I. INTRODUCTION

In 2009, the Maryland legislature enacted a statute that required law enforce-
ment to take a DNA sample at the time of arrest from individuals charged with “a
crime of violence or an attempt to commit a crime of violence,” or “burglary or an
attempt to commit burglary.”\(^1\) The Maryland statute required these DNA samples
to be maintained in a statewide DNA database system,\(^2\) and the samples would be
destroyed only “if the charge does not result a conviction” or the conviction was
later overturned.\(^3\)

Twenty-eight other states and the federal government have also enacted statutes
authorizing or mandating the collection of DNA from individuals upon arrest.\(^4\) The
United States Supreme Court examined the constitutionality of this group of
statutes under the Fourth Amendment\(^5\) in *Maryland v. King*.\(^6\) The Court found that
the policy instituted by the Maryland statute did not violate the protections of the
Fourth Amendment against unreasonable searches and seizures, holding that:

When officers make an arrest supported by probable cause to hold for a serious
offense and they bring the suspect to the station to be detained in custody,
taking and analyzing a cheek swab of the arrestee’s DNA is, like fingerprinting
and photographing, a legitimate police booking procedure that is reasonable
under the Fourth Amendment.\(^7\)

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\(^{1}\) MD. CODE ANN., PUB. SAFETY § 2-504(a)(3)(i) (West 2009).

\(^{2}\) See id. § 2-504(d)(1).

\(^{3}\) Brief for Respondent at 8, Maryland v. King, 133 S. Ct. 1958 (2013) (No. 12-207) (citing MD. CODE ANN.,
PUB. SAFETY § 2-511(a)(1), (c)).

\(^{4}\) Brief for the States of California et al. as Amici Curiae Supporting Petitioner at 1, Maryland v. King,

\(^{5}\) “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 Warrants shall issue, but upon probable cause, supported by
Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.”
U.S. CONST. amend. IV. The Fourth Amendment has been interpreted as protecting individuals against
a warrant supported by probable cause are per se unreasonable, subject to a few specifically established
exceptions. *Id.* at 357.


\(^{7}\) *Id.* at 1980. The Court found that this fit within the exception for special needs of law enforcement. Under
this exception, the need for a warrant is diminished by the circumstances, rendering a warrantless search or
Although such statutes are now constitutional, this note will conclude that such statutes are unethical due to the disproportionate impact on racial minorities that results from an arrestee DNA sampling policy. First, this note will examine state policies authorizing or mandating the collection of DNA samples upon arrest from a critical race theory perspective, and will argue that such law enforcement practices disproportionately impact and unjustly affect racial minorities. Second, this note will identify the potential negative effects that DNA sampling may have on the privacy of the individuals—in this case, a disproportionate number of minority individuals—who are sampled.

Critical race theory involves examining the relationship between race and power, questioning socially accepted foundations such as traditional legal reasoning and neutral principles of constitutional law, and engaging in activism to change the social organization that perpetuates racism. Although critical race theory involves a variety of perspectives and does not have a single definition, there are several generally accepted propositions. First, racism and the resulting inequality along race lines are recognized as the ordinary, rather than exceptional, reaction of society to race. Second, because racism advances both elite and working-class whites, the majority of society lacks incentive to eradicate it. Third, race is based on social construction rather than reality, meaning that it is a socially created distinction. Last, society has a tendency to shift the way it racializes and stereotypes minority groups depending on its current needs. On the

8. For example, legally granted rights generally concern process rather than ensuring equal results, and programs that would ensure equal results, such as affirmative action programs, are met with resistance. See RICHARD DELGADO & JEAN STEFANCIC, CRITICAL RACE THEORY: AN INTRODUCTION 23 (2001).
9. Id. at 2–3.
10. Id. at 6–7.
12. DELGADO & STEFANCIC, supra note 8, at 7. A University of Chicago study found that 56% of Americans believe that black individuals tend to be “violence prone.” TOM W. SMITH, ETHNIC IMAGES (National Opinion Research Center, University of Chicago 1990), available at http://publicdata.norc.org:41000/gss/DOCUMENTS/REPORTS/Topical_Reports/TR19.pdf. In the legal system, preconceptions about black criminality are as important in determining outcome as formal law. See DELGADO & STEFANCIC, supra note 8, at 42–43. Those preconceptions may be justified by an “Intelligent Bayesian” as a result of the disproportionality with which black individuals commit crimes; however, given the basis for such differences in law enforcement targeting and socioeconomic status, race itself may not logically be used as a proxy for criminality, and the use of race subverts the goals of the justice system to reach rational decisions. Jody D. Armour, Race Ipsa Loquitur, in CRITICAL RACE THEORY: THE CUTTING EDGE 266–69. (Richard Delgado & Jean Stefancic eds., 3d ed. 2013).
13. Id. at 7.
14. Id. at 7. Physical traits “such as skin color, physique, and hair texture... constitute only an extremely small portion of [individuals’] genetic endowment, are dwarfed by that which we have in common, and have little or nothing to do with distinctly human, higher-order traits, such as personality, intelligence, and moral behavior.” Id. at 8.
15. Id. at 8. For example, Arab Americans have faced increased discrimination and exposure to racial profiling in the past decade. In 1999, “81% of respondents in a national poll said they disapproved of ‘racial profiling,’” whereas in 2001, “58% said they favored ‘requiring Arabs, including those who are U.S. citizens, to undergo
basis of these tenets, the legal system has a propensity to disproportion-
ately and unfairly impact racial minorities. Therefore, in examining DNA sam-
ple samples of arrestees from a critical race theory perspective, this note will examine
the disproportionate negative impact of DNA sampling of arrestees on racial
minorities.

Because of the propensity of law enforcement to target minorities in law
enforcement procedures, combined with the potential risk of unethical use of the
wealth of information that DNA provides, states should take care to protect the
DNA of their citizens from seizure at the time of arrest. From a critical race theory
perspective, states should enact laws16 prohibiting law enforcement from sampling
arrestees’ DNA at the time of arrest in order to reduce the disproportionate
negative effect of these policies on their minority constituents’ privacy.

II. BACKGROUN D

A. DNA Sampling

Since 1994, the FBI has maintained a Combined DNA Index System (“CODIS”)
containing DNA profiles17 in order to match DNA samples obtained by law
enforcement with DNA profiles of convicted felons.18 Currently, all felons con-
victed of federal crimes and certain state crimes19 must submit DNA samples to
law enforcement20 for placement in DNA databases.

