Tessling*, *supra* note 363, at para 32.

The factors were also developed in *Tessling* based on the facts of that case, and therefore do not provide a definitive list to be applied in future cases.⁴³³ For this reason, a weighing of the *Tessling* factors against familial searching is not determinative. Still, the analysis helps to highlight some of the factors that support a finding that for potential suspects the expectation of privacy in the subject matter of a familial search is objectively reasonable. It also highlights certain obstacles to that argument for both sets of potential claimants.

The first two factors in the *Tessling* list do not appear to pose an obstacle to establishing an objectively reasonable expectation of privacy in the subject matter of a familial search (for either claimant group). First, the discussion in *Tessling* makes it clear that the place where the alleged search took place is a consideration relevant to a search implicating territorial privacy, which is not at issue in a familial search.⁴³⁴ Second, the question of whether the informational content of the subject matter was in public view must clearly be answered in the negative for familial searching. The similarity between the profiles of an anonymous suspect and any other person is never in public view and can only be revealed through scientific analysis of the genetic material.⁴³⁵

⁴³² *R v Tessling*, *supra* note 363, at para 43.

⁴³³ This conclusion is supported by the fact that the Court took a different approach to the question of whether the claimant's expectation of privacy was objectively reasonable in the subsequent cases of *R v Cole*, *supra* note 375 and *R v Spencer*, *supra* note 375, each considered below.

⁴³⁴ See discussion in *R v Tessling*, *supra* note 363, at para 45.

⁴³⁵ Other situations prove more controversial when considered against the guidance delivered in *Tessling*. For instance, some may argue that video recordings of things occurring in public places do not infringe on any reasonable expectation of privacy. Part of the issue is that technology makes it increasingly possible to record and store information, such that these technologies have become part of everyday life. Arguing that the widespread use of surveillance or information recording technologies negates a reasonable expectation of privacy under section 8 opens the door for a

The third factor, whether the subject matter has been abandoned, may also be considered immaterial with respect to both claimant groups. Although abandonment of evidence can override an expectation of privacy, neither type of claimant is ever in a position to abandon the information at stake (since this information lies in the genetic code of a third party).⁴³⁶ The discussion may, however, lead the courts to conclude that the claim put forth by the first claimant group (the pivot person(s)) must fail based on their lowered expectation of privacy brought on by their previous convictions for designated crimes.⁴³⁷ Though the information has not been willfully abandoned, the claimants may be viewed as having forfeited their privacy interest in the information based on their previous actions.

This leaves factors four to seven to consider. The fourth factor asks whether the information was in the hands of third parties, and if so whether it was subject to an obligation of confidentiality.⁴³⁸ The DNA profiles being tested in a familial search of the NDDb are indeed in the hands of a third party (the police). Again, for the individuals reflected in the NDDb, the question weighs against an objective expectation of privacy as the courts have confirmed that the state is authorized to

gradual eroding of the scope of protection under section 8. See discussion in Teresa Scassa, "Information Privacy in Public Space: Location Data, Data Protection and the Reasonable Expectation of Privacy" (2010) 7 Canadian Journ. of L. & Tech. 193, at 203.

⁴³⁶ See the Court's discussion on abandonment in *R v Tessling*, *supra* note 363, at para 48.

⁴³⁷ See again comments in *R v Rodgers*, *supra* note 367, at para 5.

⁴³⁸ See Scassa, *supra* note 435, at 205, arguing that there are two components built into this question: first "that there is a lower expectation of privacy in information that has already 'escaped' from the control of the individual and is in the hands of a third party" and second "that an expectation of privacy may survive this 'escape' if the third party owes an obligation of confidence to the individual".

use the information for crime solving purposes.⁴³⁹ With respect to the second group of claimants, it may be argued that the state has agreed to refrain from certain uses of the information currently contained on the data bank (though this is not a duty of confidentiality per se). As noted in Chapter One, the NDDB was created based on a set of compromises between privacy advocates and data bank proponents, as seen in the limitation of the NDDB scheme to include only the DNA of convicted offenders.⁴⁴⁰ The inclusion of convicted offenders in the NDDB has typically been justified by the view that such persons have a reduced expectation of privacy because of their criminal actions.⁴⁴¹ The same justification does not apply to individuals encompassed into the scheme based on their genetic relationships and the state arguably has a duty to refrain from exploiting the current data in a way that circumvents that initial promise.⁴⁴² For those who have not committed a designated crime, the initial promises made as part of the NDDB's establishment arguably support an objectively reasonable expectation of privacy in relation to the subject matter of familial searching of the NDDB.

The fifth question asks whether the police technique was intrusive in relation to the privacy interest. In *Tessling*, the Court related this question back to the

⁴³⁹ *R v Rodgers*, *supra* note 367, at para 5.

⁴⁴⁰ The list of crimes has been significantly expanded since it was introduced. The issue is examined as part of the discussion on expansions to the NDDB in Chapter Four (part 4.3.3).

⁴⁴¹ *R v Rodgers*, *supra* note 367, at para 5.

⁴⁴² As previously noted, the balance seen in the NDDB scheme resulted from a public consensus in which the privacy issues were considered against the crime-solving benefits of using DNA. One option may therefore be to consider a new public consultation process in which the benefits and drawbacks of familial searching are considered. This would provide a new opportunity to discuss the individual privacy concerns related to the indirect inclusion in the NDDB that is facilitated by familial searching; however, as discussed below, the public consultation process would be unlikely to address the adverse impact that would be suffered by Aboriginal peoples and other minority groups.

inferences that could be drawn from the information obtained through use of the police technique; on the facts of *Tessling*, the Court found that the “FLIR imaging [could] not identify the source of the heat or the nature of the activity that created it. It merely tells the police that there are heat-generating activities within the home” and that the “existence of the distribution of heat on the external walls is consistent with a number of hypotheses including as *one* possibility the existence of a marijuana grow-op”.⁴⁴³ As noted in Chapter Two, familial searching has been able to produce useful leads precisely *because* investigators can make strong inferences about the existence of a genetic relationship between two individuals by examining their DNA profiles. Indeed, in jurisdictions where familial searching is used, additional scientific analysis is applied in order to strengthen the inference drawn from the comparison of two profiles.⁴⁴⁴ By applying the scientific process of familial searching, investigators can infer the existence of a genetic relationship between a list of possible genetic family members and the source of a pivot profile. For the source of the pivot profile, this would not represent incriminating evidence, since he or she will have already been excluded as a suspect. For potential suspects, however, this may represent information that the non-convicted relatives may wish to keep private, especially given its significance in the familial search context.

⁴⁴³ *R v Tessling*, *supra* note 363, at para 53 (emphasis in original). Note that where territorial privacy is implicated, the Courts may at this stage ask whether the intrusion involved a place that is normally considered private. In *R v Plant*, for instance, the Court was influenced by the fact that the police collection of information about electricity consumption within the appellant’s home did not require the police to actually invade the home: *R v Plant*, *supra* note 366, at 295.

⁴⁴⁴ See again the discussion in Chapter Two (part 2.5) on the use of Y-STR and mt-DNA testing, the testing of additional DNA markers and examination of rare alleles. See also Chapter Five (parts 5.2.2 and 5.3.2) where these options are reflected to different degrees in the familial searching policies in place in Britain and California.

Other information that police could infer from a familial search may be considered private by individuals in both claimant groups, for example the existence of a “genetic family secret” that was previously unknown to the individuals concerned.⁴⁴⁵ Beyond these specific examples, information about an individual’s genetic relationships might be considered inherently private on a more general level. This view would reflect the general concerns about the private nature of genetic information, which were noted in Chapter One.⁴⁴⁶ The Supreme Court of Canada has acknowledged the vulnerable and private nature of genetic information in the context of forensic investigations, stating that the individual DNA profile “undoubtedly [holds] the highest level of personal and private information”.⁴⁴⁷ Based on the above, the use of familial searching can be viewed as intrusive to a recognized privacy interest for individuals in both possible claimant groups.

The sixth question asks whether the use of the surveillance technology itself was objectively unreasonable. Here again, the Court in *Tessling* argued that the question depended on what the information could reveal, and inquired into the “nature and quality of the information about activities in the home that the police are able to obtain”.⁴⁴⁸ The more personal the information, the more the expectation

⁴⁴⁵ See below on genetic family secrets (discussed as a potential threat to psychological security within the section 7 analysis).

⁴⁴⁶ As discussed in Chapter One (part 1.5), genetic information is generally viewed as private and is considered vulnerable due to its unique characteristics (which include that it reveals information about the genetic relatives of the individual from whom it is derived and that it may be used to facilitate discriminatory treatment of certain individuals). See again the UNESCO *International Declaration on Human Genetic Data*, (2003), at Article 4, and literature examining the concept of genetic exceptionalism: Ilkic, *supra* note 141; Wilkinson, *supra* note 141; Spinello, *supra* note 141; Hellman, *supra* note 141; Murray, *supra* note 141.

⁴⁴⁷ *R v S.A.B.*, *supra* note 65, at para 48.

⁴⁴⁸ *R v Tessling*, *supra* note 363, at para 58 (emphasis in original).

of privacy in relation to that information will be considered objectively reasonable. For the Court in *Tessling*, the information obtained by the FLIR technology was viewed as “meaningless”, which was, in the Court’s view, “the bottom line”.⁴⁴⁹ The Court regarded the heat pattern information as meaningless based on the view that the information did not, on its own, reveal enough to allow police to secure a warrant for the home.⁴⁵⁰ Whether use of familial searching is objectively unreasonable may therefore depend on whether evidence of a genetic relationship between an anonymous suspect and an identified person would be “meaningful”, which by implication from *Tessling* turns on whether the information could provide enough for police to secure a warrant for DNA collection. Compared to the potential suspects, the significance of the information is less meaningful for a pivot person, who would not be treated as a suspect (and in fact would be ruled out as a suspect because his or her DNA would have provided a partial instead of full match to the crime scene profile). In contrast, the information may prove to be quite meaningful for the relatives who may become potential suspects.

In considering further the situation of the potential suspects, the procedures outlining the factors that a judge must consider in issuing a warrant for exclusionary DNA are instructive. When presented with an application in this context, a judge may issue a warrant authorizing the taking of a DNA sample from a person if he or

⁴⁴⁹ *R v Tessling*, *supra* note 363, at para 58.

⁴⁵⁰ *R v Tessling*, *supra* note 363, at para 36. It is worth pointing out that in *R v Gomboc*, *supra* note 375, the DRA information that measured electricity patterns in a home provided enough information for police to secure a warrant. This calls into question the argument made by the *Tessling* Court on this point. The inconsistency may serve to highlight the fact that the warrant process typically involves a great deal of discretion. I return to this point in summarizing the section 8 issues below, specifically as part of a discussion on the use of warrants as a protective measure against the discretionary judgment involved in familial searching.

she is satisfied that it would be in the overall best interests of justice to do so and that:

- a) A designated offence has been committed;
- b) A bodily substance has been found or obtained at the place where the offence was committed, on or within the body of the victim of the offence, on anything worn or carried by the victim at the time when the offence was committed, or on or within the body of any person or thing or at any place associated with the commission of the offence;
- c) A person was party to the offence; and
- d) Forensic DNA analysis of a bodily substance from the person will provide evidence about whether the bodily substance referred to in paragraph (b) was from that person.⁴⁵¹

Based on the above, it is plausible that a judge would issue a warrant based on a familial search lead. Whether a judge would be convinced of the validity of the results of the familial search is likely to be a matter of degree. As discussed in Chapter Two, a partial match suggesting a close genetic relationship (for instance genetic parent to child or full genetic siblings) is less likely to be fortuitous than a partial match that shows fewer commonalities than expected for a close genetic relationship. It seems reasonably possible that judges could issue warrants for exclusionary DNA based on the (scientifically sound) evidence of close genetic ties between an identifiable offender and an anonymous suspect. Based on the above reasoning in *Tessling*, this possibility supports the argument that the use of familial searching to obtain that information without a warrant would be objectively unreasonable from the perspective of family members who may become suspects as a result of the familial search lead.⁴⁵²

⁴⁵¹ *Criminal Code supra* note 65, at s. 487.05(1).

⁴⁵² Although I conclude below that the courts may find that familial searching with a warrant would not infringe section 8 of the *Charter*, the privacy interests explored within the section 8 analysis

The seventh and final factor in the *Tessling* list played a crucial role in the Court's decision in that case and (as evidenced by the discussion in the more recent decision of *R v Cole* below) continues to weigh heavily at this stage of the inquiry.⁴⁵³ The question asks whether the information exposed any intimate details of the respondent's lifestyle or information of a biographical nature. This question has played a central role in Canadian search and seizure cases since *R v Plant*, within which it was invoked to describe the scope of section 8. To reiterate, in *Plant*, the Court held that section 8 protects a "biographical core of information which individuals in a free and democratic society would wish to maintain and control from dissemination to the state".⁴⁵⁴ The Court further explained that the biographical core includes "information which tends to reveal intimate details of the lifestyle and personal choices of the individual".⁴⁵⁵ Applied to familial searching, the question becomes whether the subject matter of a familial search (evidence of shared genetic characteristics between two DNA profiles) falls within the biographical core referred to in *Plant*, such that it reveals intimate details of the lifestyle and personal choices of the individual. The Supreme Court has already indicated that a person's DNA profile must fall within the biographical core of

remain relevant to the overall equality argument advanced in this thesis in that they represent ways in which the impact of familial searching would disproportionately affect Aboriginal peoples in Canada. The argument is tied to the discretionary nature of warrants and to the fact that the warrant scheme can only reduce (not omit) the privacy impact of familial searching. Both matters are discussed in further detail below.

⁴⁵³ See comments at *R v Tessling*, *supra* note 363, at para 63.

⁴⁵⁴ *R v Plant*, *supra* note 366, at 293.

⁴⁵⁵ *R v Plant*, *supra* note 366, at 293.

information as this concept relates to section 8 of the *Charter*.⁴⁵⁶ Moreover, as noted in Chapter One, part of the reason for protecting against misuse of DNA is that it may reveal information about a person's genetic relatives. Still, the first group of claimants may have difficulty in convincing the courts that familial searching reveals intimate details about their lifestyle and personal choices. Their connection to criminal behaviour will already have been established through their own criminal activity (for which they have been included in the NDDB) and the familial search would not implicate them in any additional crimes. For potential suspects, the situation is different. In relation to this category of claimants, familial searching arguably exposes intimate details of a biographical nature (a familial connection to a convicted offender and possible involvement in new criminal activity). Accordingly, for the second group, the subject matter of a familial search falls within the biographical core that section 8 aims to protect.

Taken together and in relation to the first claimant group involving individuals reflected in the NDDB, the factors set out in *Tessling* do not provide strong support for an objectively reasonable expectation of privacy in relation to the subject matter of a familial searching of NDDB data. The territorial considerations brought on by the first question do not apply⁴⁵⁷ and the information is never in

⁴⁵⁶ See *R v S.A.B.*, *supra* note 65, at para 48, where the Court stated that the DNA profile “undoubtedly [holds] the highest level of personal and private information”.

⁴⁵⁷ See *R v Tessling*, *supra* note 363, at para 43 and the following cases confirming that section 8 claims involving state use of DNA bring on the individual interest in bodily and informational privacy (not territorial privacy): *R v S.A.B.*, *supra* note 65, at para 40; *R v Borden*, *supra* note 367, at 161; *R v Rodgers*, *supra* note 367, at para 39.

public view.⁴⁵⁸ Although they are not in a position to abandon the subject matter of a familial search,⁴⁵⁹ persons in the first claimant group have a lowered expectation of privacy because they have been convicted of designated crimes.⁴⁶⁰ In response to the question of whether the information was in the hands of third parties and the subsequent question on an obligation of confidentiality, individuals included in the NDDB would have difficulty arguing against the state's authority to use their information for crime solving purposes, as the Court has specifically acknowledged that power.⁴⁶¹ DNA information is considered inherently private and it can be argued that familial searching intrudes onto a recognized privacy interest by revealing genetic information pertaining to the genetic relationships between two or more individuals. A familial search exposes information about the first group of claimants that is of a biographical nature, but does not implicate them in any criminal activity and (based on their previous criminal activity) is not likely the type of information that falls under the scope of what section 8 is meant to protect. Overall, it is likely that the courts would determine that individuals included in the

⁴⁵⁸ As explained above (see *supra* note 435 and accompanying text), the similarities between the profiles of an anonymous suspect and any other person are never in public view and can only be revealed through scientific analysis of the genetic material and resulting profiles.

⁴⁵⁹ As noted above (see *supra* note 436 and accompanying text), the abandonment of evidence can override an expectation of privacy; however a potential suspect who may be identified as part of the familial searching process is never in a position to abandon the information at stake because this information lies in the genetic code of the third party.

⁴⁶⁰ See again comments in *R v Rodgers*, *supra* note 367, at para 5.

⁴⁶¹ *R v Rodgers*, *supra* note 367, at para 5. Once again, it is important to emphasize that the Court has only confirmed a reduced expectation of privacy for convicted offenders in relation to information about their own identities. This leaves open the possibility that the courts may find that convicted offenders retain a reasonable expectation of privacy in relation to information about their family members. The issue is, however, more sensibly argued from the perspective of the second group of claimants since it is information about individuals in that group that is at issue.

NDDB do not have a reasonable expectation of privacy in the subject matter of a familial search.

A different conclusion can be drawn with respect to the second category of claimants, which comprises the likely relatives of the pivot person(s) and potential suspects in a familial search investigation. For the same reasons as the first claimant group, the territorial considerations brought on by the first question do not apply, the information was not in public view, and the subject matter cannot be viewed as having been abandoned. Although the information needed to conduct the familial search will already be in the hands of police, the state has previously indicated that it would limit the NDDB scheme to those who have been convicted of designated crimes, a promise that could potentially be viewed as akin to a duty of confidentiality under the circumstances.⁴⁶² DNA information is considered inherently private and familial searching intrudes onto a recognized privacy interest by revealing information pertaining to the genetic relationships between two or more individuals. Potential suspects would have a particularly strong interest in concealing this information from the state given its significance in the context of a familial search investigation. For the second group of claimants, the subject matter of a familial search should be considered to fall within the biographical core of information that section 8 aims to protect.

⁴⁶² The existence of such a duty might be argued by reference to the promises made in the consultation period that preceded the establishment of the NDDB. Still, if such a duty exists, it could be addressed on the part of the government by holding a similar public consultation to address the privacy implications of expanding the NDDB through familial searching. If this step were to be taken, it may serve to address the privacy implications for individuals who have relatives with DNA in the NDDB; however, as explained above, this would not sufficiently address the risk of discrimination for Aboriginal peoples.

An argument that potential suspects hold an expectation of privacy in relation to the subject matter of a familial search that is objectively reasonable can also be supported through application of the Court's approach to the matter in *R v Cole*.⁴⁶³ With this approach, it is again unlikely that the courts would find that individuals included in the NDDb have an objective expectation of privacy in relation to the subject matter of a familial search. In *Cole*, the Supreme Court of Canada was asked to determine whether the accused held a reasonable expectation of privacy in his work-issued laptop. The facts of the cases included that the accused had used the laptop for personal purposes with his employer's permission.⁴⁶⁴ The principal of the school at which the accused worked seized the laptop after a school technician reported evidence of child pornography and unauthorized use of the computer; the laptop was then given to the police who searched the contents of the computer without first obtaining a warrant.⁴⁶⁵ In determining that the police had infringed the accused's rights under section 8 of the *Charter*, the Court focused exclusively on the final factor in the *Tessling* list to assess the objective reasonableness of the claimant's expectation of privacy. The Court supported its emphasis on this singular factor with the following logic:

The closer the subject matter of the alleged search lies to the biographical core of personal information, the more this factor will favour a reasonable expectation of privacy. Put another way, the more personal and confidential the information, the more willing

⁴⁶³ *R v Cole*, *supra* note 375.

⁴⁶⁴ *R v Cole*, *supra* note 375.

⁴⁶⁵ *R v Cole*, *supra* note 375.

reasonable and informed Canadians will be to recognize the existence of a constitutionally protected privacy interest”.⁴⁶⁶

Based on the arguments presented in relation to the question in the above analysis under the *Tessling* approach, the subject matter of a familial search has the potential to reveal intimate details of the lifestyle and personal choices of an individual. For the first group of possible claimants who are directly included in the NDDDB based on their previous criminal convictions, the argument is less convincing as they have already been linked with criminal activity by virtue of their own convictions. Furthermore, they would not be implicated in a crime through a familial search in which their DNA provided a partial match to crime scene evidence. For the second set of claimants who represent potential suspects the situation is different. The information revealed by a familial search can be considered sensitive (their genetic relationship with a convicted offender) and may implicate them in criminal activity. For such persons, the approach in *Cole* supports the conclusion that an expectation of privacy in relation to that information is objectively reasonable.

A third and final approach was taken to the objective reasonableness question in *Spencer*. Here, the Court determined the objective reasonableness of the claimant’s expectation of privacy almost solely on the basis of the impression given by the terms of the internet service contract with respect to confidentiality of the user information.⁴⁶⁷ This approach has important implications for familial searching

⁴⁶⁶ *R v Cole*, *supra* note 375, at para 46.

⁴⁶⁷ *R v Spencer*, *supra* note 375, at paras 52 – 67. Note that the Court also considered the nature of a contractual relationship and the expectations of privacy in relation to information exchanged within that relationship in *R v Plant*, *supra* note 366. On the facts of *Plant*, the Court found that the communications between the parties could not be characterized as confidential. As such, while *Spencer* indicates that contractual obligations may sometimes support an objectively reasonable

of NDDDB data. Based on (i) the reasons set forth in the discussion of third-party control of the subject matter of a familial search, and (ii) the existence of a duty of confidentiality in relation to the information held in the NDDDB insofar as that information pertains to individuals who have not committed a designated crime, the state should be required to respect the limitations reflected in the compromise that led to the establishment of the NDDDB. If this situation is viewed as akin to a contract, the approach in *Spencer* supports the finding that an expectation of privacy in relation to the subject matter of a familial search of NDDDB data is objectively reasonable for potential suspects (the second category of possible claimants). It does not support the same finding for the pivot person(s) (in the first category of claimants), as such persons have been included in the NDDDB directly based on their prior convictions. The government has not agreed to refrain from accessing their DNA information for crime-solving purposes (and has indeed asserted its authority to take this very action).⁴⁶⁸

expectation of privacy, the courts will come to different conclusions on this point depending on the terms of the specific contract in the case at hand. Arguments based on the contractual nature of the relevant agreement were also made in *R v Gomboc*, *supra* note 375, discussed above. In *Gomboc*, Binnie, LeBel, and Abella JJ. argued in their concurring judgment that the terms of the regulatory scheme suggested that the customer had no objectively reasonable expectation of privacy (even though he may not have been well-informed about the parameters of the scheme). Dissenting judges McLachlin and Fish JJ. disputed this point, and were not prepared to let the complex regulatory scheme erode the consumer's reasonable expectation of privacy. They argued that "[t]he average consumer signing up for electricity cannot be expected to be aware of the details of a complex regulatory scheme – the vast majority of which applies to the companies providing services, and not to the consumers themselves – which permits the utility company to pass information on electricity usage to the police, especially when a presumption of awareness operates to, in effect, narrow the consumer's constitutional rights": *R v Gomboc*, *supra* note 375, at para 139. The extent to which contractual arrangements between customers and the providers of the increasing number of information goods and services should govern this part of the s. 8 analysis is controversial. Many customers do not read these policies and are therefore unaware of the level of privacy that should be expected when they use goods and services (such as internet service, cell phone, computer, or location-tracking devices). See further discussion in: Scassa, *supra* note 435, at 211.

⁴⁶⁸ See again comments in *R v Rodgers*, *supra* note 367, at para 5.

Based on the application of the approach used in *Tessling, Cole, and Spencer* to determining whether an expectation of privacy is objectively reasonable, the first category of claimants, which includes the source(s) of the pivot profile(s), would be unlikely to establish a reasonable expectation of privacy in relation to the subject matter of a familial search. For this claimant group, the section 8 inquiry would thus end at the first stage. The second category of possible claimants, which includes potential suspects identified by a familial search of NDDB data, would be able to demonstrate an objectively reasonable expectation of privacy in relation to the subject matter of that search. In relation to that class of claimants, the totality of the circumstances test weighs in favour of finding a reasonable expectation of privacy in relation to the subject matter of a familial search, and a familial search should be considered a section 8 search. On that basis, I consider the second stage of the section 8 analysis below from the perspective of potential suspects who may be identified as part of a familial search investigation.

3.3.2 Section 8, Stage 2: The Reasonableness of the Search

If a claimant establishes a reasonable expectation of privacy in the subject matter of a search, the second phase of a section 8 analysis asks whether the search was unreasonable. The basic rules on this matter include that searches conducted without prior authorization will be considered *prima facie* unreasonable.⁴⁶⁹ This basic requirement that a warrant be obtained will only be displaced by limited exceptions (for instance by the common law authority to allow police to conduct

⁴⁶⁹ *Hunter et al. v Southam Inc.*, *supra* note 362.

searches incident to arrest).⁴⁷⁰ The courts will consider a search to be reasonable if the police are authorized by law to conduct the search, the law authorizing the search is reasonable, and the search is conducted in a reasonable manner.⁴⁷¹

Prior Authorization

Absent a judicially authorized warrant, the courts should find a familial search of NDDDB data unconstitutional. This is supported by decisions on warrantless searches in cases with facts that relate to familial searching. For instance, the law clearly acknowledges that wiretapping evidence collected without prior authorization is inadmissible.⁴⁷² Additionally, before the DNA warrant scheme was created, the courts determined that the unauthorized collection and use of DNA was a violation of section 8.⁴⁷³ I proceed on the basis that section 8 requires that an amendment authorizing familial searching of the NDDDB must be accompanied by a warrant scheme.

⁴⁷⁰ This rule has been in place since the pre-*Charter* era, though during that time there were several warrant schemes that provided police with extremely wide discretion to conduct searches and seizures, particularly upon suspicion of drug related offences: *Customs Act*, 1970 RSC. c. C-40; *Narcotic Control Act*, *supra* note 360; *Food and Drugs Act*, RSC 1970, c. F-27; and *Excise Act*, 1970, RSC c. E-12. The most controversial type of authority under this pre-*Charter* scheme was the general writ of assistance, which provided specified officers with broad powers of search and seizure that could be exercised upon reasonable belief that a given location contained evidence relating to an offence under the statutory law. The writs were subject to little oversight and expired only upon retirement of the holder of the writ. They were not formally abolished until 1985 (*Criminal Law Amendment Act*, 1985, SC c. 19, s. 200), long after the same types of powers had been scaled back in both England and the United States. It appears that the Canadian government was able to convince its citizens of the continued validity of this system by emphasizing the growth of the illicit drug trade in Canada. Indeed, the writs authorized broad investigative powers in the area of drug enforcement that went far beyond those allowed for other serious crimes, including murder. See discussion in Solomon, *supra* note 361, at 235; Quigley, *supra* note 361, at 120; Katz, *supra* note 360, at 125; and Bonnie Braithwaite, "The Effect of Section 8 of the Canadian Charter of Rights and Freedoms on Section 10 of the Narcotic Control Act" (1983) 48 Sask. L. Rev. 231, at 233.

⁴⁷¹ *R v Gomboc*, *supra* note 375, at para 20, citing *R v Collins*, [1987] 1 SCR 265, at 278.

⁴⁷² *Protection of Privacy Act*, SC 1973-74, c. 50, at s. 2.

⁴⁷³ See *R v Stillman*, [1997] 1 SCR 607. Note, however, that this rule is subject to the wide discretion given to police to collect abandoned DNA, a situation that is discussed in Chapter Four (part 4.2.2).

The Reasonableness of the Law Authorizing the Search

The Supreme Court of Canada's 2003 decision in *R v S.A.B* provides useful guidance on the threshold that would be required for a warrant scheme authorizing familial searching to be considered reasonable under section 8. The case involved a challenge to the constitutional validity of the DNA warrant provisions that authorize forced collection of genetic information for exclusionary testing in isolated investigations.⁴⁷⁴ The Court in *S.A.B.* found the warrant provisions constitutional, determining that they had struck "an appropriate balance between the public interest in effective criminal law enforcement for serious offences, and the rights of individuals to control the release of personal information about themselves, as well as their right to dignity and physical integrity".⁴⁷⁵ In finding the scheme constitutional, the Court was influenced by several factors, including that:

- The warrants had to be issued by a provincial court judge instead of a justice of the peace (which signaled to the Court that Parliament was attentive to the seriousness of the interests at stake when DNA was involved);⁴⁷⁶
- The scheme applied only to certain designated offences, and required that the judge be satisfied that the warrant would serve the best interests of the administration of justice;⁴⁷⁷ and

⁴⁷⁴ *R v S.A.B.*, *supra* note 65. I emphasize that these warrants do not authorize police to upload the information collected for use in future investigations and are therefore separate from the NDDB scheme. The warrants were created following cases such as *R v Borden*, *supra* note 367 and *R v Arp*, [1998] 3 SCR 339, as well as the campaign led by the father of fifteen year-old Tara Manning, who was brutally sexually assaulted and murdered in her Montreal home: P.A. Sevigny "It's Been Fifteen years...Michael Manning" *The Metropolitan* (28 May, 2009) online: <http://themetropolitain.ca/articles/view/555>. These cases and events highlighted the need for legislation to authorize police collection of DNA for exclusionary testing, and Bill C-104 received Royal Assent in 1995 (*An Act to Amend the Criminal Code and the Young Offenders Act* (Forensic DNA Analysis)) online: http://www.parl.gc.ca/HousePublications/Publication.aspx?Pub=Bill&Doc=c-104_4&Language=&Mode=1&Parl=35&Ses=1&File=16) The resulting provisions can now be found in s. 487.05 of the *Criminal Code* *supra* note 65.

⁴⁷⁵ *R v S.A.B.*, *supra* note 65, at para 52.

⁴⁷⁶ *R v S.A.B.*, *supra* note 65, at para 38.

⁴⁷⁷ *R v S.A.B.*, *supra* note 65, at para 39.

- The samples were collected for a limited purpose (forensic testing of non-coding DNA for the specific investigation at hand).⁴⁷⁸

The Court addressed certain arguments advanced by the appellant in an effort to show that the DNA warrant scheme was unconstitutional. Although the Court was not convinced of these arguments as they applied to the DNA warrant provisions, the Court's reasons indicate that one of the arguments would be considered relevant for a warrant scheme relating to familial searching. Specifically, the Court rejected the appellant's argument that the collection of DNA pursuant to a warrant should only occur as a method of last resort; the argument was based on an equivalent provision within the wiretap warrant scheme, which limits judicial authorization for interception and recording of private communications to situations in which other investigation techniques have been attempted and failed or would likely fail if attempted.⁴⁷⁹ The Court rejected the argument in the case at hand, distinguishing wiretapping from DNA profiling as follows:

Wiretaps are sweeping in their reach. They invariably intrude into the privacy interests of third parties who are not targeted by the criminal investigation. They cast a net that is inevitably wide. By contrast, DNA warrants are target specific. Significantly, DNA warrants also have the capacity to exonerate an accused early in the investigative process.⁴⁸⁰

Like wiretapping, familial searching intrudes into the privacy interests of third parties who may eventually be excluded as the source of the anonymous crime scene sample. Further, unlike DNA profiling, familial searching does not exonerate accused persons; rather, it is the method by which individuals are first identified as

⁴⁷⁸ *R v S.A.B.*, *supra* note 65, at para 48.

⁴⁷⁹ *R v S.A.B.*, *supra* note 65, at paras 53-54. The Court cited *R v Araujo*, 2000 SCC 65, [2000] 2 SCR 992, where the wiretapping warrant scheme outlined in s. 186 of the *Criminal Code* *supra* note 65, was discussed.

⁴⁸⁰ *R v S.A.B.*, *supra* note 65, at para 54.

potential suspects. While the Court was not convinced of the need for a ‘last resort’ requirement for DNA warrant legislation, there is a compelling argument that such a requirement should be included in any warrant scheme that authorizes familial searching of NDDB data.

In terms of the reasonableness of a familial search of NDDB data, analysis of previous section 8 case law leads to the conclusion that familial searching without a warrant would violate the section 8 rights of persons identified as suspects in the familial search process. To be upheld as reasonable under section 8, a warrant scheme authorizing familial searching would need to include (at minimum) the following four safeguards:⁴⁸¹

- A requirement that the warrant be issued by a provincial court judge who is satisfied that the warrant would serve the best interests of the administration of justice in the circumstances;
- A limitation to allow the scheme only in relation to specific designated offences;
- A requirement that the familial search be conducted for the limited purpose of solving the investigation at hand;
- A condition that familial searching be used only as a last resort.

3.3.3 Section 1: Assessing the Reasonable Limits

The above analysis supports the conclusion that a familial search is a search within the meaning of section 8. In accordance with previous section 8 decisions, a pre-authorized familial search subject to a warrant scheme that includes specific provisions would likely be considered reasonable. Although there has been no

⁴⁸¹ I include these safeguards at this point in order to support my prediction about the likely outcome of a section 8 claim. As discussed below (part 3.3.4), however, judicial authorization occurs within a criminal justice system that is known to suffer from systemic racism. As such, the warrant protections would not address the broader concerns about racial inequality. I return to the issue in the concluding chapter where I draw the evidence together to support a recommendation for continued prohibition of familial searching.

indication that the government wishes to introduce familial searching without a warrant scheme,⁴⁸² it is relevant to consider whether familial searching without a warrant might be justified under section 1. The first stage of the section 1 analysis asks whether the objective of a law authorizing familial searching of the NDDDB is of sufficient importance to warrant overriding the right to privacy protected under section 8, and whether the state's objective of solving crimes relates to concerns that are both pressing and substantial. The issue is arguably one of degree, such that the courts may be more likely to be convinced that the state's objective in using familial searching is pressing and substantial when the objective of the law is to investigate a limited list of the most severe crimes,⁴⁸³ When limited to this objective, it would seem more reasonable to conclude that the law is (i) sufficiently important to override the individual privacy rights infringed and (ii) pressing and substantial.⁴⁸⁴

If, however, the circumstances of a specific case were such that the courts considered the use of familial searching without a warrant to be justified under the first stage, the government action would not likely pass the second stage of the analysis. The second question asks whether the means chosen to serve the objective

⁴⁸² When discussing the possibility of introducing familial searching into NDDDB operations, lawmakers have specifically articulated an intention to address the privacy concerns, which would likely lead to consideration of warrant protections. See, for instance House of Commons Standing Senate Committee on Legal and Constitutional Affairs, *supra* note 84, at 64, where the Committee recommended that "before kinship analysis or familial searching be permitted, the Department of Justice further study the matter to determine how to appropriately craft a provision that would balance the need to protect society, the need to protect privacy rights, and the need to preserve the presumption of innocence".

⁴⁸³ See *supra* note 353 and accompanying text.

⁴⁸⁴ See Sewrattan, *supra* note 20, at 152, making the same argument in relation to the possible section 15 infringement resulting from the use of mandatory minimum sentences, which the author considers as a violation of the right to equality for Aboriginal peoples.

of the law were proportionate to the infringement of rights. It would be exceedingly difficult for the state to justify a familial search without a warrant. The courts have previously refused to allow section 1 to reduce the protection provided by warrant schemes where such schemes had previously been deemed necessary.⁴⁸⁵ This standard has been imposed even in emergencies,⁴⁸⁶ though in any case it is difficult to envision a scenario in which a familial search (which requires time in analyzing the DNA and in following up on useful leads by collecting and analyzing suspect samples) could address a situation so urgent that there would be no time to issue a warrant.⁴⁸⁷ Accordingly, I conclude that the state's use of familial searching without a warrant would not be justified under section 1 of the *Charter*.

⁴⁸⁵ See *R v Duarte*, *supra* note 268, for instance, in which the Supreme Court determined that a warrantless electronic surveillance accomplished by obtaining the consent of a person wearing the electronic recording device but not the consent of others being recorded violated section 8 of the *Charter*. The Court asserted in its section 1 analysis that “[t]here is no justification for warrantless searches once it is accepted that the police could employ the same investigatory tool with or without a warrant”. *R v Duarte*, *supra* note 268, at 57. This view is also reflected in other cases where no section 1 analysis was required. For instance in *R v Grant*, the Supreme Court considered a law authorizing a warrantless search of a home based on police having reasonable grounds to believe that controlled substances would be found within the building. The Court determined that the law had to be read down to restrict the availability of this power to emergency circumstances only: *R v Grant*, [1993] 3 SCR 223.

⁴⁸⁶ The Supreme Court of Canada has previously come to this conclusion in *R v Tse*, 2012 SCC 16, [2012] 1 SCR 531. In that case, the Court found that a law authorizing police use of wiretapping without a warrant in emergency situations infringed section 8, and that the infringement was not justified by section 1. The Court acknowledged that this type of authorization might be required and could potentially be justified under section 1; however, the law under consideration failed the proportionality requirement of the analysis as it did not require the police to notify those whose private communications had been intercepted and because it lacked a mechanism to ensure proper oversight of police use of the authority. The provision requiring that police give notice to individuals whose rights had been infringed was considered necessary because it would provide such individuals with an opportunity to challenge police use of the power: *R v Tse*, *supra* note 486, at paras 96 – 99.

⁴⁸⁷ If the courts were presented with a case having the facts outlined above (familial searching performed without a warrant, which would be unconstitutional and unlikely to be saved by section 1), the courts would need to decide whether to admit the evidence in the specific case under s. 24(2) of the *Charter* *supra* note 21. The s. 24(2) analysis would require a determination of whether the evidence obtained in violation of the *Charter* should be excluded from the criminal trial process for the specific case at hand because inclusion of the evidence would bring the administration of justice into disrepute by unfairly prejudicing the trial of the accused. The exercise requires that judges

Table 2: Summary of Section 8 Findings

Claimant Group	Individuals on NDDB (source(s) of pivot profiles)	Individuals who may be targeted as part of the follow up investigation because they would be considered likely to hold a genetic relationship with the source of a pivot profile	
Q1 satisfied (occurrence of s. 8 search based on intrusion on reasonable expectation of privacy)?	<p>No (totality of circumstances test)</p> <p>1. Subject matter of search: evidence of shared genetic characteristics</p> <p>2. Direct interest: possibly satisfied given that the information relates to the person’s genetic relationships</p> <p>3. Subjective expectation of privacy: unlikely to be satisfied given reduced expectation of privacy for convicted offenders</p> <p>4. Objective expectation of privacy: unlikely to be satisfied by test used in <i>Tessling, Cole, or Spencer</i></p>	<p>Yes (totality of circumstances test)</p> <p>1. Subject matter of search: evidence of shared genetic characteristics</p> <p>2. Direct interest: satisfied by potential suspect exposure to police conduct as result of search</p> <p>3. Subjective expectation of privacy: satisfied because individuals not on NDDB expect to be free from indirect inclusion</p> <p>4. Objective expectation of privacy: satisfied by test used in <i>Tessling, Cole</i> (within biographical core of information) and in <i>Spencer</i> (NDDB limitations akin to contractual agreement)</p>	
Q2 satisfied (reasonableness of search)?	Not required	Yes (with warrant)	No (without warrant)
Infringement justified under s. 1?	Not required	Not required	No

balance various factors including those affecting the fairness of the trial, the seriousness of the *Charter* breach, and the results that might flow from exclusion of the evidence: *R v Collins* [1987] *supra* note 471. The result in such a case would not change the analysis in this dissertation, though it might be important in that it would indicate a judicial position on the level of intrusion that results from familial searching when the technique is abused or used without proper oversight.

3.3.4 Privacy and the Disproportionate Impact of Familial Searching on Canada's Aboriginal Peoples

The section 8 analysis shows the ways in which the *Charter* is likely to protect against intrusions onto individual privacy. At minimum, section 8 requires that the state implement a warrant scheme to accompany familial searching. Yet, it is important to point out that judicial authorization for investigative techniques that pose a risk of racial discrimination is not a perfect solution. CRT aims to highlight systemic bias in the justice system, which includes bias among the judiciary. While judges are expected to be impartial, the reality is that different judges may come to different conclusions on the same facts (including whether or not to issue a warrant).⁴⁸⁸ Based on this reality, police and prosecutors have been known to engage in “judge-shopping” to get a favourable result on a warrant application.⁴⁸⁹ Judicial bias has also been observed in certain areas of the criminal justice system, including for instance racial disparities (specifically related to Aboriginal peoples) in

⁴⁸⁸ The fact that different judges may come to differing decisions about whether or not to issue a warrant is implicitly acknowledged in the test for reviewing judicial decisions on the matter. This test was explained by the court in *R v Dionisi*, 2012 ABCA 20, at para 20 where it was said that “it is not enough to persuade the trial judge that she would not have been inclined to issue the warrant on the grounds thus provided. The trial judge must be satisfied that the warrant is invalid, not that the trial judge would not have authorized it”. As noted above, the fact that judges may come to different decisions on warrant applications was also highlighted by the facts of *R v Tessling*, *supra* note 363 and *R v Gomboc*, *supra* note 375. In *Tessling*, the Court found that the heat pattern information obtained by the FLIR technology was “meaningless” based on the view that the information did not, on its own, reveal enough to allow police to secure a warrant for the home. In contrast, the Court in *R v Gomboc*, *supra* note 375 was influenced by the fact that the DRA information that measured electricity patterns in a home provided enough information for police to secure a warrant. These cases presented similar facts with different decisions on the warrant applications, which in turn had a real impact on the Court’s finding with respect to the section 8 issue.

⁴⁸⁹ “Judge shopping” occurs where police apply for a second warrant with a different judge after having been refused by a first. See discussion in *R v Chan*, [2003] O.J. No. 188, (cited in *R v Duchcherer and R v Oakes*, 2006 BCCA 171, at para 25).

the granting of bail.⁴⁹⁰ Racial bias also appears to have contributed to judicial failure to address the circumstances of Aboriginal peoples in sentencing, even with a duty to do so.⁴⁹¹ Courts do not appear to struggle in the same way in terms of addressing the needs of non-Aboriginal offenders.⁴⁹² The reality that judges are not impartial and that they may be racially biased⁴⁹³ has prompted a discussion about how to address the issue and has led to arguments in favour of promoting greater diversity

⁴⁹⁰ See discussion in Chapter One (part 1.4 and in particular *supra* note 103 and accompanying text), comments in *R v Gladue*, *supra* note 92, at para 65, and discussion in: Elizabeth Sheehy, “The Discriminatory Effects of Bill C-15’s Mandatory Minimum Sentences” *supra* note 103; Sewrattan, *supra* note 20, at 139 citing Sara Johnson, “Returning to Correctional Services after Release: A Profile of Aboriginal and Non-Aboriginal Adults Involved in Saskatchewan Corrections from 1999/00 to 2003/04” (2005) 25:2 *Juristat* 1; Borrows and Rotman, *supra* note 103, at 1055-1056.

⁴⁹¹ The *Gladue* sentencing principles are discussed in more detail in Chapter Four (*infra* notes 762-766 and accompanying text). At this point, I emphasize that there has been much confusion over the new sentencing principles (which aim to address the circumstances of Aboriginal peoples as a way to help reduce the overrepresentation of Aboriginal peoples in Canadian prisons). The Supreme Court had to clarify the purpose of the principles and direct judges to observe their duty to apply them in sentencing proceedings in which the offender is an Aboriginal person: *R v Ipeelee*, 2012 SCC 13, *supra* note 92, at 57. Despite this, there continues to be a critical lack of understanding of the principles and evidence of racial bias in their application. See discussion in Jonathan Rudin, “Aboriginal Overrepresentation and *R v Gladue*: Where We are and Where we Might be Going” (2008) 40 *S.C.L.R.* 687.

⁴⁹² The *Gladue* sentencing provisions are not meant to be limited to Aboriginal offenders and may be applied to non-Aboriginal offenders in appropriate cases. However, Jonathan Rudin notes a problem in that non-Aboriginal offenders have benefitted from the new scheme more than Aboriginal offenders. He explains that there is a crucial lack of understanding among judges about sentencing options that would benefit Aboriginal offenders and that “statistics show...that courts find it easier to come up with alternatives for non-Aboriginal offenders than for Aboriginal offenders”: Rudin, *supra* note 491, at 702.

