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Note

It's All Relative: Familial DNA Testing and the Fourth Amendment

Amanda Pattock*

I. INTRODUCTION

In 1985, the streets of Los Angeles, California, were plagued by several serial killers.¹ Among the most brutal was a man coined the "Grim Sleeper."² The Grim Sleeper picked up prostitutes whom he raped and then violently murdered by shooting or strangulation.³ Between the years of 1985 and 1988, the Grim Sleeper attacked and murdered eight known victims.⁴ At the end of 1988, the only victim known to survive the attack came forward.⁵ After the surviving victim came

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1. See Jennifer Steinhauer & Rebecca Cathcart, *In Los Angeles, Unsolved Serial Killings Reflected Era*, N.Y. TIMES, Jul. 19, 2010, at A11 (describing the spate of violent serial killings in Los Angeles during the 1980s).

2. Greg Miller, *Scientists Explain how Familial DNA Testing Nabbed Alleged Serial Killer*, SCI. INSIDER (July 12, 2010, 1:18 PM) <http://news.sciencemag.org/scienceinsider/2010/07/scientists-explain-how-familial.html>.

3. Steinhauer & Cathcart, *supra* note 1.

4. Sarah Ardalani, *Map: Grim Sleeper Killings, 1985-2007*, L.A. TIMES, <http://projects.latimes.com/homicide/list/grim-sleeper-killings/> (last visited Apr. 16, 2011) (providing a map listing the Grim Sleeper's victims by date and other statistics).

5. Steinhauer & Cathcart, *supra* note 1 (describing the experience of a woman, Enietra Washington, who was shot, sexually assaulted, and photographed before being pushed into the street and survived to give police details that fit with previous murders).

forward, the Grim Sleeper took a fourteen year hiatus.⁶ However, in 2002 the Grim Sleeper struck again, and from 2002 until 2007, three additional victims were identified.⁷

On July 7, 2010—fifteen years after the attacks began—police finally arrested the Grim Sleeper.⁸ Unable to locate him using traditional means of identification, the police turned to a relatively new technology: familial Deoxyribonucleic acid (DNA) testing.⁹ Using DNA from the victims, police identified a partial DNA match.¹⁰ The match belonged to Christopher Franklin, a young adult convicted of a felony weapons charge one year prior.¹¹ At the time of the first murders, Christopher was not yet born, so detectives looked instead to male family members that would have been appropriately aged at the time of the murders.¹² Using this line of inquiry, the police identified Christopher's father, Lonnie Franklin Jr., as the most likely suspect.¹³ Law enforcement officials then collected a discarded piece of pizza from Lonnie Franklin Jr.'s trash and confirmed that his DNA was a full match to the DNA found on the victim.¹⁴ After twenty-five years and eleven murders, the killer was finally caught.¹⁵

Familial DNA testing has been hotly contested across the country, but its usefulness in helping law enforcement officials catch and prosecute criminals is well established.¹⁶ This Note argues that the benefits of familial DNA testing outweigh any invasion of privacy rights, specifically with regard to the Fourth Amendment prohibition against unwarranted search and seizure. Part II first explores what DNA is, how it is used

6. *Id.* (noting that the 14 year hiatus from killing led to Franklin being coined the Grim Sleeper" due, according to one theory, to the fact that the final victim's survival spooked the killer into hiding).

7. *Id.*

8. Miller, *supra* note 2.

9. *Id.*

10. *Id.*

11. *Id.*

12. *See id.* (noting that the DNA search combined with the dates of the murder led police to the father).

13. *Id.*

14. *Id.*

15. Ardalani et al., *supra* note 4.

16. *See* Jennifer Steinhauer, 'Grim Sleeper' Arrest Fans Debate on DNA Use, N.Y. TIMES, Jul. 8, 2010, at A14 (noting that police and district attorney's call the practice "essential" to catching elusive criminals).

to identify individuals, and how DNA is stored. Then, a definition of familial DNA testing and a brief overview of current legislation pertaining to familial DNA testing follows. The final portion of Part II discusses challenges against DNA collection under the Fourth Amendment. Part III applies a Fourth Amendment analysis to familial DNA searching, and concludes with suggestions for limiting the way in which familial DNA is conducted. This Note ultimately concludes that familial DNA testing is constitutional and, as a policy matter, provides benefits to society that outweigh any potential intrusion of individual's privacy.

II. BACKGROUND

A THE MAKINGS OF GOOD GENES: DNA

In order to fully understand the mechanics and implications of familial DNA testing on individual's privacy rights, it is essential to understand what DNA is, how it is created, and how it is used as an identifying tool. The following is a brief overview of the mechanics of DNA, and an explanation of how DNA is used to identify individuals, to aid the reader in understanding why individuals subjected to familial DNA testing feel that their privacy is invaded.

1. Mechanics of DNA

DNA, is genetic material that assists in determining each person's individual characteristics.¹⁷ Every person has, on average, fifty to one hundred trillion cells, and nearly all of these cells contain forty-six chromosomes composed of DNA.¹⁸ Together, these chromosomes make up the genome of each individual.¹⁹ Specifically, a human genome contains forty-six chromosomes which are paired and numbered, one through twenty-two, in addition to a sex-determining chromosome of

17. See JOHN M. BUTLER, FORENSIC DNA TYPING: BIOLOGY, TECHNOLOGY, AND GENETICS OF STR MARKERS 27–28 (2d ed. 2005) (noting the genetic variability in the human population due to DNA); NORAH RUDIN & KEITH INMAN, AN INTRODUCTION TO FORENSIC DNA ANALYSIS 33 (2d ed. 2002) (describing the small portion of DNA in humans through which individual traits are manifested through).

18. Henry T. Greely et al., *Family Ties: The Use of DNA Offender Databases to Catch Offenders' Kin*, 34 J.L. MED. & ETHICS, 248–249 (2006).

19. *Id.*

either two X chromosomes or one X and one Y chromosome.²⁰ Each individual receives from their parent a parental genome, comprised of one of the twenty-two pairs of chromosomes and one of the sex chromosomes.²¹ This parental genome consists of approximately 3.2 billion base pairs of DNA, and each base pair serves as one rung of the DNA molecule.²² Thus, an individual's complete chromosomal package is a blend of one-half of the mother's chromosomes and one-half of the father's chromosomes.²³

To further understand the human genome, it is important to note that chromosomes are comprised of billions of base pairs of DNA.²⁴ These base pairs are created by the pairing of two out of four nucleotides.²⁵ The pairing of nucleotides is a very specific process: adenine (A) pairs with thymine (T) and guanine (G) pairs with cytosine (C).²⁶ After pairing up, the nucleotides then form a sequence of A-T, T-A, G-C, and C-G pairs.²⁷ This phenomenon, known as genetic sequencing, creates the genes that determine everything from an individual's hair color to her height.²⁸

The human genome contains both coding and non-coding genes. Approximately three percent of the genome is programmed to code for ribonucleic acid (RNA), while about four percent is programmed to code for other important, but so far unknown, functions.²⁹ The remaining ninety-three percent of the genome contains non-coding genes that appear to serve no known function.³⁰ The non-coding genes are comprised of a series of short tandem repeats (STRs) in which stretches of varying numbers and copies of genetic sequences appear.³¹

20. *Id.*

21. *Id.*

22. *Id.*

23. *Id.*

24. *Id.*; see also Jessica D. Gabel, *Probable Cause from Probable Bonds: A Genetic Tattle Tale Based on Familial DNA*, 21 HASTINGS WOMEN'S L.J. 3, 7 (2010).