The purpose of such databases is to aid law enforcement in the resolution of
crimes in which DNA evidence is present and to dissuade convicted felons from
committing crimes in the future21 through the recognition that law enforcement
possesses their DNA information and can link any future crime scene DNA
samples to their identity. In 2007, the FBI reported that the CODIS system aided
over 47,000 investigations,22 and the most recent information indicates that

16. Although Maryland v. King is the law of the land and Maryland’s statute stands, states are authorized by
federal legislation to enact their own laws regarding DNA collection, and may therefore enact different laws that
will protect the privacy of their citizens. See Sheldon Krimsky & Tania Simoncelli, Genetic Justice: DNA
Data Banks, Criminal Investigations, and Civil Liberties 30 (2011).
18. See Frequently Asked Questions (FAQs) on the CODIS Program and the National DNA Index System, The
Oct. 19, 2013) [hereinafter CODIS FAQ].
19. All fifty states have passed statutes requiring certain convicted offenders to provide DNA samples.
22. Mary McCarthy, Am I My Brother’s Keeper?: Familial DNA Searches in the Twenty-First Century,
CODIS now contains “about 10 million offender profiles and 1.1 million arrestee profiles.”

CODIS DNA profiles are composed of thirteen core loci containing what is believed to be non-coding DNA. DNA profiling produces a profile that can identify specific individuals by examining specific markers at the thirteen core loci, comparing genetic variations within those markers, and combining the various genetic variations into a comprehensive profile.

According to the FBI, the non-coding, or “junk,” DNA that is found within the thirteen core loci and is used in developing DNA profiles is not currently known to “include personal information such as medical susceptibilities and behavioral traits,” and only reveals generic and impersonal medical information “no more intimate than the particular blood serum enzyme that an individual happens to have, the pattern of blood vessels in the retina of the eye, or the whorls and ridges in a fingerprint.”

Among other states, Maryland extended its DNA database system by providing for DNA sampling at the time of arrest of individuals arrested for certain crimes within the state. The Maryland statute providing for DNA collection upon arrest requires certain arrestees to provide buccal swabs and, consistent with FBI standards, creates a DNA profile out of thirteen loci that are presumed to contain non-coding DNA. This DNA is tested and used for several purposes, including for use in criminal investigations, and the statute provides that the state may prepare and store DNA records in order to compare those profiles with profiles in national and other state databases.
B. Maryland v. King

A challenge to the constitutionality of this Maryland statute came from Alonzo Jay King, Jr. King was arrested for assault, and the DNA sample taken when he was booked for this arrest was the sole evidence used to convict him of an unrelated rape.34

King’s position, supported by organizations such as the American Civil Liberties Union (ACLU), 35 was that the sampling of his DNA upon the arrest for his assault charge was an unconstitutional search because “it was not authorized by a warrant or based on some level of individualized suspicion,” and did not fall within one of the rare “exceptions to the requirements of a warrant or individualized suspicion,” such as the search of parolees, the “special needs” doctrine, or the search-incident-to-arrest doctrine.36

The United States Supreme Court determined that the Maryland statute authorizing the sampling of arrestees’ DNA during the subsequent booking procedure was reasonable under the Fourth Amendment.37 It held that the procedure was indistinguishable from procedures like fingerprinting and photographing, 38 and served the legitimate government interest of allowing “law enforcement officers in a safe and accurate way to process and identify the persons and possessions they must take into custody.”39

III. DISCUSSION

In order to protect minority citizens from disproportionate intrusions on their privacy, states should enact statutes prohibiting DNA sampling of arrestees. This note will first argue that because of factors such as the prevalence of racial profiling, the ability of law enforcement to stop and frisk on the basis of pretext, and the inaccuracy of cross-racial witness identification, minorities are arrested in greater proportions than non-minorities and may be mistakenly arrested in greater proportions than non-minorities. Therefore, DNA sampling that occurs at the time

34. King, 133 S. Ct. at 1965. The state conceded that the DNA sample was not taken for identification purposes, but was taken in order to “determine whether [King] was implicated in any other offenses.” Brief for Respondent, supra note 5, at 9. The sole evidence against King was a DNA sample for which law enforcement had a warrant supported only by the DNA sample taken at King’s other arrest. Id. at 9–10.
35. See Brief for American Civil Liberties Union et al. as Amici Curiae Supporting Respondent at 2, Maryland v. King, 133 S. Ct. 1958 (2013) (No. 12-207) (“Amici fully endorse Respondent’s argument that the compulsory extraction and analysis of a person’s DNA is a search, and that the searches here at issue do not fall within any exception to the warrant requirement.”); see also Michael Risher, Supreme Court Ruling a Blow to Genetic Privacy, AM. CIV. LIBERTIES UNION (Jun. 3, 2013), https://www.aclu.org/blog/technology-and-liberty/prisoners-rights/supreme-court-ruling-blow-genetic-privacy (“The Supreme Court’s 5-4 decision upholding Maryland’s arrestee DNA testing law is a serious blow to genetic privacy.”).
38. Id.
39. Id. at 1970.
of arrest will disproportionately affect minorities. Second, this note will argue that under critical race theory, a policy which causes such a disproportionate impact on minority populations is unethical because that disproportionate impact has real consequences given the risk of the use of genetic information for purposes other than identification.

A. Propensity of Law Enforcement to Target Minorities

Law enforcement has a propensity to target minority populations as a result of several factors, including unconscious stereotyping that tends to associate race with crime, overt racial profiling, and even the way crime is defined by the United States legal system. National statistics consistently show that minorities are disproportionately affected by the criminal justice system, both as victims and perpetrators, through the use of “stop and frisks,” arrests, imprisonment, and capital punishment.

For example, in 2009, African Americans accounted for less than 13% of the U.S. population, but 28.3% of arrests. A 2004 report prepared for the ACLU of Southern California found that the rate at which police stop African Americans for investigation is 3,400 stops higher, and the Hispanic stop rate 350 stops higher, than the white stop rate per 10,000 residents. The report found that relative to stopped whites, stopped African Americans are 127% more likely, and stopped Hispanics are 43% more likely to be frisked. It also found that relative to stopped whites, stopped African Americans are 76% more likely, and stopped Hispanics

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41. See id. at 70–74 (“Police recruits arrive at the academy with a knowledge of popular stereotypes that conflate race and crime stowed in their mental baggage.”).
42. DELGADO & STEFANIC, supra note 8, at 113. In the U.S. legal system, acts that are more frequently committed by racial minorities are punished more harshly than acts frequently committed by whites, regardless of the actual effect of these criminal acts on society:

Many lethal acts, such as marketing defective automobiles, alcohol, or pharmaceuticals... are not considered crimes at all. By the same token, many things that young black and Latino men are prone to do, such as congregating on street corners, cruising in low-rider cars, or scrawling graffiti in public places, are energetically policed. Crack cocaine offenses receive harsher penalties than those that apply to power cocaine. Figures show that white-collar crime, including embezzlement, consumer fraud, bribery, insider trading, and price fixing, causes more deaths and property loss, even on a per capita basis, than all street crime combined.