⁴⁹³ In 1997, the case of *R v S(RD)* instigated a discussion over race, bias, and the judiciary in Canada. In this case, Justice Corrine Sparks (a Black judge in Nova Scotia) acquitted a Black youth on charges of assaulting a police officer. In her reasons, she made the following statement: “I’m not saying that the constable has misled the Court, although police officers have been known to do that in the past. And I’m not saying that the officer overreacted, but certainly police officers do overreact, particularly when they’re dealing with non-white groups. That, to me, indicates a state of mind right there that is questionable”: quoted at *R v S(RD)* [1997] 3 *SCR* 484, at para 53. It was argued on appeal that the judge’s comment showed a reasonable apprehension of bias and the conviction was overturned before being reinstated by the Supreme Court of Canada. In coming to its decision, the Court ruled at para 115 that “A judge who happens to be black is no more likely to be biased in dealing with black litigants, than a white judge is likely to be biased in favour of white litigants”. While the case provided a much-needed opportunity for discussion about racial bias on the Canadian bench, the *R v S(RD)* Court was later criticized for its avoidance of the crucial racial issues in the case: Constance Backhouse, “Bias in Canadian Law: A Lopsided Precipice (*R v RDS*: An Editor’s Forum)” (1998) 10:1 *Canadian Journal of Women and the Law* 170.

on the Canadian bench.⁴⁹⁴ In the current climate in which these issues persist, a warrant scheme would become part of a criminal justice system that is known to suffer from systemic racism.⁴⁹⁵ As Troy Duster states: “DNA technology, no matter how definitive, may not be used fairly in a criminal justice system that is tainted and sometimes corrupted”.⁴⁹⁶

Moreover, although it arguably compels warrant protections for familial searching, section 8 is ill-equipped to address the group privacy issues that arise with use of the technique and that relate to the overall equality argument in this dissertation.⁴⁹⁷ Although section 8 requires that familial searching be subject to oversight through a warrant process, it does not bar the expansion of the NDDB that familial searching would effect. Insofar as such an expansion represents an intrusion

⁴⁹⁴ See Tanovich, *supra* note 100, at 672, where the author ties the Canadian judiciary’s failure to address racial inequality to the lack of diversity on the bench, arguing that the judiciary’s “reluctance and hostility certainly tend to confirm the theory that the composition of the judiciary and inherent conservatism of judicial review are some of the biggest hurdles in using litigation as a political tool of change. There is no question that increasing the diversity of the bench is one of the most pressing issues facing the justice system and that it will have a big impact on increasing the cultural competence of the judiciary”.

⁴⁹⁵ As discussed in Chapter One (part 1.4), Aboriginal peoples suffer the effects of systemic discrimination within the criminal justice system in many ways. In addition to the overrepresentation of Aboriginal offenders in Canadian prisons, Aboriginal peoples are subjected to a greater degree of police surveillance compared to the non-Aboriginal public, are subjected to general racial profiling by police, spend more time in pre-trial detention, are less likely to be granted bail, tend to serve a greater percentage of their sentence before being released from prison, and are more likely to return to prison after release: Lawrence and Dua, *supra* note 37; Sewrattan, *supra* note 20, at 133 and 139; Borrows and Rotman, *supra* note 103, at 1055-1056. As discussed at length in Chapter Four (part 4.3.1), Aboriginal peoples are also overrepresented as victims of crime.

⁴⁹⁶ Duster, “Explaining Differential Trust of DNA forensic Technology” *supra* note 162, at 294.

⁴⁹⁷ See Eltis, *supra* note 148, at 284, noting the *Charter’s* limited potential in addressing group interests relating to genetic testing. See also Aylward, *supra* note 56, at 40, explaining that while Canada has often been depicted as an “egalitarian” society, the reality is that there are institutional barriers to racial equality, including “‘judicial support’ for racial segregation”. Aylward cites as examples three early Canadian cases in which judges found in favour of business owners who had refused service to Black men based on their race: *Loew’s Montreal Theatres Ltd. v Reynolds* (1919), 30 Que. B.R. 459 (movie theater company’s refusal to allow a Black man entry into a reserved seating area); *Franklin v Evans* (1924), 55 O.L.R. 349 [H.C.] (restaurant owner’s refusal to serve a Black man); and *Rogers v Clarence Hotel* (1940), 55 B.C.R. 214 [C.A.] (hotel bar owner’s refusal of service to a Black man).

onto the privacy interests of those who may become suspects, it reflects an intrusion that would disproportionately impact Aboriginal groups.

When characterized as a privacy issue, the NDDDB expansion question as it relates to familial searching may prompt calls for a public consultation process like the one that was orchestrated prior to the initial introduction of the NDDDB.⁴⁹⁸ Indeed in its 2008-2009 Annual Report, the National DNA Data Bank Advisory Committee specifically promoted public consultation as an option for addressing the privacy concerns related to familial searching. The Committee stated that:

While [it would] continue to follow the development of [familial searching] throughout the world...this issue should be discussed in a public forum where both the privacy rights of citizens versus the right of the state to utilize this technology in the interests of the justice system can be discussed in some depth. It is the Advisory Committee's understanding that many justice interest groups in Canada would be interested in participating in such a discussion.⁴⁹⁹

Although the public consultation process would provide an opportunity for privacy advocates and other stakeholders to voice their opinion on familial searching, the process would be unlikely to properly account for the racial inequality that underlies the privacy issue. David Tanovich highlights the problem with relying on public consensus for such issues as follows:

[T]he idea that the democratic or the legislative process will bring anti-racist change to the criminal justice system is sheer folly. There is no evidence over the last decade that it will *ever* occur given the increased politicization of crime and unconscious nature of systemic racism.⁵⁰⁰

⁴⁹⁸ See again discussion in Chapter One (part 1.3) as well as a summary of this process in: Solicitor General, Summary of Consultations *supra* note 67.

⁴⁹⁹ National DNA Data Bank Advisory Committee, "National DNA Data Bank Advisory Committee Annual Report" (Ottawa: Government of Canada, 2008-2009), at 19.

⁵⁰⁰ Tanovich, *supra* note 100, at 659.

Tanovich further argues that politicians have learned that they will win more votes by promising to get “tough on crime”.⁵⁰¹

An additional problem with the public consultation process is that colonization and the social and political exclusion of Aboriginal peoples have affected Aboriginal participation in the voting process in Canada. While there may be many reasons for which an Aboriginal person might choose not to participate in the voting process, one university student explained his own as follows:

I was raised in a family where Native people always thought of politicians as evil or wicked or they’ll just take away our rights or whatever else, so if we don’t partake in it [voting] that’s just the best way to deal with it, I guess, just not to be there.⁵⁰²

Although the above comments were made in relation to electoral voting, the problem of political and social exclusion is also relevant to the current context, and raises further questions about the adequacy of a public consultation process as a way to address discrimination against minority groups. If the public voted in favour of introducing familial searching, the move may be viewed as legitimate in that it would have involved input from stakeholders; however, it would not address the risk of an adverse impact for Aboriginal peoples who are overrepresented in the NDDB and who would experience this privacy impact at a disproportionate rate.

I include the disproportionate loss of privacy among the harms that will be disproportionately experienced by Aboriginal peoples if familial searching is introduced into the NDDB scheme. I return to these issues in the final chapter to

⁵⁰¹ Tanovich, *supra* note 100, at 659 (citing comments from Don Stuart, *Charter Justice in Canadian Criminal Law*, 4th ed. (Toronto: Thomson Carswell, 2005), at 14-16).

⁵⁰² Quote from unnamed male university student in Silver, *supra* note 356, at 114.

review the broad impact of familial searching and to support the recommendation for continued prohibition of the technique within the NDDDB scheme. In that discussion, I reiterate the reasons why the warrant protections that would likely be required by section 8 would insufficiently protect against the privacy intrusion that would be disproportionately felt by Aboriginal peoples in Canada.

3.4 Familial Searching and the Right to Life, Liberty, and Security of the Person Under Section 7

Section 7 of the *Charter* provides that “everyone has the right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice”.⁵⁰³ A claim of infringement of this right must go through two stages of analysis: first, the claimant must establish a violation of one or more of the three analytically distinct interests protected under section 7: the right to life, liberty, *or* security of the person.⁵⁰⁴ Only one interest needs to be engaged to proceed to the second stage of the analysis. The rights are therefore separately considered below. In showing that an interest is engaged, a claimant must demonstrate that the state’s role in the violation of rights holds a “sufficient causal connection” with the impact he or she has experienced, though as discussed below, this threshold has been given various interpretations in different cases.⁵⁰⁵ If the first stage of the analysis shows that a protected interest has been

⁵⁰³ *Charter supra* note 21, at s. 7.

⁵⁰⁴ *R v Beare*, [1988] 2 SCR 387, at 401; *Rodriguez v British Columbia (AG)*, *supra* note 306; *Re Motor Vehicles Act*, [1985] 2 SCR 486, at 500; Robert Sharpe and Kent Roach, *The Charter of Rights and Freedoms* (Toronto: Irwin Law, 2009), at 224.

⁵⁰⁵ *Canada (AG) v Bedford*, 2013 SCC 72, [2013] 3 SCR 1101, at para 75. It is important to note that the state’s role may not necessarily need to be active intervention with a protected interest, and there is a lingering question about positive rights under section 7 that has yet to be fully resolved by the

engaged, the court must determine whether the deprivation of the right is in accordance with the principles of fundamental justice.⁵⁰⁶ If yes, there will be no violation of section 7.⁵⁰⁷ The principles of fundamental justice, explained in more detail below, are distinct from societal considerations relevant to the section 1 analysis.⁵⁰⁸

In evaluating the potential for a section 7 challenge to the state's use of familial searching, the same two possible claimant groups that arose in relation to the section 8 claim must be considered. The first includes the identifiable offenders who return partial matches to crime scene DNA and act as pivot person(s) in a familial searching investigation. The second group includes the family members who may be targeted as part of the follow up investigation because they are considered likely to hold a genetic relationship with the identifiable offender(s). As

Supreme Court of Canada. The question of whether section 7 imposes upon the state a positive obligation to ensure the values of life, liberty, and security of the person for every individual (rather than merely a negative obligation to refrain from interfering with those same interests) has received increased attention since the Supreme Court of Canada's decision in *Gosselin v Quebec (AG)*, 2002 SCC 84, [2002] 4 SCR. This case involved a claim under section 7 and 15 pursuant to a decision by the government of Quebec to reduce welfare benefits for certain groups. The decision was based on the view that younger people were more able to find gainful employment. The Court found no violation of either section of the *Charter* in the case. Although the majority interpreted section 7 more restrictively, McLachlin C.J. left open the question of whether positive rights could exist under section 7. In her dissent, Arbour J. specifically argued in favour of a positive obligation for the state under section 7: *Gosselin v Quebec (AG)*, *supra* note 505 at paras 82, 83, and 308. For further discussion, see Nola M. Ries, "Section 7 of the *Charter*: A Constitutional Right to Healthcare? Don't Hold Your Breath" (2003) 12:1 Health Law Review 29; Jamie Cameron, "Positive Obligations Under Sections 15 and 7 of the Charter: A Comment on *Gosselin v Quebec*" (2003) 20 S.C.L.R. 65; and Cara Wilkie and Meryl Zisman Gary, "Positive and Negative Rights Under the Charter: Closing the Divide to Advance Equality" (2011) 30 Windsor Rev. Legal & Soc. Issues 37. Since familial searching involves a clear action by the state that would correspond to a negative right to be free from state interference with the interests protected under section 7, the positive rights question need not be resolved as part of the analysis of section 7 for familial searching.

⁵⁰⁶ *Canada (AG) v Bedford*, *supra* note 504, at para 93; *R v Beare* *supra* note 504, at 401; *Rodriguez v British Columbia (AG)*, *supra* note 306, at 584.

⁵⁰⁷ *Canada (AG) v Bedford*, *supra* note 504, at para 93.

⁵⁰⁸ *Canada (AG) v Bedford*, *supra* note 504, at para 121. See also *R v Malmo-Levine*, 2003 SCC 74, [2003] 3 SCR 571, at para 181.

with the section 8 claim, the position of these potential claimants in the context of a familial search investigation affects the likelihood of a successful challenge being advanced by the two distinct groups.

3.4.1 Section 7, Stage 1: Establishing a Violation of a Protected Interest

Familial Searching and the Right to Life:

Compared to the other interests protected under section 7, the right to life has been narrowly construed and has been invoked in only a few cases.⁵⁰⁹ The right to life is only engaged where a person's life is at stake because of a state action or omission. For instance, the courts have found that the right to life is reflected in Canada's rejection of capital punishment and treatment of murder as a most serious crime.⁵¹⁰ The right may also be engaged where the state fails to provide timely health care and where that omission might lead to a person's death.⁵¹¹ The state's use of familial searching would not pose a threat to the life of persons implicated in the investigation through use of the technique. As such, the right to life does not provide a basis upon which to challenge the use of the technique within the NDDB scheme. In fact, in accordance with the logic that the right to life is upheld through the state's characterization of murder as a most serious crime, it is possible to argue that familial searching should be used in cases where it is required to protect the

⁵⁰⁹ *Carter v Canada, (AG)*, 2013 BCCA 435, at para 273. See Robert Sharpe and Roach, *supra* note 504, at 224, where the authors explain that the Supreme Court of Canada has not clarified the apparently limited scope of the right to life under section 7 of the *Charter supra* note 21.

⁵¹⁰ *Carter v Canada (AG)*, *supra* note 509, at para 279.

⁵¹¹ *Chaoulli v Quebec, (AG)*, 2005 SCC 35, [2005] 1 SCR 791, at para 123.

lives of potential victims of crimes that represent a threat to individual life.⁵¹² This argument must acknowledge, however, that the state does not have unlimited power to employ investigative techniques to solve crimes, regardless of their severity. The right to life therefore supports, at most, the need to take a balanced approach to regulating state use of familial searching for forensic purposes, with implications for the right to life constituting one part of the equation in cases where this interest can be viewed as relevant.⁵¹³

Familial Searching and the Right to Liberty:

The right to liberty supports particularly strong ties between section 7 and the criminal justice system. This connection largely stems from the fact that the criminal justice system can deprive or threaten to deprive a person of his or her physical liberty through prosecution or imprisonment for violation of criminal laws.⁵¹⁴ The liberty interest has also played an important role in upholding procedural rights within the justice system, including the right to silence and the right to a fair trial.⁵¹⁵ The right is engaged where a law restricts an individual's liberty, which is seen most clearly when the state imposes restrictions on a person's

⁵¹² The argument that familial searching should be used because of its potential to solve serious and violent crimes is considered as part of the policy discussion in Chapter Four (part 4.3.1). It is argued from the perspective of Aboriginal peoples (especially women), who are overrepresented as victims of sexual assaults and other violent crimes.

⁵¹³ In relation to the effect familial searching would have on Aboriginal peoples, the argument is relevant to the use of the technique in a way that might address the overrepresentation of Aboriginal peoples as victims. The matter is discussed as a relevant policy issue in Chapter Four (part 4.3.1).

⁵¹⁴ See *R v Smith* [2015] SCC 34, [2015] 2 SCR 602, at paras 17-18; and Peter Hogg, "The Brilliant Career of Section 7 of the Charter" (2012) 58 *S.C.L.R.* (2d) 195, at 196.

⁵¹⁵ Hogg, *supra* note 514, at 196.

physical movements.⁵¹⁶ The right is not limited to a person's interest in being free from the threat of or from actual physical restraint, however, and the courts have extended the meaning of liberty in order to promote a broader right to autonomous decision-making on the part of every individual.⁵¹⁷ Accordingly, the courts will find that the right to liberty is engaged where "state compulsions or prohibitions affect important and fundamental life choices".⁵¹⁸

Considered in relation to familial searching, the authorities do not support the view that familial searching engages the right to liberty within the meaning of section 7. Though a familial search may *lead* to an investigation that might eventually produce evidence to support restrictions on a suspect's liberty, on its own it neither restricts a person's physical freedom nor limits the choices of any person whose involvement in a crime is suggested. Rather, familial searching represents a forensic technique within a broader investigation, which provides at most an indication that an anonymous suspect is genetically related to an identified individual (information that would not independently support any restrictions on individual liberty). Where familial searching provides a useful lead in an investigation, confirmation of the lead through DNA profiling would be required

⁵¹⁶ See *R v Heywood*, [1994] SCJ No. 101, [1994] 3 SCR 761, which restricted the respondent, a convicted sex offender, from physically attending areas surrounding playgrounds, schoolyards, and public parks.

⁵¹⁷ *B.(R.) v Children's Aid Society of Metropolitan Toronto*, [1995] 1 SCR 315, at para 80.

⁵¹⁸ See also *Blencoe v British Columbia (Human Rights Commission)*, 2000 SCC 44, [2000] 2 S.C.R. 307, at para 49. Under this broader conception of the right, the Supreme Court of Canada has found that the right to liberty was engaged by a law requiring an individual to appear at a certain time and place for fingerprinting (*R v Beare supra* note 504); by a law requiring a person to self-incriminate by providing testimony (*Thomson Newspapers Ltd v Canada (Director of Investigation and Research, Restricted Trade Practices Commission)*, [1990] 1 SCR 425); and by a law that restricted a person's choices in terms of establishing a place of residence (*Godbout v Longueil (City)*, [1997] 3 SCR 844).

before prosecution or conviction could become possible. Having no direct effect on the physical liberty or autonomous decision-making rights of any individual, it would be highly unlikely that familial searching would be found to engage the right to liberty under section 7.

Familial Searching and the Right to Security of the Person:

Like the liberty interest, security interests are attached to the principle of autonomy and the right to make independent choices free from state intervention and state-imposed psychological stress.⁵¹⁹ The Supreme Court of Canada specifically addressed the relationship between the security interest and the state's use of DNA profiling in *R v Stillman*, a case in which DNA samples were forcefully taken from a suspect for exclusionary testing in a murder investigation.⁵²⁰ Though the decision found that the suspect's security interests had been engaged, this was a result of the forceful taking of genetic samples for forensic testing, an action that clearly implicated the suspect's bodily integrity in the physical sense.⁵²¹ Since familial

⁵¹⁹ The right to security of the person has been explained as a right to have "control over one's bodily integrity free from state interference and freedom from state-imposed psychological and emotional stress": *Rodriguez v British Columbia (AG)*, *supra* note 306, at 588. See also comments per Wilson J. in *R v Morgentaler*, [1988] 1 SCR, at 173.

⁵²⁰ *R v Stillman*, *supra* note 473.

⁵²¹ *R v Stillman*, *supra* note 473. As noted above, if the courts were faced with a case in which familial searching were used in a way that infringed on an individual's *Charter* rights (for example without a warrant, which would infringe of the right to be free from unreasonable search and seizure for those implicated as potential suspects in the follow-up investigation), one of the questions would be whether the evidence should be admitted under s. 24(2) of the *Charter supra* note 21. It is worth noting as part of that discussion that the Court in *R v Stillman*, *supra* note 473 excluded from the trial the samples that had been forcefully taken from the accused. In the same case, however, police had collected an abandoned tissue containing the accused's DNA. The taking of the tissue was also found to violate the accused's section 8 rights because it was taken while the accused was in custody. The issue was that, while in custody, the accused could not control access to his biological materials. Had he not been in custody, the action of throwing out the tissue would have constituted abandonment.

searching can be performed without any physical intrusion of a suspect's body, the security interests that were engaged in *Stillman* would not apply.⁵²² Any argument that familial searching implicates the right to security of the person must therefore be made on the basis of psychological well-being.

It is possible to conceive of psychological effects stemming from one (or both) of two parts of a familial search: the actual search of the NDDB for a partial match and the follow-up process. This dual focus highlights the positions of the two different sets of claimants. For the first group involving the offenders who act as the pivot person(s) in a given investigation, the section 7 challenge depends on psychological harm that results from the pivot person's role in providing a lead to their family members. For the second group, which includes the potential suspects who may be identified as such due to their relationship with the source(s) of pivot profile(s), the section 7 challenge depends on psychological harm arising in the course of the follow-up investigation of these potential suspects and in some cases a conviction resulting from the familial search lead.

Crucially, the courts have clarified that security interests will not be engaged by every emotional hardship; in addition to being state-imposed, the impact on

The tissue was not excluded under the s. 24(2) analysis. The *Stillman* case and the abandonment issue are discussed in further detail in Chapter Four (part 4.2.2).

⁵²² Note that this relies on a separation between the familial search itself and the taking of DNA samples to confirm any suspicions supported by the familial search. The situation in *R v Stillman*, *supra* note 473 took place before police were provided with statutory authority to compel DNA samples for exclusionary testing in specific investigations. Much has transpired in terms of legislative changes and court decisions since that case was decided. This includes development of the law providing police with authority to collect abandoned DNA samples (discussed Chapter Four (part 4.2.2)).

psychological well-being must be serious.⁵²³ It will be evaluated against the psychological integrity of a person with “reasonable sensibility”, and while it “need not rise to the level of nervous shock or psychiatric illness, [it] must be greater than ordinary stress or anxiety”.⁵²⁴ Laws that have previously been found to meet this threshold include laws that force a woman to carry a pregnancy upon threat of criminal sanction,⁵²⁵ the criminal prohibition against physician-assisted suicide,⁵²⁶ and state interference with parental rights through wardship proceedings absent state-funded legal assistance to the parent.⁵²⁷ As in the current context, all three of these examples involved security interests that held a connection to the broader issue of equality.⁵²⁸ Because of the relationship between the harms that may be addressed by section 7 and the common experience of those harms within

⁵²³ *Chaoulli v Quebec (AG)*, *supra* note 511, at para 123; *Blencoe v British Columbia*, *supra* note 518, at para 57.

⁵²⁴ *New Brunswick (Minister of Health and Community Services) v G(J)*, [1999] 3 SCR 46, at para 60.

⁵²⁵ *R v Morgentaler*, *supra* note 519, at 164.

⁵²⁶ *Rodriguez v British Columbia (AG)*, *supra* note 306.

⁵²⁷ *New Brunswick (Minister of Health and Community Services) v G(J)*, *supra* note 524. Note that each of these issues had to pass through the second stage of the analysis to determine whether the impact on psychological well-being was in accordance with the principles of fundamental justice. At the first stage, however, the Court was satisfied in each circumstance that the right to security of the person had been engaged.

⁵²⁸ In some cases the courts have avoided detailed analysis of the links between equality and section 7 rights, which would have helped to clarify this important connection. The Court in *R v Morgentaler*, *supra* note 519 rejected the s. 15 argument and did not engage in a meaningful discussion of its connection to the case. The case and others involving reproductive rights have since been connected to the issue of women’s equality through a more detailed analysis in the literature: see, for instance Sandra Rodgers, “Women’s Reproductive Equality and the Supreme Court of Canada”, Chapter 8 in Jocelyn Downie and Elaine Gibson, *Health Law at the Supreme Court of Canada* (Toronto, ON: Irwin Law, 2007). Similarly, in *Rodriguez v British Columbia (AG)*, *supra* note 306, the Court dismissed the section 7 challenge then quickly disposed of the section 15 argument by finding that any section 15 infringement was justified under section 1. In contrast, in *New Brunswick (Minister of Health and Community Services) v G(J)*, *supra* note 524, Justice L’Heureux Dubé speaking on behalf of the minority commented directly on the relationship between section 7 and section 15. She argued at para 112 that in addition to the section 7 issues, the case implicated “issues of equality... [which] should be considered in interpreting the scope and content of the interpretation of the rights guaranteed by s. 7”.

marginalized groups, section 7 is sometimes drawn upon to address equality issues in an indirect way.⁵²⁹

There are two main lines of argument linking familial searching to psychological harm. The first may be argued from the perspective of either claimant group and flows from the fact that familial searching might reveal details of a genetic relationship that were previously unknown to the genetically related individuals themselves. This might occur, for instance where an individual was adopted, or where an anonymous gamete donor was used to conceive a child, relationships that are sometimes kept secret.⁵³⁰ To the extent that police might reveal this information during the course of a familial search investigation, police intrusion into ‘genetic family secrets’ may threaten a person’s security interests.⁵³¹

⁵²⁹ See discussion in Koshan, “Redressing the Harms of Government (In) Action” *supra* note 293.

⁵³⁰ Until a few decades ago, it was common to have closed adoptions, with relatively little contact between adopted children, their families and the genetic families of the adopted person. There has been a marked change towards increased openness and contact between adopted families and their genetic parents, so that these relationships are nowhere near as secretive as they once were. Some provinces, including in particular British Columbia, have reformed laws to recognize the right of adopted children to have information about their genetic parents. This has led to legal questions relating to the information access rights of children conceived with sperm obtained in an anonymous donation. In a widely publicized case, Olivia Pratten brought a *Charter* challenge in the British Columbia courts, arguing that the government’s failure to provide for her, as a child of an anonymous sperm donor, the same rights provided for adopted children, constituted an infringement of her individual right to life, liberty, and security of the person as well as her right to equality. The Supreme Court of British Columbia found a violation of Pratten’s equality rights; however the finding was overturned at the Court of Appeal: *Pratten v British Columbia Attorney General*, 2012 BCCA 480. For general discussion of the legal developments in this area, see Vanessa Gruben & Daphne Gilbert, “Donor Unknown: Assessing the Section 15 Rights of Donor-Conceived Offspring” (2011) 27 *Canadian Journal of Family Law* 247; Cameron, Gruben and Kelly, *supra* note 64; Snow, *supra* note 64; Lori Chambers and Heather Hillsburg, “Desperately Seeking Daddy: A Critique of *Pratten v British Columbia (Attorney General)*” (2013) 28:2 *Canadian Journal of Law and Society* 229; Michelle Giroux and Mariana De Lorenzi, “‘Putting the Child First’: A Necessary Step in the Recognition of the Right to Identity” (2011) 27 *Canadian Journal of Family Law* 53.

⁵³¹ If the courts accept that section 7 security interests are engaged by this possibility, the next step would be to consider whether the impact on the claimant’s rights accords with the principles of fundamental justice. I consider this stage together with the arguments made in relation to the second potential argument about psychological harm.

The second argument relating to psychological harm concerns those in the second claimant group, who may be identified as possible suspects in a familial search investigation. This argument suggests that such persons, whose actions have not led to their inclusion in the NDDB, might feel the stigma or a sense of sharing in the guilt of the convicted offender, which may lead to “an enhanced self-consciousness of themselves as a group”.⁵³² As noted following the section 8 analysis above, such feelings might be amplified for Aboriginal peoples, who already suffer a great deal of social stigma relating to the involvement of many of their members as offenders in the Canadian criminal justice system.⁵³³ Recent case law authorities provide a mixed view of whether psychological stress resulting from increased stigma might satisfy the threshold for engaging section 7 security interests. The first case to examine is *R v Blencoe*, where the Supreme Court of Canada considered an application in which the respondent, then a minister in the Government of British Columbia, had been accused of sexual harassment, a situation

⁵³² Haines, *supra* note 9, at 271. See similar comments in Erin E. Murphy, “Familial DNA Searches: The Opposing Viewpoint” (2012) 27:1 Criminal Justice 19. In the Alberta investigation outlined above, police collected samples from volunteers in the community in order to conduct a familial search (which in this case led investigators to a perpetrator whose father had provided DNA that showed a partial match to the crime scene sample). In the case of familial searching of NDDB data, the follow-up investigation would link the potential suspect to a convicted offender since the NDDB has been purposefully limited to individuals who have committed a designated crime. If the investigation were to involve a number of possible suspects who are asked to provide exclusionary samples, the investigation may represent a negative experience for the individuals and family as a whole, as their connection to the crime would be solely based on their supposed genetic connection to a convicted offender.

⁵³³ Michael Jackson emphasized the pervasiveness of this social stigma, characterizing the view as “an equation of being drunk, Indian and in prison. Like many stereotypes, this one has a dark underside. It reflects a view of native people as uncivilized and without a coherent social or moral order. The stereotype prevents us from seeing native people as equals. The fact that the stereotypical view of native people is no longer reflected in official government policy does not negate its power in the popular imagination and its influence in shaping decision of the police, prosecutors, judges and prison officials”: Jackson, *supra* note 93, at 218.

that resulted in his removal from cabinet and dismissal from the New Democratic Party caucus.⁵³⁴ The allegations received a great deal of attention in the media, leading to severe depression for the respondent, who sought to have the complaints stayed on the basis that the Human Rights Commission had allowed unreasonable delay amounting to a denial of natural justice.⁵³⁵ The application was dismissed at trial before the Court of Appeal for British Columbia overturned the decision, finding a violation of the appellant's right to security of the person under section 7.⁵³⁶ The Supreme Court of Canada reinstated the earlier decision, determining that section 7 did not guarantee a right against the stigma experienced by the respondent as a result of the allegations against him.⁵³⁷ The Court was influenced by the fact that the Commission's investigations were not public, and by the fact that the respondent was provided with the opportunity to express his version of the events.⁵³⁸ The Court was also careful to distinguish between the stigma that resulted from the complaint itself, which was not instigated by the state but rather the complainant, and the stigma resulting from the state's processing of the complaint.⁵³⁹ This distinction supported a narrow view of the causal connection requirement and indicated that section 7 security interests would only cover psychological harm that could be traced back to the state directly.

⁵³⁴ *Blencoe v British Columbia*, *supra* note 518.

⁵³⁵ *Blencoe v British Columbia*, *supra* note 518.

⁵³⁶ *Blencoe v British Columbia*, *supra* note 518.

⁵³⁷ *Blencoe v British Columbia*, *supra* note 518, at para 96.

⁵³⁸ *Blencoe v British Columbia*, *supra* note 518, at paras 74 and 96.

⁵³⁹ *Blencoe v British Columbia*, *supra* note 518, at. See also discussion in Sharpe and Roach, *supra* note 504, at 227.

If the Court in *Blencoe* was unwilling to find that the threshold for psychological harm was met where the injury resulted from formal proceedings arising from a human rights complaint, it is unlikely that questions posed to a potential suspect as part of a follow-up investigation of a familial search lead would qualify. This seems to exclude the possibility that any inward negative feelings experienced by a potential suspect as a result of investigative procedures would meet the threshold of psychological harm required by section 7. After *Blencoe*, however, the Supreme Court heard the case of *R v D.B.*, which involved a claim of a section 7 violation based on a requirement that a young offender demonstrate his continued entitlement to a publication ban following his conviction for a violent offence.⁵⁴⁰ The Court found a violation of section 7 based in part on the view that the impact of the requirement included psychological stress and stigma for the youth.⁵⁴¹ While the minority specifically disagreed that this impact was caused by state action, the majority perceived a section 7 infringement arising from the fact that the law deprived the youth of a presumption to which he was entitled.⁵⁴² This case has been used to support the suggestion that the courts have moved to a more flexible

⁵⁴⁰ *R v D.B.*, 2008 SCC 25, [2008] 2 SCR 3.

⁵⁴¹ *R v D.B.*, *supra* note 540.

⁵⁴² See minority comments in *R v D.B.*, *supra* note 540, at paras 171 – 178. Note that the case focused on the right to liberty, not security of the person, because the majority viewed the publication ban as part of the youth's criminal sentence. In a partial dissent, Justice Rothstein, speaking for himself and Justices Bastarache, Deschamps, and Charron, disagreed that the publication ban was part of the sentence, and therefore would have determined that the liberty interest was not engaged by the publication ban itself, which posed no threat to the youth's physical liberty or ability to make fundamental personal choices. Despite the disagreement about the nature of the publication ban and sentence in this case as well as the relationship between the ban and the liberty interest, the Court's willingness to view the greater impact of the law relating to the publication ban as connected to the state action remains relevant in terms of characterizing the impact of that action for future section 7 cases.

approach to the requirement that the stress must be state imposed.⁵⁴³ On this view, there might be room to recognize the state's role in prompting third party scrutiny that may threaten an individual's security interest.⁵⁴⁴

The above analysis has identified two potential risks of familial searching: the revealing of genetic family secrets (which would affect both the pivot person and family members who may become implicated in the follow up investigation) and negative public exposure (for example through a media release) for individuals who may be linked with a criminal investigation through their familial connection with a convicted offender. A law that authorizes familial searching but does not address these concerns would engage section 7 security rights. The next step in the section 7 analysis is to evaluate such a law against the principles of fundamental justice.

3.4.2 Section 7, Stage 2: Assessing the Deprivation of the Interest Against the Principles of Fundamental Justice

If one or more of the three interests in life, liberty, and security of the person protected by section 7 of the *Charter* is engaged, the analysis must proceed to the second stage, which asks whether the impact on the claimant's rights accords with the principles of fundamental justice. The courts have indicated that the principles of fundamental justice must be widely construed and that they aim to uphold the

⁵⁴³ Sharpe and Roach, *supra* note 504, at 227.

⁵⁴⁴ While security interests may be engaged in this scenario, the scrutiny of family members that would result in the follow-up of a familial search investigation need not necessarily result in negative exposure for the individual. In particular, clear policies that restrain publication of the information about suspects identified through familial searching could address the risks identified at this point. It is important to highlight the possibility of such negative exposure, however, as clear policies on this matter are needed. This is particularly so given today's online world and the potential for rapid dissemination of the type of information that would be at stake (e.g. information about the possible criminal involvement of a family member within a particular family unit). Discussing modern privacy considerations in the internet era and in particular the spread of information and opinions about individuals, see: Judge, "Cybertorts in Canada" *supra* note 142, at Chapter E.

“basic tenets of our legal system” (which protect more than mere procedural fairness).⁵⁴⁵ In determining whether a principle or rule is to be regarded as a principle of fundamental justice, the courts will ask whether the rule is (a) “a legal principle about which there is significant societal consensus that it is fundamental to the way in which the legal system ought fairly to operate” and (b) “identified with sufficient precision to yield a manageable standard against which to measure deprivations of life, liberty or security of the person”.⁵⁴⁶ Against this standard, the courts have identified a number of principles of fundamental justice. I examine in this part principles of fundamental justice that would be relevant to a law that authorizes familial searching without properly safeguarding against (i) unnecessary police disclosure of genetic family secrets; and (ii) psychological harm to family⁵⁴⁷ members implicated in an investigation due to public exposure about their family connection and its relationship to the crime under investigation.⁵⁴⁸

⁵⁴⁵ *Re Motor Vehicles Act*, *supra* note 504, at 503. See discussion in Jodie Van Dieen, “The 20th Anniversary of the *Charter*: Developments in Criminal Law Under Section 7 of the *Charter*” (2002) 21 Windsor Y.B. Access Just. 129, at 130 and Hogg, *supra* note 514, at 197.

⁵⁴⁶ *R v Malmo-Levine*, *supra* note 508, at para 113; Hogg, *supra* note 514, at 200.

⁵⁴⁷ See discussion on the complex definition of “family” in the context of a familial search at *supra* note 19.

⁵⁴⁸ In addition to the principles discussed below, I have examined several others that may appear relevant to familial searching, but that upon further examination do not apply to the situation. These include the presumption of innocence (see *R v Pearson*, [1992] 3 SCR 665, which specifically discusses the presumption of innocence as a principle of fundamental justice, as well as *R v Oakes*, *supra* note 346, at paras 29 and 30, discussing the longstanding recognition of the presumption of innocence at common law and characterizing it as one of the “cardinal values” embodied in the *Charter*). It might be argued that familial searching conflicts with the presumption of innocence since familial searching encompasses individuals based on their genetic relationships (not their own actions). Yet, the presumption of innocence as a constitutional principle is traditionally viewed as a safeguard that applies in the context of criminal trials instead of the investigation that precedes the prosecution of a crime: See discussion in Hamish Stewart, “The Right to be Presumed Innocent” (2014) 8:2 Criminal Law and Philosophy 407; and Hamish Stewart, *Fundamental Justice: Section 7 of the Charter of Rights and Freedoms* (Toronto: Irwin Law, 2012), at 249. The presumption of innocence is not strictly a procedural safeguard, and the courts have emphasized its substantive implications in the criminal justice system overall. These implications still relate, however, to the

Several principles of fundamental justice appear to require restrictive use of familial searching by the state. These include the rule against laws that are arbitrary, overbroad, or grossly disproportionate.⁵⁴⁹ The first two principles, arbitrariness and overbreadth, attach to a high standard that requires the claimant to establish that there is no connection between the law's effect on individual rights and its purpose.⁵⁵⁰ It is possible to conceive of a situation where the revealing of a previously unknown genetic relationship would assist police in tracing a family tree

state's burden of proof regarding criminal punishment, requiring that an individual be treated as innocent until proven guilty due to the implications of the criminal conviction (see *Re Motor Vehicles Act*, *supra* note 504, where the Court determined that a law allowing the state to impose criminal punishment without proof of wrongdoing violated section 7). An argument based on the pre-trial right to silence (see *R v Hebert*, [1990] 2 S.C.R. 151; Stewart, *Fundamental Justice supra* note 548, at 104) can also be dismissed, as the courts have established no violation of the principle where DNA information is collected directly from a suspect for the purposes of an investigation (see *R v S.A.B.*, *supra* note 65. Note that in this case, the Court dismissed the argument relating to section 7 and decided instead to consider the weight of the principle against self-incrimination as part of the section 8 analysis, ultimately dismissing the argument that the collection and testing of DNA in the circumstances violated this principle). Finally, it might be argued that a law authorizing familial searching contravenes the principle against vagueness (see *Reference re: ss. 193 and 195.1(1)(c) of the Criminal Code (Man.)*, [1990] 1 S.C.R. 1123). This principle aims to ensure that individuals have adequate warning about laws under which they are bound. It might be invoked in relation to familial searching of NDDDB data on the basis that individuals have not been given fair warning of their inclusion into the scheme. For the purposes of section 7, however, the rule against vagueness is clearly aimed at laws that potentially deprive individuals of their rights to liberty and security of the person through criminal conviction (see comments in *Reference re: ss. 193 and 195.1(1)(c) of the Criminal Code (Man.)*, *supra* note 548, at 1141). It would appear inconsistent to characterize a law authorizing familial searching as an infringement of the principle against vagueness, as familial searching alone could not lead to criminal sanction. Though familial searching is potentially useful in investigating violations of the criminal law, it is the boundaries of the criminal law itself and its regulation of individual behaviour that must be clear, not the method of investigating those crimes.

⁵⁴⁹ Each of these was considered as a principle of fundamental justice in *Canada (AG) v Bedford*, *supra* note 504, at para 108, which is also a recent case in which the Court considered the scope of the right to security of the person under section 7. The respondents in this case succeeded in obtaining a declaration that the criminal prohibitions against keeping or being in a bawdy-house, living on the avails of prostitution, and communicating in public for the purposes of prostitution were an infringement of their rights under section 7 of the *Charter*. The Supreme Court of Canada found an infringement of the respondents' rights to security of the person under section 7 on the basis that the prohibitions imposed dangerous conditions on prostitution, which prevented sex workers from taking steps to protect themselves from the risks inherent in a dangerous but legal profession.

⁵⁵⁰ *Canada (AG) v Bedford*, *supra* note 504, at para 108, citing *Chaoulli v Quebec (AG)*, *supra* note 511, at para 119. See also Stewart, *Fundamental Justice supra* note 548, at 112, where the author explains that "a law should not affect the interest protected by section 7 in situations where doing so would not advance the purposes of the law".

to identify other possible genetic relatives (who might prove to be a match for the anonymous crime scene profile).⁵⁵¹ It is also possible that allowing police to reveal their suspicions about a given family might cause others to come forward with information about the genetic family tree. By ascribing a high threshold where the claimant must show the absence of a connection between the deprivation of rights and the purpose of the law, the courts could logically reject the argument that a familial search conducted without proper restraints to avoid these situations would conflict with the principles against arbitrariness and overbreadth.

A different result can be achieved by considering whether the impact of the law is grossly disproportionate to its aim. This principle requires that the state avoid restricting individual rights under section 7 any more than is necessary to ensure the safety of the public.⁵⁵² Though the principle is only infringed “where the seriousness of the deprivation is totally out of sync with the objective of the measure”, societal benefits that flow from the law are not included at this stage, and

⁵⁵¹ Consider, for example, a fictional situation that elaborates on the facts of the Alberta sexual assault and murder investigation discussed above. If police had attempted a familial search and were unable to locate a match to the crime scene sample through the initial follow-up process, the revealing of hidden information about genetic relationships within the family of the pivot person might assist in the investigation. If police had already contacted the pivot person and indicated to him that his relationship with the anonymous suspect was likely a first-degree father/son relationship, they may have asked for a list of individuals who might fit into that category. If say the man’s own father was deceased, police would focus on locating his son(s) for a match to the crime scene DNA. If the man informed police that he had only one son and analysis of that son’s DNA excluded him from suspicion (instead of identifying him as the perpetrator as occurred in the actual case), the process would have indicated the possibility that the father had a second genetic son who was unknown to him. Follow-up on this through questioning of the father about previous relationships that may have produced a son would potentially identify additional possible suspects, but would also reveal information about a genetic relationship that would have a psychological impact on the father (as well as other family members).

⁵⁵² *R v Heywood*, *supra* note 516; *Canada (AG) v Bedford*, *supra* note 504, at para 109. See also discussion on disproportionality in *Canada (AG) v PHS Community Services Society*, 2011 SCC 44, [2011] 3 S.C.R. 134 and *R v Beare* *supra* note 504.

the inquiry is focused squarely on the negative effects of the law for the claimant(s) against the purpose of the law.⁵⁵³ Furthermore, the disproportionate effect need only be demonstrated in relation to one person to show violation of the norm.⁵⁵⁴ The crucial questions in assessing whether this principle has been contravened for the purposes of section 7 are whether the law pursues a legitimate state interest and, if so, whether the law itself is grossly disproportionate to that interest.⁵⁵⁵ The state certainly has a legitimate interest in solving crimes and protecting the public. In this situation, that interest is pitted against the damage that would be caused to families through the disclosure of genetic family secrets or any psychological harm resulting from police disclosures about their suspicions. It is conceivable that a claimant might be able to show a sufficient degree of harm resulting from either scenario to convince the courts that the harm was grossly disproportionate to the benefits for public safety. The courts would then need to consider the infringement under section 1 of the *Charter*.

3.4.3 Section 1: Assessing the Reasonable Limits

To recap, a successful section 7 challenge to familial searching might be established where a law authorizes familial searching of the NDDB without protecting against the possible psychological harm that might result: (i) to the pivot person(s) and/or potential suspects through police revealing of genetic family secrets, or (ii) to potential suspects through police disclosure to the general public

⁵⁵³ *Canada (AG) v Bedford*, *supra* note 504, at paras 120 and 121.

⁵⁵⁴ *Canada (AG) v Bedford*, *supra* note 504, at para 122.

⁵⁵⁵ *R v Malmo-Levine*, *supra* note 508; Hogg, *supra* note 514, at 204.

of suspicions about the involvement of one or more members of a family in a crime under investigation. The courts have previously indicated that section 7 violations can only rarely be saved by section 1 due to the significance of the rights to life, liberty, and security of the person, none of which should easily be overtaken by societal interests.⁵⁵⁶ To avoid confusing the section 7 analysis with the section 1 analysis, the courts have clarified that the former delineates the boundaries of the rights under consideration while the latter asks whether the violation of these boundaries may be justified.⁵⁵⁷

The first question under the section 1 framework asks whether the objective of a law authorizing familial searching is of sufficient importance to warrant the potential result for security interests. Based on Canada's previous experience in attempting to show balance in DNA data banking activities, the state may offer a designated list of crimes for which public protection is of the highest importance (e.g. murder, sexual assault).⁵⁵⁸ If this same approach were used for familial searching, the courts might accept that the objective of the law is sufficiently important to warrant the above impact on section 7 rights to the extent that it is used to investigate only the most serious crimes. On that basis, I conclude that a section 7 infringement could be established through a law that authorizes familial searching of the NDDDB without adequate restrictions to avoid (i) the disclosure of genetic family secrets and (ii) psychological harm resulting from exposure about

⁵⁵⁶ *New Brunswick (Minister of Health and Community Services) v G(J)*, *supra* note 524, at para 99, cited in *R v Malmo-Levine*, *supra* note 508, at para 271.

⁵⁵⁷ *R v Mills*, [1999] 3 SCR 668, at para 66.

⁵⁵⁸ See *supra* note 353 and accompanying text.

police suspicions relating to a given family.⁵⁵⁹ Such a law could only be saved under section 1 when used in relation to crimes of the most serious nature.

Table 3: Summary of Section 7 Findings

	Life	Liberty	Security of the Person	
Claimant Group	N/A	N/A	Individuals on NDDB (source(s) of pivot profiles)	Individuals who may be targeted in follow up investigation because they are considered likely to hold a genetic relationship with the source of a pivot profile
Q1 satisfied (Interest Engaged)?	No	No	Yes (Possibility of psychological harm due to revealing of genetic secrets)	Yes (Possibility of psychological harm due to revealing of genetic secrets, reinforcement of stigma for family)
Q2 satisfied (Accords with Principles of Fundamental Justice)?	N/A	N/A	Accords with principles against arbitrariness, overbreadth, but may be grossly disproportionate to the aim of ensuring public safety	Accords with principles against arbitrariness, overbreadth, but may be grossly disproportionate to the aim of ensuring public safety
Infringement justified under section 1?	N/A	N/A	Possibly depending on severity of crime	Possibly depending on severity of crime

⁵⁵⁹ Possible safeguards to this particular risk will be examined in Chapter Five as part of the analysis of international familial searching frameworks. In particular, the British policy reflects an attempt to avoid unnecessarily revealing genetic family secrets as part of the familial searching process. This is seen in the police practice of aiming to limit the amount of information released to families during follow-up to what is absolutely necessary (see *infra* note 854 and accompanying text).