25. Greely, et al., *supra* note 18, at 249.

26. *Id.*

27. *See id.*

28. *Id.*; See also Gabel, *supra* note 24, at 6 (noting that genes define traits like eye color and shoe size).

29. Greely, et al., *supra* note 18, at 249.

30. *Id.*

31. *Id.*

Each stretch of varying repeats forms a different allele.³² Each of these alleles occupies a fixed locus—a specific location—on a particular chromosome.³³ This fixed location allows the alleles to serve as genetic markers.³⁴ These genetic markers are the key to using DNA as a means of identification.³⁵

2. DNA as a Tool for Identification

Humans are 99.9 percent identical—leaving only 0.1 percent of DNA to differentiate every member of society.³⁶ To date, scientists believe that ninety-three percent of the human genome serves no function other than playing a structural role in the physical activity of the chromosome.³⁷ It is these non-coding regions of DNA, also known as “junk” DNA, that store the genetic information used to identify matches.³⁸

Presently, DNA cannot be used to identify any particular individual.³⁹ Instead, STRs are used as a means of comparing whether one sample of DNA is from the same source as another sample of DNA. STRs are located on a fixed point on a chromosome; the locus of an STR is thus an identifiable quantity that can be used as a marker from which a comparison can be drawn against the STRs of other individuals.⁴⁰ DNA is not, therefore, used as a means of identifying one specific person, but rather as a way to compare whether one DNA sample came from the same individual as another DNA sample.

The sequence of STR alleles is not unique to every individual, despite varying heavily from person to person.⁴¹ As a result, it is necessary for multiple STR alleles to be analyzed

32. *Id.* at 250.

33. *Id.*

34. *Id.*

35. *Id.*

36. LAWRENCE F. KOBLINSKY ET AL., DNA: FORENSIC AND LEGAL APPLICATIONS 17 (2004).

37. Greely, et al., *supra* note 18, at 249.

38. *Id.* Gabel, *supra* note 24, at 8–9.

39. Crime labs can, however, identify whether a particular DNA sample came from a male or female. They accomplish this by testing for amelogenin, another genetic marker, which presents itself in two different lengths in males, and only one length in females. This allows investigators to determine the sex of an individual whose DNA has been collected. BUTLER, *supra* note 17, at 113–15.

40. Gabel, *supra* note 24, at 10.

41. *Id.*

as a means of increasing accuracy. Typically, crime labs in the United States use thirteen STR markers (CODIS markers) situated over twelve chromosomes.⁴² By analyzing these thirteen alleles, crime labs greatly reduce the risk of discovering a false match. Specifically, “[t]he odds that an unrelated person shares the same set of thirteen pairs are normally infinitesimal—at most one in several hundred billion, compared with a total of 6.3 billion living humans.”⁴³ On average, two random Americans share about two or three alleles.⁴⁴ By comparing thirteen alleles, it is thus extremely unlikely that a false match would be identified.

B. DNA COLLECTION AND STORAGE: CODIS

Once the DNA of an individual has been collected for analysis, it is run through the national DNA database. In order to understand the privacy concerns individuals have regarding the effects of storing individual DNA in a national database, it is important to first understand the history and mechanics of the United States’ national DNA database, the Combine DNA Index System (CODIS). In Part II.B.1, a brief overview of the history of CODIS is provided. Then, Part II.B.2 provides an overview of how CODIS aids law enforcement officials in using DNA as an identifier. Finally, Part II.B.3 discusses particular advantages and concerns that individuals have expressed in response to the CODIS system.

1. History of CODIS

The CODIS program was created in 1990 by the Federal Bureau of Investigation (FBI) as a pilot program in crime-solving.⁴⁵ CODIS operates on three levels: national, state, and local, with each lower-tier communicating with the higher-tier.⁴⁶ The national program, the National Data Index System (NDIS) was created by the DNA Identification Act of 1994.⁴⁷

42. *Id.* at 11.

43. Greely et al., *supra* note 18, at 250.

44. *Id.*

45. *CODIS Brochure*, FED. BUREAU OF INVESTIGATION, http://www.fbi.gov/about-us/lab/codis/codis_brochure (last visited Mar. 27, 2011).

46. *See id.* (describing the CODIS architecture as consisting of federal, state, and local systems).

47. The DNA Identification Act of 1994, Pub. L. No. 103-322, 108 Stat.

The Act not only established a national DNA database, but also dictated the indexes that may be created, and defined requirements for participating laboratories regarding quality assurance, privacy, and expungement.⁴⁸ There are several indexes that are entered into CODIS: convicted offender, forensic, arrestees, missing persons, unidentified human remains, and biological relatives of missing persons.⁴⁹ The DNA collected for each of these indexes is stored and available to any approved law enforcement agency.

DNA is present in nearly every cell in the human body, including blood, semen, teeth, hair, saliva, perspiration, nails, urine, skin cells, and tissue.⁵⁰ Additionally, DNA can be forensically useful for decades, though heat, mold, bacteria, moisture, sunlight, and other environmental factors can deteriorate the DNA, rendering it unusable.⁵¹ As a result of the many different ways DNA can appear at a crime scene, investigators often have little trouble finding the genetic fingerprint, making it a practical and ideal tool in crime investigation.⁵² As technological advancements emerged surrounding DNA's utility, it became necessary to create a method of storing the collected samples. With this background in mind, CODIS was created.

2. Mechanics of CODIS

CODIS functions as a DNA matchmaker. Once a DNA sample is recovered from a crime scene, the information is stored in the forensic index.⁵³ This information is then run against the DNA samples in the offender index, which have been collected from individuals convicted of a crime, and in some states, individuals who have been arrested.⁵⁴ The person

2065–71 (codified as amended in scattered sections of 42 U.S.C.).

48. *Id.*

49. *CODIS Brochure*, *supra* note 45.