Id. at 113–14.
43. A “stop” is a brief detention by a police officer in public for the purpose of investigation that falls short of an arrest. Terry v. Ohio, 392 U.S. 1, 10 (1968). A “frisk” is a limited search of the outer clothing for weapons. Id. at 8.
44. JAMES CAMPBELL, CRIME AND PUNISHMENT IN AFRICAN AMERICAN HISTORY 204–05 (2013).
45. Id. at 205.
47. Id. at 6.
are 16% more likely to be searched.\textsuperscript{48} Last, it found that relative to stopped whites, stopped African Americans are 29% more likely, and stopped Hispanics are 32% more likely to be arrested.\textsuperscript{49} This report therefore indicates that the rate at which African American and Hispanic individuals are stopped, frisked, searched, and arrested is higher, sometimes dramatically so, than the rate at which white individuals are stopped, frisked, searched, and arrested.

A mid-1980s study conducted by the California Attorney General’s office found that “two-thirds of nonwhite California males between the ages of 18 and 30 had been arrested.”\textsuperscript{50} Another study found that from the mid-1970s to the mid-1990s, African Americans “consistently accounted for about 45 percent of those arrested for murder, rape, robbery, and aggravated assault.”\textsuperscript{51}

The disproportionate impact of the criminal justice system on racial minorities may be partially due to social inequalities unrelated to the actions of law enforcement,\textsuperscript{52} such as the incidence of widespread poverty among racial minorities,\textsuperscript{53} which causes increased crime rates among minority populations. However, evidence shows that racial discrimination by law enforcement in conducting arrests occurs through the presence of officer bias and the use of racial profiling.\textsuperscript{54} Further, regardless of the reason minorities are disproportionately arrested, procedures tying DNA sampling to arrest will necessarily have a disproportionate impact on minorities. Therefore procedures such as an increased rate of DNA sampling are unethical because they disproportionately intrude on the privacy of minority populations.

1. Prevalence of Racial Profiling

Racial profiling is the use by law enforcement of “membership in a racial or ethnic group as a predictor in considering whether an individual is likely to have committed a crime.”\textsuperscript{55} Legislation expressly prohibiting racial profiling is sparse,\textsuperscript{56} and evidence that racial profiling occurs, whether institutionally or merely in practice, is voluminous.

For example, one California study found that police make unfounded arrests of

\textsuperscript{48} Id.

\textsuperscript{49} Id.


\textsuperscript{51} Id. at 99–100.

\textsuperscript{52} Such factors are not within the scope of this paper.

\textsuperscript{53} See \textit{The Real War on Crime}, supra note 50, at 105 (“African-Americans lag behind whites by almost every . . . economic measure,” and “an overwhelming amount of street crime occurs in areas that have the lowest incomes.”).

\textsuperscript{54} See infra Part III.A.1.


\textsuperscript{56} As of 2005, roughly twenty states passed laws regarding racial profiling, usually “requir[ing] law enforcement agencies to develop policies prohibiting the practice.” Id. at 13.
minorities, meaning arrests “where the suspect was innocent, or there was inadequate evidence, or there was an illegal search or seizure,” at rates significantly higher than that of whites. For African American individuals, the rate was four times greater than that of whites, and for Hispanic individuals, the rate was more than double that of whites. Further, these disparities were exacerbated in urban areas, indicating that discriminatory police practices are more severe in urban areas.

Racial profiling has also become a concern for “people of Arabic, Middle Eastern, or South Asian descent” since September 11, 2001, as many “have been detained, arrested, or harassed by government authorities. In numerous incidences, such individuals have been handcuffed, detained, or searched essentially because of their background.”

Further, in order for criminal defendants to establish a defense of racial profiling, the availability of which depends on state law, they must “show that the government treated them differently than similarly situated groups of another race.” Because such claims are difficult to prove, racial profiling by law enforcement is generally allowed to go unchecked. Because the ability of law enforcement to use racial profiling to target minorities disproportionately affects the rate at which minorities are arrested, statutes such as Maryland’s that require DNA testing upon arrest disproportionately intrude on the privacy of racial minorities, and should therefore be prohibited.

2. Ability of Law Enforcement to Arrest on the Basis of Pretext

Under Whren v. United States, law enforcement may stop individuals regardless of their subjective motivation. This means that they are allowed to stop individuals on the basis of pretext, including on the basis of the law enforcement officer’s discriminatory beliefs about the link between race and crime, as long as it cannot be proven that the stop “had in fact been motivated by race.”

The Terry “stop-and-frisk” rule is, in theory, color-blind, as it does not allow

58. Id. Similarly, a study in the 1990s “revealed that 64 percent of the drug arrests of whites and 81 percent of those of Latinos were not sustainable, and that an astonishing 92 percent of the black men arrested by police on drug charges were subsequently released for lack of evidence or inadmissible evidence.” Barry Steinhardt, Privacy and Forensic DNA Data Banks, in DNA and the Criminal Justice System: The Technology of Justice 187 (David Lazar, ed. 2004).
60. Steinhardt, supra note 58, at 188.
63. See id. at 813.
64. Id. at 814–16; David Cole, No Equal Justice: Race and Class in the American Criminal Justice System 39 (1999).
stops on the basis of pretext where there is proof that the stop was motivated by race. However, “[i]t has in practice created a double standard” by giving law enforcement officers great latitude in situations where they may be inclined to use race and class considerations to make their decisions.66 Whether police decide to stop a vehicle, stop and frisk a pedestrian, or leave the individual alone is based on subjective perceptions that are frequently, whether implicitly or explicitly, based on the personal biases of the officer.