3.4.4 Security of the Person and the Disproportionate Impact of Familial Searching on Canada's Aboriginal Peoples

The section 7 analysis has highlighted two important risks attached to the use of familial searching of the NDDB. These are: (i) for both the identifiable offenders who act as the pivot person(s) in familial searching investigations and their relatives who may become potential suspects, the possibility that genetic family secrets may be revealed during police follow-up on a familial search lead; and (ii) for the individual relatives and families who are linked with an investigation due to their familial relationship with a convicted offender, psychological harm due to public exposure of police suspicions that an individual within a given family has been involved with a crime. It is important to emphasize that the harms are not directly linked to the issue of whether or not a claimant is Aboriginal. As with the section 8 claim, the section 7 claims could be advanced by Aboriginal and non-Aboriginal claimants alike. As mentioned above, however, section 7 may sometimes provide a means of addressing equality issues that do not fit within the confines of a section 15 challenge. In this case, if familial searching were used on the racially unequal NDDB, the risks outlined within the section 7 claim would disproportionately impact the Aboriginal community since families within that community would likely be investigated (both falsely and accurately) at a higher rate than the non-Aboriginal public. In this way the risks are relevant to the overall equality issue.

3.5 Conclusion

This chapter has examined three possible *Charter* challenges in order to demonstrate some of the risks that would disproportionately impact Aboriginal peoples if Parliament moves to introduce familial searching into the NDDB scheme. These risks include both those that may receive *Charter* protection and those that likely fall outside of the scope of sections 15, 8, and 7. The analysis in this chapter illustrates that many of the concerns about the use of familial searching are beyond the scope of *Charter* protection. This is significant in terms of understanding the equality impact of familial searching (from a CRT perspective rather than from a *Charter* equality standpoint). For reasons explained in Chapter One, Aboriginal peoples are likely to be implicated in the familial searching process at a disproportionate rate due to the overrepresentation of their genetic relatives in the offender population and in the NDDB. For reasons explained above, the impact of this process may lead to (i) perpetuation and possible worsening of the overrepresentation of Aboriginal peoples in the criminal justice system (both in conviction rates and levels of genetic surveillance); (ii) reinforcement of discriminatory views regarding the propensity towards criminal behaviour for Aboriginal peoples; (iii) a disproportionate loss of privacy rights for Aboriginal peoples; (iv) a risk of psychological harm resulting from the disclosure of genetic family secrets; and (v) a risk of psychological harm and increased stigma due to public exposure of police suspicions that an individual within a given Aboriginal family has been involved with a crime. In addition to the concerns that have been highlighted through the *Charter* analysis there are policy concerns relevant to the

broader impact of familial searching. These additional policy issues are examined in the next chapter.

CHAPTER FOUR: Beyond Individual Rights: Potential Policy Implications of Familial Searching of Canada's NDDB

4.1 Introduction

An analysis of potential *Charter* challenges to familial searching has revealed that the rights to equality, privacy, and security of the person are all potentially engaged by familial searching. Yet, the scope of protection for those rights does not necessarily safeguard against a disproportionate impact of familial searching for Canada's Aboriginal peoples. The impact involves a number of concerns, some of which were outlined in the previous chapter. While the *Charter* analysis provided a helpful platform to begin this discussion, the relevant considerations go beyond what the rights analysis has demonstrated. The use of familial searching of NDDB data would have a much wider discriminatory impact for Aboriginal peoples, one that would encompass several complex policy implications relevant to the current CRT analysis of the issue, including the following risks:⁵⁶⁰

- Additional systemic discrimination based on the discretionary decision-making involved in familial searching;
- What would essentially constitute full inclusion of individuals who have a relative in the NDDB through the combined use of familial searching and exclusionary analysis using abandoned DNA;⁵⁶¹

⁵⁶⁰ I include risks that can be alleviated by proper safeguards here and in the final chapter to highlight the potential risks in full and to support the need for relevant restrictions if familial searching is introduced into NDDB operations in Canada.

⁵⁶¹ As explained in greater detail below (part 4.2.2), this result would occur because familial searching links the relatives of individuals who have provided DNA for the NDDB to the NDDB itself. If a familial search produces a possible lead, investigators may create a list of suspects (known relatives of the identified person). Individuals on the list can be identified or excluded as the source of the crime scene sample through analysis of abandoned DNA. In this way, the relatives will have been included for all intents and purposes within the NDDB scheme (albeit in a roundabout way). Note that "full inclusion" is used here to refer to the inclusion of individuals (who can be linked to the NDDB through their familial relationships then confirmed or excluded as suspects through analysis of abandoned DNA). The argument is not that familial searching would lead to full inclusion of all

- Racial discrimination due to the potential for the combined use of familial searching and forensic phenotyping;
- Familial breakdown due to the effects of having “genetic informants” within families.

In the second part of this chapter, I continue the policy discussion by evaluating counterarguments to my recommendation for continued prohibition of familial searching of the NDDB. The major counterargument is that the technique can help solve crimes and hence, given the overrepresentation of Aboriginal peoples as victims, may be seen as supporting equality for Aboriginal peoples. However, while familial searching may sometimes lead to the apprehension of dangerous offenders, this result would not actually address the underlying causes of crime. To the extent that such offenders may be Aboriginal, the issue is inextricably linked to the effects of colonialism and cannot be adequately addressed through familial searching, which represents a law enforcement response rather than an attempt at systemic change. A second counterargument is that familial searching may help avoid wrongful convictions. I ultimately reject this claim as a sidestepping of the reasons that wrongful convictions occur (which are unlikely to be resolved through expansion of the NDDB). Finally, I evaluate the argument that the discriminatory impact of familial searching can be avoided through the introduction of a population-wide NDDB. A universal data bank would address some of the problems with familial searching with respect to the initial search and its impact on Aboriginal peoples. I argue, however, that the response represents an oversimplification of the

Aboriginal peoples in Canada as a group. It is rather that non-convicted persons belonging to Aboriginal families will be disproportionately included (on an individual basis) in the NDDB through the combined use of the NDDB and abandoned DNA.

problem of systemic racism within the criminal justice system as well as an imbalanced response to the familial searching question.

4.2 Policy Issues and the Potential Impact of Familial Searching on Canada's Aboriginal Peoples

4.2.1 Discretionary Decision-Making in Familial Searching: Lessons From the Forensic Fingerprinting Experience

As a science of probabilities, familial searching involves a subjective assessment regarding the likelihood that an anonymous suspect is genetically related to an identifiable person. As explained in Chapter Two, there are several ways to verify a familial search lead to reduce the likelihood of a fortuitous match. To review, these options include weighing of the strength of the suggested genetic link, which may be useful because it is less likely that a false match would be declared for a first-degree relationship compared to a second or third-degree relationship (i.e. the former type of lead can be considered more reliable). The sharing of rare alleles may reinforce the conclusion that a genetic relationship exists. Another option is to test additional markers beyond the core loci used for profile comparisons. Finally, verification of parental lineage (through Y-STR or mt-DNA testing) can also confirm the validity of some leads.

The above options present helpful ways to reduce the number of false investigations. Nevertheless, the decision of whether or not to follow-up on a familial search lead by investigating family members of the identified person and requesting exclusionary DNA samples needs to be regulated. I support this argument by revisiting the Canadian and international experience with forensic fingerprinting. As explained below, fingerprinting was used in the forensic context

without adequate scientific support for almost a century. Inattention to the subjective elements of the fingerprinting process allowed an unacceptable risk of wrongful convictions. After describing this experience below, I explain how it is relevant to the issue of familial searching and to the overall equality argument advanced in this dissertation.

Prior to the nineteenth century, methods of criminal identification were limited to observation of outward physical characteristics.⁵⁶² Over the course of the nineteenth and twentieth centuries, many efforts were made to find the most distinguishing physical characteristics in order to improve methods of criminal identification.⁵⁶³ A major advancement in the nineteenth century was the “Bertillon system”, which measured different body parts⁵⁶⁴ and provided a physical description of each person through use of a customized vocabulary.⁵⁶⁵ Use of the

⁵⁶² For instance, authorities once relied on branding and tattooing of criminals to identify recidivists (though the term “recidivist” did not enter the English language until 1886): Cole, *Suspect Identities*, *supra* note 5 at 54 and 69; Katherine Schwinghammer, “Fingerprint Identification: How ‘The Gold Standard of Evidence’ *Could* Be Worth Its Weight” (2004) 32 Am. J. Crim. L. 265, at 273.

⁵⁶³ A major improvement was introduced with the advent of photography, which became central to the criminal justice system in the 1840s, when French police committed to collecting photographs of all known criminals: Sarah Stacy, “Study in Documents: The Legalization of the Photography of Canadian Prisoners” (2008) 65 *Archivaria* 107, at 107.

⁵⁶⁴ The system was created by Alphonse Bertillon and introduced in the 1870s. Measurements were taken of each person’s height, head length, head breadth, arm span, sitting height, left middle finger length, left little finger length, left foot length, left forearm length, right ear length, and cheek width, specifically chosen based on the belief that these body parts were least likely to fluctuate with changes in weight or with aging. The positioning and moving of the prisoner’s body was calculated in order to avoid discrepancies in measurements (e.g. by preventing intentional or unintentional curling of the toes that would skew the foot measurement). Physical descriptors included eye colour chosen from over fifty shades and marked by different degrees of mixed pigmentation, and lips described through an array of adjectives (e.g. “pouting”, “thick”, “thin”, “upper” or “lower prominent”, or having great “naso-labial height”). Operators also noted any other peculiar markings on an individual: Cole, *Suspect Identities*, *supra* note 5, at 34 and 43.

⁵⁶⁵ The physical descriptions were greatly assisted by photography. Operators took photographs from a portrait and side profile angle, the latter being required because it was known that the contours of the ear remained very stable over a lifetime. Ears thus represented a reliable (but not always practical) means of identifying individuals across their lifetimes and were considered the

Bertillon method resulted in the identification of numerous recidivists throughout the 1880s and was gradually incorporated into criminal investigations around the world; however, its widespread adoption highlighted its weaknesses, which included the need for specific training and rigorous application, an inability to take account of the changes to the body brought on by aging, and the realities that human error would still occur in observing physical characteristics for identification purposes.⁵⁶⁶ As the Bertillon system was being called into question, a preliminary awareness of the individuality and permanence of fingerprints was emerging.⁵⁶⁷

most important descriptor in Bertillonage. The ear was divided into four areas and intricately described. Today's "mugshots" still include a side profile based on this knowledge: Cole, *supra* note 5, at 34 and 43. Ear comparison was used in a case involving the disappearance of thirteen-year-old Nicholas Barclay in Texas. Years after Barclay disappeared, con artist Frederic Bourdoin impersonated the child and convinced investigators and Barclay's family that he was the missing boy. The lie was confirmed when a private investigator noticed that Bourdoin's ear did not match the ear of the child as viewed in an old photograph: David Grann, "The Great Pretender" *The Observer* (September 28, 2008), online:

<http://www.guardian.co.uk/lifeandstyle/2008/sep/28/crime.unitedstates>.

⁵⁶⁶ Over time, the system's reputation suffered due to sloppy application as well as purposeful modifications that affected its accuracy. Bertillon considered the discrepancies that resulted from the application of his system as a sign of authenticity, since both human calculation and natural variation of bone lengths should be expected to produce different results over time. Accordingly, a maximum tolerable deviation was set so that very close results could be used to support a positive identification. The system was, however, considered impractical for certain prisoner populations, specifically by colonial officials in relation to the Indian population. Officials perceived great uniformity across the people in terms of hair, eye, and skin tone. This perception highlights both the weaknesses of relying on human observation as well as another form of racial bias in the criminal justice system. On these and other experiences with the Bertillon system, see discussion in Andrew A. Moenssens, "Admissibility of Fingerprint Evidence and Constitutional Objections to Fingerprinting Raised in Criminal and Civil Cases" (1963) 40:2 *Chicago-Kent L. Rev.* 85, at 87; Cole, *supra* note 5 at 52, 70 and 71; Simon Cole, "What Counts for Identity? The Historical Origins of the Methodology of Latent Fingerprint Identification" (1999) 12:1 *Science in Context* 139, at 160; Richard M. Caplan, "How Fingerprints Came into use for Personal Identification" (1990) 23:1 *Journal of the American Academy of Dermatology* 109, at 111.

⁵⁶⁷ Colonial officials working in India had for decades been using fingerprints to deter workers from deceiving the government by claiming payment for work more than once. The uniqueness of fingerprints had, however, been alluded to in a number of documents existing prior to the nineteenth century. These include certain biblical passages, which appear to have proposed the use of finger and handprints for identification of individuals. Fingerprints were also used in lieu of signatures on contracts drafted during China's Tang Dynasty. In the sixteenth century, J.C.A. Mayer suggested that ridge patterns are never duplicated in individuals. In the seventeenth century, Nehemiah Grew conducted intensive examination of the details of the ridges, furrows, and pores on both hands and

Fingerprints were viewed as an improvement in the area of forensic identification as they required less skill, time, and expense in collection.⁵⁶⁸ The process presented a logical replacement for the Bertillon method, and the advent of forensic fingerprinting began.

Before fingerprints could be used on a broad scale, further scientific evidence supporting their use in this context was required.⁵⁶⁹ A significant achievement in this respect was made in 1892, when Sir Francis Galton published extensive scientific support for the notion that fingerprints were both unique and permanent.⁵⁷⁰ Galton estimated the likelihood of two living individuals sharing one common fingerprint at approximately one in sixty-four billion, and that of two individuals showing an incidental two-finger match at “a figure altogether beyond

feet, earning him the title of “the first fingerprint pioneer”. It was not until the nineteenth century that the forensic power of fingerprints appears to have been seriously contemplated: Kurland, *supra* note 237, at 67 and 71; Lee C. Henry & R.E. Gaensslen (eds.), *Advances in Fingerprint Technology* (New York: Elsevier, 1991) at 14 and 25; Moenssens, *supra* note 566, at 86; Cole, *Suspect Identities*, *supra* note 5, at 65 and 73.

⁵⁶⁸ Cole, “What Counts for Identity?” *supra* note 566, at 161.

⁵⁶⁹ While the use of fingerprint evidence in criminal investigations and prosecutions became commonplace only after further scientific evidence was advanced, fingerprints had already by that time been used to confirm suspects in isolated investigations. The earliest case involved two burglaries; Dr. Henry Faulds assisted in the investigations. Faulds recounted the experience in an 1880 publication and suggested that fingerprints could be used to identify criminals. In the first burglary, Faulds examined a greasy fingerprint to confirm that a suspect had indeed drunk from a bottle of rectified spirit left at the scene of a crime. In the second, he corroborated suspicion of an individual who had left a sooty fingerprint on a wall: Henry Faulds, “On the Skin Furrows of the Hand” (1880) 22: 574 *Nature* 605; Kurland, *supra* note 237, at 73. Fingerprint evidence was also used to solve an 1892 murder investigation in Buenos Aires, Argentina. In this case, a woman had claimed that another person had murdered her son. The mother was convicted of the murder when a bloody fingerprint found at the scene of the crime matched her own: Caplan, *supra* note 566; George Wilton, “Finger-Prints: The Case of Kangali Charan, 1898” (1937) 49 *Juridical Review* 417, at 418; and Kurland, *supra* note 237, at 79. There appears to have also been a criminal case in which palm print evidence was presented as far back as 35 A.D. In this case, a blind boy was accused of having murdered his father. A bloody palm print at the crime scene was analyzed to show that it could not have belonged to the boy, but that it did belong to his mother, who was ultimately identified as the killer. The print evidence was analyzed for its size rather than for the minute ridge details observed in fingerprints today: Dale Clegg, “Fingerprint Identification” in John Horswell (ed.), *The Practice of Crime Scene Investigation* (Boca Raton: CRC Press, 2004), at 162.

⁵⁷⁰ Francis Galton, *Finger Prints* (London; New York: MacMillan, 1892).

the range of the imagination”.⁵⁷¹ He further concluded that although minute changes to ridges might occur through injury, hard labour involving the hands, or changes brought on by aging, the unchanged portions of the fingerprints would provide “an enormously large residue of evidence in favour of identity”, which could be relied upon in official situations, especially where more than one finger is compared.⁵⁷² Overall, he proposed that at any stage of life, even taking into account errors or differences in human observations, fingerprint identification evidence could “be trusted in a most remarkable degree”.⁵⁷³

Galton’s scientific endorsement set the stage for the use of fingerprints within the criminal justice system. The potential for introducing a cheaper and more efficient system of criminal identification was no doubt exciting. Even more exciting though, was the potential to use fingerprints lifted from crime scenes to identify suspects where the remaining evidence failed to suggest a specific individual as the perpetrator of the crime.⁵⁷⁴ It was understood that fingerprints were being left on

⁵⁷¹ Galton, *supra* note 570, at 11; Caplan, *supra* note 566, at 112. In Chapter Two, the general belief that identical twins share the same DNA was noted along with modern research that calls this conclusion into question (*supra* note 219). It was also once suggested that identical twins share fingerprints; however, this has proven false. Identical twins may, however, share enough similarity in fingerprints that their prints would be classified in the same general area of a given classification system. Nevertheless, a direct comparison of such prints will show two distinct sets: Kurland, *supra* note 237, at 76.

⁵⁷² Galton, *supra* note 570, at 112.

⁵⁷³ Galton, *supra* note 570, at 11, and 113.

⁵⁷⁴ After Dr. Henry Faulds suggested in the academic literature that fingerprints could be used to identify criminal suspects, (see note 569 above), a conflict over priority credit ensued between Faulds and Sir William Herschel. Herschel responded to the publication the following month, stating that he had been studying this use of fingerprints for twenty years and implying that Faulds had wrongly taken credit for his discovery: William Herschel, “Skin Furrows of the Hand” (1880) 23: 578 *Nature* 76. The dispute continued for many years. See Henry & Gaensslen *supra* note 567, at 25; Wilton, *supra* note 569, at 417; Caplan, *supra* note 566, at 111; and Frank S. Block “Fingerprint Evidence” (1932) 10:4 *Chicago-Kent Law Review* 231, at 233. It is also noteworthy that Mark Twain’s 1883 fictional novel *Life on the Mississippi* envisioned using fingerprints to solve crimes. Twain’s

surfaces touched by individuals during the course of daily activities (including during the commission of crimes) and that these prints could be observed and compared to the prints of identifiable individuals.⁵⁷⁵ To give effect to this type of use, however, a classification system that would allow efficient retrieval of identified records had to be devised.⁵⁷⁶ The challenge was to ensure the system would remain workable as the records multiplied.⁵⁷⁷

Working towards this goal, Galton suggested that fingerprints could be characterized as “arches” (A), “inner loops” (I), “outer loops” (O) or “whorls” (W).⁵⁷⁸ Under this division, each finger could be categorized to form a ten-letter sequence, and the sequences could be catalogued alphabetically for future reference.⁵⁷⁹ This unfortunately proved to be insufficient, as certain sequences proved very common

character Ritter insisted that no two people share fingerprint patterns and solved a murder through use of a thumbprint: Mark Twain, *Life on the Mississippi* (Montreal: Dawson, 1883).

⁵⁷⁵ Fingerprints are left behind on surfaces of objects as a result of the exuding of perspiration from between the fingerprint ridges. The ridges exist partly to allow for perspiration from the fingertips, but also to promote “tactile facility” and to provide a “gripping surface” for the extremities. Individual ridge patterns like those on fingerprints also exist on the toes: Henry & Gaensslen *supra* note 567, at 2. Without the practical difficulties arising from the fact that criminals are unlikely to leave behind toe prints, one could be identified through a toe print through the same process used for fingerprints.

⁵⁷⁶ Before it was replaced by fingerprinting, the need for a classification system for Bertillonage had also been considered. Bertillon recognized at an early stage that the key to an efficient process of criminal identification was classification of the identifiable information. An early attempt to classify the data involved categorization according to sex, subdivided by head length, head breadth, and middle finger length: Cole, *Suspect Identities*, *supra* note 5, at 45.

⁵⁷⁷ This was an especially challenging objective because, as opposed to the Bertillon system (which was based on qualitative differences in the measurements of the human body), a fingerprint classification system would need to sort the qualitative differences in fingerprint patterns: Cole, *Suspect Identities* *supra* note 5, at 77. In 1886, Dr. Henry Faulds had offered to fund and set up a fingerprint bureau for Scotland Yard. His offer was rejected as he had not developed a classification system that would remain workable as the database grew in size: Kurland, *supra* note 237, at 75; Cole, *Suspect Identities* *supra* note 5 at 73; and Caplan, *supra* note 566, at 110.

⁵⁷⁸ Galton, *supra* note 570, at 78. Note that the original classification was three-fold, consisting of “arches”, “loops” and “whorls”. Loops were later divided into two categories: “inner” and “outer”. In developing his fingerprint categories, Galton built upon the work of Johannes Purkinje, who had initially suggested nine fingerprint pattern types: Cole, *Suspect Identities* *supra* note 5, at 79; Caplan, *supra* note 566, at 112.

⁵⁷⁹ Cole, *Suspect Identities* *supra* note 5, at 79.

amongst the general population.⁵⁸⁰ The “Henry system” and the “Vucetich system” were introduced, both further subdividing Galton’s categories by incorporating ridge counts and other minute details, with the end result in both systems being a fraction value that would allow for classification of the prints by number.⁵⁸¹ These systems, either intact or in modified form, were gradually implemented around the world as the new standard in criminal identification.⁵⁸²

The first criminal trial based on fingerprint evidence took place in 1898 in an Indian court; the defendant Kangali Charan entered a plea of not guilty to charges of theft and murder.⁵⁸³ A lone thumbprint was the primary evidence presented against

⁵⁸⁰ The sequence “0000000000”, for instance, proved to be quite common. Galton’s initial division was workable for a population of about 20,000 (the approximate size of the criminal offender population in England at the time). It could not have accommodated the population size that was to come: Caplan, *supra* note 566, at 112.

⁵⁸¹ Fingerprint classification systems have continued to apply the principles of these two early systems. Today’s systems typically use six categories of fingerprints: “arches”, “tented arches”, “radial loops”, “ulnar loops”, “whorls”, and “accidentals” (for prints that do not fit easily into one of the other descriptions). These are very close to the categories that were initially presented in the Henry system: “arches” (A), “tented arches” (T), “radial loops” (R), “ulnar loops” (U), and “whorls” (W). Vucetich’s system divided prints into “arches”, “loops with internal inclination”, “loops with external inclination”, and “whorls”. For a general explanation of both systems, see: Kurland, *supra* note 237, at 84; Cole, *Suspect Identities supra* note 5, at 82 and 130. Another dispute arose here over academic credit for the development of the Henry system. Sir Edward Henry claimed to have independently devised the system, while alternative accounts gave credit to his assistants Azizul Haque and Chandra Bose: Henry & Gaensslen *supra* note 567, at 22; Cole, *Suspect Identities supra* note 5, at 81.

⁵⁸² In 1901, Henry oversaw the implementation of his fingerprinting system at Scotland Yard. Major penitentiaries in the US began to incorporate fingerprint identification using this system around 1903: Kurland, *supra* note 237, at 78. Other countries adopted versions of the Henry and Vucetich systems over time. These still form the basis of most fingerprinting classification systems around the world: Cole, *Suspect Identities, supra* note 5, at 224; Herb Durand, “Fingerprints” in G.M. Chayko & E.D. Gulliver (eds.), *Forensic Evidence in Canada* 2nd ed. (Aurora, Ontario: Canada Law Book, 1999), at 457. The systems were later upgraded to electronic systems to facilitate greater storage capacity and a quicker matching process. Canada switched to electronic fingerprint record keeping systems in 1970: Erin Chouinard, “Big Impression: Celebrating 100 Years of Fingerprint Identification in Canada” *RCMP Gazette* (2011) 73(1) 18, at 19; Caplan, *supra* note 566, at 113.

⁵⁸³ The victim was a manager of a tea garden who had been stabbed to death in his home. The assailant had stolen money from the victim’s moneybox, in the process leaving a bloody fingerprint mark on an almanac contained in the box. Note that the name Kangali Charan was an alias, though it is the name used in subsequent accounts of the case (the accused’s real name was Ranjan Singh): Cole, *Suspect Identities, supra* note 5, at 88; Wilton, *supra* note 569, at 417.

the accused. The judge stated that he “fully believe[d] in the efficacy of identifying persons by their thumb impressions” and agreed that the evidence placed the accused at the scene of the crime. The judge did not, however, feel that fingerprint evidence alone could substantiate a conviction for the murder.⁵⁸⁴ Charan was found guilty of the theft, as there was additional evidence implicating him in that charge.⁵⁸⁵ With no other direct evidence to connect him to the murder, Charan was acquitted on this more serious charge.⁵⁸⁶

In 1900, on the heels of Charan’s case, Britain officially adopted fingerprint identification as its primary method of criminal identification.⁵⁸⁷ At first, the knowledge was used to prosecute minor offences, normally leading to confessions from known suspects.⁵⁸⁸ In 1902, a British detective identified a thumbprint found at the scene of a burglary as belonging to a suspect named Harry Jackson; this evidence led the jury to enter a guilty verdict.⁵⁸⁹ In 1905, in the “Deptford murder trial”, British police were presented with their first opportunity to use fingerprint evidence to investigate a murder, which resulted in convictions for two brothers, Alfred and Albert Stratton.⁵⁹⁰ At trial, the judge allowed the prosecution to present

⁵⁸⁴ Wilton, *supra* note 569, at 425.

⁵⁸⁵ The evidence included details of the accused’s spending right after the crime: Wilton, *supra* note 569, at 421.

⁵⁸⁶ This decision was highly influenced by the fact that there were other possible culprits whose guilt for that crime had not been disproven: Cole, *Suspect Identities supra* note 5, at 89; George Wilton, *supra* note 569, at 419.

⁵⁸⁷ Cole, “What Counts for Identity?” *supra* note 566, at 151.

⁵⁸⁸ Kurland, *supra* note 237, at 93; Cole, “What Counts for Identity?” *supra* note 566, at 151.

⁵⁸⁹ Durand, *supra* note 582, at 457; G.T.C. Lambourne, “A Brief History of Fingerprints” (1977) 17 *Journ. of Forens. Sci. Soc.* 95, at 97.

⁵⁹⁰ The case involved the murder of a shopkeeper and his wife. An eyewitness saw Alfred and Albert Stratton flee the scene of the crime and identified the pair to police. A bloody thumbprint found on a cash box owned by the storekeeper confirmed the eyewitness identification: Kurland, *supra* note 237, at 92; Cole, “What Counts for Identity?” *supra* note 566, at 151.

the fingerprint evidence, but instructed the jury to consider all of the evidence instead of relying on the fingerprint alone.⁵⁹¹ The jury found the defendants guilty, a decision that effectively “eased the way toward courtroom acceptance of fingerprint evidence”.⁵⁹²

By 1909, courts appeared less concerned about the potential for juries to overemphasize the value of fingerprints as an indicator of guilt. That year, British courts convicted Thomas Castleton of burglary, the only evidence against him being a positive identification made from a single fingerprint.⁵⁹³ The conviction was upheld on appeal, thus confirming that defendants could be convicted based on fingerprint evidence alone.⁵⁹⁴ By this time, most countries had officially adopted fingerprinting as the primary method of criminal identification, and it was only a matter of time before the courts in the rest of the world followed the British lead in terms of using crime scene prints to support criminal convictions.⁵⁹⁵

Fingerprint evidence was introduced into American courts through the murder trial of Thomas Jennings, which took place in 1911 in the Supreme Court of

⁵⁹¹ Kurland, *supra* note 237, at 93.

⁵⁹² Kurland, *supra* note 237, at 95.

⁵⁹³ *Castleton's Case*, 3 Crim. App. Rep. 74.

⁵⁹⁴ *Castleton's Case*, *supra* note 593. The trend towards convicting individuals based on fingerprint evidence alone had in fact begun prior to this decision. For instance, Harry Jackson was convicted of burglary in 1902, a charge for which he had pleaded not guilty until being identified through analysis of a thumbprint left behind at the scene of the crime: Lambourne, *supra* note 589, at 97.

⁵⁹⁵ The US began by adopting fingerprinting to identify civil servants in 1902, which then led to the use of fingerprints in the criminal setting: Moenssens, *supra* note 566, at 87. In Canada, the Bertillon system for prisoner identification was officially authorized in 1898, by which time flaws in the system were being recognized. The same law included authorization for taking fingerprints as part of Bertillon measurements. A fingerprinting system was officially brought in as a replacement in 1908: Chouinard, *supra* note 582, at 18; BC Civil Liberties Association “Fingerprinting for Hybrid Offences” (1991) online: http://bccla.org/our_work/fingerprinting-for-hybrid-offences/.

Illinois.⁵⁹⁶ In September of 1910, a man broke into a Chicago home and attempted to assault a young girl; the girl's father was fatally shot when he came out of his room to confront the intruder.⁵⁹⁷ Jennings was found in close proximity to the scene of the murder with injuries that indicated a struggle.⁵⁹⁸ Police suspicions were confirmed when Jennings' fingerprint provided a match to one left on a balcony in the home.⁵⁹⁹ Admitting into evidence the fingerprint information that sealed Jennings' fate, the court specifically noted that fingerprinting had become commonplace in England, and further that English courts had entered criminal convictions based solely on such evidence.⁶⁰⁰ The conviction withstood appeals that challenged the validity of the fingerprints as evidence of the defendant's guilt, and Jennings was hung on February 16th, 1912.⁶⁰¹

Over the next several years, fingerprint evidence was admitted in courtrooms in the rest of the world, including in Canada,⁶⁰² with additional trials where the identification was the only evidence supporting a conviction.⁶⁰³ As time

⁵⁹⁶ *People v Jennings*, 252 Ill. 534, 96 N. E. 1077 (1911).

⁵⁹⁷ Kurland, *supra* note 237, at 97.

⁵⁹⁸ Schwinghammer, *supra* note 562, at 280.

⁵⁹⁹ Schwinghammer, *supra* note 562, at 280.

⁶⁰⁰ *People v Jennings*, *supra* note 596, at 1081. Other early cases in which fingerprint analysis provided the only incriminating evidence against the accused include *People v Crispi* (New York, 1911) and *Emperor v Sahdeo* 3 Nagpur, L. Rep. 1 (India 1904).

⁶⁰¹ *People v Jennings*, *supra* note 596. See also Kurland, *supra* note 237, at 97; Simon A. Cole, "Witnessing Identification: Latent Fingerprinting Evidence and Expert Knowledge" (1998) 28 *Social Studies of Science* 687, at 687.

⁶⁰² Reports show that convictions were obtained against two men through fingerprint analysis in a railway break-in in Petawawa, Ontario in 1914: Mark Hawthorne *Fingerprints: Analysis and Understanding* (Boca Raton, FL: CRC Press, 2009), at 9. Other early Canadian cases include *R v Bacon* (1915) 11 Cr. App. R. 90 and *Pelletier c. Le Roi*, [1952] B.R. 633. See also comments by Justice La Forest on how Canada followed the British and American lead in *R v Higgins*; *R v Beare* (1987) 40 DLR (4th) 600 (SKCA), at 67.

⁶⁰³ In Australia, see *R v Parker* [1912] VLR 152, a conviction for the robbery of a jewelry store based on a positive identification through a lone fingerprint; in New Zealand, see the 1920 trial for the murder of postmaster Augustus Edward Braithwaite, in which Dennis Gunn was identified, convicted,

went on, judicial questioning about the validity of fingerprint science became increasingly rare.⁶⁰⁴ Eventually, based on almost no formal scientific inquiry, judges began to simply take judicial notice of the science of fingerprinting and its validity in terms of identifying and confirming criminal suspects.⁶⁰⁵ The courtroom enthusiasm quickly spread elsewhere. Academics lauded fingerprint evidence as the most reliable form of personal identification, noting in particular that it was a welcome improvement to the notoriously unreliable eyewitness testimony.⁶⁰⁶ The professionalization of the field of forensic fingerprinting began in the early twentieth century, with experts advancing standardized matching procedures that usually involved minimum “points of comparison” for each print that were generally set at between seven and twelve.⁶⁰⁷ These standards were not given as probabilistic

and sentenced to death on the basis of fingerprint evidence: Minister of Justice (NZ), “Report of the Trial of Dennis Gunn for the Murder of Mr. Augustus Edward Braithwaite, Postmaster at Ponsonby, Auckland, on Saturday 13th March, 1920” (Wellington: Minister of Justice, 1921); in the Republic of the Philippines, see *People of the Philippine Islands v Marciano Medin y Diokno* [1933] G.R. No. L-38434.

⁶⁰⁴ Anastasia Holobinko, “Forensic Human Identification in the United States and Canada: A Review of the Law, Admissible Techniques and the Legal Implications of Their Application in Forensic Cases” (2012) 222 *Forensic Science International* 394.e1, at 394.e5.

⁶⁰⁵ See e.g. the Australian case of *Parker v the King* 14 Commonwealth Law Rep. (Aust.) 681; the US cases of *Piquet v United States*, 81 F. 2d 75; *People v Adamson*, 27 Cal. 2d 478 (1946); and the Indian case of *Emperor v Abdul Hamid* [1905] 32 Ind. L.R. 759. See also discussion of early case law in Cole, “Grandfathering Evidence” *supra* note 253; Block, *supra* note 574; Moenssens, *supra* note 566; Schwinghammer, *supra* note 562; Jeremy Gans, “A Tale of Two High Court Forensic Cases” (2011) 33 *Sydney Law Review* 515.

⁶⁰⁶ See e.g. Block, *supra* note 574, at 235, where the author notes that fingerprint evidence “is accepted chiefly on its scientific perfection and its value to law because of its near infallibility as a means of identification”. On its superiority in comparison to eyewitness identification, see Kurland, *supra* note 237, at 96.

⁶⁰⁷ Even with these minimum standards in place, experts allowed themselves some latitude to waive the standards when necessary. Some matching processes looked at as few as four points of comparison, and some as many as sixteen. Some countries, including both Canada and the US, chose not to set minimum national standards, though such standards appear to have been roughly followed as a matter of policy: Schwinghammer, *supra* note 562, at 279; Cole, “What Counts for Identity?” *supra* note 566, at 157. Fingerprint expertise was not a well-defined concept. One author described the situation in the early 1960s as one in which “[n]o hard and fast rule [had been] laid down as to when a person familiar with fingerprints becomes an expert”: Moenssens, *supra* note 566, at 94.

measures, but rather offered as a threshold at which experts could declare with certainty that a match had been found.⁶⁰⁸ To capitalize on the power of fingerprint identification, governments introduced centralized repositories for the storage of fingerprint indexes, which were first employed only at the domestic level, but eventually led to international sharing agreements.⁶⁰⁹ There were calls for universal registration of fingerprints in the name of public safety, though this more extreme step was not taken.⁶¹⁰

Throughout the better part of the twentieth century, only a minority of experts openly questioned the science of fingerprinting and its application to the criminal context. Such concerns were primarily aimed at the use of a single fingerprint match as an indicator of guilt, though these warnings were generally either dismissed as unpersuasive or ignored entirely.⁶¹¹ The idea that fingerprints could be forged or falsified by police was also noted, but this too was a risk that was

⁶⁰⁸ Lynch, *supra* note 144, at 94.

⁶⁰⁹ The Canadian Criminal Identification Bureau officially opened its doors in 1911 with a holding of 2,042 fingerprint records on file: Durand, *supra* note 582, at 457; Chouinard, *supra* note 582, at 18. The RCMP later took over and expanded the fingerprint collection: Lauren Kilgour, "Tracing the Lifecycle of Canadian Criminal Records: A Critical Examination in Relation to Public Policy and User Access and Comprehension" (2013) *Records Management Journal* 136, at 138.

⁶¹⁰ A.M. Kidd, "Right to Take Fingerprints Measurements and Photographs" (1919) 8:1 *California Law Review* 25, at 40. The American Civil Liberties Union voiced an early objection to the idea of universal fingerprinting: ACLU, "Thumbs Down! The Fingerprint Menace to Civil Liberties" (New York, 1938); Anthony M. Butler, "Universal Fingerprinting – Source of a New Civil Liberty" (1967) 25 *U. Tor. Fac. L. Rev.* 121. As discussed below, similar arguments for universal DNA data banks have been advanced in modern times in relation to DNA data-banking, though no jurisdiction has taken this extreme step.

⁶¹¹ Dr. Henry Faulds was one of the predominant voices warning against the use of one-finger comparisons to identify criminals. He specifically denounced the use of fingerprint identification in the "Deptford Murder Trial" (discussed above) based on his concerns about the use of only four points of comparison and one thumbprint: Cole, "What Counts for Identity?" *supra* note 566, at 152 and 154. Unfortunately, the courts failed to take note of Faulds' early warnings. This has been attributed in part to Faulds' involvement in conflict over priority claims, which led to him being characterized as an "embittered eccentric": Cole, "Grandfathering Evidence" *supra* note 253, at 1198; Schwinghammer, *supra* note 562, at 278.

largely dismissed as fingerprints were increasingly relied upon in the early twentieth century.⁶¹² No strong voice appeared in the courtroom to balance the enthusiastic acceptance of forensic fingerprinting. In the early trials that occurred at the beginning of the twentieth century, experts appeared almost exclusively on behalf of the prosecution to reinforce the validity of the science.⁶¹³ By the 1910s, it was becoming common for experts to advance fingerprint evidence as a matter of fact.⁶¹⁴

Relative to the attention given to the scientific inquiry, the due process concerns received more detailed consideration, though these questions were typically answered in a way that supported extensive reliance on fingerprinting in the criminal justice system. In the second half of the twentieth century in Canada and elsewhere, the courts confirmed that police were authorized to collect fingerprints from those under lawful arrest for the purposes of solving an ongoing investigation.⁶¹⁵ A slightly more difficult question related to the use of fingerprints

⁶¹² See Albert Wehde and John Beffel, *Fingerprints Can Be Forged* (Chicago: Tremonia Publishing Company, 1924), where the authors put forth a method of fingerprint forgery. See also discussion in C.D. Lee, "Finger-Prints Can Be Forged" (1931) 25:4 *Journ. of Crim. L. and Crim.* 671; Fred E. Inbau, "Counterfeit Finger-Prints" (1931) 25:4 *Journ. of Crim. L. and Crim.* 665; and Kurland, *supra* note 237, at 217. Criticizing Wehde and Beffel and the general view that fingerprint forgery posed a real issue for the forensic context, see B.F. "Evidentiary Value of Finger-Prints" (1932) 80:6 *U. Penn. L. Rev.* 887, at 889. Discussing the fact that forensic investigators would be able to detect transplanted skin used to create a new fingertip in the unlikely event that this would be done to evade criminal identification, see Marjorie Van de Water, "Can Fingerprints be Forged?" (1936) 29 *The Science News-letter* 90, at 91. Van de Water also notes at 91 that failed attempts to mutilate or mask fingerprints solidified the view that fingerprinting provided a foolproof method of criminal identification from which criminals could not escape.

⁶¹³ Cole, "Witnessing Identification" *supra* note 601, at 699.

⁶¹⁴ See Cole, "What Counts for Identity?" *supra* note 566, at 158, where the author notes how fingerprinting experts began to "couch their utterances in terms of certainty". See also Moenssens, *supra* note 566, at 122, noting that "[f]ingerprints are unique, and can be used to identify an individual without fear of erroneous identification".

⁶¹⁵ In Canada, see: *R v Higgins*; *R v Beare*, *supra* note 602; *R v Feeney*, [1997] 2 SCR 13, 115 CCC (3d) 129. In the US: *McGovern v Van Riper* 140 N.J. Eq. 341, 54 A.2d 469 (1947); and *Shannon v State*, 207

at trial and whether this use might infringe on an accused's right against self-incrimination. In the end the argument was dismissed based on the fact that the right attached to forced oral testimony, which was viewed as unreliable (a concern that did not attach to evidence obtained through inspection of the body).⁶¹⁶

Although the field of forensic fingerprinting enjoyed "nearly a century of almost unchallenged authority in the courtroom",⁶¹⁷ its near unanimous support did not last. Academics and fingerprinting experts expressed concern over the lack of standards in the 1970s, and efforts were made to develop new techniques to improve the accuracy of fingerprint analysis.⁶¹⁸ These efforts proved insufficient, however, and several high-profile fingerprint misidentifications in the 2000s⁶¹⁹

Ark. 658, 182 S.W. (2d) 384 (1944). By the time the above cases were heard, fingerprints were being widely used as a form of personal identification in a number of contexts, including in hospitals, the military, corporations, and disaster victim identification, which made the use in the criminal context (where the public safety interest arose) seem uncontroversial. See Moenssens, *supra* note 566, at 107, where the author notes the widespread use of fingerprints in society and argues that "[t]he actual recording of fingerprints is not an indignity in itself. No stigma of guilt is attached to it".

⁶¹⁶ On the Canadian position, see Ed Ratushny, "Is There a Right Against Self-Incrimination in Canada?" (1973) 19:1 McGill L. J. 1, at 7 and the related decision on admissibility of blood tests in *A.-G. Que. v Begin* [1955] S.C.R. 593. In the United States, see *People v Sallow* 100 Misc. 447, 165 N.Y. Supp. 915 (Gen. Sess. 1917); *State v Ah Chuey* [1879] 14 Nev. 79; and *Shaffer v United States* 24 D.C. App. 417 (1904). Several American cases upheld the right in relation to physical evidence, but such decisions were outweighed by those that limited the right to oral testimony: *People v Hevern* 127 Misc. 141, 215 N.Y. Supp. 412 (Magis. Ct. 1926); *Day v State* (1880) 63 Ga. 669; *Cooper v State* (1888) 86 Ala. 610 6 So. 110; and *Blackwell v State* (1881) 67 Ga. 76. See also Block, *supra* note 574, at 241; Moenssens, *supra* note 566, at 87; Kidd, *supra* note 610, at 36; Abbott Low Moffatt, "Current Legislation: Taking Finger Prints Upon Arrest" (1926) 12:3 Am. Bar. Assoc. J. 175, at 177. As noted in the previous chapter (at *supra* note 548), this logic has similarly been relied upon to reject challenges to the use of DNA evidence that are based on the right against self-incrimination.

⁶¹⁷ Cole, "Witnessing Identification" *supra* note 601, at 689.

⁶¹⁸ Cole, "What Counts for Identity?" *supra* note 566, at 164.

⁶¹⁹ For instance, Oregon lawyer Brandon Mayfield was arrested in relation to the 2004 train bombing in Madrid, Spain, which resulted in the deaths of 191 people and injuries to approximately 2,000 others; Mayfield was identified as a suspect through a single print obtained from a bag containing detonators that had been used in the bombing. The FBI found fifteen points of agreement between the suspect and crime scene prints and concluded that the fingerprint definitely belonged to Mayfield. Spanish authorities, on the other hand, only conceded to seven points of agreement, and determined that the print had to belong to someone else. It was only once a suspect providing a better match was produced that the FBI revised its own conclusions. Once the error was revealed,

confirmed the existence of a problem with the way fingerprints were being relied upon in criminal courts. Taken together, these cases exposed the fact that forensic fingerprint matching was not an infallible science, but rather a process that involved a great deal of judgment. Cases of fingerprint misidentifications typically involved the use of single fingerprints (a problem that had been predicted by a minority of scientists many years earlier), though mistakes also resulted from the use of partial, smudged, or otherwise distorted crime scene prints.⁶²⁰ Less commonly, misidentification resulted from the fraudulent use of fingerprint evidence to frame suspects.⁶²¹ The prevalence of these misidentifications has prompted research that

instead of admitting that its conclusions had been mistaken, the FBI simply argued that the latent print was unusable due to its substandard quality. Following the initial conclusions offered by the FBI, Mayfield hired an independent fingerprint expert, who at first backed the FBI's assessment, but also changed his mind once the new suspect was produced. Mayfield was released from custody after the new evidence came to light. Another situation involved the wrongful conviction case of Stephen Cowans. Cowans served six of a thirty to forty-five year prison sentence for crimes relating to a home invasion (including assault of a police officer) before the wrongful conviction was revealed. On the night of the incident the assailant fled the scene, dropping a hat that contained DNA that would eventually show Cowans to be innocent. The assailant then stopped briefly at a nearby home to drink a glass of water, leaving a fingerprint on the glass, which was initially identified as belonging to Cowans. The woman who encountered the perpetrator when he stopped for water was unable to identify Cowans in a lineup. Other eyewitnesses, including the police officer, provided positive eyewitness identifications. The fingerprint analysis secured the conviction. After the conviction was overturned, the prosecutor announced plans to move ahead with a new trial, but eventually conceded that the fingerprint experts had been mistaken. See discussion of the cases in: Schwinghammer, *supra* note 562, at 284 and 285; Sandy Zabell, "Fingerprint Evidence" (2005) 13 *Journ. Law & Policy* 143, at 145 and 148; and The Schuster Institute for Investigative Journalism, "Exonerated by DNA: Massachusetts Wrongful Convictions overturned" (Brandeis University, Massachusetts) online: <http://www.brandeis.edu/investigate/innocence-project/Stephan-Cowans.html>.

⁶²⁰ Zabell, *supra* note 619, at 144.