50. DEPT OF JUSTICE, WHAT EVERY LAW ENFORCEMENT OFFICER SHOULD KNOW ABOUT DNA (1999).

51. *Id.*

52. *Id.*

53. *Id.*

54. Thirty-four states have adopted an “all-felony” policy, in which only felons are required to submit DNA samples. At least thirty-eight states also include some misdemeanors in their list of qualifying offenses. Additionally, four states—California, Louisiana, Texas, and Virginia—permit the DNA from arrestees to be taken. Seth Axelrad, *Survey of State DNA Database Statutes*, AM. SOC'Y OF L. MED. & ETHICS, http://www.aslme.org/dna_04/grid/guide.pdf

conducting the search specifies whether they would like a high, medium, or low stringency search.⁵⁵ A high stringency search means that all thirteen alleles from the two samples being compared must match.⁵⁶ A medium or moderate stringency match is specifically dictated by the searcher, who may define exactly how many allele matches they would like.⁵⁷ Finally, a low stringency search will return matches in which at least one allele is similar.⁵⁸ The results of moderate and low stringency searches are called partial matches, while the result of a high stringency search is designated a full match.⁵⁹

A partial match surfaces in two ways. The first is by running a degraded sample of DNA against the offender index in the hopes of getting a “cold hit.”⁶⁰ The second is by running a full forensic sample against the offender index in search of a sample that has some, but not all, of the alleles in common.⁶¹ In the event a partial match is found, the identity of the matched person is not considered a suspect, but rather a pivot.⁶² A pivot “functions as a genetic beacon who may point the way to the actual source, someone who shares a similar profile with the pivot—a family member.”⁶³ After finding either the identity of a cold hit, or a pivot, the law enforcement officer is able to proceed with the investigation armed with a starting place for their questioning. It is in this fashion that CODIS facilitates familial DNA testing.

3. CODIS Advantages and Concerns

The advantages of the CODIS program are undeniable. Since August 2010, CODIS has aided in more than 121,900 investigations by producing more than 124,800 hits.⁶⁴ This

(last accessed Oct. 20, 2010); *see also* John D. Biancamano, Note, *Arresting DNA: The Evolving Nature of DNA Collection Statutes and their Fourth Amendment Justifications*, 70 OHIO ST. L.J. 619, 626–29 (2009) (summarizing state statutes regarding DNA sampling coverage).

55. Gabel, *supra* note 24, at 17.

56. *Id.*

57. *Id.*

58. *Id.*

59. *Id.*

60. *Id.* at 17–18.

61. *Id.* at 18.

62. *Id.*

63. *Id.*

64. CODIS—NDIS *Statistics Clickable Map*, FED. BUREAU OF

provides investigators with not only the ability to solve crimes, thus aiding society by keeping it safe, but by also clearing suspects of crimes they did not commit.⁶⁵ Additionally, the CODIS system's ability to identify victims' remains is unparalleled.⁶⁶ Without the use of CODIS many family members would be unaware that their missing child, parent, or sibling's remains were in police custody as unidentifiable.

Despite the advantages, critics of the CODIS system have suggested that storing such personal information in a database is destined to end in a breach of privacy.⁶⁷ Although the information stored in the national database of DNA contains no identifiable information (only the DNA profile, the agency identifier, a specimen identification number, and the name of one DNA laboratory personnel associated with the DNA analysis are stored in DNA databases),⁶⁸ critics assert that if DNA is contained on the database, it would become possible to identify a certain individual's propensity to disease, illness, or addictions.⁶⁹ As a result, critics fear that maintaining the DNA of individuals in a nationwide database may lead to severe abuse of the system.

C. FAMILIAL DNA SEARCHING

When a DNA sample is entered into the CODIS system the ideal situation is for an exact match to be identified. An exact DNA match provides the identity of the DNA source, thus providing investigators with a solid lead for their investigation.⁷⁰ However, most often the investigator is provided with a sample that returns no exact matches. When

INVESTIGATION, <http://www2.fbi.gov/hq/lab/codis/clickmap.htm> (last visited Oct. 23, 2010).

65. The Innocence Project has used DNA testing to exonerate more than 250 people in 34 states since 1989. *About Us: FAQs*, THE INNOCENCE PROJECT, http://www.innocenceproject.org/Content/How_many_people_have_been_exonerated_through_DNA_testing.php (last visited Oct. 23, 2010).

66. See *CODIS Brochure*, *supra* note 45 (noting that identifying missing persons is a priority of the CODIS program).

67. See, e.g., Gabel, *supra* note 24, at 48–52 (noting the risks of storing genetic information in DNA databases, including data security and privacy concerns).

68. Greely et al., *supra* note 18, at 250.

69. *Lina Alexandra Hogan*, Fourth Amendment—Guilt by Relation: If Your Brother is Convicted of a Crime, You Too May Do Time, 30 W. NEW ENG. L. REV. 543, 550 (2008).

70. Gabel, *supra* note 24, at 17. .

this situation presents itself, another, more controversial, option is to run the DNA through the CODIS system in search of a partial match.

In contrast to an exact DNA match, which identifies the source of the DNA, a partial match may indicate that the two sources are related biologically.⁷¹ When searching for a partial match, investigators specify exactly how many allele matches they would like CODIS to return. Typically, “identical twins will share all thirteen pairs—and first degree relatives (parent, sibling, or child) on average will share at least half.”⁷² Second degree relatives, such as uncles, aunts, grandparents, nieces, nephews, and half-siblings will share only one quarter of their DNA.⁷³ Armed with this information, investigators seek partial matches and then use the results to question those individuals with the greatest likelihood of being related to the original DNA source.⁷⁴

D. CURRENT STATUS OF STATE DNA SEARCHING LEGISLATION

In 2002 the first familial database search was conducted in the U.K., leading investigators to the son of Joseph Kappen—a serial rapist from the 1970s.⁷⁵ Since this time U.S. states have individually attempted to define whether familial searching is permissible within their jurisdictions. Most states have left their policies on partial match reporting and familial searching unwritten.⁷⁶ This lack of transparency makes it difficult to

71. *States Using Familial Searches*, DNAFORENSICS.COM, <http://dnaforensics.com/statesandfamilialsearches.aspx> (last visited Apr. 6, 2011).

72. Greely et al., *supra* note 18, at 250.

73. *Id.* at 252.

74. Despite efforts at conducting as high stringency test as possible, false positives will occur. A 2008 study found that this was true even when allelic rarity was considered. See Thomas Reid et al., *Use of Sibling Pairs to Determine the Familial Searching Efficiency of Forensic Databases*, 2 FORENSIC SCI. INT'L: GENETICS 340, 341 (2008).

75. Robin Williams & Paul Johnson, *Inclusiveness, Effectiveness and Intrusiveness: Issues in the Developing Uses of DNA Profiling in Support of Criminal Investigations*, 33 J.L. MED. & ETHICS 545, 554 (2005). Investigators ran DNA through a familial search, turning up the son of Joseph Kappen. Though Kappen was dead, the family provided investigators with permission to exhume his body. The DNA taken from this procedure proved Kappen's guilt, allowing victims and their families to finally know the truth about what happened.