For example, the ability of officers to stop individuals on the basis of pretext “makes it easy for an officer to construct a legal basis of investigating virtually anyone in a vehicle” because of “the sheer scope of traffic regulations.”67 Because of this, police use traffic stops to enforce laws unrelated to traffic violations, such as drug laws.68 For example, police may stop cars of drivers who fit within established profiles of drug couriers,69 and those profiles may include racial classifications. “If the motorist ‘fits’ the profile, then the officer’s goal becomes to conduct a warrantless search of the car and its occupants, in the hope of finding drugs, cash and/or guns,” either through the use of consent of the driver or probable cause.70

There is evidence that the breadth of traffic regulations, along with the improbability of proving that a stop was based on race,71 allows racial profiling in traffic stops to go unchecked. This phenomenon is commonly referred to as “driving while black.”72 A study in Maryland examined the I-95 corridor, a reputed “drug distribution pipeline.”73 The study found that over a three-year period, African Americans constituted only about seventeen percent of motorists yet represented seventy percent of individuals stopped by police.74 Additionally, it found that when an African American or Hispanic driver was stopped, there was a higher probability that the driver’s vehicle would be searched.75

66. Id. at 43.
67. Id. at 38.
69. Id.
70. Id. at 671–72.
71. Cole, supra note 64, at 39–40 (stating that in published federal opinions concerning allegedly pretextual stops, courts were willing to accept officers’ “testimony that he did not notice the race of the occupants until after he had stopped the car,” declined to look at “evidence of an officer’s past record of racially disproportionate traffic stops,” and failed to consider the reason for the stop pretextual regardless of the fact that said reason was not mentioned during the stop and did not result in a citation).
75. Gross & Barnes, supra note 68, at 675.
A traffic study conducted in New Jersey similarly found that African American drivers were disproportionately stopped by police. In that study, fifteen percent of traffic violators were African American, yet African American drivers made up more than forty-six percent of the drivers stopped by law enforcement. The results of these studies, along with similar evidence from studies conducted in Missouri and Florida suggests that “traffic stops are routinely used as a ‘pretext’ to stop minority drivers,” and that African American motorists are “especially liable to be stopped and searched in predominantly white, suburban neighborhoods.”

Based on this evidence it can be inferred that the ability of law enforcement to stop on the basis of pretext, including racial stereotypes, disproportionately increases the arrest rates of racial minorities.

3. Inaccuracy of Cross-Racial Witness Identifications

The production of sufficient probable cause for arrest may depend on witness identifications of suspects, which are known to be unreliable, having caused a number of wrongful convictions. Cross-racial identifications tend to be particularly unreliable, creating the potential for law enforcement to arrest innocent minorities whose DNA samples will then, pursuant to policies of statutes such as Maryland, be placed on file with the state.

For example, ten of twelve studies found a significant difference between the abilities of white Americans to recognize white and black faces, noting a substantial impairment in the ability of white individuals to recognize African American faces. In one study, white individuals charged with identifying African American and white individuals misidentified African Americans 54.8% of the time and whites only 34.9% of the time. Assuming that such laboratory data on the ability

76. COLE, supra note 64, at 38.
77. Id.
78. See Weatherspoon, supra note 74, at 453–54. Further, in a sample set of published federal court of appeals and district court decisions involving allegedly pretextual stops in which race could be identified, “eighty percent of the stops involved minority drivers.” COLE, supra note 64, at 40.
79. COLE, supra note 64, at 38.
80. CAMPBELL, supra note 44, at 207.
83. Johnson, supra note 82, at 938–39.
84. Id. at 939–40.
of white subjects to recognize black subjects is valid in practice, the risk that suspects will be misidentified and potentially wrongly arrested is greatest when the victim is white and the suspect is African American.

This problem has been recognized by some states, which have acknowledged the inaccuracy of cross-racial identifications and have attempted to negate the prejudicial effect of such inaccurate identifications through measures that protect criminal defendants. For example, in 2008, Maryland created a jury instruction for cases that involved cross-racial identifications to inform the jury of their unreliability.88

Additionally, in 2008, the Criminal Justice Section of the American Bar Association recommended that state and local governments recognize the inaccuracy of cross-racial identifications.89 It also recommended that states take measures to abrogate the effect of such misleading identifications, such as ensuring the admissibility of expert testimony on the inaccuracy of cross-racial identifications, ensuring that indigent defendants were able to obtain such expert testimony, and creating jury instructions similar to Maryland’s instruction that would inform jurors of the risk of considering such identifications.90

Even with the addition of such protections, however, innocent minorities are at greater risk of being arrested on the basis of inaccurate pre-charge identifications, as these protections help prevent wrongful convictions rather than wrongful arrests. Further, it is difficult to mitigate the effects of these inaccurate identifica-

85. Additional studies on the accuracy of cross-racial identification in real-life-type situations have been conducted. For example, one study in Tallahassee researched the ability of convenience store clerks to identify individuals posing as customers. Even within two hours of the customers’ visits, and despite the customers’ lengthy interactions with the clerks, “the general level of accuracy was not very high... Fifty-five percent [of white subjects] misidentified a black customer.” ELIZABETH F. LOFTUS & JAMES M. DOYLE, EYEWITNESS TESTIMONY: CIVIL AND CRIMINAL 86–87 (1997).

86. Johnson, supra note 82, at 949.

87. The instruction reads:

In this case, the defendant, ____ (insert name of defendant), is of a different race than ____ (insert name of identifying witness), the witness who has identified [him][her]. You may consider, if you think it is appropriate to do so, whether the fact that the defendant is of a different race than the witness has affected the accuracy of the witness’ original perception or the accuracy of a later identification. You should consider that in ordinary human experience, some people may have greater difficulty in accurately identifying members of a different race than they do in identifying members of their own race. You may also consider whether there are other factors present in this case which overcome any such difficulty of identification. [For example, you may conclude that the witness had sufficient contacts with members of the defendant’s race that [he][she] would not have greater difficulty in making a reliable identification.]

1 DAVID E. AARONSON, MARYLAND CRIMINAL JURY INSTRUCTIONS AND COMMENTARY § 2.57(B) (3d ed. 2009).


90. Id.
tions, as the line-ups often tend to be more suggestive when dealing with racial minorities.91

Just as the disproportionate arrest rates of minorities create an unethical, disproportionate intrusion on the privacy of minorities, the inaccuracy of cross-racial identifications creates an unethical, disproportionate intrusion on the privacy of innocent minorities. These innocent individuals will have their DNA placed on file and compared with previous crime scene evidence, potentially implicating them in other crimes, even though they have not committed the crime that furnished the DNA evidence.