⁶²¹ An example of this type of fraud was seen in 1996, when Scottish police constable Shirley McKie was implicated in a murder investigation. Her fingerprint was matched to a print found on a doorframe at the scene of the crime. As an investigator in the case, it was alleged that she had improperly attended to the crime scene without gloves, but McKie adamantly denied having been in the house at all. After testifying to this statement in the trial of the accused, McKie was charged with perjury. She enlisted a fingerprint expert to reexamine the prints; the expert discovered that the crime scene print was nowhere close to a match to McKie's own prints, and further that the initial analysis had been incompetently performed. McKie was acquitted of the perjury charge, but subsequently fired for "medical reasons" (she had been previously accused by her employer of unproven indiscretions). Subsequent review of the other fingerprint evidence in the case, including

supports the view that fingerprint examiners may be more likely to determine (sometimes erroneously) a match between two fingerprints when facing a ‘target’ comparison (a comparison of a crime scene print and a print belonging to a known suspect).⁶²² This potential for cognitive bias in fingerprinting underscores the link between racial bias and fingerprinting in that fingerprint examiners may succumb to prosecutorial bias and become implicated in the systemic racism that affects racial minority suspects.⁶²³

Given that courts had been accepting fingerprinting evidence as valid since the early twentieth century, the misidentification cases presented a cause for great concern. The developments forced the admission that fingerprint evidence is actually based on a matter of opinion and is far from an infallible science.⁶²⁴ It

prints used to incriminate the accused, showed further evidence of fraud. In addition to absolving McKie of the accusations against her, the review resulted in the release of the murder suspect, who had also been identified through fingerprint analysis. It seems that investigators in the case had held strong convictions about their suspect identification and had “gone to unusual lengths to establish his guilt”: Kurland, *supra* note 237, at 105-107.

⁶²² See Itiel E. Dror et al., “Cognitive Issues in Fingerprint Analysis: Inter-and Intra-Expert Consistency and the Effect of a ‘Target’ Comparison” (2011) 208 *Forensic Science International* 10.

⁶²³ See Elizabeth J. Reese, “Technique for Mitigating Cognitive Biases in Fingerprint Identification” (2012) 59 *UCLA L. Rev.* 1252, at 1261, where the author discusses the possibility of prosecutorial bias among fingerprint examiners before providing further context to the Brandon Mayfield case (discussed in *supra* note 619 above). She explains at 1265 that “fingerprint examiners found out, apparently after having made their determinations, that Mayfield was a Muslim and that he had previously represented a known terrorist in a child custody dispute”. She goes on to argue that “[e]ven if the examiners did not have this contextual information at the time of their initial determinations, their subsequent access to this information may have contributed to their reluctance to reopen the issue even in the face of evidence suggesting the possibility of a mistake, such as the fact that Mayfield insisted that he had never been to Spain” (citations removed). See also Murphy, “The New Forensics” *supra* note 11, at 748, making the point more generally in relation to forensic investigative techniques and arguing that “[f]orensic scientists often feel the pressure to produce results that will please their central and even sole client, the government, and to shield their processes from the defense or even the public domain”.

⁶²⁴ Simon A. Cole, “The ‘Opinionization’ of Fingerprint Evidence” (2008) 3 *BioSocieties* 105, at 105; Nuffield Council on Bioethics, “The Forensic Use of Bioinformation: Ethical Issues” (London: Cambridge Publishers, 2007), at 68. It is important to emphasize that even in the face of these misidentifications, fingerprinting experts and criminal investigators resisted the admission that fingerprinting was not an infallible science and instead attributed undeniable mistakes to the

became apparent that forensic fingerprinting had rested upon certain fundamental assumptions that were unfounded. The first problem was the assumption that fingerprints are unique. In fact, “uniqueness” in this context is “impossible to *prove*, [but] easy to *believe*”.⁶²⁵ In other words, one cannot conclude that fingerprints are unique because a particular scientific study fails to find duplicate fingerprints, since “one must always remain open to the possibility that the next fingerprint observed may be a duplicate”.⁶²⁶ The most that can be proven through this type of study is that duplicate fingerprints are extremely rare. An additional problem was that the courts had jumped from the flawed assumption that fingerprints are unique to the conclusion that fingerprinting science is *accurate*.⁶²⁷ The accuracy of fingerprint analysis is something that can only be tested through controlled studies. The limited

incompetence of individual analysts or characterized problems as isolated incidents. See e.g. *State v Caldwell* 322 N.W. 2d 574 (Minnesota, 1982), in which the Minnesota Supreme Court overturned a 1977 murder conviction based on a positive expert fingerprint identification. New experts later concluded that the initial fingerprint identification was unreliable because it was based on an illegible and inconclusive print. Instead of admitting that qualified experts had disagreed on the quality and validity of the fingerprint evidence, the error was attributed to wrongdoing on the part of the original expert: Cole, “Witnessing Identification” *supra* note 601, at 701. See also the case of Kathleen Hatfield, which involved the erroneous identification of Hatfield, who was the victim of a 2002 Las Vegas homicide. Hatfield had been reported missing by her mother, and homicide investigators observed a tattoo on the body of the victim that resembled a description of Hatfield’s own tattoo. They confirmed the identification with fingerprints, using the only print that could be obtained from the badly decomposed body and a photocopy of Hatfield’s prints sent over from a county jail. Hatfield appeared in person to identify herself one day before her mother was to bury what she believed were her daughter’s ashes. At that point police acknowledged that a mistake had been made in drawing conclusions about the two prints: Michael Coit, “Santa Rosa Woman Identified as Vegas Slaying Victim Turns up Alive” *The Press Democrat* (September 13, 2002) online: <http://www.latent-prints.com/press%20demo.htm>.

⁶²⁵ Cole, “Grandfathering Evidence” *supra* note 253, at 1198. Note that the same reality applies to DNA profiling. As noted in Chapter Two (*supra* note 219 and accompanying text), Alec Jeffreys concluded early on that the chance of two individuals sharing a genetic code was infinitesimal (with the exception of monozygotic twins). Yet, as noted below, because of the experience in forensic fingerprinting, the scientific community took a more cautious approach in making claims about the uniqueness of DNA profiles (see *supra* note 635 and accompanying text).

⁶²⁶ Cole, “Grandfathering Evidence” *supra* note 253, at 1198.

⁶²⁷ Cole refers to this error in logic as the “fingerprint examiner’s fallacy”: Cole, “Grandfathering Evidence” *supra* note 253, at 1198.

amount of research that has been conducted in this area certainly does not support the idea that fingerprint evidence is infallible. Though further research is needed, existing studies have produced mixed results with respect to the accuracy of expert fingerprint matching, including findings of false positive rates of less than 1% to as high as 22%.⁶²⁸

Though the unfounded assumptions about forensic fingerprint identification have proven difficult to reverse, a new approach to the use of this type of forensic evidence is slowly taking shape. Internationally, the courts and the academic community are increasingly, albeit belatedly, demanding that scientific standards be satisfied before fingerprints presented in criminal courts can be viewed as confirmation of an individual's presence at a crime scene.⁶²⁹ Furthermore, this evidence is gradually being characterized as 'opinion' rather than 'expert' evidence in order to emphasize the degree of judgment involved.⁶³⁰ It is most important that courts refuse to accept positive identifications based on matches of single prints,

⁶²⁸ Joseph L. Peterson and Penelope N. Markham, "Crime Laboratory Proficiency Testing Results, 1978-1991, II: Resolving Questions of Common Origin" (1995) 40 J. Forensic Sci. 1009 and discussion of the above results in Cole, "Grandfathering Evidence" *supra* note 253, at 1213. The need for further research has been emphasized based on the fact that currently available statistics have been largely derived from studies that did not follow a blind review process. Research typically relies upon identifications made in the field, where individuals may hold a bias towards obtaining a conviction: Schwinghammer, *supra* note 562, at 288. See similar comments in Bruce MacFarlane, "Wrongful Convictions: Determining Culpability When the Sand Keeps Shifting" (Paper presented to the Annual Crown/Defence Conference in Winnipeg: MB, 2011) online: <http://www.canadiancriminallaw.com/PDF/Wrongful%20Convictions%20and%20Sand%20Shifts.pdf>, at 8.

⁶²⁹ Soren Frederiksen, "The National Academy of Sciences, Canadian DNA Jurisprudence and Changing Forensic Practice" (2011) 35 Man. L. J. 111. See also Holobinko, *supra* note 604, at 394.e5, arguing that Canadian courts have yet to question the validity of fingerprinting science to the extent seen in the American courts.

⁶³⁰ Holobinko, *supra* note 604, at 394.e4. See also Schwinghammer, *supra* note 562, at 287; Kurland, *supra* note 237, at 113; Brandon Garrett and Gregory Mitchell, "How Jurors Evaluate Fingerprint Evidence: The Relative Importance of Match Language, Method Information, and Error Acknowledgment" (2013) 10:3 Journ. of Empirical Legal Studies 484, at 485; Frederiksen, *supra* note 629.

and that fingerprint evidence not be used as the sole basis upon which to convict.⁶³¹ Absent such standards, the risk of wrongful convictions is clear, and it is not unreasonable to assume that this very unfortunate result has gone undetected in past cases in which fingerprint evidence was central to establishing a defendant's guilt. The move towards more rigorous standards for the admission of fingerprint evidence is still being resisted somewhat, with certain experts insisting that it remains "appropriate to testify that they are absolutely certain that they do not make errors, even though clear evidence demonstrates that the technique does make errors".⁶³²

Before clarifying how this experience informs the equality argument advanced in this dissertation, I note that fingerprinting's fall from grace in the latter part of the 20th century overlapped with Alec Jeffreys' now famous discovery of the identifying potential of DNA in 1984 (described in Chapter Two). The timing of Jeffreys' momentous discovery in fact contributed to the loss of status for forensic fingerprinting, as DNA was viewed as offering a preferable alternative in forensic identification.⁶³³ Jeffreys himself recognized that DNA would change the world of criminal investigations much like fingerprinting had done almost a century before. Indeed, he was responsible for coining the term "DNA fingerprinting" as a way to "piggyback" on the enormous success that traditional fingerprinting had enjoyed in

⁶³¹ Schwinghammer, *supra* note 562, at 287.

⁶³² Cole, "Grandfathering Evidence" *supra* note 253, at 1197.

⁶³³ Zabell, *supra* note 619, at 143; Nuffield Council on Bioethics, "The Forensic Use of Bioinformation" *supra* note 624, at 8.

the forensic sciences.⁶³⁴ The association was later downplayed in favour of the terms “DNA typing” and “DNA profiling” in order to avoid a direct association with the false claims of certainty about fingerprinting that were gradually coming to light.⁶³⁵

Subjective Judgment in Familial Searching: Consequences for Equality

A discussion of the significance of the forensic fingerprinting experience for the current discussion on familial searching must be prefaced by an acknowledgment that, unlike fingerprinting, a lead produced by a familial search would not provide evidence of a person’s guilt and could not be used to independently support a conviction. As such, the risk of wrongful convictions does not exist with familial searching in the same way that it existed with fingerprinting. Still, a different type of harm could flow from the overuse of familial searching. Primarily, overuse of the familial search process could lead to numerous investigations of families identified through the familial search process that do not produce a suspect. Based on the overrepresentation of Aboriginal offenders in the criminal justice system, there is a risk that this impact would be experienced within Aboriginal families at a disproportionate rate.

As explained in Chapter Three, the risk that Aboriginal peoples would be implicated in familial search investigations at a disproportionate rate is an issue of

⁶³⁴ Aronson, *supra* note 5, at 127; Michael Lynch, *supra* note 144, at 94.

⁶³⁵ Cole, *Suspect Identities supra* note 5, at 290.

adverse effects discrimination.⁶³⁶ The risk of bias in the subjective judgment of decision-makers would represent another form of discrimination, which would be systemic in nature. Given the deep-rooted nature of this systemic bias against Aboriginal peoples in the criminal justice system,⁶³⁷ the only way to ensure that this type of discrimination is altogether avoided would be to prevent the opportunity for discretionary judgment by continuing to prohibit the technique entirely. If continued prohibition of familial searching is rejected however, it is imperative that the subjective elements of the decision-making process be acknowledged and regulated. One option would be to set limits on police ability to follow-up on familial search leads that have not met a certain threshold of scientific reliability. Such limits could be enforced by a requirement for judicial authorization for follow-up on a lead produced through a familial search (i.e. authorization for the release of the name of the identified offender who would become the pivot person in the investigation). Judicial discretion could be circumscribed, for instance through requirements about the verification of leads and scientific thresholds that support the assumption of a genetic relationship between the pivot person and the anonymous offender. Such standards could include the examination of rare alleles (the sharing of which supports an inference of a genetic relationship), the testing of additional markers beyond the core loci used in direct matching, and verification of parental lineage

⁶³⁶ This type of discrimination as it relates to familial searching was examined in Chapter Three (part 3.2) as part of the section 15 challenge based on grounds of race.

⁶³⁷ See discussion in Chapter One (part 1.4), where I describe the systemic bias against Aboriginal peoples in the Canadian criminal justice system as a basis for expecting an overrepresentation of Aboriginal peoples in the NDDB.

through Y-STR and/or mt-DNA testing.⁶³⁸ These steps to reducing false leads in the familial searching process are reflected in two of the international frameworks examined in Chapter Five.⁶³⁹ In that chapter, I evaluate the extent to which these measures (included as part of a broader framework) protect against the racial equality concerns attached to familial searching.

4.2.2 The Relationship Between Familial Searching and Forensic Use of Abandoned DNA

To conduct a familial search and follow up on potentially useful leads produced by that search, police need access to several DNA samples from which to derive profiles. The first sample required is the anonymous crime scene sample. Next, investigators need profiles against which to compare the anonymous crime scene DNA in search of one or more partial matches. These profiles must be identifiable and in Canada are most easily obtained through the existing NDDB collection. Finally, police require exclusionary DNA from potential suspects. For the final sample to be obtained from potential suspects, a first option might be to request a voluntary sample from the person. If a potential suspect were to refuse to provide genetic material for this exclusionary testing, police could potentially access and use abandoned DNA to complete the familial search follow-up process.

If the *DNA Identification Act* is amended to allow familial searching of the NDDB, the option of using abandoned DNA in this way would automatically be

⁶³⁸ Each of these was described in Chapter Two (part 2.5) as part of the explanation of the science behind familial searching.

⁶³⁹ These are reflected in both the jurisdictions that allow familial searching and that are examined in the next chapter (the U.S. (part 5.2.2) and the U.K. (part 5.2.3)).

available to police. Police authority to collect and use abandoned DNA in the course of an investigation has been confirmed in a number of Canadian cases. The use of abandoned DNA to confirm a potential lead obtained through familial searching would be highly problematic.⁶⁴⁰ It would effectively complete the inclusion of the genetic relatives of offenders reflected in the NDDDB (information about whom is reflected in the NDDDB through the DNA profiles of their relatives who have been convicted of a designated offence).⁶⁴¹ Due to Aboriginal overrepresentation within the offender population, this would mean a disproportionate inclusion of Aboriginal peoples. To illustrate the issue more fully, I describe below the current Canadian law on abandoned DNA. This explanation of the law will explain how and why abandoned DNA would be extremely useful to investigators following up on a familial search lead. I then reiterate the problematic relationship that would emerge between these two forensic techniques.

Modern genetic science makes it possible for small amounts of DNA to be collected and analyzed, so that even tiny amounts of genetic tissue can be of tremendous value to criminal investigators. Individuals shed or discard small pieces of genetic tissue throughout the course of each day, and (as the cases discussed below illustrate) it is possible for police to collect this type of evidence and link an individual to an anonymous piece of genetic material found at a given crime scene. The ability to collect DNA evidence in this way has led to a slew of “DNA

⁶⁴⁰ On the relationship between familial searching and the Canadian law on abandoned DNA, see Conroy, *supra* note 139.

⁶⁴¹ See Murphy, “The New Forensics” *supra* note 11, at 752, explaining that “DNA databases can...reveal ‘familial’ connections, thereby exposing information about persons not even included within the immediate scope of authorized intrusion”.

abandonment” cases in Canada. These cases show the courts applying the two-part inquiry required for section 8 *Charter* claims, which asks whether (i) there was a search or seizure by government, and (ii) whether that search or seizure was unreasonable.⁶⁴² Applying the section 8 analysis to the abandoned DNA issue, the courts have typically determined that a person loses his or her reasonable expectation of privacy in DNA contained on an item once he or she has abandoned that item, so that no “seizure” occurs within the meaning of section 8 if police subsequently collect the abandoned evidence for forensic purposes.⁶⁴³ As a result of these decisions, police can generally collect abandoned items containing DNA to use as evidence in criminal cases without being constrained by the right to privacy under section 8 of the *Charter*.

The first major case on this issue was the 1988 Supreme Court case of *R v Dymont*.⁶⁴⁴ Dymont had been in a car accident and was brought to the hospital in an unconscious state, whereupon a physician took a blood sample for treatment purposes by gathering blood that was flowing from his patient’s open wound.⁶⁴⁵ After learning that the patient had consumed a beer and antihistamine tablets, the doctor provided the blood sample to the police in order to assist in the criminal inquiry into whether Dymont had been impaired at the time of the accident. The doctor did not obtain the patient’s consent to provide the sample to police and the

⁶⁴² See Chapter Three (part 3.3) for a detailed description of the prevailing approach to assessing section 8 claims.

⁶⁴³ Burchill, *supra* note 144, at 6.

⁶⁴⁴ *R v Dymont*, *supra* note 363.

⁶⁴⁵ *R v Dymont*, *supra* note 363.

authorities did not possess a search warrant.⁶⁴⁶ In determining whether Dymant had abandoned his privacy interest in the blood sample, the Supreme Court of Canada drew a line between a seizure and a mere finding of evidence, the latter occurring “at the point at which it can reasonably be said that the individual had ceased to have a privacy interest in the subject-matter allegedly seized”.⁶⁴⁷ On the facts of the case at hand, the Court found that while Dymant had impliedly consented to the use of his personal information for medical purposes, he had not abandoned his privacy interest in the information for other purposes.⁶⁴⁸ As such, the use of the information by the police without a warrant constituted an infringement of Dymant’s right to a reasonable expectation of privacy under section 8 of the *Charter*.⁶⁴⁹

The decision in *Dymant* left open the possibility that on another set of facts an individual could abandon his or her privacy interest in highly personal information, which might include genetic information. In 1989, the New Brunswick Court of Appeal heard the case of *R v Legere*.⁶⁵⁰ The case followed an extremely tense situation, in which Allan Legere escaped from prison where he was serving a life sentence for murder. The escape was followed by four murders and one attempted murder in the surrounding area, and police were extremely eager to apprehend Legere and secure his conviction for the crimes.⁶⁵¹ When Legere was

⁶⁴⁶ *R v Dymant*, *supra* note 363.

⁶⁴⁷ *R v Dymant*, *supra* note 363, at para 30.

⁶⁴⁸ *R v Dymant*, *supra* note 363.

⁶⁴⁹ *R v Dymant*, *supra* note 363, at para 31, 40.

⁶⁵⁰ *R v Legere*, *supra* note 247.

⁶⁵¹ Walsh, *supra* note 249, at 1.

finally arrested, the RCMP extracted a DNA profile from blood left on a tissue that the suspect had used to blow his nose with while in custody, and then tested the profile obtained from the genetic material against the crime scene evidence.⁶⁵² When the admission of this evidence was contested, the Court of Appeal of New Brunswick found no infringement under section 8 of the *Charter*, arguing that Legere had ceased to have any reasonable expectation of privacy in the genetic information contained on the tissue once he discarded the item.⁶⁵³

The Supreme Court of Canada again dealt with abandonment of DNA in 1997 when it decided the case of *R v Stillman*.⁶⁵⁴ In *Stillman*, police detained a 17-year old male suspected of murder.⁶⁵⁵ Despite specific directions from the suspect's lawyers that the youth did not consent to providing DNA, police forcefully seized several bodily samples and surreptitiously collected a discarded tissue from the trash that the suspect had used to blow his nose.⁶⁵⁶ When the admission of the DNA evidence was challenged in the Court, all of the judges agreed that the forced seizures constituted an infringement of section 8.⁶⁵⁷ A different reasoning was applied to the abandoned tissue based on the fact that it had not been forcefully seized. With respect to the tissue and the DNA that it contained, the majority found an infringement of the accused's section 8 rights, but only because the accused was in

⁶⁵² Ramey, *supra* note 2, at 2.

⁶⁵³ Legere also protested against the admission of the DNA evidence on the basis that DNA was a new science unfamiliar to his counsel. The court rejected this argument: *R v Legere*, *supra* note 247.

⁶⁵⁴ *R v Stillman*, *supra* note 473.

⁶⁵⁵ *R v Stillman*, *supra* note 473.

⁶⁵⁶ It is important to note that the forced seizures that took place in this case occurred before police gained statutory authority to compel exclusionary DNA samples from suspects.

⁶⁵⁷ The Court also answered the question of whether the forced seizures constituted an infringement of s. 7. All but McLachlin J. (as she then was) answered this question in the affirmative: *R v Stillman*, *supra* note 473.

custody when he discarded the tissue and therefore had no means of controlling access to his personal information.⁶⁵⁸ The remaining judges would have followed the approach taken by the New Brunswick Court of Appeal in *R v Legere* to find that any reasonable expectation of privacy in the evidence had been abandoned, regardless of whether or not the accused was in custody when the item was discarded.⁶⁵⁹

Following *Stillman*, Canadian investigators continued to collect abandoned items to assist in the investigation of crimes, though the custodial limitation had to be clarified through subsequent case law. In *R v D.M.F.* the Alberta Court of Appeal found that the accused had abandoned his reasonable expectation of privacy in the DNA contained on a discarded cigarette butt.⁶⁶⁰ While the accused was detained at the time that the item was discarded, the Court found that he could have prevented the collection of evidence either by retaining his cigarette butts in his pocket and taking them with him after the interview or by refraining from smoking altogether.⁶⁶¹ Similarly, the courts found no section 8 violation when, on a break from court proceedings, police in *R v Grywacheski* collected a cigar discarded into an ashtray to test the DNA contained on the item.⁶⁶² In *R v Marini*, no section 8

⁶⁵⁸ Applying s. 24(2) of the *Charter supra* note 21, the majority excluded the samples that were physically forced from the accused, but admitted the genetic material obtained from the tissue, as the tissue was not forcefully seized. *R v Stillman, supra* note 473, at para 128.

⁶⁵⁹ See dissenting judgments, in particular the reasoning of McLachlin J. *R v Stillman, supra* note 473, at para 224.

⁶⁶⁰ *R v DMF*, 1999 ABCA 267, [2000] 1 WWR 725. The court also found that the accused had no reasonable expectation of privacy in relation to clothes held within his bedroom, so that police entry into his mother's house to take clothes from which to obtain a DNA sample did not constitute an infringement of s. 8.

⁶⁶¹ *R v DMF, supra* note 660.

⁶⁶² *R v Grywacheski*, [2004] MJ No. 108, (2004) 117 CRR (2d) 249.

infringement was found when police collected two ginger ale cans left behind at the courthouse by the accused.⁶⁶³ In *Marini*, the judge argued that the courthouse situation was not like the custodial situation in *Stillman*, and went so far as to suggest that under the circumstances it had been up to the accused to reinforce his continued expectation of privacy by rinsing the cans of his DNA before abandoning the items.⁶⁶⁴

Having authority to collect abandoned items to expedite criminal investigations, police began to engage in trickery to obtain the evidence required by their cases. In *R v Nguyen*, officers offered the accused a piece of gum after he refused to provide them with a DNA sample, then collected the gum for genetic testing when the accused predictably threw it in the garbage.⁶⁶⁵ In this case, the Ontario Court of Appeal found a section 8 violation based on the fact that the accused was entering a detention centre where he knew that gum was unauthorized and would have to be discarded, so that the warrantless seizure was performed under conditions comparable to those in *Stillman*.⁶⁶⁶ In terms of the trickery involved, the court characterized the ploy itself as “passive and not objectionable”, thus leaving the door open for similar operations in the future.⁶⁶⁷

The law on abandoned evidence was revisited in 2004, when the Supreme Court of Canada heard *R v Tessling*, a case that was discussed in detail in the previous chapter. As previously explained, the Supreme Court of Canada found no

⁶⁶³ *R v Marini*, [2005] OJ No. 6197.

⁶⁶⁴ *R v Marini*, *supra* note 663.

⁶⁶⁵ *R v Nguyen*, 2002 CanLII 44910 (ON CA).

⁶⁶⁶ *R v Nguyen*, *supra* note 665. The evidence in this case was admitted under s. 24(2).

⁶⁶⁷ *R v Nguyen*, *supra* note 665.

violation of section 8 through the use of the FLIR technology on the facts of the case, and in fact did not even characterize the actions of the police as a search within the meaning of section 8.⁶⁶⁸ Before coming to that conclusion, however, the Court dealt with the argument that Tessling had abandoned his privacy interest in the heat patterns by allowing the heat to escape his home. Speaking for the unanimous Court, Justice Binnie rejected the argument on the following basis:

I do not think it can be said that “allowing” heat to escape rebuts an expectation of privacy...Few people think to conceal their home’s heat loss profile, and would have difficulty doing so if they tried. Living as he does in a land of melting snow and spotty home insulation, I do not believe that the respondent had a serious privacy interest in the heat patterns on the exposed external walls of his home. However, the police were clearly interested in the “heat profile” not for its own sake but for what it might reveal about the activities *inside* the home. In that respect, to the extent that it is in issue, the respondent maintained a subjective expectation of privacy.⁶⁶⁹

Though the case centered on heat patterns and not DNA information, the above statement might have encouraged some hope that the courts would reconsider the characterization of the expectation of privacy held by individuals who abandon items containing genetic material. After all, like in *Tessling*, police in the DNA abandonment cases are interested in the items collected *not for their own sake but for what such items might reveal about their suspect*. Moreover, like in *Tessling* and despite the suggestion in *Marini* that people can reasonably be expected to rinse soda cans before discarding them to assert a continued interest in any genetic samples on such items, or in *D.M.F* that people can effectively gather and pocket items containing their genetic material throughout the day, *individuals would*

⁶⁶⁸ *R v Tessling*, *supra* note 363.

⁶⁶⁹ *R v Tessling*, *supra* note 363, at para 41.

have difficulty obscuring every genetic sample if they tried. Any such hope for a new approach was misplaced, however, as DNA abandonment cases heard subsequent to *Tessling* have confirmed that police remain free to collect abandoned items containing DNA unless *Stillman's* very limited custodial exception applies. This continues to be the case where police trickery is used to obtain the sample. For instance, in the 2009 case of *R v Delaa*, the Alberta Court of Appeal found that a suspect who had been tricked into providing a piece of chewing gum to police under the pretense of a random gum survey held at a gas station⁶⁷⁰ had abandoned his privacy interest in the DNA left on the gum.⁶⁷¹

As noted in Chapter Three, the courts expressed an early commitment to a broad and generous interpretation of section 8 rights. When it comes to state use of highly personal information derived from an item characterized as having been abandoned, the courts have not delivered on this promise.⁶⁷² One of the serious

⁶⁷⁰ The operation to obtain the abandoned DNA in this case was complex and involved a police officer posing as a potential purchaser of Delaa's truck, which had been advertised for sale. While test-driving the vehicle, the officer and the appellant stopped at a gas station where another undercover officer was waiting. The second officer approached the first officer and Delaa and asked if they wanted to participate in a gum survey, to which the appellant agreed. He sampled pieces of gum before spitting them out into cups. The undercover officer in charge of the gum survey also offered Delaa a lollipop that he placed in his mouth before returning the item. Subsequent testing of the DNA obtained from the gum and lollipop matched the anonymous crime scene DNA and led to Delaa's arrest. See an account of the facts in *R v Delaa*, 2009 ABCA 179, 457 AR 118, at paras 6-7.

⁶⁷¹ *R v Delaa*, *supra* note 670. Post-*Tessling*, the rule on abandonment has also been applied to a number of 'non-DNA' items. The courts found no section 8 violation in *R v Law*, *supra* note 420 (documents held in a safe left in an open field); or *R v Patrick*, *supra* note 382 (garbage left on the side of the road for pick-up).

⁶⁷² In addition to criticisms based on privacy, it has been suggested that the law allowing police use of abandoned items containing personal information may undermine the presumption of innocence. Yet, as discussed in the Chapter Three (part 3.4 and particularly *supra* note 548) in relation to section 7 and the principles of fundamental justice, the presumption of innocence is traditionally viewed as a safeguard that applies in the context of criminal trials, not the investigation that precedes the prosecution of a crime. Still, the law may undermine the presumption of innocence to the extent that it is supposed to guide all police conduct: see discussion in British Columbia Civil Liberties

concerns with the state of the law on abandoned DNA is the potential for the absence of privacy protection in this area of the law to determine a lower level of privacy afforded to individuals in new and emerging situations, including familial searching.⁶⁷³ In this sense, the law on abandoned DNA represents a crucial policy consideration that must be taken into account before familial searching is broadly incorporated into Canadian criminal investigations.

The current law on abandonment would allow police to take the type of actions observed in the above-noted cases (subject to the limited custodial exception introduced in *Stillman*) and apply the information gained to confirm or exclude suspects identified in the familial searching process. In accordance with the low threshold for abandonment set out in the cases explored above, DNA evidence needed to confirm or exclude a suspect identified by a partial match might be collected in the form of discarded cigarette butts, soda cans, used tissues, half eaten food items⁶⁷⁴ or spit from the sidewalk.⁶⁷⁵ Alternatively, police might engage in trickery to obtain the necessary sample, for instance by setting up a fake gum survey

Association, "DNA Matching for Criminal Identification Purposes" (1994) available online: http://bccla.org/our_work/dna-matching-for-criminal-identification-purposes/, at s. 6.

⁶⁷³ See Kerr, Binnie & Aoki, *supra* note 146, at 376, exploring the same concern in relation to advancements in brain scanning technologies used to detect lies during police interrogations. An additional concern is that the law promotes an illogical expectation that individuals must hoard items that may possibly contain genetic or other personal information in order to assert a continued expectation of privacy in that information: see Quigley, *supra* note 361, at 137, asking whether "[t]o guard against snooping by the authorities, should all citizens be advised to buy shredders to shred the myriad papers containing personal information that we all throw into the garbage on a regular basis? If not, we should also seriously consider whether luggage or other personal belongings, even if in a public place, or heat and electrical consumption information similarly give rise to privacy protection."

⁶⁷⁴ The infamous American case of the Grim Sleeper, discussed in Chapter Five (part 5.3.2), was solved when California police collected a half-eaten piece of pizza discarded by their suspect's relative: Terry McCarthy, "The Case of the Grim Sleeper" *Time* (5 December 2011).

⁶⁷⁵ This was done in *Commonwealth v Cabral* (2007) Docket No. 06-P987 (Mass. C.A.).

like the one used in *Delaa*, offering up a personal item such as a hairbrush to a suspect and collecting any strands of hair left behind in the brush,⁶⁷⁶ offering to correct a suspect's cowlick during questioning and plucking a stray hair,⁶⁷⁷ or by inviting the suspect to send a response letter to a proposed class action lawsuit and pulling DNA from the stamp when a letter arrives in the mail.⁶⁷⁸ Regardless of how the exclusionary samples are collected, once obtained and analyzed they provide police with extremely compelling evidence that can either confirm or invalidate a lead provided through the familial search. If a match is found, the police will be able to continue the investigation with a focus on a single suspect (against whom they would hold highly incriminating evidence).

The Combined use of Familial Searching and Abandoned DNA: Consequences for Equality

While the use of abandoned DNA as part of the familial searching process might lead to the resolution of criminal investigations, it also represents a significant policy consideration for the current discussion. Familial searching would effectively expand the reach of the NDDB to include the genetic relatives of convicted offenders who have been required to provide DNA for inclusion on the data bank. For reasons explained in Chapter One, the NDDB likely reflects the growing disproportion of Aboriginal offenders in the Canadian criminal justice system. Combined with the collection of abandoned DNA, this means that police

⁶⁷⁶ See actions taken in *R v Love* (1995) 102 C.C.C. (3d) (Alta. C.A.).

⁶⁷⁷ See again *R v Love*, *supra* note 676.

⁶⁷⁸ This ruse was undertaken in *State v Athan* (2007), No. 75312-1 (Wash. S.C.). For further discussion of this case and the other examples cited immediately above, see Burchill, *supra* note 144.

could fully circumvent the limits that were put in place to justify the existence of the NDDB.⁶⁷⁹ While this evasion of the initial promises would be highly problematic on its own, it would be compounded through the use of abandoned DNA since the law in this area leaves no meaningful right to refuse to provide an exclusionary DNA sample for individuals implicated in the NDDB scheme through familial searching.⁶⁸⁰ This provides a policy outcome that is problematic enough to support a prohibition on familial searching of the NDDB. The situation would represent a significant loss of privacy through inclusion into a system that was presented as one that would only apply to those whose own actions had justified a lowered expectation of individual privacy. The fact that familial searching would impose this lower standard of privacy on Aboriginal families at a disproportionate rate compared to

⁶⁷⁹ As explained in Chapter One (part 1.3), the main limit that resulted from the public consultation process was that the NDDB only contains the identifiable DNA of convicted offenders.

⁶⁸⁰ The right to refuse to provide DNA upon request from forensic investigators has proven difficult to protect in other circumstances, which has initiated a conversation about whether and to what extent this right can be safeguarded in a criminal justice system in which the use of DNA evidence is commonplace. For instance, now that criminal investigators have become accustomed to seeking and testing DNA evidence, police may become highly suspicious of an individual who refuses to provide DNA for forensic testing. This occurred for example when the RCMP executed a mass collection of “volunteer” samples following multiple sexual assaults and numerous reports of missing women in Prince George, British Columbia. Police were criticized on the basis that taxi drivers were specifically targeted and were compelled to either provide samples or become suspects in the crimes: Council for Responsible Genetics, *Can A DNA Dragnet Undermine an Investigation? A Case Study in Canada* by Michael Vonn (2012) online:

<http://www.councilforresponsiblegenetics.org/GeneWatch/GeneWatchPage.aspx?pageId=377>.

Another example occurred with the Colin Pitchfork case, discussed in Chapter One (part 1.1) as the first murder case solved by DNA profiling. In the Pitchfork case, British police had solicited DNA samples from approximately five thousand males in an effort to find the perpetrator of the sexual assaults and murders under investigation. Two of the men refused, one being Pitchfork. The refusal to provide a DNA sample was viewed as an indication of guilt. For Pitchfork the assumption proved to be correct (see discussion of the case in Seton, *supra* note 3; Astroff, *supra* note 3, at 215). It is crucial to point out, however, that the other suspect must have had alternative reasons besides guilt for refusing the request. Possible reasons to refuse a request for an exclusionary sample might include concern over one’s genetic privacy and the level of protection that will be afforded to the information once it is in the state’s control, or perhaps a strongly held belief in the presumption of innocence. For further discussion, see Kevin M. Keenan, *Invasion of Privacy* (Santa Barbara, California: ABC-CLIO Inc., 2005), at 149.

the impact that would result for non-Aboriginal families provides a strong reason to support a continued ban on the technique.

4.2.3 The Relationship Between Familial Searching and Forensic Phenotyping

A second forensic technique that could potentially be used in combination with familial searching and with problematic results is forensic phenotyping. Phenotyping is a relatively new type of genetic test that may reveal details about a person's physical characteristics.⁶⁸¹ While still in its early stages, phenotyping can already divulge a great deal of information about an individual, including details about skin, hair, and eye colour, descriptions of a person's gait, whether the person is likely to have red hair or freckles, or a propensity towards a number of characteristics, including left-handedness, smoking and diseases like albinism and sickle-cell anemia.⁶⁸² Research continues to investigate the potential to reveal specific details about an individual's physical characteristics and appearance, including facial shape, potential hair loss and baldness patterns, nose width, earlobe attachment, chin dimples, and whether the person has a cleft lip.⁶⁸³ The science sometimes allows for specific predictions about racial background if certain gene

⁶⁸¹ Y. Ruiz et al., "Further Development of Forensic Eye Color Predictive Tests" (2013) 7 *Forensic Science International: Genetics* 28. In light of the above discussion on fingerprinting, it is interesting to note that research has suggested a possible link between fingerprint ridges and certain biological traits, though this knowledge is not yet understood to the point that it can be used in the forensic context: Koops and Schellekens, *supra* note 144, at 160, discussing the early results of the following: J.A.Y. Hall and D. Kimura, "Dermatoglyphic Asymmetry and Sexual Orientation in Men" (1994) 108 *Behav. Neuroscience* 1203; Doreen Kimura, "Body Asymmetry and Intellectual Pattern" (1994) 17 *Personality and Individual Differences* 53; Doreen Kimura and Michael W. Carson, "Dermatoglyphic Asymmetry: Relation to Sex, Handedness and Cognitive Pattern" (1995) 19 *Personality and Individual Differences* 471; and Andre A. Moenssens, *Fingerprint Techniques* (Philadelphia: Chilton Book Company, 1971).

⁶⁸² Koops and Schellekens, *supra* note 144, at 159; MacLean, *supra* note 144, at 359.

⁶⁸³ MacLean, *supra* note 144, at 365.

variants are exposed.⁶⁸⁴ It has been predicted that phenotyping science will eventually advance to the point of allowing criminal investigators to “craft an unknown and unseen suspect’s facial image and body profile from the DNA [a] suspect left behind at [a] crime scene”.⁶⁸⁵ Phenotyping therefore has the potential to be extremely useful in the criminal context, as it may provide police with a suspect description where no eyewitnesses have come forward, or may support or contradict the often-unreliable eyewitness testimony when it is available.⁶⁸⁶

Unlike with the use of abandoned DNA, phenotyping has not been the focus of Canadian court judgments and little has been confirmed in terms of legal authority for use of the technique by Canadian criminal investigators. The current Canadian law does not specifically bar phenotyping, though it has been suggested that because the NDDB profiles consist of non-coding regions of the genetic code, phenotyping cannot be performed on the profile information stored in the data bank.⁶⁸⁷ The distinction between non-coding and coding DNA has been used to

⁶⁸⁴ Racial background tests are currently performed for individuals wanting to obtain information about their genetic ancestry: Bellamy-Royds and Norris *supra* note 8, at 14. See also Dov Fox, “The Second Generation of Racial Profiling” (2011) 38 Am. J. Crim. L. 49, at 65.

⁶⁸⁵ MacLean, *supra* note 144, at 360; Timothy D. Kupferschmid, “Forensic Phenotyping: The 21st Century Composite Sketch” *Forensic Magazine* (August 10, 2012). Note that this level of specificity with regards to the predictions about an individual’s appearance is not yet possible based on the current level of understanding of phenotyping science: Krinsky and Simoncelli, *supra* note 144, at 106. Nonetheless, the science can be useful in certain investigations. It appears that police are currently attempting to gain clues in the unsolved sexual assault and murder of Canadian girl Christine Jessop. The crime was committed in 1984 in Queensville Ontario. The case became even more tragic when it was discovered through analysis of DNA evidence that Guy Paul Morin, Jessop’s onetime neighbour, had been wrongfully convicted of the crime. The real perpetrator has never been found. Media reports indicate that the police are turning to new DNA technologies to derive a physical description of a suspect from crime scene evidence: Sue Sgambati, “Christine Jessop’s Family Still Hoping for Justice, 30 Years Later” *CBC News Toronto* (October 2, 2014) online: <http://www.cbc.ca/news/canada/toronto/christine-jessop-s-family-still-hoping-for-justice-30-years-later-1.2784486>.

⁶⁸⁶ Ruiz et al. *supra* note 681, at 28; Fox, *supra* note 684, at 49.

⁶⁸⁷ MacLean, *supra* note 144, at 373.

differentiate the limited profile information needed to identify an individual as the source of an anonymous crime scene sample (which only requires non-coding DNA) from the areas of the genome that code for more biologically significant and personal characteristics.⁶⁸⁸ Since current techniques in phenotyping science appear to rely on what is characterized as coding DNA, this limitation may indeed restrict Canadian investigators in terms of their ability to conduct phenotyping on profiles collected for NDDDB purposes.⁶⁸⁹ It is less certain that the limit will act as a complete prohibition on the use of phenotyping in the long run. As DNA science continues to advance, what is considered non-coding or junk DNA may eventually reveal a great deal of personal information.⁶⁹⁰ In fact, it appears that Canadian police have already quietly begun to use phenotyping to assist in criminal investigations, specifically to determine the race of an unknown perpetrator.⁶⁹¹

Phenotyping has also been used internationally,⁶⁹² for instance in the investigation of a violent sexual assault and murder case that occurred in Colorado in 1997.⁶⁹³ In 2004, after the perpetrator had evaded police for many years, phenotyping analysis suggested that the killer was either of Hispanic or Native

⁶⁸⁸ Parfett, *supra* note 144, at 46.

⁶⁸⁹ See MacLean, *supra* note 144, at 359, explaining that limiting forensic analysis to the non-coding regions of DNA excludes current applications of phenotyping science.

⁶⁹⁰ For instance, non-coding regions of the genetic profile have been used to show predispositions to certain conditions: Butler, *supra* note 231, at 260.

⁶⁹¹ Bellamy-Royds & Norris *supra* note 8, at 16.

⁶⁹² Different positions have been taken in international jurisdictions on whether and to what extent forensic investigators should use phenotyping. See MacLean, *supra* note 144, discussing the bar on the use of phenotyping in the state of Minnesota and noting that this stands in contrast to many other jurisdictions that have actively incorporated phenotyping into their criminal justice systems.

⁶⁹³ MacLean, *supra* note 144, at 377; Krimsky and Simoncelli, *supra* note 144, at 94.

American descent.⁶⁹⁴ The perpetrator had continuous run-ins with the criminal justice system, which eventually led to his DNA being uploaded to the state data bank and producing a match to the crime scene sample.⁶⁹⁵ Though the information relating to his racial background did not actually solve the case, it proved to be correct once the case was solved. As such, the situation is now cited as proof of the potential of phenotyping.⁶⁹⁶ In another case, phenotyping was used in an attempt to solve a horrific 2001 murder of a 3-year-old child.⁶⁹⁷ The murder occurred in Missouri and was extremely disturbing: the child's body was found naked and decapitated in a wooded area.⁶⁹⁸ In an effort to identify the victim, police used phenotyping to determine the child's ethnic background, concluding that her genetic racial heritage was 40 percent Caucasian and 60 percent African American.⁶⁹⁹ Investigators then focused on persons who fit the ethnic profile and who had failed to report the disappearance of a child.⁷⁰⁰ The case was ultimately solved after a tip was received from a man believed to have been the child's great-grandfather.⁷⁰¹ The tip led investigators to the child's mother and both the mother and the child's stepfather were found guilty of the killing.⁷⁰² Again, the conviction showed the

⁶⁹⁴ MacLean, *supra* note 144, at 377.

⁶⁹⁵ MacLean, *supra* note 144, at 377; Krinsky and Simoncelli, *supra* note 144, at 94.

⁶⁹⁶ MacLean, *supra* note 144, at 377.

⁶⁹⁷ Krinsky and Simoncelli, *supra* note 144, at 89; Mary Vallis, "Mother Charged in Murder of 'Precious Doe'" *National Post* (May 6, 2005).

⁶⁹⁸ Krinsky and Simoncelli, *supra* note 144, at 89; Ginnie Graham, "'Precious Doe' Spurs Change" *Tulsa World* (February 28, 2013).

⁶⁹⁹ Krinsky and Simoncelli, *supra* note 144, at 89.

⁷⁰⁰ Krinsky and Simoncelli, *supra* note 144, at 89.

⁷⁰¹ Vallis, *supra* note 697.

⁷⁰² The Associated Press, "National Briefing: MidWest Missouri, 'Precious Doe' Conviction" *The New York Times* (October 9, 2008) online:

<http://query.nytimes.com/gst/fullpage.html?res=9400E3DE113CF93AA35753C1A96E9C8B63>. The case had wider implications in terms of highlighting the need for procedures relating to the

potential of phenotyping as investigators had derived useful physical details from the genetic information, which might have provided a crucial lead had the tip that solved the case not been offered to police.

The Combined use of Familial Searching and Forensic Phenotyping: Consequences for Equality

The use of phenotyping science in the criminal context potentially implicates a number of individual rights and interests and there is an ongoing need to explore the relevant legal, ethical, and policy issues relating to the use of the forensic technique on its own.⁷⁰³ One of the specific concerns that has already been voiced in this respect is that phenotyping has the potential to reinforce racial stereotypes in the criminal justice system.⁷⁰⁴ The present discussion is limited to considering the potential for racial bias to occur or to be perpetuated through phenotyping used in combination with familial searching.⁷⁰⁵ As with the use of abandoned DNA, the

supervision of children born to prison inmates. The child victim in this case was named Erica Michelle Marie Green. Erica had been born while her mother was incarcerated and was placed with an acquaintance of her mother until the mother was released from prison (the child's father was also incarcerated at the time). The mother had sporadic unsupervised visits with the child until the child's death. The investigation revealed that the step-father had kicked the child in the head and that the mother and step-father had covered up the incident by killing the child and disposing of the body. They did not contact authorities because they were aware that they were both subject to outstanding warrants. New procedures, known as "Erica's Rules" were put in place in the state of Oklahoma in an effort to protect babies born to incarcerated mothers who are at risk: Graham, *supra* note 698.