76. Natalie Ram, *DNA Confidential*, SCIENCE PROGRESS, (Nov. 2, 2009),

determine which law enforcement agencies use familial searching.⁷⁷ Maryland is currently the only state to ban familial searching outright.⁷⁸

Only four states have expressly approved the use of familial searching.⁷⁹ In 2009, Colorado issued a DNA Familial Search Policy, which authorizes the release of partial matches and use of familial DNA searching.⁸⁰ Similarly, California released an information bulletin outlining procedures that must be followed when conducting and utilizing familial DNA searches.⁸¹ Both New York and Virginia have passed legislation giving law enforcement authority to perform partial DNA searches.⁸² In addition, other states have permitted familial DNA searches in practice, but have not codified or regulated their use.⁸³

<http://www.scienceprogress.org/2009/11/dna-confidential>.

77. *Familial DNA Searches*, FINDLAW, http://criminal.findlaw.com/crimes/criminal_rights/your-rights-search-and-seizure/familial-dna-search.html (last visited Apr. 6, 2011).

78. MD. CODE ANN., PUB. SAFETY § 2-506(d) (LexisNexis 2008) (“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.”).

79. California, Colorado, New York, and Florida. *States Using Familial Searches*, *supra* note 71; *see also* Lauren Keiper, *More States Use Familial DNA As Powerful Forensic Search Tool*, REUTERS (Mar. 30, 2011, 8:36 PM), <http://www.reuters.com/article/2011/03/31/us-crime-dna-familial-idUSTRE72T2QS20110331>.

80. COLO. BUREAU OF INVESTIGATION, DNA FAMILIAL SEARCH POLICY (2009), *available at* http://www.denverda.org/DNA_Documents/Familial_DNA/CBI%20DNA%20Familial%20Search%20Policy%20Oct%202009%20-%20Signed.pdf (detailing that family members should not be questioned until a suspect has been isolated using traditional detective work and the public records have been checked to verify that a familial relationship exists in fact).

81. Information Bulletin from Lance Gima, Bureau of Forensic Services, to All California Law Enforcement Agencies and District Attorneys Offices, on DNA Partial Match (Crime Scene DNA Profile to Offender) Policy, Bureau of Forensic Servs., (1999), *available at* http://ag.ca.gov/cms_attachments/press/pdfs/n1548_08-bfs-01.pdf (stating that a DNA partial match results when at least fifteen STR alleles match).

82. *States Using Familial Searches*, *supra* note 71; Keiper, *supra* note 79.

83. *States Using Familial Searches*, *supra* note 71 (noting that Florida has conducted familial DNA searches by running the DNA of children born to rape victims through CODIS as a means of identifying the child’s father).

E. SURVIVING CONSTITUTIONAL MUSTER: DNA TESTING VS. THE FOURTH AMENDMENT

The constitutionality of familial DNA testing has yet to be addressed by courts. However, DNA testing and the CODIS system have been the object of a great deal of litigation since the 1980s. The most litigated aspect of DNA testing involves the Fourth Amendment.⁸⁴ Challengers of DNA testing argue that mandatory DNA sampling amounts to an unreasonable search and seizure, thus violating the Fourth Amendment.⁸⁵ In this regard, the United States Supreme Court has consistently held that an extraction and analysis of a biological sample is a search under the Fourth Amendment.⁸⁶ Having established that DNA extraction is a search, courts must subsequently address whether extraction amounts to an unreasonable seizure, which is a seizure that is absent probable cause.⁸⁷

The Fourth Amendment requires that probable cause exist when conducting a search and seizure.⁸⁸ However, courts have carved out two exceptions to circumvent the probable cause requirement. The first is to analyze the situation under the “totality of the circumstances test,” or the balancing test.⁸⁹ The

84. The Fourth Amendment states:

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no [w]arrants shall issue, but upon probable cause, supported by [o]ath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

U.S. CONST. amend. IV.

85. Other challenges against mandatory DNA testing have been brought under the Fourteenth Amendment’s Equal Protection Clause, the Eight Amendment’s Cruel and Unusual Punishment Clause, the Due Process Clause, and on grounds of separation of powers. Mark A. Rothstein & Sandra Carnahan, *Legal and Policy Issues in Expanding the Scope of Law Enforcement DNA Data Banks*, 67 BROOK. L. REV. 127, 146–51 (2001).

86. See, e.g., *Ferguson v. City of Charleston*, 532 U.S. 67, 76 (2001) (holding that the analysis of a urine sample was a search subject to the Fourth Amendment); *Skinner v. Ry. Labor Executives’ Ass’n*, 489 U.S. 602, 616 (1989) (holding that taking and testing an individual’s blood are two separate intrusions on an individual’s expectation of privacy); *Winston v. Lee*, 470 U.S. 753, 767 (1985) (holding that the forced extraction of a bullet from a defendant’s body constituted a search); *Schmerber v. California*, 384 U.S. 757, 770 (1966) (holding that taking a blood sample was an intrusion on an individual’s right to privacy).

87. U.S. CONST. amend. IV.

88. See *id.*

89. See *Samson v. California*, 547 U.S. 843, 848–57 (2006) (using the totality of the circumstances test); *United States v. Weikert*, 504 F.3d 1, 7–9

second is to analyze the case under the “special needs test.”⁹⁰ Part II.E.1 of this Note examines the way courts have treated the totality of the circumstances test in the past. This is followed in Part II.E.2 by an examination of the way courts in the past have treated the special needs test.

1. The Totality of the Circumstances Test

The totality of the circumstances test is a form of a balancing test that the majority of courts have employed when upholding the constitutionality of the DNA Act. Under this test, “[t]he touchstone of . . . analysis under the Fourth Amendment is always the reasonableness in all the circumstances of the particular governmental invasion of a citizen’s personal security.”⁹¹ Thus, under a totality of the circumstances test, the court balances the intrusion to the individual against the interests of society as a whole.⁹²

The totality of circumstances test was most notably applied in *United States v. Kincade*⁹³ to uphold the constitutionality of mandatory DNA extraction. The defendant, released on parole, argued that he should not be required to submit to a mandatory DNA test absent suspicion that he had committed another crime in violation of his parole.⁹⁴ The court reasoned that as a parolee, the defendant was subject to a lesser degree of privacy than ordinary citizens, and that society’s interest in his following the conditions of his parole outweighed any intrusion of privacy he might experience.⁹⁵ Similarly, the totality of

(1st Cir. 2007); *United States v. Kraklio*, 451 F.3d 922, 924 (8th Cir. 2006) (finding the totality of the circumstances test more applicable than the special needs test); *Johnson v. Quander*, 440 F.3d 489, 496 (D.C. Cir. 2006) (using a balancing of the interests test); *United States v. Sczubelek*, 402 F.3d 175, 184 (3d Cir. 2005) (analyzing Fourth Amendment violation under the totality of the circumstances test).