B. Risk of Impemissible or Unethical Uses of Genetic Information

The disproportionate DNA sampling of minority arrestees may have a negative effect on minorities through the unethical use of the genetic information contained within DNA samples. First, although the DNA collected from arrestees is allegedly “junk DNA,” the idea that DNA samples contain no personal information has been questioned, especially by DNA researchers who have uncovered coding DNA in what was previously classified as “junk DNA.”92 Further, although this “junk DNA” is supposedly used only for identification purposes, DNA information may be used for purposes other than identification, such as identification of genetic diseases or disorders.93 This may occur due to function creep,94 or due to the use of DNA against relatives through familial searching. Second, because DNA contains vast amounts of information that may negatively impact those individuals sampled if it is used for other purposes, there is risk in taking samples that may be stored and used for discriminatory purposes.

1. Ability to Use DNA Samples for Non-Identification Purposes

In Maryland v. King, the Supreme Court allowed DNA sampling and profiling by law enforcement because it served the purpose of allowing “law enforcement officers in a safe and accurate way to process and identify the persons . . .

91. A fair lineup or photo array generally consists of “a suspect and several individuals who are similar in appearance to the suspect and to the witness’ previous description . . . . Because the lineup construction is so important [to ensuring an accurate identification], persons who construct lineups can be influential in creating cross-racial identification problems.” Unduly suggestive lineups may be created by white police officers who “perceive more similarities between members of a different race” and therefore “inadvertently create a lineup in which members differ more from each other’ than members of a same-race lineup. Harvey Gee, Eyewitness Testimony and Cross-Racial Identification, 35 New Eng. L. Rev. 835, 841 (2001).


93. See infra Part III.B.2.

94. “Function creep” occurs when databases are created for a single, discrete purpose, yet take on new purposes over time, “despite the initial promises of their creators” that the databases will not be used for more intrusive or unwelcome purposes. Tania Simoncelli & Barry Steinhardt, California’s Proposition 69: A Dangerous Precedent for Criminal DNA Databases, 33 J.L. Med. & Ethics 279, 283 (2005).
they must take into custody,” similar to, but more accurate than, fingerprints. However, DNA information has the potential to be used for non-identification purposes because it contains a variety of information about the sampled individual outside of that person’s identity. Unlike fingerprints, which are merely two-dimensional representations of an outward physical marker and are therefore only useful as a form of identification, DNA contains a wealth of information beyond the information that may be used in identifying individuals. To call DNA information a genetic fingerprint trivializes the wealth of information that DNA has already been found to hold.

Citizens should be concerned about the wealth of new information indicating that “junk” DNA contains personal information, the risk of DNA databases being subject to function creep, and the risks created by familial DNA searching. Because of these concerns, the ability of law enforcement (or potentially other government entities) to use the information for purposes other than identification should cause states greater concern regarding DNA sampling of arrestees.

a. Fallacy of “Junk” DNA

The use of DNA sampling of arrestees and convicts relies on the premise that the thirteen loci used in the DNA profile contains only “junk” DNA. According to proponents of DNA sampling, “junk” DNA is not currently known to hold or predict any personal, medical, or behavioral information, and therefore only serves to create an identification profile.

However, unlike other types of medical information, genetic information creates the blueprint for each individual—it “bears a part of our personality, of our identity and autonomy. It cannot be deemed as neutral.” Additionally, the coding nature of specific genes and the extent to which genetic information explains differences in individuals has not been fully explored. Therefore, no genetic information

96. Simoncelli & Steinhardt, supra note 94, at 288.
97. Id.
98. Brief for States, supra note 4, at 26; Brief for Electronic Privacy Information Center et al. amici curiae Supporting Respondent at 14, Maryland v. King, 133 S. Ct. 1958 (2013) (No. 12-207) [hereinafter Brief for Electronic Privacy Information Center].
100. Christina M. Akrivopoulou, Genetic Privacy: A Right Between the Individual, the Family and the Public Interest, in PERSONAL DATA PRIVACY AND PROTECTION IN A SURVEILLANCE ERA: TECHNOLOGIES AND PRACTICES 104, 108 (Christina Akrivopoulou and Athanasios Psygkas, eds., 2011).
101. Even though the human genome has been “mapped,” scientists do not fully understand how the human genome operates.

Despite intensive study, especially in identifying protein-coding genes, our understanding of the genome is far from complete, particularly with regard to non-coding RNAs, alternatively spliced transcripts and regulatory sequences. Systematic analyses of transcripts and regulatory information are essential for the identification of genes and regulatory regions, and are an important resource for the study of human biology and disease.
can be conclusively termed “junk,” useless, or non-coding at this point in time.

Genetic information may be distinguished from other methods of identification, such as fingerprinting, because it contains information about an individual’s “racial and ethnic heritage, disease susceptibility . . . behavioral propensities,”102 “gender, and susceptibility to Type 1 Diabetes,”103 “family history, predisposition to various diseases, appearance, and behavioral traits, as well as their legitimacy of birth.”104

Additionally, as scientists continue to map the human genome, “DNA may also be able to shed light on a person’s aggression, substance addiction, criminal tendency, and sexual orientation,” among other specific, personal, and potentially embarrassing information about an individual.105

In fact, recent efforts by the ENCODE Project,106 a consortium established by the National Human Genome Research Institute in 2003, have uncovered coding DNA among “[l]ong stretches of DNA previously dismissed as ‘junk.’”107 The Project assigned “biochemical functions for 80% of the [human] genome, in particular outside of the well-studied protein-coding regions,” and found that “[m]any non-coding variants in individual genome sequences lie in ENCODE-annotated functional regions.”108 This thorough mapping of the human genome will help researchers understand the genetic component of a variety of common diseases “that depend on the complex interaction of hundreds of genes and their associated regulatory elements.”109

As a result of this study, the concept of “junk” DNA is rapidly falling out of favor,110 and DNA sampling and profiling therefore presents a much greater risk than previously considered to the individuals sampled. The Project also recognized that genomic research such as this is incomplete, and that additional information

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105. Id.


107. Jha, supra note 92.

108. ENCODE Project, supra note 101, at 57.

109. See Jha, supra note 92 (“Regulatory elements are the things that turn genes on and off,” and therefore play a large role in the differences between individuals.).