⁷⁰³ One of the issues that should be explored is the risk that phenotyping may eventually be used to allow the public distribution of the images of innocent bystanders, unidentified victims, or persons who happened to leave genetic tissue at a crime scene before or after the crime occurred. Innocent individuals could in these circumstances be wrongly linked to crimes in the public view. Another specific concern that has been identified is that phenotyping may lead to an increase in the number of 'DNA dragnets', which can involve pressure to submit 'voluntary' exclusionary samples and bring on questions about the scope of the right to refuse to volunteer DNA: Krinsky and Simoncelli, *supra* note 144.

⁷⁰⁴ Bellamy-Royds and Norris *supra* note 8, at 17.

⁷⁰⁵ It is important to note that as phenotyping science progresses this argument may become equally relevant to other characteristics beyond racial background. For instance, there have been claims that

combination of these two techniques raises a specific concern relevant to the overall equality argument advanced through the CRT framework applied in this dissertation.

The concern is that by incorporating phenotyping into an investigation in which familial searching is used, racial bias will enter the decision-making process attached to the follow-up of leads. There are two scenarios to consider, both of which would arise if phenotyping were performed on crime scene DNA and revealed information about the racial background of the anonymous suspect. First, it is conceivable that a judgment could be made about the strength of a lead produced in a familial search based on previous knowledge of the anonymous suspect's racial background. If an investigator held preexisting notions about criminal behavior among Aboriginal peoples, information indicating that the anonymous suspect and the identified person are of Aboriginal descent could perhaps play into an individual's judgment about the strength of the lead. This thought process could be viewed as a sort of confirmation bias.⁷⁰⁶ A second scenario involves the possibility that a familial search would be thought of as particularly useful given the information about racial background. If phenotyping performed on a crime scene sample revealed that the anonymous suspect was of Aboriginal descent, a criminal investigator might consider a familial search of NDDDB data to be particularly

genetics could explain individual characteristics such as sexual orientation, intelligence, and propensity towards addiction: Krinsky and Simoncelli, *supra* note 144, at 107.

⁷⁰⁶ Confirmation bias is a well-studied concept in psychology, including in relation to the decision-making process of criminal investigators: Eric Rassin, Anita Eerland, and Isle Kuijpers, "Let's Find the Evidence: An Analogue Study of Confirmation Bias in Criminal Investigations" (2010) 7 *Journal of Investigative Psychology and Offender Profiling* 231.

worthwhile given the assumption of overrepresentation of Aboriginal peoples within the data bank.

It is difficult to conceive of ways to protect against the above forms of discrimination. The best option would appear to be a requirement for judicial authorization of familial searching, though this solution is far from perfect since (as discussed in Chapter Three) judges are not immune to contributing to the systemic discrimination from which Aboriginal peoples suffer.⁷⁰⁷ Moreover, in the first case (where knowledge of the shared racial background of the anonymous suspect and identified offender may play into an investigator's view of the strength of a familial search lead), the racial factors would only be contemplated after a familial search of the NDDb has been performed. Even if a warrant was required for follow up on that lead, it could potentially be supported on other grounds (the statistical likelihood of the match being a true genetic link), and it would likely be ineffective to tell investigators that they cannot at that point be influenced by racial considerations. In the second case, the warrant would be sought after phenotyping had been performed on the anonymous crime scene sample (and revealed information about the anonymous suspect's Aboriginal ancestry). The only way to ensure that the discriminatory assumption (that an Aboriginal suspect is likely to be related to someone with DNA in the NDDb) is not acted upon is to prohibit the combination of the two techniques. The rule would only become relevant in cases for which phenotyping of crime scene DNA has been performed to reveal racial information.

⁷⁰⁷ See above on judicial bias as part of the discussion of judicial warrants as an option for protecting against the subjectivity involved in the familial searching process.

Although jurisdictions in which familial searching is being used should consider the combined effect of familial searching and phenotyping and address the risk outlined above, the risk is invoked here as part of a broader argument supporting a continued ban on familial searching. The possibility that the combined use of phenotyping and familial searching may lead to further discrimination against Aboriginal peoples is revisited in Chapter Six as one of the reasons to continue the ban on familial searching of Canada's NDDB.

4.2.4 Familial Searching as a Risk to Family Cohesion

Family breakdown is a central theme in the ongoing conversation about the effects of colonization for Canada's Aboriginal peoples. The destruction of the family unit was a particularly painful consequence of the government's assimilative policies in Canada, and the effects of these actions are still unfolding today. Maria Yellow Horse Brave Heart has offered one description of the effects of colonization on Aboriginal families, which emphasizes the gendered impact of the family breakdown:

As the genocide began, men lost their traditional roles and experienced a sense of failure as protectors and providers...this sense of loss has been transmitted down through the generations, affecting many generations of Indian men with a deep sense of pain, anger and powerlessness. These destructive feelings manifest themselves as violence toward their loved ones, substance abuse, suicide, and an inability to communicate feelings and experiences. Many Native men adopted the oppressor's ways of operating: power through control, intimidation, manipulation, lack of respect for equality and nurturance of women, abandonment of family and responsibility, and a lack of honesty. For Native women, the traditional role of educator, healer, nurturer, head of the home, and sustainers of the family and Nation was gone. Faced with being victims of abuse and abandonment, women turned to substance abuse, suicide and hopelessness. In trying to provide for and protect children alone (as

well as coping with traumatic events in their lifetime such as past sexual, physical and emotional abuse), Native women found themselves and their children in poverty, and many times, unable to cope with all the stressors involved with going it alone.⁷⁰⁸

Any state action that may cause further breakdown within Aboriginal families must be viewed as a serious risk. Some have argued that familial searching presents a risk of family breakdown due to family members being forced to act as “genetic informants” against their relatives.⁷⁰⁹ Where the existence of such an informant leads to police requests for exclusionary DNA from family members, the family members may feel like they are being treated as “guilty by association”.⁷¹⁰

Familial Searching and Family Breakdown: Consequences for Equality

Suspicion brought upon family members and family units may exacerbate harm already experienced within the family as a result of the conviction that led to the offender’s inclusion in the NDDB. Such harm may include financial loss due to legal costs or a family member being out of work following conviction, emotional harm resulting from the betrayal brought on by the offender’s conduct, emotional damage caused by separation during incarceration, or stigmatization based on the criminal activity of one family member.⁷¹¹ Crucially, in cases where offenders are convicted for crimes committed against their own family members, this may lead to

⁷⁰⁸ Maria Yellow Horse Brave Heart, “Oyate Ptayela: Rebuilding the Lakota Nation Through Addressing Historical Trauma Among Lakota Parents” (1999) 2(1/2) *Journal of Human Behaviour in the Social Environment* 109, at 4 and cited in Cynthia C. Wesley-Esquimaux and Magdalena Smolewski, “Historic Trauma and Aboriginal Healing” (Ottawa, ON: Aboriginal Healing Foundation, 2004), at 54.

⁷⁰⁹ Murphy, “Relative Doubt” *supra* note 135, at 320; Haimes, *supra* note 9, at 269.

⁷¹⁰ Kimberly A. Wah, “A New Investigative Lead: Familial Searching as an Effective Crime-Fighting Tool” (2008) 29:4 *Whittier Law Review* 909, at 940.

⁷¹¹ Murphy, “Relative Doubt” *supra* note 135, at 319; Suter, *supra* note 136, at 364.

the estrangement from the convicted offender for the victim and other family members.⁷¹² The possibility that the victim of a crime may be questioned during the follow-up of a familial search represents an unfair burden for that victim to bear.⁷¹³ While this would hold true for family members of both genders, the issue has particular significance for Aboriginal women, who are known to suffer from discrimination and stigma when they become involved with the criminal justice system as offenders. Research has shown that women who come into contact with the criminal justice system have suffered high rates of victimization through sexual and physical abuse as well as violence and neglect.⁷¹⁴ Furthermore, Dell and Kilty note that the “increasingly conservative law and order agenda in Canada has resulted in the further criminalization of disenfranchised women”.⁷¹⁵ Familial

⁷¹² For instance, a large number of sexual assaults are committed against members of the perpetrators family, particularly when the victim is a child. Recent statistics released by the Government of Canada indicate that in 2009, approximately 35% of sexual assaults against children were committed by a perpetrator belonging to the victim’s family: Department of Justice, “Backgrounder – Sexual Offending Against Children and Youth” (Government of Canada, 2013) online: <http://news.gc.ca/web/article-en.do?mthd=index&crtr.page=1&nid=832649>. Other crimes occurring in high rates within families include spousal violence (which may victimize children who share genetic characteristics with the perpetrator), violence against children and seniors, and family-related homicides: Statistics Canada, “Family Violence in Canada: A Statistical Profile” (Ottawa: Minister of Industry, 2011): online: <http://www.statcan.gc.ca/pub/85-224-x/85-224-x2010000-eng.pdf>.

⁷¹³ See Murphy, “Relative Doubt” *supra* note 135, at 320, where the author argues that “in such cases, the suspicion cast on the relative as a result of the estranged offender can be especially painful. Imagine the child of a sex offender confronted with a knock on the door because the DNA of the father he has no desire ever to remember has superficially implicated him in some offense. Or the successful sibling in a family torn apart by their youngest child’s drug habit similarly confronted. Criminality can tear families apart, and when the state conducts investigations based primarily on familial links, it does so with the strong probability of inflicting further damage”.

⁷¹⁴ Colleen Anne Dell and Jennifer M. Kilty, “The Creation of the Expected Aboriginal Woman Drug Offender in Canada: Exploring Relations Between Victimization, Punishment, and Cultural Identity” (2012) *International Review of Victimology* 1, at 5.

⁷¹⁵ Dell and Kilty, *supra* note 714, at 5. Note that this study focused on the experiences of Aboriginal women who are criminalized and who use drugs. The specific focus of the authors was to explore the ways in which such women experience their intersecting identities as victims, offenders, and Aboriginal women. Emphasizing that the issue is deeply rooted in colonialism, the authors advocate at 13-14 that in the face of “oppressive discourses and state practices that continue to construct

searching would potentially provide an additional mechanism for stigmatizing family members of Aboriginal offenders, which would add to the suffering of those family members who have already suffered greatly due to colonialism and continued racism in Canada.

In another scenario, the follow-up investigation resulting from a lead produced by a familial search could reveal a conviction that an offender had purposely kept private from his or her family members.⁷¹⁶ This is particularly important in relation to Canada's NDDDB, as the scheme has been expanded to include over two hundred and sixty five offences, many of which would not involve a custodial sentence and could potentially be kept private from the offender's family and friends.⁷¹⁷ It is also possible that genetic family secrets (discussed in Chapter Three as part of the section 7 analysis) may be revealed and cause further damage to the family unit.⁷¹⁸

The idea that familial searching poses a threat to family unity has been criticized on at least two grounds. It has been said that suspicion of members in a family unit based on one member's criminal past is unlikely to be the cause of discord within already vulnerable families.⁷¹⁹ However, if familial searching were to

[Aboriginal women] as expected offenders", a new response must: "(a) raise awareness and provide a legitimate space for women to vocalize their experiences of victimization; (b) not focus on the drug user or offender identity if [women] do not associate with it; (c) recognize drug use as a survival behaviour; and (d) combat feelings of shame associated with being a mother and using drugs".

⁷¹⁶ Haimés, *supra* note 9, at 269; Kim et al., *supra* note 272, at 4.

⁷¹⁷ Less serious charges that might lead to inclusion in the NDDDB include perjury, libel known to be false, and possession of counterfeit money: *Criminal Code supra* note 65, at s. 487.04. See also Royal Canadian Mounted Police, "DNA Designated Offences – Section 487.04 of the Criminal Code of Canada" online: <http://www.rcmp-grc.gc.ca/nddb-bndg/form/ddo-did-eng.htm>.

⁷¹⁸ Haimés, *supra* note 9, at 269; Suter, *supra* note 136, at 365; Kim et al., *supra* note 272, at 4.

⁷¹⁹ Kaye, "The Geneology Detectives" *supra* note 136, at 149.

become commonplace, it would represent a constant threat to individuals holding genetic relationships with one or more convicted offenders. It is unjust for Aboriginal families who continue to suffer the effects of family breakdown caused by colonization to suffer the impact of a policy that may cause further breakdown. Although protection of family harmony is not a specific constitutional right,⁷²⁰ the law has previously carved out special protections for family relationships.⁷²¹ Moreover, as CRT underscores, individual rights in law should not represent the threshold for evaluating societal inequality. Given the significance of family breakdown as part of the colonization process in Canada and the several ways in which familial searching may contribute to further problems in this area, I view the issue as an important risk in the larger equality argument.

⁷²⁰ See Gerald Chipeur, "Family Ties: Individual and Family Rights under Canada's Charter of Rights and Freedoms" (2003) 52 *University of New Brunswick Law Journal* 215. This limitation has also been noted in relation to the situation in the United States: Kaye, "The Genealogy Detectives" *supra* note 136, at 145; Wah, *supra* note 710, at 941.

⁷²¹ The long-standing spousal privilege rule has aimed to protect marital relationships by providing that a husband or wife is not a compellable witness for the prosecution in proceedings against his or her spouse (except for a very limited number of crimes). The rule is set out in the *Canada Evidence Act*, RSC 1985, c. C-5, at s. 4. The privilege was established and maintained on the basis that marital confidences should be preserved for the sake of matrimonial harmony. The rule has been called into question in modern times, but was recently upheld by the Supreme Court of Canada: See *R v Couture*, 2007 SCC 28, [2007] 2 SCR 517 and discussion in Alan W. Bryant, Sidney N. Lederman and Michelle K. Fuerst, *The Law of Evidence in Canada*, 3rd ed. (Markham: LexisNexis Canada Inc., 2009); Allan Manson, "Spousal Testimony in Criminal Cases in Canada: A Report for the Law Commission" (2001) online: <http://www.samesexmarriage.ca/docs/manson.pdf>, at 18; Law Commission of Canada, *Beyond Conjuality: Recognizing and Supporting Close Personal Relationships* (Ottawa: Minister of Public Works and Services, 2001), at 51; Jeffrey Schnoor, "Evidence by Spouses in Criminal Proceedings" (1998) Uniform Law Conference of Canada Consultation Paper. Though the rule has not been extended to other types of relationships (e.g. parent/child), there is literature devoted to the issue of whether or not there is a basis for expanding the privilege to other familial relationships: Catherine J. Ross, "Implementing Constitutional Rights for Juvelines: The Parent-Child Privilege in Context" (2003) 14 *Stanford L. & Policy Rev.* 85; Dan Markel, Jennifer M. Collins & Ethan J. Leib, *Privilege or Punish: Criminal Justice and the Challenge of Family Ties* (New York: Oxford University Press, 2009); Jane E. Cross, Nan Palmer & Charlene L. Smith, "Families Redefined: Kinship Groups That Deserve Benefits" (2009) *Mississippi Law Journal* 791.

4.3 Counter Considerations to the Recommendation for Continued Prohibition on Familial Searching of the NDDB

4.3.1 Familial Searching as a Crime-Solving Tool and the Overrepresentation of Aboriginal peoples as Victims of Crime

Although I have discussed the overrepresentation of Aboriginal peoples as offenders in the Canadian criminal justice system, I have not yet confronted another drastic and tragic result of colonization that is reflected in the criminal justice system. Sadly, the disproportionate representation of Aboriginal peoples within the Canadian criminal justice system extends to their overrepresentation as victims of crime.⁷²² The discriminatory treatment of Aboriginal victims has been seen in numerous forms, for instance in cases where authorities have failed to enforce laws relating to hate crimes when such crimes were committed against Aboriginal victims.⁷²³ Other Aboriginal victims have been denied justice where their investigations were botched or their cases undermined by racist beliefs held by police officers, prosecutors, judges, and others.⁷²⁴ Inequality among Aboriginal peoples who are victimized by crime is perhaps most glaring when it comes to

⁷²² Borrows and Rotman, *supra* note 103, at 1056. See also Friedland, “Different Stories” *supra* note 92, at 113, noting that Aboriginal peoples are less well-protected by police and recounting failed attempts to engage police in domestic violence situations.

⁷²³ See the story of the killing of Leo Lachance, whose killer shot him while Leo walked out of a convenience store, made racist comments about the victim, and later was charged with manslaughter before being placed in a witness protection program: *Report of Commission of Inquiry into the Shooting Death of Leo LaChance: Relating to the January 1991 shooting death of Leo LaChance at Prince Albert, Saskatchewan and the consequent plea and sentence of Carney Milton Nerland for the crime of manslaughter* (1993).

⁷²⁴ See criticism of the Edmonson, Kindrat, and Brown prosecutions in which three white defendants were prosecuted for the sexual assault of a twelve-year old Aboriginal girl in: Lucinda Vandervort, “Lawful Subversion of the Criminal Justice Process? Judicial, Prosecutorial and Police Discretion in *Edmonston, Kindrat and Brown*”, Chapter 6 in Elizabeth A. Sheehy (ed.), *Sexual Assault in Canada: Law, Legal Practice and Women’s Activism* (Ottawa: University of Ottawa Press, 2012). The author outlines problems in the case, including evidence that was mishandled, erroneous admission of evidence relating to the victim’s sexual history, and a lack of legal knowledge relating to standards in sexual assault cases by key legal players.

Canada's missing and murdered women.⁷²⁵ Recent efforts to understand the extent to which Aboriginal women are overrepresented in this sense reveal that the number of murdered and missing Aboriginal women is far more than previously believed and that there is a serious lack of statistical information on the matter.⁷²⁶ A recent report by the RCMP studying Canadian cases of missing and murdered Aboriginal women between 1980 and 2012 revealed some disturbing statistics. These include that the rate of victimization of Aboriginal women in relation to violent crimes was approximately three times that for non-Aboriginal women, that the most frequent cause of death for Aboriginal women who were victims of homicide was physical beating (double the statistic for non-Aboriginal women), and that Aboriginal female homicide victims were killed in a domestic residence in as many as 75% of cases.⁷²⁷ The report also revealed that only about 60% of homicides of Aboriginal females working in the sex trade were solved by the time of release of the report.⁷²⁸

It might be argued that familial searching could go a long way towards reducing the appalling rates of violence against Aboriginal women and girls by allowing police to apprehend offenders that would not otherwise be arrested and by having a general deterrent effect with respect to future crimes. Yet, this argument ignores the reality of violent crimes, especially domestic violence and sexual assault.

⁷²⁵ RCMP, "Missing and Murdered Aboriginal Women" *supra* note 158, at 3.

⁷²⁶ RCMP, "Missing and Murdered Aboriginal Women" *supra* note 158, at 3.

⁷²⁷ RCMP, "Missing and Murdered Aboriginal Women" *supra* note 158, at 7, 10, and 11. Note that the last statistic on the location of homicides was derived from data collected between 1991 and 2012.

⁷²⁸ The rate of solved homicides for non-Aboriginal women working in the sex trade was only marginally better at 65%: RCMP, "Missing and Murdered Aboriginal Women" *supra* note 158, at 15.

It also ignores the reality faced by Aboriginal female victims of those crimes. DNA evidence may in some cases lead to the apprehension of a perpetrator that might otherwise go undetected, but even where this is so it only represents a reaction to the crime and does not prevent the victimization in the first place.⁷²⁹ Crucially, for the small number of cases that reach the courts, the issue is most often one of consent rather than a question about the identity of the perpetrator.⁷³⁰

In the current context, it is essential to understand the vulnerability of Aboriginal women, which allows for their continued victimization in sexual assaults and other violent crimes. In reality, the criminal law and its investigative processes alone cannot adequately deal with the deep-rooted issues that underlie this situation. Discussing the rates of sexual assaults experienced by Canada's Indigenous women and girls, Tracey Lindberg, Priscilla Campeau, and Maria Campbell explain that the danger facing these women when it comes to sexual violence is the fact of being an Indigenous woman.⁷³¹ They criticize the law's failed promise of equal benefit and challenge the idea that the law offers any assurance of protection for these victims:

⁷²⁹ This same argument was made by women's groups in response to the move to establish the NDDB and to arguments relating to the potential for DNA evidence to address the numerous sexual assaults being committed against women in Canada: Kubanek and Miller, *supra* note 158; Oppal, *supra* note 158, at 129; Solicitor General, Summary of Consultations *supra* note 67, at 6. See also Borrows and Rotman, *supra* note 103, at 785, noting that Aboriginal women suffer "unconscionable levels of domestic violence" in Canada and further that the justice system has done little to address this problem.

⁷³⁰ Government of Alberta, "Best Practices For Investigating and Prosecuting Sexual Assault" (Edmonton: Justice and Solicitor General, 2013), at 8. The rates of conviction for sexual assault cases are discussed in the paragraphs below.

⁷³¹ Tracey Lindberg, Priscilla Campeau, and Maria Campbell, "Indigenous Women and Sexual Assault in Canada", Chapter 5 in Elizabeth A. Sheehy (ed.), *Sexual Assault in Canada: Law, Legal Practice, and Women's Activism* (Ottawa, ON: University of Ottawa Press, 2012), at 89.

How do you effectively police this danger? We cannot see, when hundreds of our women are missing or murdered, how Canadian law has been of equal benefit or protection to us. We cannot know, with cousins missing and going missing, granddaughters gone in an instant, sisters lost from cities, towns, and the countryside, how Canadian law is of equal benefit to us. It certainly is not protecting us. So, with this in our minds, we believe we have to tell Indigenous Women's stories. In taking away the right not to know about this, and in addressing the danger of being Indigenous women, we, at least, address the known danger of ignorance.⁷³²

Lindberg, Campeau, and Campbell use a critical Indigenous analysis⁷³³ to support a critique of the current system and its response to sexual violence committed against Aboriginal women. What they call for is not increased reliance on DNA or any other type of forensic evidence, but rather more complex systemic change, including acknowledgment of the existence, or at least the possibility, of racism at work in cases of sexual assault against Indigenous women.⁷³⁴ They separate facts that are relevant to the prosecution of sexual assaults (such as the position of power and control of perpetrators over their female victims) from details they argue are irrelevant to anything but the vulnerability of the victim (such as the victim's work in the sex trade, drug use or background).⁷³⁵ They stress the need to stop blaming victims and acknowledge the power dynamic that has resulted from colonialism and that allows Indigenous women to continue to be victimized at unconscionable rates.⁷³⁶ Although cases cited throughout this dissertation show that familial

⁷³² Lindberg, Campeau, and Campbell, *supra* note 731, at 89.

⁷³³ See discussion of the developing Critical Indigenous Theory approach to scholarship in Chapter One (part 1.2 and particularly *supra* note 43).

⁷³⁴ Lindberg, Campeau, and Campbell, *supra* note 731, at 94.

⁷³⁵ Lindberg, Campeau, and Campbell, *supra* note 731, at 97.

⁷³⁶ Lindberg, Campeau, and Campbell, *supra* note 731, at 107.

searching can sometimes provide a lead that will help solve sexual assaults and other serious investigations, this does not translate into a potential for familial searching to address the widespread victimization of Aboriginal women and girls (or of victims of violent and sexual offences more generally). This is primarily because the types of crimes committed against vulnerable populations such as Aboriginal women and girls are not the types of crimes that can be resolved through use of DNA profiling. In particular, sexual assault and domestic violence occur in a society that is characterized by a deeply entrenched power dynamic, which disempowers victims in ways that cannot be addressed through suspect identification.⁷³⁷

General knowledge of the inadequacies of the criminal justice response to sexual violence further supports the need to prioritize systemic changes over expansion of the NDDDB scheme. The data bank scheme acts as a law enforcement model while systemic change may address the underlying issues resulting in victimization of Aboriginal women in the first place. The systemic issues to be confronted are numerous. Sexual assault is indisputably a gendered crime, with women and girls making up 86% of victims.⁷³⁸ Despite major reforms in 1983 that were meant to improve reporting rates, recent estimates indicate that as few as 6%

⁷³⁷ Erin Murphy has echoed this point, arguing that familial searching is more likely to be useful in solving “low-level crimes like property and possession offences” than in serious offences like sexual assault and murder. For these more serious crimes, she explains that “perhaps counterintuitively, DNA evidence may carry the *least* potential...[because] rape and homicide cases tend to be amenable to defenses, including self-defense and consent, that render DNA evidence either irrelevant or less dispositive”: Murphy, “The New Forensics” *supra* note 11, at 734.

⁷³⁸ Holly Johnson, “Limits of a Criminal Justice Response: Trends in Police and Court Processing of Sexual Assault”, Chapter 24 in Elizabeth A. Sheehy (ed.), *Sexual Assault in Canada: Law, Legal Practice, and Women’s Activism* (Ottawa, ON: University of Ottawa Press, 2012), at 613.

of sexual assaults are reported to police in Canada.⁷³⁹ This failure has been repeatedly linked to the inappropriate treatment of victims who do come forward, which generally discourages women from asking police for help.⁷⁴⁰ Even when charges are laid, sexual assaults have exceptionally low conviction rates: a recent estimate indicates that only 0.3% of perpetrators of sexual assault are ever held accountable for their crimes by the criminal justice system.⁷⁴¹ In some cases involving sexual assault and violence against Aboriginal women, this has been directly attributed to racism as well as a general lack of concern for victims.⁷⁴²

The persistent myth that “real rape” involves a pure, chaste victim, serious bodily injury, and the filing of an immediate police report also acts as a disincentive to reporting sexual violence.⁷⁴³ The persistence of this view contributes to low reporting rates for sexual assault, with a particular impact on Aboriginal and other

⁷³⁹ *Criminal Code* *supra* note 65, at ss. 271-273; Johnson, *supra* note 738, at 614 and 618. Reforms included replacing the offences of rape and indecent assault with three levels of sexual assault (sexual assault; sexual assault with a weapon, threats of bodily harm or causing bodily harm; and aggravated sexual assault), abolishing the requirement for corroboration and the introduction of a rape shield law to protect against the introduction of evidence of a woman’s sexual history as a way to attack her credibility as a witness: Lisa Tremblay, “Sexual Assault: Where do we go From Here?” (2013) *Horizons* 28, at 28. See also Toronto Police Service, “Statistics” (Toronto: Sex Crimes Unit: Investigative Section-Sexual Assault Squad, 2014) online: <http://www.torontopolice.on.ca/sexcrimes/sas/statistics.php>.

⁷⁴⁰ Friedland, “Different Stories” *supra* note 92, at 113; Borrows and Rotman, *supra* note 103, at 792, citing Hamilton and Sinclair, *supra* note 290.

⁷⁴¹ Because of the numerous disincentives to reporting sexual assault, it is exceedingly difficult to gain a clear picture of the number of sexual assaults that occur in Canada each year. It is also difficult to interpret changes to reporting rates, as these may be due to the impact of law reforms meant to improve the situation or alternatively to negative experiences for victims who report such crimes: Johnson, *supra* note 738, at 617 and 632.

⁷⁴² For instance, intentional discrimination against the victim has been identified as the reason for the state’s failure to respond to the horrific sexual assault and murder of Helen Betty Osbourne, which occurred in 1971. Osbourne was a 19-year old Aboriginal woman from The Pas, Manitoba who was stabbed with a screwdriver and beaten beyond the point of recognition. Though three men were identified as suspects in 1972, police did not lay charges against the suspects for 15 years. During jury selection one of the defense lawyers used his preremptory challenges to ensure that there were no Aboriginal jurors included. The Manitoba Aboriginal Justice Inquiry later acknowledged that the defence conduct had been racist: Tanovich, *supra* note 100, at 669.

⁷⁴³ Johnson, *supra* note 738, at 625.

vulnerable women (such as the mentally ill).⁷⁴⁴ In rare cases where convictions are obtained, the sentencing process can illustrate the continued effects of victim blaming, which reinforces the oppression of women.⁷⁴⁵ Familial searching, as a law enforcement tool that may help identify perpetrators (in cases where sexual assaults are reported and investigated), does not connect with these complex needs. The clearest disconnect is with cases that are not reported, or that are reported long after DNA evidence could be of any use (i.e because it was not collected from the crime scene or from the body of the victim in cases where there is in fact a question of the perpetrator's identity). Familial searching would be of no assistance in such cases.⁷⁴⁶

Another factor contributing to the high rates of victimization within the Aboriginal population, one even less likely to be addressed through familial searching, is the disproportionate representation of Aboriginal women as victims of domestic violence. As John Borrows has said, Aboriginal women suffer

⁷⁴⁴ Johnson, *supra* note 738, at 625.

⁷⁴⁵ See discussion of comments made in circle sentencing in cases involving Aboriginal female victims in Cunliffe and Cameron, *supra* note 158, especially the case of *R v JJ* (2004) N.L.C.A. 81, 192 C.C.C. 3(d) 30, discussed in the article at 27.

⁷⁴⁶ Where perpetrators of sexual assaults are held accountable (with or without the use of DNA evidence), it is also important to consider the adequacy of the criminal justice response and the ways in which it fails to address the underlying causes of crime. Constance Backhouse offers suggestions for a feminist response to the continuing problem of sexual assault in Canada, beginning with an explanation of what such a response would *not* involve. With respect to confronting rates of sexual assault, Backhouse questions the strength of a remedy that would lead to longer prison sentences for sexual offenders, noting that this would result in the incarceration of numerous violent sex offenders "in institutions that are steeped in cultures of masculinist excess" and in places that are "dehumanizing, racist, homophobic, and inherently violent". Among the alternatives she offers for further consideration are public compensation for victims of sexual violence (which need not necessarily be monetary), alternative dispute mechanisms, restitution projects that would help eradicate stigma for survivors of sexual assault and violence, and restorative justice approaches: Constance Backhouse, "A Feminist Remedy for Sexual Assault: A Quest for Answers", Chapter 28 in Elizabeth A. Sheehy (ed.), *Sexual Assault in Canada: Law, Legal Practice, and Women's Activism* (Ottawa, ON: University of Ottawa Press, 2012), at 733-737.

“unconscionable levels of domestic violence” in Canada.⁷⁴⁷ In one study, almost a quarter of Aboriginal women reported having been victimized by domestic assault at the hands of their partners (compared to 7% of non-Aboriginal women).⁷⁴⁸ A recent RCMP report indicated that of Aboriginal female homicide victims who held a familial relationship with their killers, 62% percent had a previous history of family violence known to police.⁷⁴⁹ There are numerous changes that should be prioritized over familial searching to address these issues. For instance, women and children suffering from domestic violence and residing in Northern remote areas are often without “safe houses”; they may lack a realistic choice of engaging police services when in crisis since response times may take a day or longer if police do indeed intervene.⁷⁵⁰ In such situations, it is difficult to see how more efficient use of DNA evidence would be of any assistance whatsoever in addressing the needs of victims. More specifically, the question of identity in relation to which familial searching would typically be used is not at issue in cases of domestic violence. In contrast,

⁷⁴⁷ Borrows and Rotman, *supra* note 103, at 785.

⁷⁴⁸ Jodi-Anne Brzozowski, Andres Taylor-Butts, and Sara Johnson, “Victimization and Offending Among the Aboriginal Population in Canada” (Ottawa: Canadian Centre for Justice Statistics, 2006), at 6.

⁷⁴⁹ RCMP, “Missing and Murdered Aboriginal Women” *supra* note 158, at 13. The report does not provide specifics about the roles of the women in the incidents of domestic violence (i.e. how many cases involved victims of direct physical or other types of violence, those who have been victimized by having witnessed violence within the family, or women in relation to whom reports of domestic violence have been made). Instead, the report appears to group these different scenarios under a general heading of “previous history of family violence”. The report explains (at 13) that “[i]n cases of homicides where the offender and the victim are in a familial relationship, investigators are asked to note on the Homicide Survey whether they were aware of any previous history of violence between the two. More often, they cited a known history of previous family violence (which may or may not have been reported to police) between Aboriginal female victims and their offenders than their non-Aboriginal female counterparts (62% compared to 43%)”.

⁷⁵⁰ Borrows and Rotman, *supra* note 103, at 793, citing Hamilton and Sinclair, *supra* note 290. See again stories of police failure to appropriately respond to allegations of domestic violence in Indigenous homes in Friedland, “Different Stories” *supra* note 92, at 113.

access to more resources, support for meaningful choices, and appropriate training for police and other responders may empower victims and bring long-term systemic change.

The overrepresentation of Aboriginal peoples as victims of crime represents a crisis to which Canada must respond, particularly with respect to the pressing women's issues that are crucial to the overall problem. In response to the argument that familial searching would detect dangerous criminals and thereby help to address the victimization of Aboriginal (and non-Aboriginal) women, it is crucial to emphasize that familial searching as a response would not deal with the underlying causes of crime. While it is important to consider alternate approaches to addressing the causes of crime in both the Aboriginal and non-Aboriginal population, I discuss the issue in relation to Aboriginal offenders. The conversation is relevant to both the inequality for Aboriginal peoples as reflected in the racialized offender population and to the continuing effects of colonization that are central to the CRT analysis.

Causes of Crime: Understanding Aboriginal Overrepresentation in the Canadian Criminal Justice System

In relation to concerns over the racial discrimination brought on by familial searching in the United States, Kimberly Wah has argued that while an inequality issue clearly exists in the criminal justice system, "the disparities are not due to problems with the DNA database itself. DNA fingerprinting and the use of familial

searching can even begin to alleviate this problem, rather than amplify it”.⁷⁵¹ She bases her argument on the fact that overrepresentation of minority groups is not attributable to the use of DNA science but rather pre-existing problems in the criminal justice system.⁷⁵² The problem with this argument is that it assumes that if DNA science is not to blame for racial disparities in the criminal justice system, its use is not objectionable from an equality standpoint; however, familial searching would perpetuate existing inequality by facilitating increased genetic surveillance on already marginalized groups. I reject the idea that further genetic surveillance through familial searching would provide any promise of alleviating inequality in the criminal justice system. What is needed instead is support for systemic changes that address the underlying causes of crime. For Canada’s Aboriginal population, such an approach must deal with several factors, including the continuing effects of colonization, the exclusion of Aboriginal peoples from the criminal justice system, and the cultural irrelevance of criminal justice approaches that are enforced upon Aboriginal offenders.

Aboriginal peoples in Canada descend from generations that have suffered assimilative policies and abusive treatment that aimed to destroy communities and erase Indigenous identities.⁷⁵³ The racial disparities within the Canadian criminal justice system are rooted in Canada’s history of oppression of Aboriginal peoples.⁷⁵⁴ As previously explained, this history includes the atrocities of the Residential School

⁷⁵¹ Wah, *supra* note 710, at 953.

⁷⁵² Wah, *supra* note 710, at 953.

⁷⁵³ See discussion in Chapter One (part 1.4) and Lawrence and Dua, *supra* note 37, at 121.

⁷⁵⁴ Friedland, “Different Stories” *supra* note 92, at 120.

System as well as racist and oppressive child welfare policies. The continued suffering within the families of children abused by these systems is seen in high rates of mental illnesses, suicide, homelessness, unemployment, poverty, sexual abuse, and domestic violence.⁷⁵⁵

The intergenerational effects of colonization in Canada are undoubtedly linked with social unrest and criminal behaviours that have led to high rates of convictions and incarceration of Aboriginal peoples today.⁷⁵⁶ The horrific results are compounded by continued social exclusion and assertion of government control. For instance, the definition of crime plays a role in perpetuating the overrepresentation of Aboriginal offenders by encompassing activities required for the survival of oppressed individuals.⁷⁵⁷ Relevant examples in the current context include crimes relating to sex work as well as potential charges for activities related to hunting, fishing, and use of natural resources.⁷⁵⁸ The use of the law to dispossess Aboriginal peoples from their lands and resources and to assert government control has been

⁷⁵⁵ Bombay, Matheson and Anisman, *supra* note 118; Friedland, “Different Stories” *supra* note 92, at 107-112; Friedland, “Tragic Choices and the Division of Sorrow” *supra* note 121, at 240. See also Chartrand and Forbes-Chilibek, “The Sentencing of Offenders with Fetal Alcohol Syndrome” *supra* note 159, at 40 explaining that a disproportionate number of people with Fetal Alcohol Syndrome or alcohol related neurodevelopment disorders are of Aboriginal heritage. The authors point out at 41 that this is clearly related to the effects of colonization and at 42 that there is evidence of the link between FAS and criminal behaviour. They further argue at 43 that the Canadian criminal justice system is presently ill-equipped to deal with the challenges presented by the relationship between these disorders and crime.

⁷⁵⁶ See similar comments in MacDonald and Hudson, *supra* note 121; and Bombay, Matheson and Anisman, *supra* note 118, at 323.

⁷⁵⁷ Sheehy, “Advancing Social Inclusion” *supra* note 41, at 79.

⁷⁵⁸ Sheehy, “Advancing Social Inclusion” *supra* note 41, at 80. Discussing this need in relation to racialized groups generally, Sheehy notes at 74 that the “broader goals of social inclusion will be thwarted if criminal law and policy continue to create, or at least entrench, social and economic marginalization through criminal prosecution and punishment that disparately target the poor, Aboriginal people, and racialized persons, among others. A political commitment to the pursuit of social inclusion therefore demands that the institutions, rules, and enforcement of the criminal law be re-examined using this same analytical tool” (footnotes removed).

an ongoing part of the colonization process in Canada.⁷⁵⁹ This problem continues as the relationship between Aboriginal groups and the Canadian government is still characterized by unresolved Treaty rights, outstanding land claims, and a lack of recognition for the right to self-governance.⁷⁶⁰

A broader understanding of the causes of crime highlights that it is not the lack of a means to detect criminal behaviour (through familial searching) that is the main issue, but rather the need to acknowledge the continuing effects of colonization and to support systemic changes that would empower Aboriginal peoples to deal with the overrepresentation of their people within the criminal justice system. Canadian lawmakers and judges have made some attempts to address the inequality in the offender population. A key initiative undertaken in this respect came in the form of amendments to the *Criminal Code* that were meant to address the individual circumstances of Aboriginal offenders in sentencing.⁷⁶¹ Introduced in 1996, the “Gladue” sentencing principles⁷⁶² provide that sentencing

⁷⁵⁹ Discussing how this experience is reflected in Métis history, see: Mike Brogden, “Law and Criminal Labels: The Case of the French Métis in Western Canada” (1990) 1 J Human Just 13.

⁷⁶⁰ A landmark decision in terms of Canadian land claim agreements occurred with the Supreme Court of Canada decision in *Calder v British Columbia (Attorney General)*, [1973] S.C.R. 313. Here the Court clarified that the government of Canada had an obligation to recognize Aboriginal rights in land, to address violations of these rights, and to negotiate with those nations having claims to regions for which no treaties had been signed. Despite the promise of this decision, the government has been criticized for making limited progress in this area and for continuing to take a colonialist stance as a response to the clarification on its obligations: Lawrence and Dua, *supra* note 37, at 125. There have been some positive developments as a result of the decision and the government’s subsequent move to new treaties in Quebec, Labrador, the Yukon and Northwest Territories, as well as the Nisga’a Final Agreement in British Columbia. The process is, however, generally slow and expensive and has been particularly so in British Columbia where a number of claims remain outstanding: Curry, Donker, and Krehbiel, *supra* note 20, at 293.

⁷⁶¹ *Criminal Code supra* note 65, at s. 718.2(e).

⁷⁶² The Supreme Court of Canada acknowledged the principles in 1999 in *R v Gladue*, and the sentencing guidelines have since become known as the “Gladue principles”. In *Gladue*, an Aboriginal woman who pled guilty to manslaughter for killing her common law husband was given a sentence of three years in prison, which she appealed on the basis that the sentencing principles required the

judges must take into consideration “all available sanctions other than imprisonment that are reasonable in the circumstances...with particular attention to the circumstances of Aboriginal offenders”.⁷⁶³ The principles represent an attempt to refocus sentencing on rehabilitation and restoration over deterrence and punitive measures.⁷⁶⁴ Interpreting the legislative amendments, the Supreme Court of Canada emphasized that when sentencing Aboriginal offenders, judges must consider:

- (i) The unique systemic or background factors which may have played a part in bringing the particular [A]boriginal offender before the courts; and
- (ii) The types of sentencing procedures and sanctions which may be appropriate in the circumstances for the offender because of his or her particular [A]boriginal heritage or connection.⁷⁶⁵

Judges have a continuous statutory duty to apply these principles when sentencing Aboriginal offenders.⁷⁶⁶ Other steps to acknowledge and address the effects of

courts to give further consideration to her background. The Court confirmed that sentencing judges were obliged to consider the application of the new sentencing principles when sentencing Aboriginal offenders, and that the principles were specifically meant to ameliorate the overrepresentation of Aboriginal peoples in Canadian prisons. In the case at hand, the Supreme Court of Canada determined that the lower courts had erred by failing to make a proper assessment of the above factors with regards to the appellant’s background. A new sentencing hearing was not ordered, however, as the appellant had been granted day parole and controlled release after serving six months of her sentence, a result that was deemed appropriate in the circumstances: *R v Gladue*, *supra* note 92, at 93, 94, and 98. See also discussion in Sewrattan, *supra* note 20, at 129.

⁷⁶³ *Criminal Code* *supra* note 65, at s. 718.2(e).

⁷⁶⁴ Sewrattan, *supra* note 20, at 143.

⁷⁶⁵ *R v Gladue*, *supra* note 92, at para 93.

⁷⁶⁶ Following the decision in *Gladue*, there was confusion about the scope of the principles, including questions about the extent to which they remained applicable in the sentencing of more serious offences (see *R v Wells*, 2000 SCC 10, [2010] 1 SCR 207). The Supreme Court of Canada recently confirmed that the principles remain applicable regardless of the serious nature of the offence. *R v Ipeelee*, *supra* note 92, at para 86-87. See Sewrattan, *supra* note 20, at 141, arguing that this does not necessarily provide judges with the authority to apply the *Gladue* principles where mandatory minimum sentences have been set. See also Elizabeth Sheehy and Isabel Grant, “A Tragic Tale of Two Gladues” *The Star* (April 27, 2015) online:

<http://www.thestar.com/opinion/commentary/2015/04/27/a-tragic-tale-of-two-gladues.html>,

discussing the current Conservative government’s legislative attempts to undermine the sentencing principles, and how this move would “retreat from the small gains made in responding to such over-incarceration...and den[y] Canada’s role in the devastation, past and present, wreaked upon the

racism on Aboriginal offenders include the establishment of “Gladue” courts in Toronto, which deal exclusively with Aboriginal offenders.⁷⁶⁷ In *R v Williams*, the Supreme Court of Canada attempted to confront the problem of racial bias among jurors; in the case at hand there existed evidence of widespread bias against Aboriginal peoples in the community from which the jury pool had been drawn.⁷⁶⁸ The accused argued (and the Court agreed) that he had the right to question potential jurors to determine whether they possessed prejudice against Aboriginal peoples that might impair their ability to remain impartial.⁷⁶⁹

The above actions represent small and still developing steps towards acknowledging the systemic racism and institutional bias that has contributed to the overrepresentation of Aboriginal peoples in the criminal justice system. Yet, new approaches to sentencing or minor changes to the criminal justice process have not provided a sufficient response to the overrepresentation of Aboriginal peoples in Canadian prisons or across the criminal justice system generally. In fact, since the *Gladue* principles were introduced, the overrepresentation of Aboriginal offenders

original peoples”. See also Sheehy, “The Discriminatory Effects of Bill C-15’s Mandatory Minimum Sentences” *supra* note 103.

⁷⁶⁷ Jonathan Rudin, “A Court of Our Own: More on the Gladue Courts” 2006 Aboriginal Legal Services of Toronto Legal Clinic, online: <http://www.nanlegal.on.ca/upload/documents/legal-articles/a-court-of-our-own---more-on-gladue-courts.pdf>; Roberts and Melchers, *supra* note 168, at 215.

⁷⁶⁸ *R v Williams*, *supra* note 320. The accused in this case had been charged with the robbery of a pizza parlour and had elected a trial by jury.

⁷⁶⁹ *R v Williams*, *supra* note 320, at paras 1 and 2. Note that the controversy relating to Aboriginal under-representation on juries continues. Recently, the Supreme Court of Canada reinstated a manslaughter conviction, reversing the Ontario Court of Appeal’s decision that the conviction be overturned due to the absence of Aboriginal jury members at trial. The majority found that the state must provide a fair opportunity for participation in the jury process, but is not required to ensure a representative jury composition. See *R v Kokopenance*, 2015 SCC 28 and discussion in Cairns Way, *supra* note 111.

in Canadian prisons has only gotten worse.⁷⁷⁰ To achieve greater success in reducing the disproportionate rate of Aboriginal offenders within the criminal justice system, the response to the issue must be proportionate to the magnitude of the problem.⁷⁷¹ Further detection of criminals as a reaction to crime does not offer an adequate solution. As part of a long-term commitment to change, a crucial step is to educate the public about the realities of Canadian history.⁷⁷² Many Canadians do not understand the history of Aboriginal peoples, including the extent of the abuses suffered in the Residential School System and their intergenerational effects.⁷⁷³

⁷⁷⁰ The fact that the principles had not resulted in a decrease in the number of Aboriginal offenders in Canadian prisons was noted several years after the introduction of the amendments: Sheehy, “Advancing Social Inclusion” *supra* note 41, at 85; Roberts and Melchers, *supra* note 168. The problem is indeed worsening: *R v Ipeelee*, *supra* note 92; Sewrattan, *supra* note 20, at 130; Rudin, *supra* note 767.