90. See *United States v. Amerson*, 483 F.3d 73, 79 (2d Cir. 2007) (holding that probationers can be subject to suspicion-less searches based on the special needs test); *United States v. Hook*, 471 F.3d 766, 773 (7th Cir. 2006) (finding that DNA extraction should be evaluated under the special needs test); *United States v. Kimler*, 335 F.3d 1132, 1146 (10th Cir. 2003) (holding that forced DNA extraction is based on the special needs test because DNA profiling exceeds general law enforcement needs).

91. *Pennsylvania v. Mimms*, 434 U.S. 106, 108–09 (1977) (quoting *Terry v. Ohio*, 392 U.S. 1, 19 (1968)) (internal quotation marks omitted).

92. *United States v. Kincade*, 379 F.3d 813, 836 (9th Cir. 2004).

93. *Id.* at 821.

94. *Id.* at 816.

95. *Id.* at 838–39.

circumstances test was utilized in *United States v. Weikert* to uphold the mandatory DNA extraction of an individual released from prison on a supervised probation period.⁹⁶ In that case, the court reasoned that the government's interests outweighed the privacy interests of Weikert:

[T]he government's important interests in monitoring and rehabilitating supervised releasees, solving crimes, and exonerating innocent individuals outweigh Weikert's privacy interests, given his status as a supervised releasee, the relatively minimal inconvenience occasioned by a blood draw, and the coding of genetic information that, by statute, may be used only for purposes of identification.⁹⁷

In sum, courts have held that DNA testing passes constitutional muster under the totality of the circumstances test when the greater good of society outweighs any invasion of privacy.

2. The "Special Needs Test"

A minority of courts have justified the warrantless forced collection of DNA using the "special needs test." The special needs test was developed as a means of legitimizing a search when there was no warrant, probable cause, or suspicion of individual wrongdoing.⁹⁸ The foundation of the special needs test is that law enforcement officials need to be able to balance an "individual's legitimate expectations of privacy and personal security" with "the government's need for effective methods to deal with breaches of public order."⁹⁹ There are two prongs that must be satisfied under the special needs test: first, one must show that there is a special need for the search;¹⁰⁰ second, officials must show that there is a need "beyond the normal need for law enforcement."¹⁰¹ Consequently, courts have permitted warrantless searches in situations where a special need beyond normal detective work can be demonstrated.

Illinois v. Lidster provides one example where the Court found a warrantless search permissible.¹⁰² In *Lidster*, police positioned a checkpoint on a freeway in response to a hit and

96. *United States v. Weikert*, 504 F.3d 1, 11 (1st Cir. 2007).

97. *Id.* at 14.

98. *See New Jersey v. T.L.O.*, 469 U.S. 325, 351–52 (1985) (Blackmun, J., concurring in the judgment).

99. *Id.* at 337.

100. *City of Indianapolis v. Edmond*, 531 U.S. 32, 47–48 (2000).

101. *Id.* at 37.

102. *Illinois v. Lidster*, 540 U.S. 419 (2004).

run accident.¹⁰³ The purpose of the checkpoint was to question anyone who may have any information about the accident.¹⁰⁴ During one of the stops Robert Lidster, while intoxicated, almost hit an officer.¹⁰⁵ In his defense, Lidster posited that the stop was an illegal search and seizure.¹⁰⁶ In validating the search and seizure, the Court reasoned that “the law ordinarily permits police to seek the voluntary cooperation of members of the public in the investigation of a crime . . . voluntary requests play a vital role in police investigatory work.”¹⁰⁷ In light of the fact that traditional methods of investigation such as probable cause and warrants are not always practical, the Court recognized that at times society is best served by a need for greater flexibility.

Lower courts have employed the special needs test utilized by the Supreme Court in *Lidster* to justify DNA extraction. In *Nicholas v. Goord*, the Second Circuit Court of Appeals upheld the mandatory extraction of DNA, noting that the government’s special need was to create a DNA-indexing database to aid in solving crimes.¹⁰⁸ Similarly, in *United States v. Conley*, the Sixth Circuit found that mandatory DNA testing was constitutional because the government had a special need to obtain reliable identifying information, reduce recidivism, and protect communities.¹⁰⁹

While courts have had success utilizing the special needs test as a means of negating the need for probable cause, the primary purpose prong (which requires a showing that DNA extraction is needed for a purpose beyond regular detective work) is the most difficult to prove.¹¹⁰ However, needs such as

103. *Id.* at 422.

104. *Id.*

105. *Id.*

106. *Id.*

107. *Id.* at 425 (internal citations omitted).

108. *Nicholas v. Goord*, 430 F.3d 652, 669 (2d Cir. 2005). *See also* *Green v. Berge*, 354 F.3d 675, 679 (7th Cir. 2004) (permitting mandatory DNA extraction based on the special need of creating a reliable identification database from which past and future crimes could be solved); *United States v. Kimler*, 335 F.3d 1132, 1146 (10th Cir. 2003) (concluding that creating a DNA-indexing database was a permissible special need).

109. *United States v. Conley*, 453 F.3d 674, 679 (6th Cir. 2007). *See also* *Roe v. Marcotte*, 193 F.3d 72, 79 (2d Cir. 1999) (justifying DNA extraction by concluding the need to reduce and prevent recidivism was a special need).

110. A majority of courts have utilized the “totality of the circumstances test” to uphold DNA testing specifically because it is so difficult to satisfy the “primary purpose” prong. *See* *United States v. Weikert*, 504 F.3d 1, 22–23 (1st

obtaining reliable identification, protecting communities, assisting in solving past and future crimes, creating a DNA-indexing database, and reducing and preventing recidivism have all been cited by courts as a means of getting around the primary purpose prong of the special needs test.¹¹¹ Further, courts have found that the special needs test is most applicable when the search is done for the purpose of acquiring information, rather than looking for evidence of general criminal wrongdoing.¹¹²

To date, no courts have addressed whether familial DNA testing is constitutional. However, as technology advances and familial DNA testing is incorporated into crime-solving techniques, courts will undoubtedly be called upon to evaluate whether familial DNA testing is an unreasonable search and seizure of innocent parties. This Note analyzes familial DNA testing under the totality of circumstances test and then applies the special needs test to familial DNA testing. Ultimately, this Note concludes that familial DNA testing is constitutional under the Fourth Amendment under both the totality of the circumstances test and the special needs test.

III. ANALYSIS

A. ALL THINGS CONSIDERED: FAMILIAL DNA SEARCHES AND THE TOTALITY OF THE CIRCUMSTANCES TEST

The totality of circumstances exception to the probable cause requirement of the Fourth Amendment permits courts to apply a balancing test weighing the intrusion to the individual against the interests of society as a whole.¹¹³ There are many considerations that must be taken into account when determining whether releasing the identity of a partial DNA match is an invasion of privacy. In what follows, Part III.A.1 of this note addresses the interests of the government and society with regard to familial DNA testing. Part III.A.2 addresses the

Cir. 2007) (arguing that while the government boasts non-law enforcement objectives, the DNA Act was primarily enacted to aid law enforcement and “[t]hus, the centrality of law enforcement objectives to the DNA Act buttresses [the] conclusion that the totality of the circumstances analysis, rather than the special needs analysis, is appropriate”).