110. See id. (“Already falling out of favour in recent years, this concept [‘junk’ DNA] will now, with Encode’s work, be consigned to the history books.”).
could be revealed in subsequent experiments.\textsuperscript{111} Additionally, even if the thirteen loci that compose DNA profiles do only contain “junk” DNA, there is no current statutory bar to using DNA samples for other purposes, meaning that “the FBI is free to alter its current practice at will and to require crime labs to use more revealing portions of the DNA sequence when creating the DNA profile.”\textsuperscript{112} The information taken from a DNA sample may, and according to some, “inevitably \textit{will be} . . . abused in a number of ways.”\textsuperscript{113} This belief is supported by the FBI’s own admission that it intends to expand the way it collects and uses DNA in the future, at least with respect to the use of DNA in the CODIS system to identify and find missing persons. It states that:

Through the combination of increased federal funding and expanded database laws . . . the number of profiles in NDIS [National DNA Index System] has and will continue to dramatically increase resulting in a need to re-architect the CODIS software. A considerable focus during this time will be to enhance kinship analysis software for use in the identification of missing persons. The next generation of CODIS will utilize STR and mtDNA information as well as meta data (such as sex, date of last sighting, age, etc.) to help in the identification of missing persons. The re-architecture will also enable CODIS to include additional DNA technologies such as a Y Short Tandem Repeat (Y-TSR) and mini-Short Tandem Repeat (miniSTR). . . . [T]he future of DNA, CODIS, and NDIS holds even greater promise to solve crime and identify missing persons.\textsuperscript{114}

Although the FBI states that the benefit of using this information is to identify and find missing persons, it also identifies improved law enforcement as a goal of the re-architecture of the CODIS database,\textsuperscript{115} indicating that the increased use of identifying information contained within DNA will imminently be used for law enforcement purposes.

\textit{b. Risk of “Function Creep”}

One major risk that may accompany the DNA sampling of large populations, along with the placing of such samples in databases, is the risk that that database will be subject to function creep.

Databases in the United States have a history of being subject to function creep. Two major examples are the Social Security number system and census records.

\textsuperscript{111} ENCODE Project, \textit{supra} note 101, at 71.
\textsuperscript{112} Ferrell, \textit{supra} note 103, at 248.
\textsuperscript{113} Cole, \textit{supra} note 102, at 75.
\textsuperscript{114} CODIS—\textit{The Future}, FEDERAL BUREAU OF INVESTIGATION, http://www.fbi.gov/about-us/lab/biometric-analysis/codis/codis_future (last visited Aug. 5, 2014) [hereinafter CODIS—\textit{The Future}]. STRs may be used to identify genetic predispositions or traits, and ethnicity or race. Brief for Electronic Privacy Information Center, \textit{supra} note 98, at 17–19.
\textsuperscript{115} CODIS—\textit{The Future}, \textit{supra} note 114.
The stated purpose of developing a system of Social Security numbers was to aid the installation of the Social Security retirement program, and assurances were made that that would be the only purpose for which Social Security numbers would be used. However, Social Security numbers gradually became “the universal identifier that their creators claimed they would not be.” Census records, which were created and still used for statistical purposes, developed a more frightening function in World War II—they were used “to round up innocent Japanese Americans and to place them in internment camps.”

Function creep has already started to occur with respect to DNA databases. For example, familial DNA searching allows law enforcement to connect DNA found at crime scenes to family members of individuals whose profiles are in DNA databases. Additionally, DNA analysis companies have been marketing services to law enforcement that would allow them to use DNA to predict the specific ancestry of an offender or infer the offender’s eye color. Although this information may allow police to better identify and arrest criminals, such expanded use comes with the risk of infringing on personal liberties. For example, DNA collection may be used to bolster racial profiling efforts, especially when DNA is generally collected from racial minorities.

The risk of function creep is made greater by the fact that DNA databases are continually expanding. “[W]e have witnessed the ever-widening scope of the target groups from whom law enforcement collects DNA and rapid-fire proposals to expand genetic databases to include new categories and ever-greater numbers of persons,” one example of which is the subject of this note—the addition of arrestees to the group of individuals whose DNA can be sampled and stored:

In less than a decade, we have gone from collecting DNA from convicted sex offenders—on the theory that they are likely to be recidivists and that they frequently leave biological evidence—to collecting it from all violent offenders; to collecting it from all persons convicted of a crime; to collecting it from juvenile offenders in twenty-nine states; and now to proposals, and laws . . . to collect it from mere arrestees.

It can be expected that if states do not take action to curb the current trend toward broadening DNA databases, DNA databases will likely grow to include

117. Id.
118. Id.
119. See infra Part III.B.1.c.
120. Simoncelli & Steinhardt, supra note 94, at 284.
122. Steinhardt, supra note 58, at 174.
123. Id.
124. Id.
everyone “designated ‘criminal’”\textsuperscript{125} meaning that DNA databases will include all those individuals who have a run-in with the criminal justice system.

The risk of function creep is also made greater by the fact that “there is not one state or federal statute that requires that biological samples collected for identification purposes be destroyed after identification testing is completed,”\textsuperscript{126} allowing “an unlimited span of improper uses . . . so long as those samples are retained.”\textsuperscript{127} Proponents of DNA sampling of arrestees urge that the genetic information of innocent arrestees is protected because the samples will be destroyed when an individual’s record is expunged.\textsuperscript{128} However, in practice, after samples are analyzed in order to extract a profile for CODIS, the federal government, Maryland, and a majority of states retain whole samples indefinitely.\textsuperscript{129}

c. Use Against Relatives

The collection of DNA from arrestees has implications on the genetic privacy of arrestees’ family members due to the possibility of familial DNA searching.\textsuperscript{130} “[F]amilial DNA searches’ compare crime scene DNA evidence to offender profiles already in a DNA database, searching for a partial DNA match in the hopes that the perpetrator is a relative of an offender whose profile is already present in the database.”\textsuperscript{131} When law enforcement obtains a “partial match” from a DNA sample, it indicates that a close biological relative of the offender may be the source of the unknown DNA sample because of “a similarity in alleles between the forensic unknown and the candidate offender profile.”\textsuperscript{132}

Currently, five states conduct familial searching using partial matches.\textsuperscript{133} Additionally, the use of Y-chromosome markers may be used to trace paternal lineage, and the use of mitochondrial DNA markers may be used to trace maternal lineage.\textsuperscript{134} “[C]ourts in Maryland and Michigan have permitted the use of mtDNA [mitochondrial DNA] evidence in a murder conviction.”\textsuperscript{135}