⁷⁷¹ The complexities of unraveling the harms done by racism equate with the complex ways in which racism become rooted in societies. As Constance Backhouse explains, “[i]t is essential to recognize that racism is located in the systems and structures that girded the legal system of Canada’s past. Racism is not primarily manifest in isolated, idiosyncratic, and haphazard acts by individual actors who, from time to time, consciously intended to assert racial hierarchy over others. The roots of racialization run far deeper than individualized, intentional activities. Racism resonates through institutions, intellectual theory, popular culture, and law. Immigration laws shaped the very contours of Canadian society in ways that aggrandized the centrality of white power. Racialized communities were denied the right to maintain their own identities, cultures, and spiritual beliefs. Education, employment, residence, and the freedom of social interaction were sharply curtailed for all but those who claimed and were accorded the racial designation ‘white’”. Backhouse *Colour-Coded*, *supra* note 32, at 15.

⁷⁷² The need for public education was similarly emphasized in order to combat racism in a more general sense in Sheehy, “Advancing Social Inclusion” *supra* note 41, at 78. See also Terry Cross and Cindy Blackstock, “Special Foreword: We are the Manifestations of our Ancestor’s Prayers” (2012) 91:3 *Child Welfare* 9, at 9, discussing the disproportionate numbers of Aboriginal children in the Child Welfare System (among other social issues) and stating that “[m]uch of this oppression is legitimized and systematized within government policies and emboldened by a lack of knowledge among non-Aboriginal peoples about the disadvantages that First Peoples continue to face simply because of who they are”.

⁷⁷³ MacDonald and Hudson, *supra* note 121, at 428. The Government of Canada has recently taken steps towards informing the public about this dark chapter in Canadian history. The Truth and Reconciliation Commission of Canada has a mandate to inform Canadians about the Residential School System and to “guide a process of national reconciliation”: Truth and Reconciliation Commission of Canada, “They Came for the Children” *supra* note 120, at vii. Recent developments in this respect include a formal and public apology by Prime Minister Stephen Harper, though it has been noted that this apology failed to “reflect on the wider colonial social and institutional context which made the [Residential School System] possible”: MacDonald and Hudson, *supra* note 121, at

Systemic change will also require attention to specific failures of the current criminal justice system that have resulted from the historical and ongoing oppression of Aboriginal peoples. For instance, a disproportionate number of people with Fetal Alcohol Syndrome or alcohol-related neurodevelopment disorders are of Aboriginal heritage (a problem that has been linked with the experience of colonization).⁷⁷⁴ There is evidence of a link between FAS and criminal behaviour; however, the criminal justice system is presently ill-equipped to deal with the challenges presented by the relationship between these disorders and crime.⁷⁷⁵

Part of the problem with changes to the criminal process like the *Gladue* principles is that these tend to adhere to the traditional values of the Canadian common law system, which has not been inclusive of Aboriginal notions of justice. It is problematic to assume that Aboriginal peoples can or should adjust to adversarial norms. As noted by Justice Stuart in *R v Moses*:

After extensive exposure to the justice system it has been assumed too readily that Aboriginal people have adjusted to our adversarial process with its obsession on individual rights and individual responsibility, another tragically wrong assumption. Similarly, we have erroneously assumed by inviting their involvement in our system that they will be eager participants. If we genuinely seek their

433. At best, this apology can be viewed as a starting point, and the government needs to do more than acknowledge and regret past injustices that have led to the current crisis and to Aboriginal distrust of the Canadian criminal justice system: Friedland, "Different Stories" *supra* note 92, at 127. Emphasizing the need for government accountability and major reforms to the justice system, Bonita Lawrence and Enakshi argue that "[t]he government continues to divest responsibility for the effects of colonialism on Aboriginal peoples, while holding onto their land base and resources, redefining without reforming, and further entrenching in law and practice the real basis of its power: Lawrence and Dua, *supra* note 37, at 125.

⁷⁷⁴ Chartrand and Forbes-Chilibeck, "The Sentencing of Offenders with Fetal Alcohol Syndrome" *supra* note 159, at 40.

⁷⁷⁵ Chartrand and Forbes-Chilibeck, "The Sentencing of Offenders with Fetal Alcohol Syndrome" *supra* note 159, at 42 and 43.

partnership in resolving crime, a process that fairly accommodates both value systems must emerge.⁷⁷⁶

Moving forward, Canada's priority should be to ensure that the law is made to be inclusive of Aboriginal beliefs about justice. This need has recently been reinforced by Canada's Truth and Reconciliation Committee, which emphasized the links between the Residential School system and the continued overrepresentation of Aboriginal peoples in the Canadian criminal justice system:

Th[e] pattern of disproportionate imprisonment and victimization of Aboriginal people continues to this day. The continued failure of the justice system denies Aboriginal people the safety and opportunities that most Canadians take for granted. Redress to the racist and colonial views that inspired the [residential] schools, and effective and long-term solutions to the crime problems that plague too many Aboriginal communities, call for increased use of Aboriginal justice, based on Aboriginal laws and healing practices.⁷⁷⁷

I acknowledge that the need to address the complex causes of crime within the Aboriginal population does not, on its own, provide a reason not to use familial searching to help solve serious crimes. It does, however, call into question the argument that familial searching will go a long way towards detecting dangerous

⁷⁷⁶ *R v Moses*, [1992] 3 CNLR 116. This case is often cited within the literature in order to highlight the use of sentencing circles. It involved a 26-year old member of the N-cho Ny'ak Dun First Nation of Mayo, Yukon convicted of carrying a weapon for the purposes of assaulting a police officer. Moses had a long history with the criminal justice system with 43 convictions that had resulted in 8 years spent in prison, an extremely disadvantaged childhood, and family history of addictions. He had suffered physical and sexual abuse in juvenile institutions and in prison. Justice Stuart noted a cycle of entry and release from prison that had been ineffective for Moses; he believed a circle could expose and address the root causes of the criminal behaviour and help to develop an appropriate sentence and meaningful change. A suspended sentence with a 2-year probation order was delivered, which required rehabilitation in a culturally-based residential program for alcoholics and support from members of Moses' family: *R v Moses*, *supra* note 776. It is important to note that Aboriginal exclusion from the justice system applies not only to criminal justice, but more broadly to the Canadian justice system, which has also been criticized for its failure to reflect Aboriginal law and traditions: Borrows and Rotman, *supra* note 103, at 1072; Curry, Donker, and Krehbiel, *supra* note 20, at 295.

⁷⁷⁷ The Truth and Reconciliation Commission of Canada, "Honouring the Truth", *supra* note 125, at 211.

criminals and creating a safer and more equal society. If this is the goal, the response should aim to address the underlying causes of crime. For the Aboriginal population, these causes are extraordinarily complex, rooted in colonialism and racism, and may only be addressed through meaningful change.⁷⁷⁸

4.3.2 Familial Searching as a way to Reveal Wrongful Convictions

A crucial concern in the criminal justice system is the potential for wrongful convictions to occur. Numerous wrongful convictions have been revealed in Canada, and have often tragically involved the long-term incarceration of an innocent person.⁷⁷⁹ The well-known wrongful conviction of Donald Marshall Jr.'s exemplifies

⁷⁷⁸ I have aimed to highlight the importance of systemic changes to the criminal justice process as a priority to addressing inequality for Aboriginal peoples and in particular the overrepresentation of Aboriginal peoples as victims of crime. While it is beyond the scope of my research to discuss in full the needs in this area, I note several meaningful options to consider. For instance, specialized courts or court services that work from a model of therapeutic justice could be encouraged (see Chartrand and Forbes-Chilibeck, "The Sentencing of Offenders with Fetal Alcohol Syndrome" *supra* note 159, at 40, discussing the specific needs of offenders with FAS and alcohol related neurodevelopment disorders. The authors note at 53 that judges have sometimes been willing to take new approaches to sentencing in recognition of the fact that jail does not always provide the appropriate response, but have found themselves at a loss for better alternatives in specific cases). Greater emphasis on principles of restorative justice would represent a departure from adversarial norms that have typically excluded Aboriginal views. For instance, circle sentencing may be used as an alternative to traditional approaches to sentencing. Restorative justice models employ a talking and healing approach and judicially convened circles have become increasingly common. They are most often used by non-Aboriginal judges in an effort to address overincarceration of Aboriginal offenders: Cunliffe and Cameron, *supra* note 158, at 11. It is crucial to note, however, that such approaches may introduce new problems. For instance, Cunliffe and Cameron argue that women may often be coerced into participating in this alternative process and that judicially convened circles do not address the complex experiences of Aboriginal female victims. They note at 33 that "[t]he exclusion of women's concerns mirrors the disempowerment of Aboriginal women within many communities". Thus while circle sentencing may play an important role in addressing the over-incarceration of Aboriginal offenders, it should not be assumed that they should be applied to all types of cases. Dickson-Gilmore and La Prairie note several additional considerations, including that circles are not necessarily representative of the traditions of all Aboriginal groups, that judicially convened circles do not fully reallocate power from judges to the community, and that families and communities (like the one from which Moses came) are not always equipped or willing to supervise a person through recovery if they are suffering as a whole: Dickson-Gilmore and La Prairie, *Will the Circle be Unbroken?* *supra* note 92, at 134, 139, and 143.

⁷⁷⁹ For an in-depth look at different wrongful convictions in Canada, see Helena Katz, *Justice Miscarried: Inside Wrongful Convictions in Canada* (Toronto, ON: Dundurn, 2011).

the ways in which racism (in this case against Marshall as a Mi'kmaq man) contributes to such failures within the system.⁷⁸⁰ Other Canadian wrongful convictions include the cases of David Milgaard, Guy Paul Morin, Williams-Mullins-Johnson, and Thomas Sophonow.⁷⁸¹ The experiences of the wrongfully convicted in these cases and others reinforce the need for an improved criminal justice system, with the impossible ideal being one completely free of racial injustice and other factors that resulted in such failures.

Some have argued that familial searching can support that need in that it may prevent or help expose wrongful convictions. This argument is often made with reference to the American wrongful conviction of Darryl Hunt.⁷⁸² Before he was finally exonerated, Hunt served eighteen years in a North Carolina prison for the sexual assault and murder of Deborah Sykes.⁷⁸³ The crimes for which he was wrongfully convicted occurred in 1984.⁷⁸⁴ Although this was the same year the identifying potential of DNA was discovered, the case unfortunately occurred too early in the timeline for the crime scene DNA (which was available) to be tested.

⁷⁸⁰ Marshall was wrongfully convicted of murder and served eleven years in prison before being exonerated. His wrongful conviction was later attributed to systemic racism within the justice system, including bias held by the investigating police involved in his investigation. See discussion of the case and its connection with colonialism in L. Jane McMillan, "Colonial Traditions, Co-optations, and *Mi'kmaq* Legal Consciousness" (2011) 36:1 Law & Social Inquiry 171. See also Katz, *supra* note 779, Chapter 2: "Racism: The Donald Marshall Jr. Case".

⁷⁸¹ These and many other cases of wrongful convictions are described in individual chapters in Katz, *supra* note 779.

⁷⁸² Epstein, *supra* note 136, at 170; Frederick Bieber, "Turning Base Hits Into Earned Runs: Improving the Effectiveness of Forensic DNA Data Bank Programs" (2006) 34:2 Journ. of Law, Med. and Ethics 222, at 225; and Duster, "Explaining Differential Trust of DNA forensic Technology" *supra* note 162, at 294.

⁷⁸³ Suter, *supra* note 136, at 323.

⁷⁸⁴ Duster, "Explaining Differential Trust of DNA forensic Technology" *supra* note 162, at 294.

Hunt's conviction was largely based on eyewitness testimony.⁷⁸⁵ He maintained his innocence throughout the trial and post-conviction. The wrongful conviction was revealed after a man named Willard Brown was convicted (with the help of a familial search) in a separate sexual assault and murder.⁷⁸⁶ At a later date, the crime scene DNA for the murder of Deborah Sykes was run through the state data bank (at the insistence of Hunt's attorneys), and the testing implicated Brown in the crime for which Hunt had been wrongfully convicted.⁷⁸⁷ Hunt was finally exonerated and released from prison in 2005, after almost 19 years served for a crime he did not commit.⁷⁸⁸

Hunt has himself argued in favour of familial searching based on the fact that the technique played a role in identifying the real perpetrator in his case.⁷⁸⁹ Yet, the argument sidesteps the real reasons behind the wrongful conviction in his case. The initial conviction was problematic, having been secured through questionable eyewitness testimony, inconsistent testimony by Hunt's girlfriend (which was recanted before trial), and despite evidence suggesting Hunt's innocence (a polygraph taken and passed by Hunt).⁷⁹⁰ The inescapable fact in this case is that the

⁷⁸⁵ Epstein, *supra* note 136, at 170.

⁷⁸⁶ Suter, *supra* note 136, at 323. In fact, after the familial search revealed a partial match between the anonymous crime scene DNA and Brown's brother, Brown's involvement was confirmed through the use of abandoned DNA collected from a cigarette butt, illustrating the relationship between the two forensic techniques described in the earlier part of this chapter (part 4.2.2): Duster, "Explaining Differential Trust of DNA forensic Technology" *supra* note 162, at 294.

⁷⁸⁷ Suter, *supra* note 136, at 323; and Bieber, "Turning Base Hits Into Earned Runs" *supra* note 782, at 225; Innocence Project, "Know the Cases: Darryl Hunt" online: http://www.innocenceproject.org/Content/Darryl_Hunt.php.

⁷⁸⁸ Innocence Project, *supra* note 787.

⁷⁸⁹ Listen to Hunt's comments in CBC Television Broadcast, "60: Minutes: A Not So Perfect Match" (2007) available online: <http://www.cbsnews.com/news/a-not-so-perfect-match/>. See also Epstein, *supra* note 136, at 170; and Bieber, "Turning Base Hits Into Earned Runs" *supra* note 782, at 225.

⁷⁹⁰ Epstein, *supra* note 136, at 170; Innocence Project, *supra* note 787.

state missed an opportunity to correct the injustice when retrospective DNA testing performed in 1994 revealed that the crime scene evidence did not match Hunt's DNA. In the face of this evidence, the court denied Hunt's request for a new trial and affirmed the conviction.⁷⁹¹

Even if the unique circumstances of Hunt's case were to repeat themselves, the situation should be viewed as evidence of systemic issues within the criminal justice system rather than a compelling justification for familial searching. The fact that familial searching provided a lead that confirmed Hunt's innocence should not overshadow the blatant problems with the conviction and the responsibility borne by the courts due to the failure to acknowledge compelling evidence of Hunt's innocence when it was presented. Even if the courts had not missed a crucial opportunity to redress a wrong as occurred in Hunt's case, the argument that familial searching should be allowed because it would help reveal wrongful convictions is inherently flawed. In order for familial DNA analysis to reveal a wrongful conviction, investigators would require access to crime scene DNA for the crime at issue (to be used to identify a possible relative of the perpetrator). With crime scene DNA in hand, the state would also be able to test the DNA against the suspect's own profile, which would reveal a non-match (as eventually occurred in Hunt's case). In such cases, the requirement that the state establish guilt beyond a reasonable doubt could protect against the occurrence of wrongful convictions in the first place. Where DNA that does not match a suspect is left at the scene of the

⁷⁹¹ *State v Hunt*, 457 S.E.2d 276 (N.C. 1994). In an attempt to explain this new evidence, the state reportedly tested the theory that the DNA may have come from one of Hunt's acquaintances, though none of these individuals proved to be a match for the DNA: Epstein, *supra* note 136, at 171.

crime, the state's burden would include establishing the suspect's guilt through the use of other (non-DNA) evidence as well as providing a logical explanation for the existence of DNA from another party. Those who promote the use of familial searching based on the view that it may help to reveal wrongful convictions must therefore face the question of why a direct comparison to the available crime scene DNA was not attempted, or why a non-match revealed by such a comparison was not viewed as proof of the innocence of the wrongfully convicted person. Based on these reasons, I reject the view that the potential to expose wrongful convictions provides a compelling reason to introduce familial searching.

4.3.3 Population-Wide Data Banks: A Possible Solution to the Equality Concerns with Familial Searching

As previously discussed, familial searching of the NDDB would essentially expand the data bank and increase its utility by providing investigators with a way to identify potential suspects through the DNA of their genetic relatives. The move would represent one of a number of options for NDDB expansion. Canada's NDDB scheme has already been significantly expanded through additions to the list of designated crimes as well as through Canada's participation in international data sharing agreements.⁷⁹² The current Conservative government has expressed its

⁷⁹² While the NDDB was initially meant to be used in relation to violent crimes and crimes of a sexual nature, the number designated crimes that could lead to inclusion in the NDDB has been expanded from the original list of thirty-seven *Criminal Code* offences to more than two-hundred and sixty five crimes. Many of these crimes are neither violent nor sexually motivated (e.g. taking possession of drift timber, forgery, libel known to be false, and insider trading): *Criminal Code supra* note 65, at 487.04. See also Department of Justice, "DNA Data Bank Legislation: Consultation Paper" (Ottawa: Ministry of Justice and Attorney General Canada, 2002), at 3. Adding to the list of designated crimes has also been a primary method of expanding state data banks in the US: Simoncelli, "Dangerous Excursions" *supra* note 144, at 390; Bieber, "Turning Base Hits Into Earned Runs" *supra* note 782. In

interest in expanding the scheme to include arrestees and suspects, though this step has not yet been taken.⁷⁹³ A forthcoming initiative is the creation of a missing person's index.⁷⁹⁴

The most extreme option would be to create a population-wide data bank. While no jurisdiction has yet taken this step, it has been suggested that this could be accomplished through state collection of DNA as part of newborn screening programs, as a prerequisite to entering the public school system, or as a precondition to obtaining a driver's or marriage license.⁷⁹⁵ The argument is sometimes advanced based on the view that bigger is simply better when it comes to DNA data banking and crime control.⁷⁹⁶ More significantly for the purposes of this

terms of international data sharing agreements, the *DNA Identification Act* permits sharing of DNA information between the Canadian government and any country provided certain requirements are met (e.g. that the receiving country signs an agreement stipulating that the profile will only be used for the purposes of investigating or prosecuting a criminal offence): *DNA Identification Act*, *supra* note 65, at s. 6(5). Canada also holds membership in Interpol's DNA data bank, which provides other member countries with access to information held in the NDDB on a case-by-case basis: Canada, Royal Canadian Mounted Police, "The National DNA Data Bank of Canada: Annual Report" (Ottawa: Royal Canadian Mounted Police, 2008-2009), at 9.

⁷⁹³ Canadian Civil Liberties Association, *supra* note 73. The consultations that took place prior to the NDDB's establishment specifically argued that use of arrestee samples within the NDDB would, without the consent of the arrestee, constitute a warrantless search and contravene the *Charter* right to privacy: Zigayer, *supra* note 73, at 12.

⁷⁹⁴ The Canadian government has recently committed to developing a separate missing persons data bank, though the data bank will not begin operations until at least 2016: Susan Clairmont, "DNA Databank Brings Hope to Missing Families" *Hamilton Spectator* (February 13, 2014) online: <http://www.thespec.com/news-story/4364615-dna-databank-brings-hope-to-families-of-missing/>.

⁷⁹⁵ Simoncelli, "Dangerous Excursions" *supra* note 144, at 390.

⁷⁹⁶ See Bieber, "Turning Base Hits Into Earned Runs" *supra* note 782; Simoncelli, "Dangerous Excursions" *supra* note 144, at 392; Roman-Santos, *supra* note 144, at 268; comments made by Mayor Rudolph Giuliani in Bruce Lambert, "Giuliani Backs DNA Testing of Newborns for Identification" *The New York Times* (17 December, 1998) online: <http://www.nytimes.com/1998/12/17/nyregion/giuliani-backs-dna-testing-of-newborns-for-identification.html>. A number of objections present in relation to the 'bigger is better' theory. First, it is not clear that the inclusion of individuals with no serious criminal past or no previous convictions whatsoever would lead to a safer society. Recidivism rates for offenders convicted of minor offences do not clearly support the idea that police would gain an advantage for the solving of future crimes by being granted access to the DNA of non-violent persons: See comments by former Privacy Commissioner of Canada Jennifer Stoddart, "Opening statement to the Standing Committee on Justice,

dissertation, it is alternatively argued that a population-wide data bank would address the racial discrimination objection to familial searching by eliminating the need to use the technique entirely.⁷⁹⁷

While a population-wide data bank would omit the need for familial searching and therefore deal with the initial disproportionate genetic surveillance effected by familial searching and imposed on Aboriginal peoples, I reject the option as a solution to the equality problem for three main reasons. First, the response is imbalanced in that it would invade the privacy of every non-convicted person (including Aboriginal peoples) in order to avoid perpetuating racial discrimination in the justice system.⁷⁹⁸ Society as a whole might simply be dissatisfied with this level of state genetic surveillance.⁷⁹⁹ If this is so, the negative response to the option

Human Rights, Public Safety and Emergency Preparedness" (2005), online: http://www.priv.gc.ca/speech/2005/sp-d_050208_e.cfm; Canadian Civil Liberties Association, *supra* note 73; and Kimmelman, *supra* note 2, at 214. Considering the option of a population-wide data bank in the Netherlands, Konings and Van Rossum argue that while this move would mean that some crimes could be solved that would otherwise remain unsolved, the costs would likely outweigh the benefits. They estimate that only 1% of the Dutch population is responsible for the crimes committed in the Netherlands, so that 99% of DNA samples collected for a universal data bank would be useless for crime-solving purposes: Lianne Konings and Bernard Van Rossum, "Should We Record the DNA Profiles of the Entire Dutch Population in a DNA Database?" (2011) 1:2 *Erasmus Journal of Medicine* 47. Moreover, while bigger data banks may lead to more "hits" for crime scene DNA, this would not necessarily mean that a conviction will be secured or that the crime will be solved (e.g. if other evidence calling the identification or police theory about the crime into question were presented, or if the crime scene DNA belonged to someone other than the perpetrator). Thirdly, many crimes (including most property crimes) are committed without the perpetrator leaving DNA at the crime scene: Simoncelli, "Dangerous Excursions" *supra* note 144, at 392.

⁷⁹⁷ See, for instance, D.H. Kaye and Michael Smith, "DNA Databases for Law Enforcement: The Coverage Question and the Case for a Population-Wide Database" Chapter 12 in David Lazer, *DNA and the Criminal Justice System: The Technology of Justice* (Cambridge, Mass: MIT Press, 2004); D.H. Kaye and Michael E. Smith, "DNA Identification Databases: Legality, Legitimacy, and the Case for Population-Wide Coverage" (2003) *Wis. L. Rev.* 413, at 440; McCarthy, *supra* note 343, at 410; Greely, *supra* note 12, at 260. See also discussion in Murphy, "Relative Doubt" *supra* note 135, at 323; Suter, *supra* note 136, at 371; and Roman-Santos, *supra* note 144, at 289.

⁷⁹⁸ See a similar argument made in relation to Fourth Amendment rights in the US in Simoncelli, "Dangerous Excursions" *supra* note 144, at 395.

⁷⁹⁹ Murphy, "Relative Doubt" *supra* note 135, at 323; and Simoncelli, "Dangerous Excursions" *supra* note 144, at 391. See also Suter, *supra* note 136, at 312, where the author argues that "[r]ather than

of a population-wide data bank actually reaffirms the injustice of familial searching for minority groups, as the use of familial searching can be expected to expand the data bank to include the family members of Aboriginal peoples at a disproportionate rate. In the most extreme scenario, it would create a universal data bank for Aboriginal peoples.⁸⁰⁰ It is arguably incongruous to reject the option of introducing a population-wide data bank based on the view that it intrudes onto individual privacy rights while at the same time advocating for familial searching. As Erin Murphy explains:

If a universal database is not considered to be politically, or legally, conceivable (which it generally is not) then that indicates the existence of some broader discomfort with the idea of expanding the DNA database to include innocent persons. Yet those persons implicated by familial searches are indistinguishable from any other individual, except for the misfortune of having a biological connection to an offender in a DNA database.⁸⁰¹

A second objection is that the move to introduce a population-wide data bank (which would eliminate the need for familial searching) would not address discrimination against Aboriginal peoples within the criminal justice system as a whole, and instead would only respond to discrimination occurring as part of the initial search for suspects.⁸⁰² In this way the argument for a population-wide data

conclude that any one of these duties should always prevail over the others, we must explore the relative rightness or wrongness of fulfilling one obligation over the competing obligations in any particular circumstance”.

⁸⁰⁰ See similar comments in relation to minority groups in the United States in Suter, *supra* note 136, at 370.

⁸⁰¹ Murphy, “Relative Doubt” *supra* note 135, at 313 (citations removed). See also comments in Suter, *supra* note 136, at 396.

⁸⁰² As noted in Chapter One (part 1.4), systemic discrimination is evidenced by the overrepresentation of Aboriginal peoples at numerous stages in the criminal justice system. Similar comments in response to the population-wide data bank argument have been made in relation to the American debate on familial searching: Suter, *supra* note 136, at 370, citing Rothstein & Talbott, *supra* note 110, at 155.

bank as a response to the problems outlined in this dissertation appears to simplify the issue into a simple choice between ‘discrimination’ and ‘no discrimination’. Even if it were the case that a situation of ‘no discrimination’ could be achieved by introducing a population-wide data bank, it would have to come at great expense to genetic privacy. In any case, the ‘no discrimination’ situation would not result since systemic racism would continue to occur in other areas of the criminal justice system.

The third issue represents a more practical problem, which is the question of feasibility in terms of operating a population-wide NDDDB. Already, the size of the NDDDB and the number of crimes for which DNA is sent for testing has caused a significant backlog within the Canadian criminal justice system.⁸⁰³ This introduces a risk of lab error, which has already contributed to wrongful arrests and convictions in Canada and elsewhere.⁸⁰⁴ In fact, to avoid further wrongful convictions, former

⁸⁰³ In the Canadian system, 2005-2006 reports indicated that the average testing time for forensic DNA samples was 114 days. It appears that there has been little improvement to the delays. By 2011, some tests were taking up to a year: Unidentified Author, “Backlog, Quality Concerns Plague RCMP DNA Testing” *CBC News* (May 01, 2007) online: <http://www.cbc.ca/news/canada/backlog-quality-concerns-plague-rcmp-dna-testing-ag-1.633414>; “DNA Lab’s Slow Results Impeding B.C. Court Cases” *CBC News* (June 01, 2013) <http://www.cbc.ca/news/canada/british-columbia/dna-lab-s-slow-results-impeding-b-c-court-cases-1.1305381>. Overburdened forensic labs have also been cited as a relevant concern in the US: Kimmelman, *supra* note 2, at 214. Tania Simoncelli has argued that the problems with resources and funding make the idea of population-wide data banks “absurd”: Simoncelli, “Dangerous Excursions” *supra* note 144, at 394.

⁸⁰⁴ For instance, in a 2002 Canadian case, a lab error in DNA testing resulted in Gregory Turner being identified as the perpetrator in a Newfoundland murder; Turner was released after spending 27 months in prison when it was revealed at his trial that a lab technician had contaminated the evidence while testing Turner’s DNA against the crime scene evidence. In addition to overrun labs, other reasons given for the errors in this and similar cases were the need for higher standards in DNA testing and lab contamination, and technicians overstating or stretching their conclusions in the belief that they are assisting in obtaining a conviction for a dangerous offender: Kirk Makin, “The Dark Side of DNA” *The Globe and Mail* (March 13, 2010) online: <http://www.theglobeandmail.com/technology/science/the-dark-side-of-dna/article4310360/?page=all>. Another case involving lab error occurred in Britain in 2003, when 23-year old Peter Hamkin’s was implicated in a murder that had occurred in Italy the previous

Supreme Court of Canada Justice Binnie has argued that Canada should introduce a requirement (already in place in Australia) that convictions based on positive DNA identification must be supported by additional evidence of a suspect's guilt.⁸⁰⁵ GeneWatch UK has similarly criticized the lack of safeguards to prevent miscarriages of justice that might occur through overreliance on DNA.⁸⁰⁶ The organization emphasized that errors are more likely to occur as DNA databases become larger or where contaminated or incomplete crime scene samples are used, and argued that such issues should affect the weight given to DNA evidence that cannot be corroborated.⁸⁰⁷ Based on the above reasons, I reject the proposed solution of introducing a population-wide NDDDB as an answer to the racial equality concerns brought on by familial searching.

4.4 Conclusion

As a follow-up to the *Charter* analysis in Chapter Three (which emphasized some of the ways in which familial searching would disproportionately impact the rights and interests of Aboriginal peoples in Canada), I have examined in this

summer. Hamkin was detained for extradition to Italy to face charges, though he insisted he had never been to Italy. Still, police relied on the match between the crime scene evidence from the murder and Hamkin's DNA, which had previously been entered into the UK's data bank due to an impaired driving conviction. Hamkin was not cleared until a second DNA analysis showed that the first test results were mistaken: James Careless, "An Imprecise Science" (2011) *The National*, 28, at 29. See also discussion in Simoncelli, "Dangerous Excursions" *supra* note 144, at 394; and Murphy, "The New Forensics" *supra* note 11, at 754, citing improper handling of evidence, shoddy lab practices, and contamination among the reasons for past misidentifications with DNA profiling evidence.

⁸⁰⁵ Yamri Taddese, "Canada Should Follow Australia in Requiring More than DNA Proof: Binnie" *Law Times* (October 14, 2013): online: <http://www.lawtimesnews.com/201310143527/headline-news/canada-should-follow-australia-in-requiring-more-than-dna-proof-binnie>. See also discussion in Philip Hunter, "All the Evidence" (2006) 7:4 EMBO Reports 352.

⁸⁰⁶ GeneWatch UK, "DNA Databases and Human Rights" (2011) online: http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/infopack_fin.pdf.

⁸⁰⁷ GeneWatch UK, *supra* note 806, at 8 and 12.

chapter policy concerns that further support the overall equality argument advanced in this dissertation. The chapter has highlighted that the introduction of familial searching into NDDB operations would potentially lead to a disproportionate impact for Aboriginal peoples in terms of (i) additional discrimination based on discretionary decision-making in the familial-searching process; (ii) what would essentially be full inclusion of individuals who have one or more close family members reflected in the NDDB through the combined use of familial searching and exclusionary analysis of abandoned DNA; (iii) racial discrimination due to the potential for combined use of familial searching and the forensic phenotyping; and (iv) family breakdown due to the effects of having “genetic informants” within the family group.

The policy analysis further evaluated counterarguments to my recommendation for continued prohibition of familial searching of the NDDB. The first is that the technique may help solve crimes, a highly relevant consideration in terms of equality for Aboriginal peoples given the overrepresentation of Aboriginal peoples (especially women) as victims of crime. I view this argument as a misrepresentation of the nature of criminal behaviour and of the root causes of crime, neither of which require as a priority response increased genetic surveillance of Aboriginal peoples. A second argument explored above is that familial searching has the potential to detect or avoid wrongful convictions. I have also rejected this claim as a sidestepping of the reasons for which wrongful convictions occur. The third and final counterargument examined was that the discriminatory impact of familial searching could be eliminated through the introduction of a population-

wide NDDb. Although this would have a minor positive equality impact in that it would neutralize the initial disparity occurring with the search for partially matching profiles, it would not resolve inequality within the criminal justice system (which would still play into the familial searching follow-up process).

Despite the many criticisms of familial searching discussed in this chapter and the last, the technique is now permitted in some jurisdictions around the world. In the next chapter, I critically examine the approaches to familial searching developed in key jurisdictions, keeping in mind the overall equality issues highlighted by the policy issues raised here and the issues raised in the rights analysis of the last chapter.

CHAPTER FIVE: International Approaches to Addressing the Equality Risks of Familial Searching

5.1 Introduction:

When it comes to the future of familial searching of the NDDB, Canada has three main choices. These range from allowing broad use of the technique on the one end to continued prohibition on the other, with a middle ground option in which familial searching is used subject to specific restrictions and procedural requirements. Current international frameworks provide examples of all three choices, and these experiences allow for an evaluation of options for protecting the equality interest with respect to familial searching. The main purpose of this chapter is to examine the strength of the equality protections afforded by different schemes being used internationally. To that end, the chapter examines existing laws on familial searching in the United Kingdom, the state of Maryland, and the state of California, which together represent the range of options available to Canada.⁸⁰⁸ The

⁸⁰⁸ This chapter is not presented as a formal comparative legal analysis but rather as part of the overall CRT analysis of the familial searching issue. Nonetheless, the chapter is informed by scholarship on comparative research methodology, particularly with respect to the selection of jurisdictions for examination. Academic discussion of the selection process indicates two main approaches to this exercise. Some researchers assume that all contemporary jurisdictions are eligible for selection, while others consider a number of pre-selected jurisdictions based on an assessment of 'comparability' in terms of the stage of legal development for the issue at hand. This process immediately excludes a number of options: Marieke Oderkerk, "The Importance of Context: Selecting Legal Systems in Comparative Legal Research" *Netherlands International Law Review* (2001) 48:3 293, at 295. As explained below, the process used in this chapter is based on the second approach; the initial selection factor was a leadership role in implementing familial search policies. Several other factors (outlined in the following paragraphs of this part) were used to determine the jurisdictions to be examined for the purposes of this chapter. The chapter was guided by the basic requirements of comparative legal scholarship, which involves the following key elements: (i) explicit discussion of research strategy and methodological choices; (ii) description of the legal order in jurisdictions examined; and (iii) explanation of the differences and similarities between the jurisdictions analyzed. See discussion in Koen Lemmens, "Comparative Law as an Act of Modesty: a Pragmatic and Realistic Approach to Comparative Legal Scholarship", Chapter 14 in Maurice Adams & Jacco Bomhoff (eds) *Practice and Theory in Comparative Law* (Cambridge: Cambridge University

United Kingdom serves as an example of broad and relatively unrestricted use of familial searching. The country has been using familial searching since 2003, and although policy guidelines are in place, these allow for more frequent use of familial searching than what occurs in most other jurisdictions today.⁸⁰⁹ In 2008, California enacted specific policy guidelines to allow use of familial searching in prescribed circumstances.⁸¹⁰ The policy is examined as a representation of the middle ground option. Finally, Maryland has categorically prohibited the use of familial searching of the state's DNA data bank.⁸¹¹

The three jurisdictions examined in this chapter have been selected based on several factors. The primary motivation for examining these specific laws and policies is that each of the three jurisdictions has been recognized as a leader in the area of familial searching. Indeed, the different approaches taken in the United

Press, 2012). See also general discussion in Vicki J. Jackson, "Constitutional Comparisons: Convergence, Resistance, Engagement" (2005) 119:109 *Harvard Law Review* 109; and Ran Hirschl, "The Question of Case Selection in Comparative Constitutional Law" (2005) 53 *The American Journal of Comparative Law* 125.

⁸⁰⁹ As discussed in more detail below, the policy guidelines used in the United Kingdom have not been fully disclosed to the public. A limited policy release has provided insight into the basic guidelines used: British Transport Police, "Familial Searching DNA Policy" (UK: British Transport Police, 2006). Numerous commentators have noted these policies have allowed for more liberal use of familial searching than in other jurisdictions allowing use of the technique. See, for example, Rori V. Rohlf, Stephanie Malia Fullerton, Bruce S. Weir, "Familial Identification: Population Structure and Relationship Distinguishability" (2012) 8:2 *PLoS Genetics* 1, at 1; and Bellamy-Royds and Norris *supra* note 8, at 10, where the authors report that UK police had used familial searching in 120 investigations as of 2009; Kim et al., *supra* note 272, at 4, noting that between 2003 and 2010, the UK has successfully used familial searching to secure convictions in 19 cases; and Suter, *supra* note 136, at 323, noting that the "United States uses familial searches far less frequently than the United Kingdom". In 2013, the UK's National DNA Database Strategy Board noted that 33 familial searches had been conducted in 2012-2013 and further that since 2003 the technique had led to 38 convictions: National DNA Database Strategy Board, "Annual Report" (UK: Home Office, 2013), at 6.

⁸¹⁰ California Attorney General's Office, "Memorandum from E.G. Brown Jr., Attorney General of California to all California Law Enforcement Agencies and District Attorney Offices: DNA Partial Match, Crime Scene DNA Profile to Offender Policy" (California: Attorney General's Office, 2008).

⁸¹¹ Maryland Code Ann., Pub. Safety § 2-506(d).

Kingdom,⁸¹² California,⁸¹³ and Maryland⁸¹⁴ have each been separately adopted by other jurisdictions around the world. Additionally, the fact that each jurisdiction has made an explicit and public choice about familial searching has stimulated public

⁸¹² Similar to the UK, New Zealand introduced an early policy on familial searching, developed by the New Zealand police in conjunction with the Environmental Science & Research (a crown research institute and the sole provider of forensic services to New Zealand police. A similar problem to the one identified in this chapter in relation to the UK has since arisen in New Zealand in that concerns are also being expressed in New Zealand over the extent to which this internal policy process excluded the public from an important debate about the use of familial searching in the country. Accordingly, New Zealand appears to be contemplating an update to its familial searching framework: see discussion in Tony Wall, "Privacy Fear For DNA Dragnet" *National* (20 January, 2013) online: <http://www.stuff.co.nz/national/8199938/Privacy-fear-for-DNA-dragnet>; and C.N. Maguire et al., "Familial Searching: A Specialist Forensic DNA Profiling Service Utilising the National DNA Database to Identify Unknown Offenders via Their Relatives – The UK Experience" (2014) 8 *Forensic Science International: Genetics* 1, at 7. Another jurisdiction that allows broad use of familial searching is the state of Colorado. The Colorado Bureau of Investigation introduced policy guidelines allowing familial searching following considerable lobbying efforts by the District Attorney of Denver Mitch Morrissey. The policy allows for the use of familial searching in "unsolved cases where other investigative leads have been exhausted". Though Colorado's policy shares many similarities with the California guidelines, a significant difference between Colorado and California is that the former does not specifically restrict the technique to the most serious crimes: Colorado "DNA Familial Search" Policy *supra* note 417. See also discussion in Colorado Bureau of Investigation, Denver District Attorney's Office, "Familial DNA Database Searches" online: http://www.denverda.org/DNA/Familial_DNA_Database_Searches.htm.

⁸¹³ The limitations on use of familial searching reflected in California's policy are discussed in more detail below; however, the following rules are reflected to different degrees in the policies of other American states: (i) a minimum number of alleles shared between the identifiable person and the potential suspect; (ii) required application of Y-STR analysis on all potential leads; (iii) a rule that familial searching should only be used when all other investigative leads have been exhausted; (iv) a requirement or recommendation that written approval for the familial search be obtained; and (v) restriction of the use of familial searching to crimes that are deemed sufficiently serious or to investigations that pose significant public safety concerns. See, for instance, Colorado "DNA Familial Search Policy" *supra* note 417, at ss. 1, 2, and 3; Texas Department of Pub. Safety, "Standard Operating Procedures: Partial Matches and Familial Searches" (2010), at ss. 4 and 5; and Arkansas State Crime Laboratory, "The Arkansas State Crime Laboratory CODIS Section Quality Assurance Manual" (2011), at s. 6.2.4.2.5.

⁸¹⁴ The District of Columbia enacted a statutory ban on familial searching like the one in Maryland: DC ST § 22-4151 District of Columbia Official Code 2001 Edition Division IV (2012). A number of American states appear to ban familial searching through written or unwritten policies, though none have been as open about their position as the state of Maryland or the District of Columbia. States in this category include Alaska, Nevada, Utah, New Mexico, Michigan, Vermont, Massachusetts, and Georgia: Rohlfs et al. *supra* note 136, at 2; and Council for Responsible Genetics, "State Rules on Partial/Familial Searching" online: <http://www.councilforresponsiblegenetics.org/dnadata/usa/usa2.html>.

and academic scrutiny,⁸¹⁵ including on equality considerations.⁸¹⁶ The choice to include these three particular frameworks was further influenced by the fact that each jurisdiction has an established and operating DNA data bank,⁸¹⁷ and that the database in question reflects an equality issue for one or more racialized group.⁸¹⁸

⁸¹⁵ Arguing a similar reason for focusing on California's familial searching policy, Michael Chamberlain notes that "California follows a well-publicized familial search methodology, and its program has received the greatest degree of public scrutiny": Chamberlain, *supra* note 276, at 26.

⁸¹⁶ A number of jurisdictions have been excluded from this chapter on the basis that they (i) appear to have quietly introduced familial searching based on a gap in the law; (ii) claim to follow guidelines in using familial searching but have not formalized or published these rules in any form, or (iii) are still in the process of drafting familial search policies. In the U.S., these include the federal jurisdiction of the US and the individual American states of Arizona, Delaware, Florida, Georgia, Indiana, Iowa, Kentucky, Louisiana, Mississippi, Missouri, Montana, New Hampshire, New Mexico, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, and Utah. Note that within the US, open and formal addressing of the familial search issue through law or other public means is still relatively rare: Ram, *supra* note 90, at 776 and 809. The law in France does not specifically address the use of familial searching in the criminal context and although there are no reports of purposeful familial searching in the country, criminal investigators have used a low stringency DNA search of the national DNA data bank to solve at least one criminal investigation. This was done after approval for the use of familial search software was denied: Emmanuel Pham-Hoai, Frank Crispino, and Greg Hampikian, "The First Successful Use of a Low Stringency Familial Match in a French Criminal Investigation" (2014) 59:3 J. Forensic Science 816, at 818. A low-stringency search allows for mismatches at certain markers (and therefore may return partial matches indicating a genetic relationship) and also allows certain alleles to be 'dropped out'. This is sometimes done where the sample being compared is contaminated or of low quality. See discussion in Kim et al., *supra* note 272, at 1.

⁸¹⁷ The establishment of the national DNA data bank is discussed in relation to each of the three jurisdictions studied in this chapter in the sections below; however, as a factor in the selection process, this requirement had little impact in that there are now relatively few jurisdictions in the world without national forensic DNA data banks. Of those that remain without, many have plans to introduce one in the near future, including for instance Albania, Barbados, Costa Rica, Greece, and Uruguay: see discussion of forensic data banks around the world in Thibedeau, *supra* note 66.

⁸¹⁸ The problems with racial disparities of each DNA data bank and the specific groups potentially affected by familial searching in each individual jurisdiction are discussed below as each framework is addressed. Again, however, the selection factor did not, on its own, exclude any American states since racial inequality is a pervasive issue across the criminal justice systems of the US: see Prison Policy Initiative, "Breaking Down Mass Incarceration in the 2010 Census: State-by-State Incarceration Rates by Race/Ethnicity" (2014) online: <http://www.prisonpolicy.org/reports/rates.html>. The issue, however, is relevant to comparing the Canadian situation to the law on familial searching in the Netherlands. The law in the Netherlands was recently amended to allow for familial searching in prescribed circumstances. Although research on the racial composition of prisoners in the Netherlands has noted a disproportionate representation of racial minorities and has attributed that disparity to a degree of unconscious racism in the country, the situation is very different from that which exists in the Canadian context. Unlike Canada, the Netherlands has traditionally had a homogenous population; changes to the population composition are due to relatively recent (late 20th century) immigration, which has led to the noted racial disparities in the criminal justice system: Junger-Tas, *supra* note 161. I omitted the

The potential for a racially discriminatory impact to flow from the state's use of familial searching concerns different racialized groups in each of the jurisdictions considered; however, the fact that an issue of racial equality exists in the jurisdictions studied may mean the laws and policies could be influential in Canada's decision.

The examination of the individual frameworks is primarily focused on the extent to which the different schemes protect against the equality risks outlined in Chapters Three and Four. The analysis reveals that privacy concerns have played a central role in the policy process in all three jurisdictions.⁸¹⁹ As discussed in Chapters Three and Four and in accordance with the CRT approach taken in this dissertation, I consider the privacy implications of familial searching as a relevant component of the overall racial equality discussion in that Aboriginal peoples are likely to experience the privacy impact of familial searching at a disproportionate rate compared to the rest of the population.⁸²⁰ By examining the three frameworks from a CRT perspective, the present chapter reveals a number of crucial points that must be considered in the Canadian legislative context as Canada determines how to

Netherlands in order to focus on jurisdictions in which historical racial inequality has resulted in current systemic racism in the criminal justice system. This was viewed as important given the long history of colonialism in Canada, which is crucial to the Canadian context. On the recent changes to familial searching laws in the Netherlands, see Jaron Daniël Schoone and Evelyn Bell "DNA – Familial Searching Now Allowed in the Netherlands" *The Wrongful Convictions Blog* (April 4, 2012) online: <http://wrongfulconvictionsblog.org/2012/04/04/dna-familial-searching-now-allowed-in-the-netherlands/>.

⁸¹⁹ This reinforces my comment in Chapter One (*supra* note 139 and accompanying text) that the policy discussions on familial searching have largely focused on the privacy issues and that the equality considerations have played a secondary role (if mentioned).