111. See cases cited *supra* notes 108–109.

112. See *Nicholas*, 430 F.3d at 668.

113. *United States v. Kincade*, 379 F.3d 813, 827–28 (9th Cir. 2004).

privacy interests at stake for individuals. Finally, Part III.A.3 weighs these interests against each other, ultimately concluding that familial DNA testing is permissible under the totality of the circumstances exception of the Fourth Amendment.

1. It Matters to Me: Society's Interest in Familial DNA Testing

Society benefits from the use of familial DNA testing in many ways. First, the use of identifying partial DNA matches in investigations can serve to deter crime. The way the system currently works is that an individual's DNA is in CODIS if he or she has been arrested or convicted of a crime.¹¹⁴ In this respect, DNA testing is proven to have a specific deterrence effect because "offenders are keenly aware that DNA assists tremendously in solving crimes and in prosecuting suspects."¹¹⁵ However, the current CODIS system does not provide detectives with access to the DNA of first time offenders. Consequently, in order to obtain the DNA of a first time offender suspected of committing a crime, the individual would have to voluntarily release the sample, or the police would have to approach the individual with a warrant and collect it. Absent a warrant or voluntary submission, the police have no way to connect the DNA left at a crime scene to an individual who has not previously been convicted of a crime.¹¹⁶ Thus, though DNA is a valuable tool in preventing recidivism, as the law currently stands, it is not as helpful in deterring first-time offenders.

First-time offenders would more likely be deterred if it was common knowledge that partial DNA matches are permitted.¹¹⁷ Individuals who themselves have not committed a crime but have a family member who has done so would be more easily

114. Gabel, *supra* note 28, at 14. *See also supra* text accompanying notes 45–49.

115. AVINASH BHATI, JUST. POL'Y CTR., QUANTIFYING THE SPECIFIC DETERRENCE EFFECTS OF DNA DATABASES 55–56 (2010), *available at* http://www.urban.org/uploadedpdf/412058_dna_databases.pdf (finding that DNA databases increase crime deterrence rates 2-3% and increase probative crime deterrence 20-30%).

116. It is also possible police would have access to the DNA of those who were a missing persons at one time, or who had been arrested in the few states that permit storing the DNA of arrestees.

117. *See generally* Williams & Johnson, *supra* note 75, at 546 (suggesting that DNA databases serve as a deterrent to potential criminal offenders).

identified through the use of familial DNA testing.¹¹⁸ Therefore, if an individual is considering whether or not to commit a crime, she would also have to consider that her previously convicted family members' DNA may lead to her capture. While this method may not deter crimes that happen in the heat of the moment, it could prevent crimes that are carefully planned out. Therefore, permitting law enforcement officials to utilize partial match DNA tests could prevent a number of first time offenders from joining the criminal ranks.

Another profound advantage weighing in society's favor is the increased rate of accuracy in identifying suspects.¹¹⁹ Through the use of familial DNA testing, law enforcement officials could more confidently identify suspects than they currently are able to using traditional methods. That is, by identifying individuals who are related to the criminal, the suspect pool is quickly narrowed.¹²⁰ Through the use of DNA police officers are more easily able to identify exactly who they should, and who they should not be questioning.¹²¹ The advantage here is that individuals who are more likely to be found guilty are focused on, while individuals who are not likely to be guilty are not subjected to the stressful investigation process.

An additional benefit to society is the potential cost and time savings.¹²² Police investigation is a time consuming, expensive process. Law enforcement officials have to identify everyone with any possible information related to the crime, locate them, question them, piece all of their stories together, and then evaluate who the lead suspects are. They then spend hours, days, or weeks searching for the case-breaking information needed to positively identify the actual criminal. However, the use of DNA technology speeds this process up. By quickly running DNA found at the crime scene, police can

118. *Id.* at 554.

119. *See id.* at 546. (noting that DNA testing would allow law enforcement officials the "ability to confidently eliminate innocent suspects from investigations" and increase the likelihood of "generating reliable and persuasive evidence for use in court").

120. *Id.*

121. *Id.*

122. *See generally id.* (noting that "the potential to make speedy and robust suspected offender identifications through automated profile comparisons in [centralized] criminal justice databases" and "a reduction in the cost of many investigations" make DNA testing beneficial).

identify exactly who was at the crime scene. This information can be obtained for about fifty to a hundred dollars a test, and takes about ten minutes to process.¹²³ As a result, using DNA tests can save law enforcement officials hundreds of hours of time,¹²⁴ as well as save taxpayers' money since police officers will not have to be compensated for those wasted hours spent questioning people who end up being unhelpful in solving the case. In one Denver study on the impact of DNA testing on property crimes, it was found that "[a]ctual two year savings to the citizens and the City of Denver [was] more than \$5 million in police costs and \$36.8 million in property loss. . ."¹²⁵ If familial DNA testing is added to the list of investigative tools law enforcement officials are permitted to utilize, the money and time saved will likely increase dramatically. By expanding the DNA testing policies to include familial DNA testing, police will be better able to quickly narrow their investigation, creating a more cost-effective and efficient police force.

One final benefit familial DNA testing would provide society is to boost public confidence in the justice system.¹²⁶ DNA testing is an extremely effective crime-solving tool, meaning that the expansion of it would increase its effectiveness. The use of DNA testing will allow society to feel safer due to the immense accuracy DNA testing provides in identifying the perpetrator.¹²⁷ Additionally, offenders convicted

123. Howard Safir & Peter Reinhartz, *DNA Testing: The Next Big Crime-Busting Breakthrough*, CITY J., Winter 2007, at 49, 52.

124. DAVID LAZER, SEARCHING THE FAMILY TREE FOR SUSPECTS: ETHICAL AND IMPLEMENTATION ISSUES IN THE FAMILIAL SEARCHING OF DNA DATABASES 2 (Mar. 2008), available at http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/centers/taubman/policybriefs/lazer_final.pdf ("Given that the total number of investigations aided from the database system to date in the US [sic] exceeds 60,000, it is plausible that the widespread use of familial searching could produce many thousands of useful leads almost overnight, just based on the data already in the offender and crime scene databases.").

125. SIMON ASHIKHMIN ET AL., DENVER DIST. ATTORNEY'S OFFICE, EFFECTIVENESS AND COST EFFICIENCY OF DNA EVIDENCE IN VOLUME CRIME: DENVER COLORADO SITE SUMMARY 10 (2008), http://www.denverda.org/DNA_Documents/DNABurgrCostEfficiencyReserch1.pdf ("The return on investment on every dollar spent with this system is estimated to be \$90.").

126. Williams & Johnson, *supra* note 75, at 546 (suggesting that DNA testing may increase "public confidence in policing and in the wider judicial process").