Aside from serving as an example of function creep,\textsuperscript{136} there are several ethical issues with allowing the use of familial DNA searching. First, such methods allow

\begin{itemize}
\item \textsuperscript{125} Cole, supra note 102, at 82.
\item \textsuperscript{126} Simoncelli & Steinhardt, supra note 94, at 204.
\item \textsuperscript{127} Id.
\item \textsuperscript{128} See Brief for States, supra note 4, at 27.
\item \textsuperscript{129} Brief for Electronic Privacy Information Center, supra note 98, at 5.
\item \textsuperscript{130} “[G]enetic privacy protects not only the individual but also the members of his/her family.” Akrivopou-
\item \textsuperscript{131} McCarthy, supra note 22, at 381.
\item \textsuperscript{132} CODIS FAQ, supra note 18.
\item \textsuperscript{133} Those states are California, Colorado, Texas, Virginia, and Wyoming. Id.
\item \textsuperscript{134} McCarthy, supra note 22, at 385–86. Both of these markers may be obtained through the use of a buccal swab. See, e.g., About the Genographic Project, NATIONAL GEOGRAPHIC, https://genographic.nationalgeographic.com/about/ (last visited Sept. 5, 2014).
\item \textsuperscript{135} McCarthy, supra note 22, at 386.
\item \textsuperscript{136} See id. at 409. For a discussion of function creep generally see supra Part III.B.1.b.
\end{itemize}
law enforcement to identify individuals whose genetic information is not in a criminal DNA database—“individuals for whom no probable cause has yet existed with respect to any crime”137—and have the potential to yield personal information about those individuals. The use of familial DNA searching thereby “plac[es] a class of Americans under greater scrutiny merely because their relatives have committed crimes.”138 “The idea of holding people responsible for who they are,” or who they are related to, “rather than what they’ve done could challenge deep American principles of privacy and equality.”139

Second, “it turns family members into genetic informants without their knowledge or consent.”140 Those family members who have their DNA placed in a database subsequently subject their family members to law enforcement scrutiny. Allowing individuals to place family members under such scrutiny makes those individuals responsible for the genetic privacy of their family members, and culpable for any intrusions on the privacy of those family members that result from familial DNA matching. Not only may this give the offender feelings of guilt for subjecting her family members to law enforcement scrutiny, but “family members might also ostracize the offender if this is the first time they are made aware of his or her genetic presence on the database.”141 This danger may be greater for arrestees, whose family members “might assume that presence on the database meant a conviction.”142

Last, familial searching may, in itself, reveal personal information that was unknown to the offender or her family members. “A familial search and ensuing investigation could reveal a previously unknown genetic connection or reveal a lack of genetic connection between persons thought to have been related,”143 thus unacceptably intruding on the family relationship. Because of these concerns, the sampling of arrestees’ DNA should cause greater concern than, for example, fingerprinting arrestees; the privacy of these individuals’ family members is at stake.

In the case of minorities, familial searching may perpetuate the targeting of minorities by law enforcement. Because minority individuals are arrested at much higher rates than white individuals, the use of familial searching using DNA sampled upon arrest may put “roughly a third of the African American population” under surveillance, “compared with about 7.5 percent of the European American

139. Id.
140. Id.
141. McCarthy, supra note 22, at 400.
142. Id.
143. Id. If two individuals believed that they were related and therefore that the comparison of their DNA would cause a partial genetic match and it does not, that information would reveal that they are not biologically related—for example, by adoption. This information may not have been previously known to both parties.
population.\textsuperscript{144} The DNA sampling of arrestees, which in itself will disproportionately impact minority populations, may therefore have an even greater impact on minority populations through the use of familial searching. Additionally, the use of familial searching “may reinforce views about the alleged prevalence of criminality within families” or within ethnic populations that are over-represented in forensic databases.\textsuperscript{145}

2. Risk of Unethical Use of Genetic Information

The general risk that genetic information obtained by DNA sampling of arrestees will be used unethically is made more serious by the sensitive nature of the information contained within an individual’s DNA. Because of the prevalence of genetic discrimination by both private entities and the government, and because such discrimination would disproportionately impact minorities who are likely to be arrested in greater proportions than white citizens, states should eliminate DNA sampling upon arrest to protect against such discrimination.

a. Risk of Unethical Use Against the Individual

Disproportionate DNA sampling of racial minorities allows the government disproportionate access to personal information of those individuals.\textsuperscript{146} This personal information may be used to discriminate against those particular individuals, for example, in education,\textsuperscript{147} employment, or the provision of insurance.\textsuperscript{148}

Proponents of DNA sampling of arrestees argue that the benefit to law enforcement and victims of crime outweighs the slight privacy intrusion of taking DNA samples from arrestees.\textsuperscript{149} However, privacy, particularly privacy surrounding genetic information, is more important than those proponents acknowledge for two reasons. First, privacy has been deemed an important American value that should be protected under the law.\textsuperscript{150} United States citizens place value “on individual privacy, sometimes referred to as ‘the right to be left alone’ and the right to be free of outside intrusion, not as an end in itself, but as a means of enhancing individual freedom.”\textsuperscript{151}

\begin{itemize}
  \item \textsuperscript{144} Nakashima, supra note 138. This assumes that each person with a profile in the database “has five first-degree relatives.” Id.
  \item \textsuperscript{145} McCarthy, supra note 22, at 401.
  \item \textsuperscript{146} Id.
  \item \textsuperscript{147} See infra, Part III.B.2.a.
  \item \textsuperscript{148} Although the Genetic Information Nondiscrimination Act (GINA), Pub. L. No. 110-233, § 2, 122 Stat. 881 (2008), prohibits discrimination based on genetic information in the employment and insurance contexts, it does not prohibit discrimination in the provision of life or disability insurance. Id. Further, it does not necessarily protect against all genetic discrimination in practice, as such discrimination may be difficult to detect or prove.
  \item \textsuperscript{149} See, e.g., Brief for the Maryland Crime Victims’ Resource Center, Inc. et al. as Amici Curiae Supporting Petitioner at 4, Maryland v. King, 133 S. Ct. 1958 (2013) (No. 12-207).
  \item \textsuperscript{150} Akrivopoulou, supra note 100, at 116.
  \item \textsuperscript{151} George J. Annas, Genetic Privacy, in DNA AND THE CRIMINAL JUSTICE SYSTEM: THE TECHNOLOGY OF JUSTICE 135 (David Lazer ed., 2004). Privacy is deeply rooted in American culture. “They who can give up essential liberty to obtain a little temporary safety, deserve neither liberty nor safety.” 1 Benjamin Franklin &
Second, privacy surrounding genetic information is particularly important due to the potentially “sensitive, personal and intimate . . . character of such information.”\footnote{152} The invasion of privacy goes beyond the mere intrusion into an arrestee’s mouth to take a DNA sample. The seizure of DNA information is “extraordinary in both its nature and scope” due to the amount of private personal data contained within DNA:\footnote{153}