⁸²⁰ The ways in which this would occur relate to the harms listed in the *Charter* analysis provided in Chapter Three (summarized in the chapter's conclusion at part 3.5) and the policy discussion in Chapter Four (summarized in the chapter's conclusion at part 4.4). I review this list in full in the next and final chapter.

proceed with familial searching of the NDDB. These are presented as part of three overall arguments. First, a transparent approach to familial searching is needed to facilitate public understanding of the equality implications of the technique and to ensure that the racial equality issues receive due consideration in the legislative process. This argument is supported through examination of the United Kingdom's experience with familial searching. As explained below, recent evaluations of the United Kingdom's policy framework reveal a lack of transparency.⁸²¹ Comments made by public officials since familial searching began in the country suggest that inadequate attention has been given to the racial implications of familial searching.⁸²² Furthermore, the country's general policy guidelines, which have not been made fully available to the public, do not ensure adequate protection against the racialized impact. Although I maintain that Canada should continue to ban familial searching of the NDDB, the transparency argument is revisited in the next and final chapter as a minimum requirement that would at least facilitate public understanding of the equality implications of Canada's familial search policy in case the choice to continue the ban is ultimately rejected. Overall, adoption of the United Kingdom's approach to familial searching would ignore the many issues outlined in this dissertation and lead to further discrimination against Canada's Aboriginal population.

⁸²¹ The UK and a number of US states lack transparency in comparison to the level of transparency reflected in the publicly available policies in place in Maryland and California. See Suter, *supra* note 136, at 326, citing Maryland and California as two prominent exceptions to the lack of transparency in familial search policies across the US.

⁸²² See below on the British government's comments about the consultation process that occurred with the Information and Privacy Commissioner.

The second argument developed in this chapter is that a restrictive approach to familial searching like the one seen in California limits the risks involved in familial searching, and in particular the risk to individual privacy. This is meaningful from an equality perspective as such a scheme helps to limit the privacy impact for racialized groups who are likely to experience the privacy impact at a disproportionate rate. Restricted use of familial searching does not, however, fully address the racial discrimination issues. Rather, the approach taken in California shows an effort towards balancing these risks against the crime solving advantages. In the next chapter, this option is rejected as inappropriate in the current Canadian context based on the unique characteristics of the systemic discrimination against Aboriginal peoples in the Canadian criminal justice system.

I use the experience in Maryland to support my argument that complete prohibition on familial searching is the only way to fully protect against the equality risks presented by familial searching. The situation is based on current realities and should be used in Canada unless and until broader steps are taken to reduce the current racial disparities reflected on Canada's NDDDB. This argument is informed by Maryland's choice to statutorily prohibit familial searching despite the fact that the practice does not appear to infringe on the state or federal constitutional right to individual equality. I view this as an effort within the state of Maryland to move beyond the formal equality that is supported in the American constitution and to support a future in which the aim is for substantive equality. Based on the CRT framework in which individual rights (which often support formal but not substantive equality) are viewed as an inadequate mechanism to ensure equality for

racialized groups, Maryland's approach is preferred over the alternatives presented by the United Kingdom and California.

The familial searching laws and policies in the United Kingdom, California, and Maryland are separately examined below in three stages. For each jurisdiction, the emergence of the national DNA data-banking scheme is briefly recounted, and the argument that each system reflects racial disparities relevant to the current discussion is supported. Next, the familial searching framework is described. Each familial searching regulation is then examined in terms of the extent to which it acknowledges and protects against the potential for racialized discrimination.⁸²³

5.2 Familial Searching in the United Kingdom

5.2.1 The UK's National DNA Data Bank

In 1996, the United Kingdom became the first country in the world to introduce a national forensic DNA Data Bank.⁸²⁴ In contrast to what occurred in Canada, the establishment of the National DNA Database (NDNAD) occurred with

⁸²³ I have included in the equality analysis of each jurisdiction below an assessment of the constitutional limits in each jurisdiction. I reiterate however, that in accordance with the CRT approach used in this research, the constitutional protections are not viewed as the upper limit in safeguarding equality. Rather, they are considered in terms of their significance in the development of familial searching policies in order to highlight the attention given to the racial inequality issue in each case.

⁸²⁴ Skinner, *supra* note 162, at 978. The UK's database was created without specific statutory authority. It is supported by pre-existing statutes, including the *Police and Criminal Evidence Act supra* note 66 and the *Criminal Justice and Public Order Act supra* note 66. It is important to note that while the NDNAD represents a collaborative effort between England, Wales, Scotland and Northern Ireland, both Scotland and Northern Ireland operate their own DNA databases and have their own rules respecting the retention of DNA collected for forensic data banking purposes. Profiles collected for the separate databases operating in Scotland and Northern Ireland are, however, uploaded onto the UK's NDNAD because of the expectation that offenders will move between UK countries: National DNA Database Strategy Board, "Annual Report" *supra* note 809, at 9. In keeping with the general practice reflected in government documents and the surrounding literature, I refer to the UK when discussing the NDNAD scheme while recognizing that separate schemes exist in Scotland and Northern Ireland.

little public consultation.⁸²⁵ The database was subsequently populated through aggressive collection practices and the NDNAD is now the largest data bank of its kind relative to the country's population.⁸²⁶ It is also believed to be the most searched of all national DNA data banks.⁸²⁷ Although the data bank was initially reserved for the DNA of persons who had committed recordable offences, the scheme has been expanded over the years to allow collection from a much broader class of individuals, including any person suspected of, reported for, charged with, convicted of, or cautioned for an offence.⁸²⁸ In addition, the NDNAD now holds genetic information of volunteers who have provided DNA for exclusionary purposes.⁸²⁹ The inclusion of non-convicted persons arguably intensifies the concerns over racial discrimination, given that the racial inequalities observed in conviction rates are also apparent in other parts of the criminal justice system,

⁸²⁵ Skinner, *supra* note 162, at 979.

⁸²⁶ In 2010, the percentage of the population included on the data bank was estimated at 5.2%: Roman-Santos, *supra* note 144, at 274. More recent estimates indicate that the data bank now reflects as much as 10% of the population: Skinner, *supra* note 162, at 978.

⁸²⁷ Skinner, *supra* note 162, at 978.

⁸²⁸ *Police and Criminal Evidence Act supra* note 66 as amended by the *Criminal Justice and Public Order Act supra* note 66; and discussion in Government of the United Kingdom, "Memorandum by the Association of Chief Police Officers" online:

<http://www.publications.parliament.uk/pa/ld199900/ldselect/ldsctech/115/115we05.htm>. From

the outset, the range of crimes that could lead to inclusion on the NDNAD was very broad, encompassing all recordable offences: Roman-Santos, *supra* note 144, at 275; GeneWatch UK, *The DNA Expansion Programme: Reporting Real Achievement?* (2006) online:

http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/DNAexpansion_brief_final.pdf, at 1. Until recently, the UK's DNA data banking practices included the indefinite retention of the DNA information of non-convicted persons. This practice came under scrutiny in the European Court of Human Rights (ECHR) decision in *S and Marper*, [2008] ECHR 1581, (2009) 48 EHRR 50, 25 BHRC 557, [2009] Crim LR 355. The case is discussed in more detail below.

⁸²⁹ The UK liberally conducts DNA dragnet sweeps and it has been confirmed that some of these volunteer samples have been uploaded onto the country's DNA data bank: Duncan Carling, "Less Privacy Please, We're British: Investigating Crime with DNA in the U.K. and the U.S." (2008) 31 *Hastings International & Comp. L. Rev.* 487, at 499; Jeffrey S. Grand, "The Blooding of America: Privacy and the DNA Dragnet" (2001-2002) 23 *Cardozo L. Rev.* 2277; Unidentified author, "Mass Screenings of Volunteers Helps to Build UK DNA Database" (2006) *Privacy International* online: <https://www.privacyinternational.org/article/mass-screenings-volunteers-helps-build-uk-dna-database>; and Oscapella *supra* note 110, at 18.

specifically with respect to arrest rates and to police requests for exclusionary samples from suspects.⁸³⁰

Beyond the scope of collection practices, the NDNAD scheme must be distinguished from the Canadian system in other important ways. Unlike with the NDDB, the NDNAD rules allow researcher access to the data bank information. Little is known about the type of research that is conducted on the NDNAD, and the British government has been specifically criticized for its lack of transparency in this respect.⁸³¹ The potential for researcher access is problematic from a racial equality standpoint, particularly because there is no requirement that researchers obtain consent from their subjects.⁸³² Racialized groups that are currently overrepresented on the data bank and that may experience a worsening of this problem due to familial searching will be disproportionately affected by this policy.⁸³³ Another important difference is that NDNAD operations have involved collection of information about the ‘ethnic appearance’ of individuals who submit to DNA

⁸³⁰ Nuffield Council on Bioethics, “Consultation Paper on Forensic Use of Bioinformation: Ethical Issues” (2007) Joint Response on Behalf of the Association of Police Authorities, the Association of Chief Police Officers and the Home Office, at s. 4(b). As this document is cited for various purposes throughout this chapter, it is important to point out that the publication specifically notes that the views expressed are those of the Associations that provided the response and not of the Council.

⁸³¹ Nuffield Council on Bioethics, “The Forensic Use of Bioinformation” *supra* note 624, at 82-83.

⁸³² As discussed below in the equality analysis of the UK’s policies, the lack of a requirement for participant consent leaves open the possibility that genetic research will be performed on NDNAD for research purposes that some participants may find objectionable.

⁸³³ Suter, *supra* note 136, at 397, arguing that destruction of the genetic sample may prove an important step in gaining the trust of racialized groups who are disproportionately impacted by such uses of forensic data bank information. This would be significant because it would reduce (but not exclude) the possibility that the state would use the DNA information for uses beyond what is possible with today’s science. As discussed in Chapter Four (part 4.2.3) in relation to phenotyping, genetic scientists can do a lot more with the genetic tissue than they can with the profile information derived from that material.

sampling for data bank purposes.⁸³⁴ Such categorization of individuals is known to reflect problems in terms of uniformity as it is largely based on the individual assessment of police officers.⁸³⁵ Despite these problems in terms of data collection, it is generally accepted that racialized minorities are overrepresented in the British criminal justice system, a problem that applies particularly to the Black population.⁸³⁶ These racial disparities are similarly reflected on the NDNAD.⁸³⁷

5.2.2 Introduction of Familial Searching in the UK

Approximately six years after the NDNAD was operationalized, the British government began to use familial searching to solve crimes.⁸³⁸ In 2004, the government secured its first conviction through use of the technique when Craig Harmon was convicted for manslaughter.⁸³⁹ Discussed in Chapter One, the case

⁸³⁴ Skinner, *supra* note 162, at 981. This “ethnic monitoring” has been part of the British criminal justice system since the 1980s. As noted by Michael Rowe, since that time, British police have been in the practice of recording information about the ethnicity of persons who come in contact with every stage of the criminal justice system: Rowe, *supra* note 161, at 180.

⁸³⁵ National DNA Database Ethics Group, “Second Annual Report” (London: UK, National DNA Database Ethics Group, 2009), at 13; Skinner, *supra* note 162, at 985. See also discussion in Rowe, *supra* note 161, at 181.

⁸³⁶ Rowe, *supra* note 161, at Chapters 4 and 7. See also Candace Kruttschnitt, Anja Dirkzwager and Liam Kennedy, “Strangers in a Strange Land: Coping with Imprisonment as a Racial or Ethnic Foreign National Inmate” (2013) 64:3 *British Journal of Sociology* 478, at 481, discussing racial statistics in British prisons and compared these to the general population. The authors found that while the white British prisoner population has not grown in proportion to non-white population in recent years, the percentage of Chinese, Mixed white and Black African and Black African prisoners has grown. The UK government has acknowledged concerns about the disproportionate representation of minority groups on the NDNAD but has argued that minority persons are not disadvantaged by this provided they do not go on to commit an offence: Parliamentary Office of Science and Technology, “The National DNA Database: Postnote 258” (UK: Parliament, 2006), at 3. The government elsewhere stated that it was “aware of particular issues relating to race, disability, gender and age” with respect to disproportionate representation on the NDNAD: Police Powers and Protection Unit, “Full Equality Impact Assessment” (UK: Home Office, 2011).

⁸³⁷ Skinner, *supra* note 162, at 980. See also Nuffield Council on Bioethics, “Joint Response on Behalf of the Association of Police Authorities, the Association of Chief Police Officers and the Home Office” *supra* note 830, at s. 4(b), acknowledging that the NDNAD reflects racial bias in policing.

⁸³⁸ Suter, *supra* note 136, at 322.

⁸³⁹ Bellamy-Royds and Norris *supra* note 8, at 10.

involved the death of truck driver Michael Little, who suffered a fatal heart attack after Harmon, who was intoxicated at the time, dropped a brick from an overpass into oncoming traffic.⁸⁴⁰ The use of familial searching in the Harmon case established the country's position as a leader in the area and is often cited as evidence of the potential benefits to be derived from the technique.⁸⁴¹

After the Harmon case, familial searching became a routine part of British criminal investigations in cases where a search for a full profile match did not produce a result.⁸⁴² As with the establishment of the NDNAD itself, the government did not engage in an open and public discussion about the use of familial searching before implementing the technique as a common practice in criminal investigations.⁸⁴³ To date, the full policy guidelines on familial searching have not been released to the public based on the argument that they are 'operationally

⁸⁴⁰ Greely, *supra* note 12, at 248; Gabel, *supra* note 136, at 20.

⁸⁴¹ See McCarthy, *supra* note 343, at 394, noting that "[f]ollowing the United Kingdom's start in familial searches, several states and the FBI have considered authorizing familial searches". See also comments in Rushton, *supra* note 276, at 19. Note the UK's role in this respect is in keeping with its tendency to lead in the forensic use of DNA in a more general sense. For instance, the country was the first to secure a conviction based on the use of DNA evidence (see discussion of the Colin Pitchfork case discussed in Chapter One (part 1.1)), the first to establish a national DNA data bank (as noted above (part 5.2.1) and in Skinner, *supra* note 162, at 978), and the first to conduct a 'DNA dragnet' as a way to solicit volunteer samples for a specific investigation (see again the Colin Pitchfork investigation as well as discussion in Stringer, *supra* note 66, at 26). Citing the UK successes with familial searching as evidence of the potential crime solving benefits of the technique, see Suter, *supra* note 136, at 322; Wah, *supra* note 710; Bieber, Brenner, and Lazer, *supra* note 136; and Kim et al., *supra* note 272, at 4.

⁸⁴² Gabel, *supra* note 136, at 21.

⁸⁴³ Williams and Johnson, *supra* note 144, at 556. The government reports that it consulted with the Information Commissioner regarding the data protection issues in order to develop policy protocols: Nuffield Council on Bioethics, "Joint Response on Behalf of the Association of Police Authorities, the Association of Chief Police Officers and the Home Office" *supra* note 830, at s. 4(a)i. Nonetheless, it has been noted that many experts and other stakeholders that could have provided relevant input into the policy process were excluded from the process: Williams and Johnson, *supra* note 144, at 556.

sensitive'.⁸⁴⁴ The overall lack of transparency in this process has been widely criticized.⁸⁴⁵ The British Transport Police has disclosed limited details in a policy release entitled "Familial Searching DNA Policy".⁸⁴⁶ From this limited release of information and other statements by the British government, some details about the state's approach to familial searching can be ascertained. First, the government has described the internal policies as 'voluntary best practices'.⁸⁴⁷ The policy release indicates that familial searching may only be conducted once a search for a direct match has been attempted with no match produced, and further that the technique can only be used for 'serious crimes'.⁸⁴⁸ The document notes that "[a]ll ethical and human rights concerns will be considered prior to searches".⁸⁴⁹

The academic and policy discussions that have followed the introduction of familial searching of the United Kingdom's data bank have indicated several additional details, including that approval must be obtained from the Association of Chief Police Officers for the use of familial searching in each individual

⁸⁴⁴ Rushton, *supra* note 276, at 19; and Williams and Johnson, *supra* note 144, at 556; Nuffield Council on Bioethics, "The Forensic Use of Bioinformation" *supra* note 624, at 78.

⁸⁴⁵ Metropolitan Police Authority, "Protecting the Innocent: The London Experience of DNA and the National DNA Database" Report by the MPA Civil Liberties Panel (London: UK, MPA Civil Liberties Panel, 2011), at s. 113.

⁸⁴⁶ British Transport Police "Familial Searching DNA Policy" *supra* note 809.

⁸⁴⁷ National Policing Improvement Agency, "National DNA Database (NDNAD): Equality Impact Assessment, Stage One" (London, UK: National Policing Improvement Agency, 2007), at 6.

⁸⁴⁸ Note that what constitutes a 'serious crime' is not explicitly defined in the policy release. In the *Serious Crime Act, 2007* (c.27), at Schedule 1, the term 'serious crime' is defined as encompassing a long list of offences divided into categories that include: drug trafficking, people trafficking, arms trafficking, prostitution and child sex, armed robbery, money laundering, fraud, offences in relation to public revenue, corruption and bribery, counterfeiting, blackmail, intellectual property, environment, and inchoate offences. The Act also specifies that a court may categorize an offence as a serious crime if the "matter in question is one which, in the particular circumstances of the case, the court considers to be sufficiently serious to be treated for the purposes of the application or matter as if it were so specified" (see s. 2(2) specifying the power for courts in England and Wales and s. 3(2) specifying the power in the same terms for courts in Northern Ireland).

⁸⁴⁹ British Transport Police, "Familial Searching DNA Policy" *supra* note 809, s. 1.1.

investigation.⁸⁵⁰ Y-STR testing is often used to narrow down suspect lists derived from a familial search of the NDNAD.⁸⁵¹ The standard process also includes the ranking of potential suspects according to the closeness of their profiles to the identified person and based on their geographic proximity to the crime.⁸⁵² They are further prioritized according to the age of the person whose DNA provides the identified link and the likelihood that he or she would have a parent, sibling or child that might provide a match to the unidentified crime scene sample.⁸⁵³ Finally, police aim to limit the amount of information released to families during follow-up to what is absolutely necessary, a policy that is presumably in place to avoid disclosing genetic secrets previously unknown to the individuals concerned.⁸⁵⁴

⁸⁵⁰ Nuffield Council on Bioethics, “Joint Response on Behalf of the Association of Police Authorities, the Association of Chief Police Officers and the Home Office” *supra* note 830, at s. 4(a)iii.

⁸⁵¹ Epstein, *supra* note 136, at 147. Y-STR testing was explained in Chapter Two (part 2.5), where the science of familial searching was explained. As a brief review, the process can greatly reduce the number of false leads through analysis of the Y chromosome in males. The testing can narrow down the potential suspect pool to eliminate 99% of suspects who are not related by male lineage: Suter, *supra* note 136, at 389, citing Bieber, Brenner, and Lazer, *supra* note 136, at 1315.

⁸⁵² Epstein, *supra* note 136, at 147; Rushton, *supra* note 276, at 19.

⁸⁵³ Epstein, *supra* note 136, at 147; Rushton, *supra* note 276, at 19. The use of age and geographic information to narrow down a suspect list was done in the Harmon case, discussed in Chapter One (part 1.1) and in the preceding paragraphs of this section. In this case, police tested blood from the brick against the NDNAD, but did not find a match. Investigators proceeded to search for a partial match, which at first produced too many results for follow-up. A list of twenty-five suspects was compiled when the returns were narrowed down by reference to the identified individual’s age, geographic proximity to the crime scene, as well as the relative similarities between the data bank profiles and the one obtained from the crime scene. Investigators then followed-up with the man whose DNA had provided the closest match, which led them to the man’s brother whose DNA was an exact match for that left on the brick. A confession was obtained and Harmon was sentenced to six years in prison: Greely, *supra* note 12, at 248; Gabel, *supra* note 136, at 21.

⁸⁵⁴ Nuffield Council on Bioethics, “Joint Response on Behalf of the Association of Police Authorities, the Association of Chief Police Officers and the Home Office” *supra* note 830, at s. 4(a)i. The nature of this particular type of intrusion onto individual and family privacy was discussed in Chapter Three (part 3.4) in the context of a potential section 7 *Charter* challenge to familial searching and again in Chapter Four (part 4.2.4) as a possible way in which familial searching may threaten family cohesion.

5.2.3 Equality Safeguards in the UK's Familial Searching Policy

The general lack of transparency in the development of the NDNAD, which was repeated in the way the country introduced familial searching, makes it difficult to determine the extent to which equality risks were considered when familial searching was first introduced. As use of the technique became commonplace in British investigations, policy groups and academic commentators pressed for a better understanding of the way the crime control advantages were being balanced against individual rights and interests.⁸⁵⁵ The government's response to these questions and concerns was largely focused on the potential impact for individual privacy. For instance, in 2007, the government participated in consultations held by the Nuffield Council on Bioethics, which focused on ethical issues arising with forensic use of bioinformation.⁸⁵⁶ When asked whether familial searching was proportionate to the needs of criminal investigations, the government answered affirmatively, emphasizing that prior to introducing the technique on a broad scale, the state had consulted with the Information Commissioner's office in order to understand the data protection issues that might arise with use of the technique.⁸⁵⁷ Although the government acknowledged that the Commissioner's office had not

⁸⁵⁵ Though this discussion focuses on the reactions to familial searching, it is worth noting that the concerns were in relation to the breadth of the NDNAD scheme as a whole. The policy debates called the legitimacy of the NDNAD into question on several fronts, including with respect to questions about whether its positive impact on crime was proportionate to the scope of the data bank and its consequences for individual privacy: Skinner, *supra* note 162, at 979.

⁸⁵⁶ Nuffield Council on Bioethics, "Joint Response on Behalf of the Association of Police Authorities, the Association of Chief Police Officers and the Home Office" *supra* note 830.

⁸⁵⁷ Nuffield Council on Bioethics, "Joint Response on Behalf of the Association of Police Authorities, the Association of Chief Police Officers and the Home Office" *supra* note 830, at s. 4(a)i.

been in a position to advise on the broader human rights issues at stake, it went on to declare that it was “content to endorse familial searching” provided the Commissioner’s advice on the matter was followed.⁸⁵⁸

While the racial equality concerns relating to the use of familial searching appear to have had relatively little impact on the initial decision to allow familial searching of the NDNAD, the need to reassess the policies in light of this particular risk is receiving belated attention. Increasingly, academics and policy groups are emphasizing the risk that familial searching of the NDNAD will intensify existing racial inequalities within the United Kingdom by perpetuating systemic racial bias in the criminal justice system.⁸⁵⁹ The institutional response to this specific concern has been limited to collection of information to understand the problem, and little direct action has been taken to ensure a more transparent process⁸⁶⁰ when it comes to the

⁸⁵⁸ Nuffield Council on Bioethics, “Joint Response on Behalf of the Association of Police Authorities, the Association of Chief Police Officers and the Home Office” *supra* note 830, at s. 4(a)i. It is worth emphasizing that even in the context of the privacy discussions, the NDNAD scheme has developed with a heavy focus on crime control. This stands in contrast with Canada’s approach to DNA Data Banking, which (as explained in Chapter One (part 1.3)), involved a public consultation process that involved many stakeholders and resulted in the public distribution of information through the Solicitor General’ report: Solicitor General, Consultation Document, *supra* note 67. This willingness to yield to the crime control advantages of DNA technology in Britain has been supported on a political level, by scientific enthusiasm for the future potential of biometrics in crime control, and by general public anxiety over modern threats to national security: Skinner, *supra* note 162, at 978.

⁸⁵⁹ See for instance questions posed for consultations: Nuffield Council on Bioethics, “Joint Response on Behalf of the Association of Police Authorities, the Association of Chief Police Officers and the Home Office” *supra* note 830. See also comments in Skinner, *supra* note 162, at 982; and Council for Responsible Genetics, “Expanding Databases, Declining Civil Liberties” online: <http://www.councilforresponsiblegenetics.org/genewatch/GeneWatchPage.aspx?pageId=191>. See also general comments about increasing concerns surrounding the racial composition of the NDNAD in Krinsky and Simoncelli, *supra* note 144, at 185.

⁸⁶⁰ While a great deal can be said about transparency in government, my argument here focuses on transparency in terms of the state’s use of DNA for forensic purposes. To support my view that the lack of transparency in this context is problematic, I reiterate two points previously made in Chapter One. First, DNA has typically been viewed as a unique and vulnerable type of personal information (part 1.5). In the forensic context, this has been reflected in the individualized legal frameworks that regulate the state’s use of DNA for forensic purposes. Secondly and as previously noted (part 1.3),

continued use of familial searching in specific investigations.⁸⁶¹ To the extent that the government has addressed the issue directly and publicly, it has come in the form of a denial that racial overrepresentation on the NDNAD could itself cause further inequality among racialized groups. For instance, as part of its response in the Nuffield Consultations, the government argued that “the fact that a person has a profile on the NDNAD, or one group of persons is more likely to be represented on the NDNAD than another, does not disadvantage them in any way unless they commit a recordable offence”.⁸⁶² In another instance, the Parliamentary Office of Science and Technology acknowledged concerns about the disproportionate representation of minority groups on the NDNAD, but responded to the concern by

Canada committed to a transparent approach in determining the procedures for forensic DNA data banking in several ways. For instance, a public consultation process was held to ensure that stakeholders had an opportunity to weigh into the scheme. This process was documented and published by the government in Solicitor General, Consultation Document, *supra* note 67 (see also Solicitor General, Summary of Consultations *supra* note 67). The specialized framework that regulates the NDDDB also promotes transparency in the scheme by setting out clear limits on what the government can do: *DNA Identification Act*, *supra* note 65. A crucial limitation on the government’s authority exists in the fact that only the DNA of convicted offenders may be uploaded and searched for the purposes of investigating new crimes (see section 5 of the *Act* describing the crime scene index and the convicted offenders index). Finally, the government has published numerous reports on NDDDB operations, including annual reports by the RCMP as well as the National DNA Data Bank Advisory Committee, which can be accessed at Royal Canadian Mounted Police, “National DNA Data Bank: Annual Reports” online: <http://www.rcmp-grc.gc.ca/pubs/nddb-bndg/index-eng.htm>; and Royal Canadian Mounted Police, “National DNA Data Bank Advisory Committee: Annual Reports” online: <http://www.rcmp-grc.gc.ca/dnaac-adncc/annurp-eng.htm>.

⁸⁶¹ For instance, the National DNA Database Strategy Board commissioned Equality Impact Assessments: National Policing Improvement Agency, “NDNAD Equality Impact Assessment: Stage One” *supra* note 847; National Policing Improvement Agency, “Full Equality Impact Assessment: Stage Two” (London: UK, National Policing Improvement Agency, 2009). As a response to the general concerns over racial overrepresentation (including how these play into the familial searching issue), David Skinner criticizes the UK’s focus on data collection for having “shelved the problem it purports to address”: Skinner, *supra* note 162, at 984.

⁸⁶² Nuffield Council on Bioethics, “Joint Response on Behalf of the Association of Police Authorities, the Association of Chief Police Officers and the Home Office” *supra* note 830, at s. 4(b).

saying that “[p]ersons who do not go on to commit an offence have no reason to fear the retention of this information”.⁸⁶³

In accordance with what was argued in Chapter One, from a CRT standpoint, this argument is problematic. It ignores the broader systemic issues, including that racialized groups are subjected to heavier police surveillance and are arrested and convicted at higher rates than the rest of the population. It further ignores that the individual implications of inclusion on the NDNAD go beyond detection and conviction for a criminal offense. The potential harms were explored in previous chapters and include the possibility of increased stigma against racialized groups overrepresented in DNA data banks,⁸⁶⁴ as well as various types of intrusion onto individual privacy as part of the follow-up on a familial search lead.⁸⁶⁵ Furthermore, in the United Kingdom where NDNAD information can be used in research, it ignores the harm involved in being deprived of the right to decline to participate in genetic research that may be considered objectionable by individual subjects.⁸⁶⁶

⁸⁶³ Parliamentary Office of Science and Technology, *supra* note 836, at 3.

⁸⁶⁴ For instance, this may lead to a perception that such groups are more dangerous in that they are more likely to have committed a crime or to commit future crimes. See Metropolitan Police Authority, *supra* note 845, at s. 113, reporting this experience of feeling stigmatized by the racial imbalances on the NDNAD among Black people in the UK. The potential for stigma was also discussed as part of the *Charter* analysis in Chapter Three (particularly in relation to section 7 security rights at part 3.4.1) and in the policy analysis in Chapter Four (particularly in the context of family cohesion at part 4.2.4).

⁸⁶⁵ See for instance discussion in Chapter Three (part 3.4.1) about the potential for the follow up investigation to reveal a genetic relationship (or lack thereof) previously unknown to the individuals concerned. See also the discussion in Chapter Four (part 4.2.2) surrounding the combined use of ‘abandoned’ DNA and familial searching, which essentially renders meaningless the right to refuse to provide DNA for data bank purposes.

⁸⁶⁶ Current discussions about research conducted on the NDNAD highlight concerns about future research that might draw conclusions about the propensity towards criminal behavior in certain racial groups: Nuffield Council on Bioethics, Nuffield Council on Bioethics, “The Forensic Use of Bioinformation” *supra* note 624, at 87. See again discussion in Chapter One (part 1.5), explaining that the same concerns have been raised in relation to genetic research examining the relationship between racial background and healthcare outcomes. The concern expressed in that discussion is

The British government's use of familial searching has not been subject to a direct challenge in the courts. While Britain's unwritten domestic constitution does not provide a specific constitutional guarantee of the individual right to equality, the right is recognized as both a foundational principle of domestic law and a developing common law rule.⁸⁶⁷ In the British context, the most promising route through which to pursue an equality challenge to familial searching appears to be through the United Kingdom's obligations as a member of the European Union (EU).⁸⁶⁸ Under that framework, the right to equality is granted a minimum

that genetic research will reinforce racial stereotypes by attributing negative outcomes (e.g. about addictions, mental illness) to racial background without considering that longterm racial oppression and its continuing negative effects on racialized groups may provide an alternative explanation. The same issue arises in the current context in that genetic research on propensity towards criminal behaviour may not appropriately factor in the underlying issues of racism and socially constructed hierarchies.

⁸⁶⁷ *Matadeen v Pointu* [1999] 1 A.C. 98 at 109; *Gurung v Ministry of Defence* [2002] EWHC 2463; *Ladele v London Borough of Islington* [2009] E.W.C.A. Civ 1357; and discussion in Karon Monaghan, "Constitutionalising Equality: New Horizons" (2008) 1 European Human Rights L. Rev. 20, at 21; and Ann Blair, "Equality in Education: England and Wales" (2001) 5 European Journal for Education Law & Policy 133, at 133.

⁸⁶⁸ This view is supported by the experience in *S and Marper* in which the domestic courts gave a very narrow interpretation of individual rights as they apply to NDNAD operations: *S and Marper*, *supra* note 828. While the case is discussed in more detail below, it indicates that the EU framework may provide stronger protection for equality and privacy rights as these arise in the context of DNA data banking. I base this on the fact that until the ECHR decision, no infringement under Article 8 (right to respect for private and family life) and Article 14 (prohibition of discrimination) of the ECHR was found: *R (S) v Chief Constable of the South Yorkshire Police* [2004] UKHL 39, [2004] 1 WLR 2196. See also discussion in Law Observer, "The Case of S and Marper" (2008) online:

http://www.lawobserver.co.uk/the_marper_case_47.html (Note that the Court of Appeal had found a breach of Article 8(1) but held that this was proportionate and justified under 8(2): see discussion of the case in Krinsky and Simoncelli, *supra* note 144, at 183). As a general matter, this situation emphasizes the importance of the EU regime in curbing potential violations of individual rights in the UK, where the law tends to provide only minimal protection for individual rights when these are balanced against crime control considerations. In addition to what is indicated by the *Marper* decision, there is a continuing discussion about the need to strengthen the right to equality in UK law. In recent years, certain meaningful changes have occurred in this respect. For instance, the principles of the ECHR have been incorporated into domestic law through the *Human Rights Act*, 1998, c. 42. This statutory right is now viewed as having quasi-constitutional status in UK law: Christopher McCrudden, "Multiculturalism, Freedom of Religion, Equality, and the British Constitution: The JFS Case Considered" (2011) 9:1 International Journal of Constitutional Law 200, at 205. The British government has more recently codified a number of anti-discrimination laws in the *Equality Act*, 2010 c. 15 in an effort to "provid[e] a modern, single legal framework with clear, streamlined law to

threshold of protection under the EU's *European Convention on Human Rights* ('the Convention').⁸⁶⁹ Article 14 of the ECHR provides that:

The enjoyment of the rights and freedoms set forth in [the] 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.⁸⁷⁰

As the wording suggests, Article 14 specifically links the right to equality with other Convention rights; a violation could result for example from discriminatory treatment in terms of respect for the right to liberty and security (Article 5), the right to a fair trial (Article 6), or the right to respect for private and family life (Article 8) as protected under the Convention.⁸⁷¹

The likely result of a challenge to familial searching might be anticipated by the previous decision of the European Court of Human Rights (ECHR) in *S and Marper v United Kingdom*.⁸⁷² The case involved a challenge by two applicants to the state's indefinite retention of their DNA profiles, which had been collected upon arrests that did not lead to conviction.⁸⁷³ The applicants specifically challenged the state's indefinite retention of their DNA based on the United Kingdom's obligations under Article 8 (right to respect for private and family life) and Article 14 (right to

more effectively tackle disadvantage and discrimination": Equality and Human Rights Commission, "Creating a Fairer Britain" online: <http://www.equalityhumanrights.com/legal-and-policy/legislation/equality-act-2010>. Despite these changes, the scope of the right remains somewhat uncertain. See general discussion in Monaghan, *supra* note 867, at 21; and Sheila Riddell and Nick Watson, "Equality and Human Rights in Britain: Principles and Challenges" (2011) 10:2 *Social Policy & Society* 193.

⁸⁶⁹ Council of Europe, *Convention for the Protection of Human Rights and Fundamental Freedoms*, Rome, 4 XI 1950. See also discussion in Riddell and Watson, *supra* note 868; Blair, *supra* note 867, at 133.

⁸⁷⁰ Council of Europe, *supra* note 869.

⁸⁷¹ Council of Europe, *supra* note 869.

⁸⁷² *S and Marper*, *supra* note 828.

⁸⁷³ *S and Marper*, *supra* note 828.

non-discrimination) of the Convention.⁸⁷⁴ The equality challenge was argued on the basis of the appellants having been treated differently than other non-convicted persons who had not been required to provide biological samples.⁸⁷⁵

At the ECHR, the Court unanimously determined that the indefinite retention of the DNA constituted an infringement of the applicants' rights under Article 8 of the Convention.⁸⁷⁶ Having come to this conclusion, the ECHR found it unnecessary to consider the application of Article 14.⁸⁷⁷ In its discussion of the privacy interest, the Court briefly commented on the use of familial searching, noting that the potential for DNA to reveal genetic relationships was evidence of the private nature of the information.⁸⁷⁸ Though the Court did not elaborate on the familial searching issue given that it was not directly at stake, this indicates a theoretical possibility of challenging the relatively unrestricted use of familial searching under Article 14 by

⁸⁷⁴ *S and Marper*, *supra* note 828.

⁸⁷⁵ *S and Marper*, *supra* note 828, at para 24.

⁸⁷⁶ *S and Marper*, *supra* note 828. In response to ECHR decision in *Marper*, the government introduced a new law that allows for continued collection of DNA from non-convicted persons, but changes the retention period from indefinite to a term that ranges from two to three years subject to the possibility of an extension. The scheme continues to allow for indefinite retention of the DNA of convicted persons. The new law, which came into force in October 2013, is set out in the *Protection of Freedoms Act, 2012*, c. 9 and is discussed at: Government of the United Kingdom, Home Office, "Protection of Freedoms Act 2012: How DNA and Fingerprint Evidence is Protected in Law" (2013) online: <https://www.gov.uk/government/publications/protection-of-freedoms-act-2012-dna-and-fingerprint-provisions/protection-of-freedoms-act-2012-how-dna-and-fingerprint-evidence-is-protected-in-law>. Maguire et al. have suggested that, although the new law does not prevent police from conducting a familial search of the NDNAD and compiling a list of potential suspects, it may make it more difficult to reduce false leads once such a list has been made. Prior to the new law the government was free to use stored genetic material to conduct further testing as a way to reduce false leads (e.g. Y-STR testing); however, the new law may prevent such uses of the stored genetic material without consent from the individual (in this situation the pivot person). See discussion in Maguire et al., *supra* note 812 at 7. David Skinner has noted that the development of the new Act involved surprisingly little debate over the racialized nature of the NDNAD: Skinner, *supra* note 162, at 987.

⁸⁷⁷ *S and Marper*, *supra* note 828, at para 129.

⁸⁷⁸ *S and Marper*, *supra* note 828, at para 75. The Court also briefly noted at para 76 that DNA has the potential to reveal information about one's ethnic origin, again as a matter of privacy and not in relation to the disproportionate representation of racial minorities on the NDNAD.

establishing that racialized groups are disproportionately affected by the privacy intrusions involved in its use. If the final decision in *Marper* is an indication of the likely result of such a challenge, the ECHR might order restrictions on the technique (which would help reduce the impact on racialized groups), but would be unlikely to determine that the technique may not be used at all. I draw this conclusion based on the fact that the Court in *Marper* did not prevent the United Kingdom from including non-convicted persons in the NDNAD (in this case arrestees). Since familial searching also leads to the inclusion of non-convicted persons in the data-banking scheme, the Court may also reason that this requires restrictions, but does not need to be prohibited entirely.

As a model for regulating familial searching, the United Kingdom's framework is problematic. To begin, it lacks the level of transparency required to understand the NDNAD's impact on racial equality. The approach was implemented without sufficient public input, which prevented the opportunity for thorough consideration of racial discrimination and other important issues that are implicated in the use of familial searching. Finally, the government's response to the increasing concerns about the racial implications of broad use of familial searching on a data bank that reflects an overinclusion of racialized minorities appears to rely on an oversimplified view of DNA as an objective, scientific tool that is not independently able to contribute to racial inequality.

5.3 Familial Searching in the State of California

5.3.1 California's DNA Data Bank

California's state DNA data bank began operations in 1998.⁸⁷⁹ While the data-banking scheme was initially limited to offenders convicted of serious felonies, it has since been expanded, most notably in 2004 when the law was amended to mandate collection of DNA from individuals arrested or charged with felony offences.⁸⁸⁰ In terms of the number of individual profiles stored, California operates the largest state DNA data bank in the United States and the third largest forensic data bank in the world.⁸⁸¹ Since its initial establishment, the permissible uses of the state DNA data bank have been limited to criminal identification, suspect elimination and identification of missing persons.⁸⁸² Like the other jurisdictions examined in this

⁸⁷⁹ The data bank was established under the authority of SB 1408 (1990). The procedures for DNA collection are described in California Penal Code §§ 295-300. The first 40,000 offender profiles were uploaded in 1998. See discussion of the state DNA data bank timeline at State of California Department of Justice: Office of the Attorney General, "Retention of Offender DNA Samples" online: <http://oag.ca.gov/bfs/prop69/faqs>.

⁸⁸⁰ See discussion on the early expansions to include all persons convicted of violent felonies in Cameron, *supra* note 144, at 222. The change to include arrestees was introduced following a vote on Proposition 69: "The DNA Fingerprint, Unsolved Crime, and Innocence Protection Act", available at: California Department of Justice, Office of the Attorney General, "Proposition 69 (DNA)" online: <https://oag.ca.gov/bfs/prop69>. The new law is further discussed in Simoncelli and Steinhardt, *supra* note 144. California's new law on collection of arrestee DNA was upheld in response to a Fourth Amendment challenge in *Haskell v Harris* 745 F. 3d 1269. Note, however, that in *People v Buza*, California's Court of Appeal held that the same law violates the search and seizure provision of the State Constitution. This decision was partly influenced by the fact that California permits familial searching of convicted offender samples. The court was specifically concerned with the potential for this use to be extended to arrestee samples: *People v Buza* 231 Cal. App. 4th 1446, Ct. App. 1st Dist. Ca. 2014. The Attorney General has announced that it will petition for review of the case in the California Supreme Court: California Police Chiefs Association, "CPCA Legal Advisory" online: <http://www.californiapolicechiefs.org/legal-advocacy>. The issue reflects the need for balance between the crime solving benefits and individual and group rights and interests. It is discussed again below in relation to Maryland's choice to prohibit familial searching, a decision that was influenced by the scope of the state's collection practices (which now includes collections from arrestees).

⁸⁸¹ See Chamberlain, *supra* note 276, at 26, noting that as of 2011, the number of searchable profiles on the state data bank was approximately 1,855,000. See also Roman-Santos, *supra* note 144, at 274.

⁸⁸² California Penal Code § 299.5. See also discussion in Cameron, *supra* note 144, at 223.

dissertation, California’s criminal justice system reflects an overrepresentation of racial minorities relative to the rest of the population, particularly from within Black and Hispanic groups.⁸⁸³

5.3.2 Introduction of Familial Searching in California

California emerged as a national leader in the area of familial searching in 2008 when it became the first American state to formally adopt policy guidelines authorizing the technique in prescribed circumstances.⁸⁸⁴ The guidelines contain a number of restrictions that limit the state’s ability to use familial searching in criminal investigations. First, although the state data bank includes DNA taken from arrestees, a familial search can only be conducted using the DNA of convicted offenders (though this is a matter of policy, not a statutory restriction, and a California appeals court has indicated that the use of familial searching may eventually be extended to other DNA on the state data bank, including arrestee profiles).⁸⁸⁵ Furthermore, the policy limits the circumstances in which a familial search can be attempted in several ways. All other leads must first be exhausted,

⁸⁸³ See Christopher Hartney and Linh Vuong, “Created Equal: Racial and Ethnic Disparities in the US Criminal Justice System” (Oakland, CA: National Council on Crime and Delinquency, 2009), showing that Black and Hispanic people are overrepresented in California’s criminal justice system in a number of ways, including with respect to new admissions to prison, overall rates of incarceration, and the number of adults on parole. See also Prison Policy Initiative, *supra* note 818, noting that African Americans are statistically overrepresented in California’s criminal justice system (as well as those in every other American state), and that Hispanics are statistically overrepresented in California’s criminal justice system (as well as those in the majority of other states).

⁸⁸⁴ California AG’s Office, “DNA Partial Match (Crime Scene DNA Profile to Offender) Policy” *supra* note 810. See comments on California’s status as a leader in the area in Gabel, *supra* note 136, at 22; Rohlf et al. *supra* note 136, at 2; McCarthy, *supra* note 343, at 407; and Maura Dolan and Jason Felch, “California takes lead on DNA Crime-Fighting Technique” *Los Angeles Times* (26 April, 2008).

⁸⁸⁵ *People v Buza*, *supra* note 880; California AG’s Office, “DNA Partial Match (Crime Scene DNA Profile to Offender) Policy” *supra* note 810.

though what constitutes “other leads” is left undefined in the guidelines.⁸⁸⁶ Familial searching can only be conducted in relation to crimes with “critical public safety implications”.⁸⁸⁷ In addition, a written request for approval must be made to the Chief of the Bureau of Forensic Services describing the case for which familial searching will be attempted and attesting to the fact that all other leads have been exhausted.⁸⁸⁸

In addition, the guidelines specifically attempt to reduce the chance of false matches during follow-up investigations. This is seen through a requirement that there must exist a minimum of fifteen shared alleles between the source of the identified profile and the unidentified potential genetic relative.⁸⁸⁹ Additionally, once a familial search is conducted and potential matches are revealed, Y-STR testing must be performed.⁸⁹⁰ Beyond the scientific verification of leads, the policy states that any available non-forensic information that might provide “additional

⁸⁸⁶ California AG’s Office, “DNA Partial Match (Crime Scene DNA Profile to Offender) Policy” *supra* note 810, at 1.

⁸⁸⁷ California AG’s Office, “DNA Partial Match (Crime Scene DNA Profile to Offender) Policy” *supra* note 810, at 2.

⁸⁸⁸ California AG’s Office, “DNA Partial Match (Crime Scene DNA Profile to Offender) Policy” *supra* note 810, at 2. As part of this process, the state has formed a Familial Search Committee that includes law enforcement officials, lawyers and scientists, which is responsible for responding to the requests to conduct a familial search: Kim et al., *supra* note 272, at 4.

⁸⁸⁹ California AG’s Office, “DNA Partial Match (Crime Scene DNA Profile to Offender) Policy” *supra* note 810, at 2. Note, however, that no minimum standard is set in relation to low-stringency searches: Krimsky and Simoncelli, *supra* note 144, at 81. As described in 816 above, low-stringency searches are often used on contaminated or low quality samples. Partial matches may be revealed because the process allows for the dropping out of certain alleles.