127. *See id.*; see also BHATI, *supra* note 115, at ix (noting the conviction of guilty offenders and exoneration of the wrongfully convicted from increased

using DNA testing are typically given longer sentences, thus keeping criminals off the streets longer.¹²⁸ If familial DNA testing is permitted, individuals convicted of crimes are more likely to be apprehended because the investigative lead pool would be expanded.¹²⁹ Accordingly, society would find comfort in knowing that there is another reliable, successful tool out there that can be used to positively identify criminals.

2. It's None of Your Business: Individual's Privacy Concerns

One concern individuals face when considering familial DNA testing is that previously unknown genetic relationships may come to light. That is, people fear long lost biological siblings will be identified, or that individuals who believed they were biologically related to their family will discover they are, in fact, not biologically related.¹³⁰ Some fear that if this information came out it would cause many problems within their family.¹³¹ Additionally, this information would be known to the police officers and detectives who ran the investigation, and in some circumstances this can be very embarrassing. If the law officials know the family, there may be issues of confidentiality.¹³² Personal family secrets may become the subject of public gossip.¹³³ Thus, individuals have concerns that their family secrets will be on display in the event familial DNA testing is permitted.

Another concern that individuals who oppose familial DNA testing have is that familial DNA testing will lead investigators to the wrong doors to ask for unnecessarily revealing information. Critics fear that if familial DNA testing is

use of DNA evidence).

128. ASHIKHMIN ET AL., *supra* note 125, at 10 (“The presence of DNA evidence results in a 10-fold increase in the average sentence time for residential burglars and a 27-fold increase for commercial burglars. (13.9 years with DNA compared to 1.4 years in traditionally investigated cases in residential burglaries, and accordingly 4.6 years to 2 months in commercial burglaries).”).

129. LAZER, *supra* note 124, at 2 (conservatively estimating that investigative leads produced by the DNA database system could be increased by 40% if familial searching was permitted).

130. *Cf.* Williams & Johnson, *supra* note 75, at 556.

131. *Id.*

132. *Id.*

133. *See id.* (discussing how “[o]ther members of their household, their wider kin groups and the communities in which they live, may or may not be party to that knowledge”).

permitted, individuals will unfairly be the subject of police investigations.¹³⁴ Specifically, critics note that if familial DNA testing is permitted, then minorities will be disproportionately affected.¹³⁵ As a result, critics argue that it is an unwarranted search and seizure and, as such, unconstitutional under the Fourth Amendment.¹³⁶

3. Survival of the Fittest: Society's Interests are Greater than the Individual's Interest

Although there may be legitimate individual privacy concerns, when viewed in totality, the interests of society are greater than that of the individual. While individuals have an interest in assuring that their family secrets remain secrets, the use of familial DNA testing will not likely serve to bring these secrets to light. As it stands now, the DNA that is stored in CODIS cannot conclusively prove that one individual is or is not related to another person.¹³⁷ As a result, the system is used to suggest individuals who may be related, so that law enforcement officials have a starting point in their investigation. Therefore, the fear of familial secret being exposed is minimal.

Another concern raised is that individual's privacy will be invaded by overly intrusive law enforcement officials.¹³⁸ While it is true that some lines of questioning witnesses, victims, suspects, and others endure may seem intrusive, questioning a citizen based on the results of a familial DNA test is no more intrusive than that permitted by traditional detective work.¹³⁹

134. Hogan, *supra* note 69, at 577–79 (fearing that expanding the use of DNA technology will subject citizens to “arbitrary government intrusions”).

135. *Cf.* Daniel J. Grimm, The Demographics of Genetic Surveillance: Familial DNA Testing and the Hispanic Community, 107 COLUM. L. REV. 1164, 1166 (2007) (arguing that the Hispanic community would be disproportionately affected by familial DNA testing).

136. Hogan, *supra* note 69, at 582–85 (opining that familial DNA searches violate the Fourth Amendment).

137. Greely et al., *supra* note 18, at 250.

138. Hogan, *supra* note 69, at 577–79.

139. *Critics Challenge Familial DNA Testing* (NPR radio broadcast Feb. 28, 2007) [hereinafter NPR], available at <http://www.npr.org/templates/story/story.php?storyId=7641971> (Ms. Tania Simoncelli: “Denver DA Mitch Morrissey says police always have and always will questions people who turn out to be innocent. He likens a partial DNA hit to having an eyewitness who caught only half the license plate on a getaway car.” Mr. Morrissey: “I think people would be outraged if the police just said oh, it’s only a partial plate, so we’re not going to follow this up. The nature of

Traditional investigative means require that police officers go out and ask individuals questions. This means that with or without familial DNA testing many individuals are subject to questioning. What is important to note is that familial DNA testing does not result in persons with partial matches being considered suspects. Instead, when a partial match is identified, it is assumed that person is related to the perpetrator, but is not the perpetrator. As a result, police question that individual as a means of catching the perpetrator. This is no different than traditional field work. Additionally, the same precautions that are in place now to protect citizens against unnecessary police intrusion would remain in effect. An individual can refuse to answer the police officers questions should she chose to do so.

Further, while it is a justifiable fear that access to one's genetic predispositions could spell harm to individuals ranging in the form of higher health insurance premiums to failing to be hired for a job, the genetic information that is obtained through DNA testing is currently considered useless.¹⁴⁰ DNA tests are based on "junk DNA" that provide individuals looking at the test with no useful genetic information about the individual.¹⁴¹ Thus, concerns about police having access to private genetic information are currently unfounded, as there is no useful information to be found.¹⁴²

Finally, critics' concern that a disproportionate amount of minorities would be subject to investigation is genuine. African Americans, who only make up thirteen percent of the general population, comprise forty percent of convicted felons.¹⁴³ As a result, the DNA of minorities is overrepresented in CODIS, making minority families more likely to be identified in a familial DNA search.¹⁴⁴ What critics fail to acknowledge is that

police work is you have to talk to a lot of people.").

140. Gabel, *supra* note 24, at 46 ("The CODIS markers are thought to hold no diagnostic information; their sole value lies in their use as identification tools.").

141. *Id.*

142. In the future, it may be discovered that what is now considered "junk DNA" may provide discoverable genetic information about the individuals. *Id.* While this is beyond the scope of this paper, in the event this proves true, procedural safeguards could be enacted to ensure that familial samples collected are destroyed after their investigative purposes have been exhausted.

143. Greely et al., *supra* note 18, at 258.

144. Sonia M. Suter, *All in the Family: Privacy and DNA Familial*

despite the fact that more minorities will be identified through a familial DNA search, it is nonetheless an accurate crime fighting tool. Further, the intrusion is not any more invasive than would be if traditional detective work had been utilized to identify the subject. Traditional investigative work often involves questioning the family members of suspects. As a result of this investigative method, and the fact that minorities are disproportionately convicted of crimes, minority families are already targeted for questioning disproportionately. Consequently, familial DNA testing would not result in any more of an invasion of the privacy of minority families than the use of traditional detective work.