The DNA samples that are being held by federal, state, and local governments can provide insights into the most personal family relationships and the most intimate workings of the human body, including the likelihood of the occurrence of thousands of genetic conditions and diseases . . . [T]here are many who claim that there are genetic markers for aggression, substance addiction, criminal tendencies, and sexual orientation.\footnote{154}

Despite assurances that this information is only used for identification purposes and that the loci used to create a DNA profile contain only “junk” DNA,\footnote{155} “current laws provide little protection against potential abuses of DNA data—a disturbing possibility given the tremendous power of genetic information.”\footnote{156}

As of 2004, “all but two states permit[ted] access to DNA records for vaguely defined law enforcement purposes that go well beyond limited use for purposes of identification.”\footnote{157} Further, twenty-four states allowed DNA samples that had been collected for law enforcement identification purposes, such as the DNA samples collected at arrest that are at issue in this note, “to be used for a variety of other non-law enforcement purposes.”\footnote{158} For example, Massachusetts’s law authorizes disclosure of genetic information, including personal information, where such disclosure may be required as a condition of federal funding or for advancing “humanitarian purposes.”\footnote{159}

Beyond the potential use of an individual’s genetic information to discriminate, there is the potential for that information to be used for the purpose of eugenics. A report of the National Research Council’s Panel on DNA Technology in Forensic Science considered concerns that genetic information will be used for eugenic purposes, stating that:

\begin{quote}
\end{quote}

\footnote{152}{Akrivopoulou, supra note 100, at 110.} \footnote{153}{Steinhardt, supra note 58, at 173.} \footnote{154}{Id.} \footnote{155}{For a discussion of the fallacy of “junk” DNA, see supra Part III.B.1.a.} \footnote{156}{Steinhardt, supra note 58, at 175.} \footnote{157}{Id. at 178.} \footnote{158}{Id. at 176. The states that allowed disclosure for non-law enforcement purposes in 2004 were Arizona, Colorado, Hawaii, Idaho, Illinois, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, North Carolina, Pennsylvania, Rhode Island, South Carolina, Utah, and Wyoming.} \footnote{159}{Id.}
The eugenics movement in this country, which resulted in thousands of involuntary sterilizations, the suggested screening of violent men for extra Y chromosomes, the sickle cell screening tests employed to prohibit marriages, and the current privacy concerns over HIV screening, underlie the Panel’s following recommendation: Use of a data bank for other than law enforcement suspect identification purposes should be expressly prohibited and subject the abuse to criminal penalties.160

The risk of the use of genetic information to discriminate against individuals is especially high for African Americans in light of the history of discrimination based on the sickle cell gene, a gene present mostly in African American populations, including discrimination by the government.161 For example, “[d]uring the 1970s, the Air Force refused to allow healthy individuals who carried one copy of the sickle cell gene to engage in flight training, even though two copies of the gene are needed for symptoms of sickle cell disease to develop.”162 Additionally, discrimination based on sickle-cell trait by private institutions still occurs—the NCAA has recently enacted regulations requiring sickle-cell trait testing for student athletes in order to eliminate liability for institutions for injuries to athletes with sickle-cell trait.163

Because of the wealth of information that may be accessed through the possession of an individual’s DNA sample, and the risk that such information may be used for discriminatory purposes, states should have an even greater concern with policies that allow for disproportionate DNA sampling of minority populations, such as policies mandating DNA sampling upon arrest.

b. Risk of Discriminatory Use Against Minority Populations

The possession of genetic information may result in discrimination against both individuals and against entire ethnic groups, and may facilitate stigma and discrimination against those groups.164 The broadening of DNA databases raises particular concerns for minority populations, as such “creeping” of databases may increase the discriminatory connection between race and criminal behavior.165 Because there are “race, class, and geographic inequities in arrest patterns”—for example, minorities and lower-class individuals are arrested in greater proportions than white, middle- or upper-class individuals—those inequities will be repre-

160. Id. at 181.
161. Id. at 182.
162. Id. “The policy was ultimately discontinued, but only after an Air Force trainee sued to have it changed in 1979.”
164. DOLGIN & SHEPHERD, supra note 11, at 183.
165. Cole, supra note 102, at 82.
presented in DNA databases that contain the DNA of arrestees,\textsuperscript{166} and may reinforce stereotypes about which types of individuals are “criminals”: The potential for such skewing of the information contained in criminal histories remains significant today, not least because of the prevalence of plea bargaining and deal making in exchange for testimony . . . . After passing through a DNA database . . . the biased information contained in criminal records will have essentially been ‘laundered,’ and it will be treated as objective information imbued with the considerable authority of science.\textsuperscript{167}

Additionally, minority populations who have a large number of DNA samples in government databases may face discrimination based on disorders that are prevalent in their particular ethnic population. For example, African Americans may face discrimination as a population based on sickle cell trait.\textsuperscript{168}

Because of the potential for discrimination against large groups of racial minorities, both for the alleged tendency to commit crime and for minority-specific genetic traits, states should enact statutes prohibiting DNA sampling of arrestees in order to protect minorities from discrimination.

\section*{IV. Conclusion}

As acknowledged in \textit{Maryland v. King}, the maintenance of DNA databases has provided a valuable tool for law enforcement—it has allowed law enforcement to become more effective and convict more individuals based on evidence obtained from crime scenes.\textsuperscript{169} However, the needs of law enforcement should give way when the practice in question has a disproportionate negative effect on racial minorities. This is especially true when there is not sufficient proof that the individuals in question, arrestees, have engaged in any wrongdoing. The ability of law enforcement to take DNA samples at arrest and maintain DNA profiles of arrestees in databases intrudes on the privacy of many individuals who will never be convicted of a felony\textsuperscript{170} and therefore would otherwise not have their DNA placed in a database.

\textsuperscript{166} Id. at 82–83.
\textsuperscript{167} Id.
\textsuperscript{169} See \textit{Maryland v. King}, 133 S. Ct. 1958, 1962 (2013) (“DNA testing may ‘significantly improve both the criminal justice system and police investigative practices’ . . . by making it ‘possible to determine whether a biological tissue matches a suspect with near certainty.’” (citations omitted)).
\textsuperscript{170} “Many arrests obviously do not result in a conviction. For example, a national survey of the adjudication outcomes for felony defendants in the seventy-five largest counties in the country in 1990 revealed that in felony assault cases, half the charges were dismissed outright, and in 14 percent of cases, the charges were reduced to a misdemeanor.” Steinhardt, supra note 58, at 187.