⁸⁹⁰ California AG’s Office, “DNA Partial Match (Crime Scene DNA Profile to Offender) Policy” *supra* note 810, at 1.

evidence bearing on relatedness” must be reviewed before the lead can be further pursued.⁸⁹¹

The decision to introduce the above policy appears to have been influenced by a rise in violent crime rates within the state.⁸⁹² This decision was reinforced in 2010, when familial searching provided the crucial lead in solving a highly publicized investigation for multiple murders.⁸⁹³ The investigation had been dubbed the “Grim Sleeper” case and ended with the apprehension of Lonnie David Franklin Jr.⁸⁹⁴ Prior to Franklin’s arrest, police had unsuccessfully searched for a suspect in the string of violent crimes over a period of twenty-five years, during which at least sixteen women were sexually assaulted and murdered.⁸⁹⁵ The crucial break in the case came when a familial search of the state DNA data bank indicated a genetic relationship between the unknown suspect and an identifiable male. At first, the search had produced two hundred potential leads, but when narrowed down through Y-STR testing the evidence pointed to one individual, whose profile

⁸⁹¹ California AG’s Office, “DNA Partial Match (Crime Scene DNA Profile to Offender) Policy” *supra* note 810, at 2.

⁸⁹² Gabel, *supra* note 136, at 22.

⁸⁹³ Before the Grim Sleeper case, familial searching had already been used to solve other investigations for violent and sexual crimes in California. For instance, it provided a crucial lead in a 2008 sexual assault of a woman at the coffee shop where she worked. See discussion in Choi, *supra* note 201, at 720; and Chamberlain, *supra* note 276, at 28, citing the Grim Sleeper case as evidence of the benefits of familial searching.

⁸⁹⁴ Choi, *supra* note 201, at 713; David Lazer and Frederick R. Bieber “Familial Searching, Its Promise and Perils” *Los Angeles Times* (10 July, 2010) online: <http://articles.latimes.com/2010/jul/10/opinion/la-oe-lazer-grim-sleeper-dna-20100710>; McCarthy, *supra* note 674.

⁸⁹⁵ The initial charges were in relation to the murders of ten women: Choi, *supra* note 201, at 713. By 2011, the police had linked Franklin to six more killings: Chamberlain, *supra* note 276, at 29.

matched the crime scene DNA at 15 markers.⁸⁹⁶ This partial match indicated a genetic parent/child relationship and the source of the identified profile in fact turned out to be Franklin's son.⁸⁹⁷

Once Franklin was identified as a suspect, investigators collected his DNA on 'abandoned' materials, including a discarded pizza crust, utensils, a napkin and a glass from which Franklin had drunk.⁸⁹⁸ Analysis of the DNA contained on these items proved that Franklin was a perfect match for the crime scene profiles. The resolution of the Grim Sleeper investigation provided a very public confirmation of the crime-solving benefits of familial searching within the state of California.⁸⁹⁹ Even the American Civil Liberties Union spoke favourably of the state's approach to this particular case, saying that "if you are going to use familial DNA searching, this is the kind of case you should use it for, and the kind of precautions they took in this case are the kind that should be taken".⁹⁰⁰

5.3.3 Equality Safeguards in California's Familial Searching Policy

As noted above, the restrictions in the California policy are primarily useful in (i) limiting the circumstances in which familial searching is used; and (ii) reducing the number of false leads produced when a familial search is conducted.

⁸⁹⁶ Maura Dolan, "In Grim Sleeper Case, a New Tack in DNA Searching" *Los Angeles Times* (July 10, 2010) online: <http://articles.latimes.com/2010/jul/10/local/la-me-0710-grim-sleeper-dna-20100710>; Choi, *supra* note 201, at 719.

⁸⁹⁷ James Cass, "Grim Sleeper Awakens Attention to Familial Searching of DNA Databases" (2010) Genomics Law Report, online: <http://www.genomicslawreport.com/index.php/2010/07/13/grim-sleeper-awakens-attention-to-familial-searching-of-dna-databases/>.

⁸⁹⁸ Choi, *supra* note 201, at 74.

⁸⁹⁹ McCarthy, *supra* note 343, at 381; Cass, *supra* note 897.

⁹⁰⁰ Dolan, *supra* note 896, quoting Peter Bibring, staff attorney for the ACLU of Southern California. See also reference to the same comments in Chamberlain, *supra* note 276, at 30.

From an individual rights perspective, the limitations can be viewed as meaningful in that they reduce the number of potential suspects to be confronted in the follow-up of a familial search investigation. This limits unnecessary police questioning and other privacy intrusive results such as the need to provide exclusionary DNA.⁹⁰¹ Yet, while such limitations can help minimize the perpetuation of racial injustice that results from the use of familial searching on DNA data banks that show a disproportionate representation of racialized minorities, they do not promise to prevent the overall problem.⁹⁰² Racialized minorities are still overrepresented on the DNA data bank and thus are still likely to experience a greater impact from familial searching compared to the rest of the population. While the limitations reduce the privacy intrusion that is relevant to this discussion, it does not eliminate the disparities reflected on the DNA data bank nor does it change the fact that familial searching effectively extends the data bank to encompass genetic relatives of those who have been included directly.

From a constitutional standpoint, it is unlikely that the racial inequality perpetuated by familial searching could substantiate an equality challenge. The 'equal protection clause' in the Fourteenth Amendment provides that "[n]o state

⁹⁰¹ See Gabel, *supra* note 136, at 8, discussing the value of the Y-STR and other requirements in the California policy in terms of their potential to reduce the privacy impact on those that may otherwise be falsely implicated in familial search follow-up.

⁹⁰² Similar comments are made in Gabel, *supra* note 136, at 22, where the author acknowledges that while the limitations on the use of familial searching in the California policies may reduce the racial impact, they do not eliminate the intrusion onto the lives of individuals who are implicated in investigations in which familial searching is used. In considering the Canadian context, I view this impact as including the harms identified in Chapters Three (summarized in the chapter's conclusion at part 3.5) and Four (summarized in the chapter's conclusion at 4.4), reviewed together in the next Chapter. As discussed in relation to the frameworks examined in this chapter, the issue is a question of balance. As previously stated, my argument relates to the balance to be achieved in Canada, but does not aim to determine whether the right balance was struck in the international frameworks, where the issues are considered in a different context.

shall...deny to any person within its jurisdiction the equal protection of the laws”.⁹⁰³ As of yet, the constitutionality of familial searching has not been challenged under this provision;⁹⁰⁴ however, previous judgments confirming the scope of the right suggest that familial searching would fall outside Fourteenth Amendment boundaries. To begin, the equal protection clause is meant to guard against arbitrary discrimination against individuals by the state.⁹⁰⁵ There is a debate over whether familial searching represents an arbitrary distinction between racialized and non-racialized groups. On the one hand it is argued that the technique distinguishes between racialized groups disproportionately reflected on forensic DNA data banks and the rest of the population; this distinction may be viewed as arbitrary because it assumes that genetic relatives of previously convicted offenders are more likely to have committed a crime than those without a similar genetic relationship.⁹⁰⁶ On the other hand, it has been argued that there is nothing arbitrary about “us[ing] a method that is reasonably calculated to produce investigative leads when the opportunity presents itself”.⁹⁰⁷

⁹⁰³ U.S. Const. amend. XIV, § 1.

⁹⁰⁴ The state policy also has yet to face a challenge under the Fourth Amendment. Academic analysis of the constitutional validity of familial searching of state DNA data banks has led to mixed conclusions on this matter. The discussion indicates that the result may depend on when the courts determine the ‘search’ occurs in a familial search: Kim et al., *supra* note 272, at 6. (I argued in the section 8 analysis in Chapter Three (part 3.3.1) that familial searching constitutes a search for *Charter* purposes). Some authors have indicated that the likelihood of succeeding in a constitutional challenge to familial searching is greater under the Fourth Amendment compared to the equal protection clause: Grimm, *supra* note 136, at 1188; Choi, *supra* note 201, at 721. Nonetheless, several authors have determined that familial searching does not likely infringe on Fourth Amendment rights: Gabel, *supra* note 136, at 42; Wah, *supra* note 710.

⁹⁰⁵ Kaye, “The Geneology Detectives” *supra* note 136, at 125.

⁹⁰⁶ Murphy, “Relative Doubt” *supra* note 135, at 305.

⁹⁰⁷ Kaye, “The Geneology Detectives” *supra* note 136, at 128. This rebuttal raises an additional debate about the fact that familial searches are essentially an extension of the data bank. Erin Murphy notes that if society determines that this kind of expansion is worth the impact on individual rights and the

Even if the courts accept that familial searching represents an arbitrary distinction however, it is likely that a Fourteenth Amendment challenge would subsequently fail on other grounds.⁹⁰⁸ The main hurdle is that familial searching does not clearly involve intentional discrimination by the state.⁹⁰⁹ A law does not violate the equal protection clause simply because it may disproportionately impact a certain racialized group.⁹¹⁰ Instead, the courts examine the law to determine whether it reflects a specific discriminatory purpose.⁹¹¹ A discriminatory purpose requires more than state knowledge of a possible racial impact, and must illustrate state action that was motivated by the negative result itself.⁹¹² In the context of

effect on other concerns, it would make more sense to implement a universal data bank where “all innocent persons – not just those with the misfortune of being related to a convicted offender – would share equally in the burdens and benefits of DNA databases”: Murphy, “Relative Doubt” *supra* note 135, at 308. See Chapter Four (part 4.3.3) where the arguments relating to familial searching as a type of expansion of DNA data banks are discussed along with the possibility of a population-wide data bank.

⁹⁰⁸ Supporting the view that California’s approach would pass Fourteenth Amendment scrutiny, see: Kaye, “The Geneology Detectives” *supra* note 136; Mares, *supra* note 140; Grimm, *supra* note 136; Choi, *supra* note 201, at 725.

⁹⁰⁹ Choi, *supra* note 201, at 725.

⁹¹⁰ *Washington v Davis*, 426 U.S. 229 (1976); *City of Mobile v Bolden* 446 U.S. 55 (1980); *McCleskey v Kemp*, 481 U.S. 279 (1987) and discussion in Kaye, “The Geneology Detectives” *supra* note 136.

⁹¹¹ *Washington v Davis*, *supra* note 910, at 240. See also discussion in Mares, *supra* note 140, at 409; and Grimm, *supra* note 136, at 1185, noting that since the decision in *Washington v Davis*, *supra* note 910 the Supreme Court has not invalidated any law on equal protection grounds on the basis of a disproportionate impact on a certain racialized group.

⁹¹² This distinction has been explained as one between disparate *impact* and disparate *treatment*: Kaye, “The Geneology Detectives” *supra* note 136. The standard in proving discriminatory treatment is high; even when a law has been disproportionately applied to a given racialized group, the courts have required that each claimant show discriminatory intent in his or her own case before an equality violation will be determined: *McCleskey v Kemp*, *supra* note 910 where the court rejected the argument that the disproportionate rate at which the death penalty was used against African American offenders compared to white offenders was an equality violation. The decision was in response to the petitioner’s argument that the state’s use of the death penalty was a violation of the equal protection clause because the state knew that the death penalty was implemented in a way that disproportionately affected African American offenders. The Court held that to show an infringement of the Fourteenth Amendment, the petitioner needed to show racial discrimination in the decision to apply the death penalty in his own case. See also discussion in Mares, *supra* note 140, at 412; and Grimm, *supra* note 136, at 1187, noting that the decision in *McCleskey v Kemp*, *supra* note 910 to disregard the statistical evidence of racial bias in favour of examining the specifics on the individual petitioner’s case was indicative of the Court’s unwillingness to extend the equal protection clause to

familial searching, it would be difficult to show actual intent on the state's behalf to discriminate against racialized minorities. Moreover, the state is not responsible for creating the suspect sample that triggers the search and is not in a position to control the racial (or other characteristics) that would be derived from analysis of the DNA. Rather, the courts are likely to find that familial searching was introduced in California *despite* but not *because of* the racial disparities on the DNA data bank.⁹¹³ Indeed, the state of California has attempted to curb the negative impacts of familial searching through the policy guidelines.⁹¹⁴

Though California's use of familial searching does not appear to infringe on the equal protection clause, use of the technique nevertheless occurs within a racialized DNA data banking system (as discussed above). Rather than having eliminated the racial discrimination issue with the policy guidelines, California's approach can thus be viewed as an attempt to balance the risks and benefits of familial searching. It admits some risk of racial inequality while also limiting the extent to which the state can rely on familial searching to solve crimes in light of that and other problems. The relevant question is therefore whether the balance achieved through the policy guidelines is justifiable, an evaluation that depends on the context in which the determination is being made. Opinions vary in terms of California's choice on the matter. On the one hand, a number of arguments support

systemic issues of racial discrimination. The author notes that to do so may have called the entire criminal justice system into question given the clear racial bias throughout.

⁹¹³ It has been argued that to meet the Fourteenth Amendment threshold in the current context, the state would need to purposely collect a disproportionate amount of DNA from racialized groups, then apply familial searching to the collection: Grimm, *supra* note 136, at 1186.

⁹¹⁴ See comments to this effect in Mares, *supra* note 140, at 414.

the state's restrictive use of familial searching as a balanced approach to the issue. For instance, it has been said that some risk of racial discrimination in the application of familial searching may be justified in the case of investigating serious crimes such as sexual assault and murder.⁹¹⁵ It has also been argued that since familial searching has become part of criminal justice investigations around the world, prohibition of the technique has become unrealistic and restrictions that minimize the risks present the only practical option.⁹¹⁶ Others are simply persuaded by the crime-solving benefits of familial searching and think the potential harms have been either exaggerated or do not relate to a problem with DNA data banking. For instance, Michael Chamberlain criticizes warnings about the risks of familial searching as rhetoric given that most suspects can be eliminated before being directly questioned by police, and because even when such questioning is required, the process is "routine police work, [that] is inevitably welcome news to the former suspect".⁹¹⁷ He further argues that "[f]or better or for worse, DNA databases reflect the demographics of the criminal justice system. Claims that familial searching is a racially disparate investigative tool thus fail".⁹¹⁸

⁹¹⁵ Suter, *supra* note 136, at 397.

⁹¹⁶ See Gabel, *supra* note 136, at 26, arguing that "[t]he debate must move beyond the threshold inquiry of whether familial searching should be employed. California and other states have already answered that question in the affirmative. Instead, the debate must shift to whether the increasing collection and use of genetic information as a result of familial searches requires management and regulation".

⁹¹⁷ Chamberlain, *supra* note 276, at 30.

⁹¹⁸ Chamberlain, *supra* note 276, at 26. See also Wah, *supra* note 710, in which the author argues that increased use of familial searching and other scientific approaches to solving crime may actually alleviate racial disparities by removing the human element from the investigative process. I discussed Wah's comments in Chapter Four (part 4.3.1) and rejected this logic based on the view that they ignore the reality of the causes of crime in racially marginalized populations who are overrepresented on the data bank. In other words, the argument ignores the racially unequal situation in which the DNA science is applied.

On the other hand, and in keeping with the arguments advanced throughout this dissertation, the potential for familial searching to perpetuate and worsen racial disparities in the criminal justice system should at least be seriously contemplated as a reason to ban use of the technique. There is no expedient solution to the racial disparities in the criminal justice systems for any of the jurisdictions I have studied. As discussed in relation to Canada's situation, these issues are symptoms of deep-rooted social problems and call for broad legal and social reforms that have yet to be constructed.⁹¹⁹ This should not immediately lead us to conclude that society must accept the unequal social realities and introduce a forensic technique that may perpetuate racial oppression. As Erin Murphy argues, "[d]rawing suspects from a tainted pool ought not to be excused simply because there is no cleaner water".⁹²⁰ Moreover, the characterization of familial searching as routine police work appears to dismiss the impact explained in Chapters Three and Four.

Given that this dissertation is focused on proposing a way forward for familial searching in Canada, it does not attempt to make a final determination about the validity of California's choice. Instead, the examination of California's policies has provided insight into the middle ground option to judge its suitability for the Canadian context. What has been revealed through the inquiry into this option will be relied upon to support the recommendation for continued prohibition of familial searching in Canada. While informed by California's experience and by reactions to the state's familial search policies, the forthcoming recommendation in

⁹¹⁹ See again discussion in Chapter Four (part 4.3.1) on the underlying causes of crime.

⁹²⁰ Murphy, "Relative Doubt" *supra* note 135, at 325.

Chapter Six is uniquely based on the current overincarceration of Aboriginal peoples in the Canadian criminal justice system.

5.4 Familial Searching in the State of Maryland

5.4.1 Maryland's DNA Data Bank

Maryland's DNA Database was established in 1994.⁹²¹ The state initially restricted collection of DNA to offenders convicted of crimes of a violent or sexual nature.⁹²² The law was amended in 2002 to allow inclusion of offenders convicted of any felony crime as well as certain misdemeanor crimes, and again in 2009 to allow warrantless collection of DNA from persons arrested and charged with violent crimes and certain burglary offences.⁹²³ Maryland's criminal justice system disproportionately impacts both African Americans and Hispanics, and it is presumed that the issue translates into an overrepresentation of the same groups on the state's DNA data bank.⁹²⁴

⁹²¹ The move was authorized under the Maryland Ann. Code, Art. 88B § 12A (1994).

⁹²² This was initially reflected in Maryland Ann. Code, Art. 88B § 12A (1994). See discussion in Susan M. Dadio, "Maryland's DNA Data Base System and Repository: Does it Pass Constitutional Muster?" (1996) 25 U. Balt. L. Rev. 47, at 71.

⁹²³ Maryland SB 211, Government of Maryland, Governor's Office of Crime Control & Prevention, *Making Maryland's DNA Law Work for Public Safety* (Maryland: Governor's Office, 2012), online: <http://www.goccp.maryland.gov/dna/index.php>. The law allowing collection and use of arrestee DNA was subsequently challenged under the Fourth Amendment. In 2009, Alonzo King was arrested on a weapons charge; Maryland police collected his DNA then matched his profile to an unsolved sexual assault. A 5-4 majority upheld the law: *Maryland v King*, 133 S. Ct. 1958 (2013). See discussion of the case in Barry Friedman, "*Maryland v King*: The Supreme Court Fails the Fourth Amendment Test" (2013) *New York University Journal of Law & Liberty* 176.

⁹²⁴ See Hartney and Vuong, *supra* note 883 showing that Black people are overrepresented in the criminal justice system of Maryland in a number of ways, including with respect to new admissions to prisons, overall incarcerations, the number of adults on probation, the number of adults on parole, and the number of adults under sentence of death. See also Prison Policy Initiative, *supra* note 818, noting that African Americans are statistically overrepresented in the criminal justice systems of Maryland, as well as in every other American state; and Michael J. Palisano, "The Use of Familial DNA Evidence in Criminal Prosecutions in Maryland" (2011) *The Advocate* online:

5.4.2 Statutory Ban on Familial Searching in Maryland

In terms of its relevance to the current discussion, the state of Maryland's experience with familial searching is simpler to describe compared to the frameworks in the United Kingdom or California. The legal situation is simply that there is a statutory ban on the use of familial searching on the state DNA data bank.⁹²⁵ The prohibition is pursuant to the following provision within the state's DNA data-banking legislation:

A person may not perform a search of the statewide DNA data base for the purpose of identification of an offender in connection with a crime for which the offender may be a biological relative of the individual from whom the DNA sample was acquired.⁹²⁶

It is important to note that the wording of the provision does not explicitly prohibit the reporting of unintentional partial matches that may appear while other types of searches of the data bank are being conducted.⁹²⁷ Nonetheless, it has been reported that forensic analysts working in the state of Maryland indicated that the ban is being interpreted as applying to both deliberate and fortuitous matches.⁹²⁸ Criminal investigators do not currently use familial searching as a means to solve crimes committed in the state of Maryland.

<http://www.msba.org/sections/younglawyers/advocate/fall2011/dna.aspx>, noting that familial searching on Maryland's data bank would disproportionately affect both Black and Hispanic persons.

⁹²⁵ Maryland Code, *supra* note 811, § 2-506(d).

⁹²⁶ Maryland Code, *supra* note 811, § 2-506(d).

⁹²⁷ Rohlfs et al. *supra* note 136, at 2.

⁹²⁸ It is not yet clear whether the ban in the District of Columbia, which is similarly worded, will be interpreted as applying to unintentional matches: Ram, *supra* note 90, at 773 and 775.

5.4.3 Maryland's Familial Searching Policy as an Equality Safeguard

The statutory ban in Maryland was introduced as part of the above-noted legislative expansions allowing for inclusion onto the DNA data bank of persons arrested for violent crimes.⁹²⁹ As noted above, a relevant consideration in banning familial searching was that Maryland's DNA data bank has been expanded to include arrestees, which was thought to intensify the potential racial bias that may occur through use of the technique.⁹³⁰ The decision to ban familial searching therefore reflects a desire for balance in terms of overall data bank operations in that DNA profiling is allowed while the type of extension that would be brought on by familial searching is avoided. The potential for the combined use of arrestee DNA and familial searching to worsen racial inequality in the criminal justice system was a specific factor that influenced the decision to institute a prohibition on familial searching of Maryland's DNA data bank.⁹³¹ The decision was also based on concerns over individual rights and group interests. The choice to ban familial searching in light of these concerns has been largely attributed to the influence of Stephen Mercer, Chief Attorney of the Forensics Division at the Maryland Office of the Public

⁹²⁹ Kim et al., *supra* note 272, at 6.

⁹³⁰ As noted above, California is in the midst of addressing concerns over the potential for its data banking scheme to be expanded to allow use of familial searching on arrestee DNA. I return to this issue in the concluding chapter where I discuss the need to consider the ways in which forensic investigation technique may, when combined, amplify the risk of racial bias. As explained in the conclusion, the issue is one of balancing the various options for expanding NDDB operations against the risks to equality.

⁹³¹ Kim et al., *supra* note 272, at 6, citing personal communications with Stephen Mercer.

Defender.⁹³² Mercer established himself as an outspoken opponent of familial searching, specifically criticizing the technique because it would subject certain individuals to discriminatory treatment based on their ethnicity and class.⁹³³ In a debate about the use of familial searching in the criminal context, he argued that:

[T]he expansion of DNA databanks to target innocent people who are largely defined by their race and class for lifelong genetic surveillance is a terribly misguided policy that vastly overshadows the handpicked successes [of the technique]...The realization that one is a member of a group defined by race and class that is effectively in a law enforcement DNA database without having committed any crime is a powerful stigma that profoundly impacts upon one's sense of worth and ability to participate in a democracy...Familial searching is a great threat to our democracy for these reasons...[and] the effect of implementing such a policy is a dangerous precedent.⁹³⁴

Beyond the racial equality issues, Mercer was motivated by concerns that familial searching would target innocent family members in a way that would undermine the original justification for establishing national data banks, and further that it would amplify the risk of future abuses of data bank information as DNA science continues to evolve.⁹³⁵

In accordance with the above discussion on a potential Fourteenth Amendment challenge to California's use of familial searching, the technique is unlikely to be deemed unconstitutional from a racial equality standpoint. Maryland's position to ban the use of the technique thus reflects a policy choice rather than a decision based on perceived constitutional constraints relating to equality or any

⁹³² David Kaye, Stephen Mercer & Brad Jenkins, "Family Feud: The Familial DNA Search Controversy Continues" *Forensic Magazine* (23 September, 2011).

⁹³³ Stephen Mercer, "Debate before the National Institute of Justice Conference Panel on Familial DNA Searching" (June 2011) online: <http://nij.ncjrs.gov/multimedia/audio-nijconf2011-familial-searching.htm>.

⁹³⁴ Mercer, *supra* note 933.

⁹³⁵ Mercer, *supra* note 933.

other individual right.⁹³⁶ This is an important reality in the context of the current dissertation, as discussions about the validity of familial searching tend to center around whether or not the technique infringes on constitutional boundaries. As I have previously argued, Canada's current situation with respect to the overincarceration of Aboriginal peoples and implications for the NDDB as well as systemic racism throughout the criminal justice system will require a broader commitment to change than what the Canadian Constitution compels. Maryland lawmakers appear to have been convinced by the same logic in relation to racial inequality within the state.

Proponents of familial searching do not specifically critique Maryland's position as unfounded, but rather note that the state takes an uncommon stance in prohibiting familial searching rather than advocating use of the technique subject to what are viewed as appropriate and balanced restrictions.⁹³⁷ The potential basis for criticizing Maryland's choice is quite simple: it bars use of a proven crime-solving technique on policy grounds that may or may not be accepted as adequate justification, thus leaving open the possibility that certain serious crimes may remain unsolved. For instance, dissatisfied with the initial resistance to the use of familial searching within the state of Colorado, Denver District Attorney Mitch Morrissey argued that the policy effectively "protects murders and rapists".⁹³⁸

⁹³⁶ See similar comments in Gabel, *supra* note 136, at 43.

⁹³⁷ See, for example, Chamberlain, *supra* note 276; and Gabel, *supra* note 136, at 20.

⁹³⁸ Murphy, "Relative Doubt" *supra* note 135, at 293, citing Maura Dolan and Jason Felch, "Tracing a Suspect Through a Genetic Relative" *L.A. Times* (November 25, 2008). As explained in Chapter Four (part 4.3.1), I view the problem more broadly as one that calls out for an understanding of the causes of crime rather than the introduction of new surveillance techniques. I will revisit these conclusions in relation to the above arguments in the final chapter.

While the choice to ban familial searching has costs from a crime-solving perspective, as with California's approach, the position reflects a value judgment on the weight to be given to the negative implications of familial searching, including the racial inequality issues. The fact that full prohibition of familial searching is uncommon may result in part from the difficulty of showing the immediate gains to be derived from such a ban. In contrast, as noted throughout this dissertation, it is relatively simple for the state to support authorization of familial searching by reference to its success stories. Yet, the success stories usually fail to disclose important details about the extent to which individual and group interests were sacrificed in order to gain an admittedly important advantage in a given investigation. The hidden details include the number of familial searches that did not lead to the crime being solved, the number of genetic relatives falsely investigated, and the potentially objectionable actions taken to rule out false leads (such as collection and use of abandoned DNA or pressure used to compel an exclusionary sample from a suspect).⁹³⁹ Other important pieces of information that are not disclosed along with the success stories are the wasted resources or errors made in the course of the investigation.⁹⁴⁰ Although some of these issues may arise in other types of forensic investigations, this does not change that they remain relevant to the balancing of issues to be considered with familial searching.

⁹³⁹ See similar comments in relation to the experience with specific investigations originating in Colorado in Murphy, "Relative Doubt" *supra* note 135, at 293.

⁹⁴⁰ See Krimsky and Simoncelli, *supra* note 144, at 185, emphasizing that "in general, it is only the sensationalized success stories of forensic DNA that we tend to hear about, not the dead-end investigations, the wasted resources, or even the errors".

Once again, I do not purport to determine the validity of Maryland's ban in light of the current equality concerns that present within that state. The statutory ban in Maryland instead acts as a model for Canada to consider. As Erin Murphy notes, "[i]t is easy to fall into a familiar pattern of racial stereotyping without asking more difficult and nuanced questions about the social construction of crime, or conversely the distribution of privileges, along racial lines."⁹⁴¹ This viewpoint, along with the decision to ban familial searching in Maryland, supports my argument for a continued ban on familial searching of Canada's NDDB. The potential for the technique to perpetuate racial injustices is a crucial consideration that must be balanced against the advantages of using DNA as a crime-solving tool. The approach taken in the state of Maryland allows for the time needed to fully consider the implications of familial searching before concluding whether the ban should remain in place or the technique introduced (with restrictions or not).⁹⁴² As argued in the next and final chapter, the racial inequality at issue in the Canadian context provides a worthy reason to take this less common approach.

5.5 Conclusion

This chapter has drawn from the unique experiences with familial searching in the United Kingdom, California and Maryland to develop three main lines of argument. These arguments will be used to support the final recommendation for

⁹⁴¹ Murphy, "Relative Doubt" *supra* note 135, at 325.

⁹⁴² Given the numerous considerations that play into the decision, Krinsky and Simoncelli reinforce the need for a deliberate approach to regulating familial searching, specifically criticizing states that have "rush[ed] forward with low-stringency searches [which] is at best premature, if not irresponsible": Krinsky and Simoncelli, *supra* note 144, at 81.

continued prohibition of familial searching on Canada's NDDB. First, based on the equality considerations upon which this dissertation is based, the United Kingdom model should not be repeated in the Canadian context. The country's introduction of familial searching was marked by a lack of transparency and an apparent lack of attention to the racial discrimination issues. The guidelines used in the United Kingdom do not facilitate an understanding of the racial equality implications of familial searching. The government has introduced a model in which crime-control considerations appear to weigh heavily while the individual and group interests appear to have been readily dismissed. In particular, the government has responded to concerns about the risks to racial equality by relying on an oversimplified view of forensic DNA analysis as a scientific approach to crime solving that cannot on its own contribute to racial inequality. I reject this view for the reasons detailed throughout this dissertation.

The examination of California's familial searching policy reveals another option for balancing the risks of familial searching against the crime-solving benefits. The choice made in California represents a value determination about the role for racial equality and other individual and group concerns within the familial search debate. The California experience has provided crucial insight into the middle ground option, which I ultimately reject in the following chapter in favour of a continued ban on familial searching in Canada. Without drawing a final conclusion on the validity of California's approach for California, the option is viewed as the wrong way forward for Canada given current realities in terms of overrepresentation of Aboriginal peoples in the Canadian criminal justice system.

The statutory ban in Maryland was reviewed as the third main option for Canada to consider. Maryland's position reflects my view that the potential for familial searching to perpetuate racial injustices weighs considerably against the advantages of DNA as a crime-solving tool. The next chapter revisits the reasons cited throughout this dissertation for following Maryland's approach in the Canadian context, combining the information presented in the current chapter with the various arguments advanced in previous parts of the dissertation.

CHAPTER SIX: Conclusion

The familial searching question introduces a number of complex interrelated factors, from the need to support law enforcement objectives to the normalization of surveillance techniques to the failures of the criminal justice system as seen in the overrepresentation of Aboriginal peoples as offenders and victims in Canada. My recommendation that Canada should continue to prohibit familial searching of the NDDDB is founded on an understanding of how familial searching of a racialized NDDDB would impact Aboriginal peoples in Canada. It is specifically based on the current Canadian political climate, in which steps are finally being taken to promote reconciliation with Aboriginal groups who have suffered and who continue to suffer the effects of colonialism. The enormity and complexity of this initiative cannot be understated. In the words of Canada's Truth and Reconciliation Committee:

To some people, *reconciliation* is the re-establishment of a conciliatory state. However, this is a state that many Aboriginal people assert never has existed between Aboriginal and non-Aboriginal people. To others, reconciliation, in the context of Indian residential schools, is similar to dealing with a situation of family violence. It's about coming to terms with events of the past in a manner that overcomes conflict and establishes a respectful and healthy relationship among people, going forward...[It] is about establishing and maintaining a mutually respectful relationship between Aboriginal and non-Aboriginal peoples in this country. In order for that to happen, there has to be awareness of the past, acknowledgment of the harm that has been inflicted, atonement for the causes, and action to change behaviour. We are not there yet. The relationship between Aboriginal and non-Aboriginal peoples is not a mutually respectful one. But, we believe we can get there, and we believe we can maintain it.⁹⁴³

⁹⁴³ The Truth and Reconciliation Commission of Canada, "Honouring the Truth", *supra* note 125, at 6.

The current Canadian situation and the question of familial searching is further informed by a number of contextual factors, which have been discussed in this dissertation and are revisited below.

First, the use of familial searching as a law enforcement approach to crime detection would occur within a nation in which the experience of colonialism continues for the Aboriginal population. The effects of the colonization process are reflected in the rates of Aboriginal incarceration and victimization (especially of women and girls). The colonization process continues through the social and political exclusion of Aboriginal peoples. I am not persuaded that familial searching, as an additional method of surveillance, would improve this crisis situation. Rather, I have argued for a more inclusive justice system that would empower the Aboriginal population to begin to address the extensive problems relating to their overrepresentation in the criminal justice system at all levels. Greater surveillance of an already marginalized population through the use of familial searching would not serve these needs and may in fact exacerbate the harmful divide.

A second contextual factor is that Canada's NDDB was built on a set of compromises. The major limitation was that the identified profiles in the NDDB would be limited to convicted offenders. Familial searching would effectively extend the NDDB to include the genetic relatives of convicted offenders who are currently reflected on the data bank. In this way, it would represent a significant departure from the initial set of promises to impose a lowered expectation of genetic privacy only for individuals whose own actions were deemed to have warranted inclusion in the NDDB. This type of expansion of the NDDB is concerning for all Canadians, but is

particularly problematic for Aboriginal peoples due to the overrepresentation of their family members as offenders in the criminal justice system. While the individual privacy issues that exist more generally are not unimportant, this equality impact deserves to feature prominently in its own right in the ongoing discussion about the future of familial searching in Canada.

A third contextual issue is the fact that the *Charter* offers only limited protection for the risks that arise with familial searching for Aboriginal peoples. My analysis of potential challenges to familial searching under sections 15, 8, and 7 led to the conclusion that the state could introduce familial searching in a way that would accord with individual rights under the *Charter*. The *Charter* would likely compel certain limits to the state's ability to use familial searching (primarily the need for a warrant scheme to safeguard the individual privacy concerns, and restrictions to avoid (i) undue disclosure of genetic family secrets and (ii) public exposure of state suspicion relating to a given family). These limitations are meaningful in terms of safeguarding certain individual rights and interests, but they do not address the broader group interests that are crucial to understanding how familial searching would have a discriminatory impact on Aboriginal peoples in Canada. In relation to the broader equality concerns, the lack of data to evidence the overrepresentation of Aboriginal peoples in the NDDB represents a possibly insurmountable hurdle in terms of establishing a *Charter* equality challenge, which would provide a more direct means of addressing the racial equality issue. It is also possible that viewing the matter through an individual rights lens would lead to the conclusion that a public consultation process to discuss the future of familial

searching would provide an appropriate method of addressing the legal and ethical challenges. Yet, the public at large is extremely unlikely to respond to the equality issue facing Aboriginal peoples in a way that would prioritize the problem or at least put it on equal footing with the immediate crime control considerations. Further to the issue that arises with the lack of data that would support the overrepresentation of Aboriginal peoples in the NDDB, it is crucial to emphasize that this void should not provide the government with a way to escape responsibility for the underlying problem and the pervasive systemic racism to which familial searching would add. Simply put, just because the data does not exist to support the assumption of systemic racism being reflected in the NDDB does not mean the problem does not exist. The government has played an active role in creating this underlying problem and must play an active role in prioritizing and understanding the issue today, despite the lure of new and emerging scientific investigative techniques.

A fourth contextual factor arises with the international situation, where the use of familial searching is becoming increasingly common. I have examined the range of regulatory frameworks represented by the UK, California, and Maryland. In considering the way forward for Canada, I have rejected the approach taken in the UK, where the experience indicates broad and relatively unrestricted use of familial searching within the country (or at least a lack of transparency about the extent to which limits are imposed on such use). Although the California policy restricts the use of familial searching in an effort to limit the impact on individuals and families who will be affected by its use, I have determined that the approach would not address the equality concerns outlined in this dissertation as they apply to the effect

of familial searching on Canada's Aboriginal peoples. I recommend a continued ban on familial searching of the NDDB like the one used in Maryland. I have determined that the ban provides the only method of protecting against the discriminatory impact of familial searching for Aboriginal peoples in Canada. The need to avoid this discriminatory impact is particularly relevant given Canada's current climate in which reconciliation with Aboriginal peoples has only just begun.

I realize that my position reflects a weighing of values and a judgment about how to balance the crime-solving benefits of familial searching against the negative impact that familial searching would have on Canada's Aboriginal population. I also realize that it would be easier to show evidence of the benefits of familial searching (through cases solved) than it would be to demonstrate the meaningful effects of a continued ban on the technique in terms of racial equality in Canada. To be sure, a ban on familial searching would represent one very small action in a legal system in which so many changes are required. I have attempted to show that such a ban would, however, be meaningful with respect to racial equality for Aboriginal peoples in that it would avoid imposing new harms on this group at a rate that would be disproportionate to that which would be experienced by the non-Aboriginal public. I now revisit that overall impact by examining the separate risks outlined in the preceding chapters together.

The risks are grouped into two broad categories. The first includes those that may be safeguarded to alleviate the concerns over racial inequality while the second reflects risks that cannot and that therefore tip the balance towards my recommendation for a continued ban. First, I highlighted a risk that the familial

searching process may lead to the disclosure of genetic family secrets, which may have a negative psychological impact on individuals concerned. This could largely be dealt with by limiting what is disclosed by the state during the familial searching process. Specifically, the results of a follow-up investigation (in which the genetic link between profiles of different individuals might be examined) could simply be classified as a finding of “match” or “no match” between the DNA of a potential suspect and the anonymous crime scene profile. Police could be prohibited from disclosing or even accessing details beyond that determination (such as information indicating the absence of a genetic relationship between individuals who present as members of a family unit). Another risk considered was the potential for psychological harm resulting from public disclosure about police suspicions that an individual within a given (Aboriginal) family has been involved with a crime. Again, strict rules about what can be publicly revealed could address this risk. Investigators could be prohibited from publicly discussing any broad suspicions about a certain family. A third risk that could be partially addressed through specific policies is the subjective element in the partial matching process. Guided by the experience in forensic fingerprinting (which was overused without proper acknowledgment of its subjective nature), it would be appropriate to set scientific thresholds so that police authority to follow up on familial search leads would be limited to indications of first (and possibly second) degree relatives. This could limit the number of false investigations that would occur as a result of a familial search. It must be emphasized, however, that the best option for protecting against subjective judgment appears to be the introduction of a warrant system so that judicial

approval would be required before a familial search could be conducted or a lead produced in a familial search investigated. As I have discussed, judges are not immune to racial bias and the warrant scheme would be imposed in a system that shows racial bias at all levels, including on the bench. Though the above three risks can be partially addressed through thoughtful policy limitations, I do not suggest that such protections would erase the risk of racial bias. Instead, I argue for a full ban on familial searching, a position that has been particularly influenced by the second set of harms, outlined below.

In the second category I include five specific risks that together present a crucial equality concern for Canada's Aboriginal peoples. The equality issue broadly results from the fact that Aboriginal peoples are likely to suffer the effects of these risks at a disproportionate rate compared to the non-Aboriginal population. I begin with the fact that familial searching of a racially unequal NDDB is likely to return a disproportionate number of identifiable profiles belonging to Aboriginal offenders. These may include both false and true genetic matches. This would result in a disproportionate level of genetic surveillance for Aboriginal peoples, and would perpetuate the existing situation in which police surveillance is disproportionately aimed at racialized minorities, especially Aboriginal peoples in Canada.⁹⁴⁴ While some of the returns on a familial search would likely provide useful leads in important cases, additional surveillance of Aboriginal peoples in Canada cannot be

⁹⁴⁴ On racial profiling and surveillance of Aboriginal peoples, see discussion in Chapter One (part 1.4) and Lawrence and Dua, *supra* note 37; Wortley, *supra* note 101; Tanovich, *supra* note 100, at 661; Sewrattan, *supra* note 20, at 133; and La Prairie, "The Role of Sentencing in the Over-Representation of Aboriginal People in Correctional Institutions" *supra* note 92, at 431.

taken lightly. It is a significant and persistent problem to which familial searching would add, one that is indicative of deep-rooted systemic bias in the Canadian criminal justice system.

Next, the familial searching process through which additional surveillance would be imposed on Aboriginal peoples (both individuals and families) may reinforce discriminatory assumptions about the propensity towards criminal behaviour within the Aboriginal population. This may worsen the overall systemic bias from which the population suffers, both in terms of public perception and as a feeling that may be internalized by those brought into an investigation due to their genetic relationship with an offender. The internal process may include feelings of being treated as guilty by association.

A third issue is the disproportionate loss of privacy that would result for the Aboriginal population. As noted above, familial searching would extend the reach of the NDDB to include the relatives of offenders represented on the data bank. Based on Canada's laws authorizing police use of abandoned DNA, the expansion could be viewed as complete. Despite never having committed a crime, the family members of offenders included in the NDDB would have no meaningful right to refuse to provide exclusionary DNA and thus no meaningful right to remain excluded from the data-banking scheme. If Canadians generally are uncomfortable with this result (and resistance to the option of a population-wide data bank suggests that we are), it is manifestly unfair to introduce a technique that imposes the result for Aboriginal peoples at a disproportionate rate.

A fourth issue is the risk that familial searching may at a future date be combined with forensic phenotyping to perpetuate racial injustice. Although the science of phenotyping is still developing, there are early indications that it can be used to speculate on a person's racial background through analysis of genetic tissue. The combined use of phenotyping and familial searching is concerning from a racial equality perspective in two ways. The first is that a judgment could be made about the strength of a lead produced in a familial search based on prior knowledge of an anonymous suspect's racial background. If an investigator held preexisting notions about criminal behavior among Aboriginal peoples, information indicating that both the anonymous suspect and the identified person are of Aboriginal descent could play into ideas about the strength of the lead. The second scenario involves the possibility that a familial search would be considered particularly useful given the information about racial background. If phenotyping performed on a crime scene sample revealed that the anonymous suspect was of Aboriginal descent, an investigator might consider a familial search of NDDDB data to be particularly worthwhile given the assumption of overrepresentation of Aboriginal peoples within the data bank. A more general point can be made with reference to the risk highlighted by the possible relationship between phenotyping and familial searching. That is, there is a need for balance in data banking operations and future expansions of the NDDDB. In this way, familial searching cannot be considered independently of other possible expansions. The same point can be made in relation to the possible introduction of an arrestee index and a missing persons index (the

first an option of interest to Canada's current government in light of its 'tough on crime' agenda, and the second a forthcoming change in Canada).

The fifth and final consideration in this second category is the possibility that familial searching would contribute to the problem of familial breakdown in Aboriginal families due to the presence of "genetic informants" within those families. Suspicion brought upon the family may exacerbate harm already experienced as a result of the conviction that led to the offender's inclusion in the NDDB. This may include feelings of stigmatization of the family as a group or a situation in which a person who has been victimized by a family member would be forced to provide exclusionary DNA due to suspicion brought upon them as a result of a familial search. As discussed in Chapter Four, the breakdown of Aboriginal families is a particularly painful result of the racist assimilative policies introduced in the Canadian colonization process. It continues and should not be exacerbated by any new government policies, especially given the government's central role in forcing the separation and emotional breakdown of Aboriginal families.

I have reflected on the possible counterarguments to my recommendation for a continued ban on familial searching. A primary consideration was that familial searching might solve serious crimes. Again the issue is one of balance and I view the above risks as significant given the Canadian context in which the effects of colonization for Aboriginal peoples are both severe and continuing. To the extent that the argument about the crime solving benefits of familial searching relates to the serious and violent crimes that often affect Aboriginal and other women and girls, I reiterate that I am not persuaded that familial searching as a reactive law

enforcement technique would improve this crisis situation. Another counterargument is that familial searching may expose or avoid wrongful convictions. I ultimately rejected this claim as a sidestepping of the reasons that wrongful convictions occur (which are highly unlikely to be resolved through expansion of the NDDB). Finally, I considered the possibility that a population-wide data bank would address some of the equality considerations outlined in this dissertation by eliminating the need for familial searching altogether. I reject this response as an oversimplification of the problem of systemic racism within the criminal justice system as well as an imbalanced solution to the familial searching question.

In closing, I have aimed to reinforce the need to consider the equality implications of familial searching, which have often been viewed as a secondary concern after the privacy issues. I included the privacy issues as a key component of this dissertation, but did so from a CRT perspective through which these represent a relevant factor in the overall equality analysis. My hope is to promote the equality considerations of familial searching for Aboriginal peoples as a crucial point in this debate. I acknowledge that a ban on familial searching will not independently bring on great social change for Aboriginal peoples. In fact, it offers only a limited promise: that in Canada, familial searching will not perpetuate discrimination against Aboriginal peoples in the criminal justice system. Though the impact would be limited, I support the choice as a singular step towards greater equality for Aboriginal peoples in Canada, one that could be implemented while recognizing that

“addressing’ colonialism is not a single act but an ongoing, multi-faceted process of acknowledging and mitigating the consequences on Indigenous peoples”.⁹⁴⁵

I end with some specific recommendations about where to go from here. First, I reiterate my statement in Chapter One that the scholarship on the familial searching issue in Canada would greatly benefit from examination by Indigenous persons who can speak from an Indigenous viewpoint that may engage broader criticisms about familial searching, genetic surveillance of Aboriginal groups, the general exclusion of Aboriginal traditions from the Canadian criminal justice system, and the continued colonization that is supported in part by each of these factors. I have also emphasized throughout this dissertation that there is a lack of data to support the systemic bias that affects Aboriginal peoples in Canada, including data about the racial composition of the NDDB. While this represents a weakness in proving the argument, it does not mean that the racial disparity does not exist or that it can be ignored. Further collection of data (including government transparency about NDDB operations) would be particularly meaningful in understanding and addressing the equality implications of familial searching. Finally, although the government has interpreted the Canadian rules on DNA data banking as including an implied prohibition on familial searching, I recommend clarifying the matter and making the prohibition explicit. This should be accompanied by a message to the public that could contribute to emerging understanding of the reality that racial bias against Aboriginal peoples is severe, complex, and continuing. The ways in which this bias may be perpetuated include

⁹⁴⁵ Von Der Porten, *supra* note 47, at 11.

what may without detailed inquiry be considered objective and non-discriminatory forensic activities, including familial searching.

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