When weighing the benefits to society against the invasion of an individual's privacy interests, society's interests ultimately overrule those of the individual. Considering the substantial benefits society derives from the implementation of familial DNA testing, including saving time, money, deterring crime, and boosting the public's confidence in the justice system, the minimal invasion of an individual's privacy is justified.

B. IN THE NAME OF THE LAW: THERE IS A SPECIAL NEED
JUSTIFYING FAMILIAL DNA SEARCHES

There are many identifiable special needs when justifying the utility of familial DNA searches. One is the special need to identify and prosecute criminals so as to keep society safe. Studies have shown that DNA testing provides a means of prosecution in far more instances than traditional detective work.¹⁴⁵ For example, one study conducted in Denver found that of four-hundred burglaries in which DNA was left behind, over seventy-six percent of them were prosecuted based on the DNA, and would not have been prosecuted were it not for the DNA.¹⁴⁶ The study found that the "use of DNA evidence results in an almost 5.5-fold increase in the rate of case prosecution."¹⁴⁷ The government's ability to keep the public safe is one that cannot be taken lightly. It is clear that law enforcement agencies, and the public in general, have a special

Searching, 23 HARV. J. L. & TECH. 309, 370 (2010) (citing estimate that more than four times the percentage of African Americans (17%) would be identified as suspects as compared to Caucasians (4%) with the use of familial searches).

145. ASHIKHMIN ET AL., *supra* note 125, at 4–5.

146. *Id.* at 2.

147. *Id.* at 10.

need to use familial DNA searches. The ability to more effectively identify and prosecute criminals is one special need that can justify using the familial DNA testing.

The ability to deter crime is another identifiable special need that justifies using familial DNA searching. Nationally, 7.3 million children have one or two parents in jail.¹⁴⁸ Of those, seventy percent will commit a crime themselves.¹⁴⁹ The government has a special need to reduce this rate. If children of incarcerated parents know that their parents' DNA can lead law enforcement officials to them quickly and accurately, the child may refrain from participating in criminal activity. Even if only a few thousand of these children are deterred from committing a crime, the special needs test remains justified.

Critics of familial DNA testing argue that while more criminals may be caught through the use of familial DNA testing, it is still not a justifiable technique.¹⁵⁰ "I mean, we could put, you know, cameras in everybody's living rooms and say too bad, you know, and you could catch more criminals that way, but that's a bad way of making policy."¹⁵¹ Critics fear that policy makers are taking crime-solving one step too far, and unfairly invading the privacy interests of others by acting as a "Big Brother."¹⁵² While it is true that some techniques in crime-solving, such as placing cameras in living rooms are better left unexplored, familial DNA testing is not one of them. DNA testing is currently a permissible crime-solving tool, making familial DNA testing a logical next step. Additionally, the accuracy and efficiency familial DNA testing provides to law enforcement result in safer streets for society as a whole. This need to provide safety for society outweighs any privacy invasion individuals may perceive.

C. PROTECTING PRIVACY

In an effort to protect the privacy of individuals, while still reaping the benefits of familial DNA searching, I propose three

148. E. Mosley, *Incarcerated- Children of Parents in Prison Impacted*, TEX. DEPT OF CRIM. JUST. (July 6-12, 2008), <http://www.tdcj.state.tx.us/pgm&svcs/gokids/gokids-articles-incarcerated-children-of-parents-impacted.html>.

149. *Id.*

150. NPR, *supra* note 139.

151. *Id.*

152. *Id.*

safeguards on the use of familial DNA searching. First, destruction procedures should be carefully outlined so as to make sure that once the identity of a DNA match is acquired, that the link between the DNA and the identity is destroyed. The identity and DNA match is only useful during the actual investigation. As a result, once the investigation ends, there is no longer a need to have the identity of the partial match in the same arena as the DNA. This safeguard will help assuage concerns critics have about a government official having control of their DNA.

A second way to properly safeguard familial DNA searching is to institute a policy of informed consent. That is, if a law enforcement official would like to obtain the DNA of an individual in order to conduct a familial DNA search, the individual first has to provide consent. This would be useful in situations where law enforcement officials have a suspect in mind, but have no means of getting a warrant to get that individual's DNA directly. In this situation, the police would be able to use a family member's DNA, but only after obtaining her consent in order to determine whether the suspect is related to the family member whose DNA was tested. Armed with this information, law enforcement officials would be able to satisfy the probable cause prong and obtain a warrant to get the DNA from the actual suspect. In this scenario, consent would serve as a means of protecting individuals from incriminating their family members, but would also permit individuals who choose so to help take a criminal off the street.

The final safeguard that law enforcement officials should implement is to establish a minimum number of required allele matches. Low stringency matches should not be permitted, as they are not reliable enough to determine whether an individual is related to someone or not.¹⁵³ Medium stringency tests should be the norm, and law enforcement officials should be required to use other investigative means to establish a relationship between the partial match and the suspect. That is, police should not knock on the door of every person who is a partial match and ask them if they have a family member who may have committed a crime. Instead, they should take the identities of the partial matches, evaluate whether they have

153. Gabel, *supra* note 28, at 17 (explaining that a low stringency search is only one allele out of a possible twenty-six is found to be in common between the compared samples).

family members that could potentially have committed the crime in question, and then evaluate whether there is any other information that ties that suspect to the crime. In cases such as this, it may be possible to question the suspect directly without ever contacting the individual whose DNA was a partial match.

Implementing these procedural safeguards would help law enforcement officials minimize any invasion of citizens' privacy. It would mitigate the fears critics have, while still permitting law enforcement officials to conduct an efficient and effective investigation. While the suggested safeguards would not fully alleviate any intrusion into an individual's privacy, they would help alleviate concerns.

VI. CONCLUSION

Familial DNA testing presents uncharted waters for the courts, but soon enough, the legal challenges will come. As discussed in the analysis section, challengers will likely raise a variety of legitimate privacy concerns that differentiate familial DNA testing from traditional DNA testing. Despite these concerns, the benefits familial DNA testing provides to society, including increased accuracy in suspect identification, crime deterrence, decreases in investigation time, financial savings, and increased public confidence in the justice system, support the contention that society's interest outweighs the interest of individual's privacy. The courts' reluctance to find DNA testing unconstitutional under the Fourth Amendment lends credence to the idea that the benefits society as a whole gains from the swift, inexpensive, accurate method of keeping criminals off the street outweigh any small intrusion into individuals' privacy. With a few procedural safeguards, such as destruction procedures, an informed consent policy, and a minimum required number of allele matches, the concerns opponents of familial DNA testing may raise can be mitigated. In light of this, familial DNA searching should be permitted in all fifty states so as to utilize the technology most effectively to improve public safety.