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DNA Evidence: The Forensic Tool That Provides Both Accuracy and A Violation Of Privacy

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DNA Evidence: The Forensic Tool That Provides Both Accuracy and A Violation Of Privacy.

Forensic scientists use differences on short tandem repeats (STRs), which are series of DNA that repeat on a chromosome, to identify a specific individual; if this individual is later convicted, their DNA is stored on the FBI's combined DNA index system (CODIS) to be identified faster were they to become a repeat offender (Mason 191; "DNA saves group" 1). This has increased safety and the likelihood of criminals being caught. As explained by Mason, "In 2013, the United States Supreme Court reviewed the constitutionality of Maryland's DNA Collection Act in *Maryland v. King*.. the statute required that law enforcement collect the DNA of felony-arrestees.. [due to] the significant government interest at stake in the identification of arrestees and unmatched potential of DNA identification to serve that interest" (198-199). This has unsurprisingly raised a variety of concerns for the privacy of both the offender and their DNA. However, since 1984, DNA "has become a vital part of forensic investigations" across the globe (Mason 189). So, to maintain the use of DNA as a forensic tool, there are a few solutions that seek to find a middle ground between those who prioritize safety and those who put privacy first.

On one hand, supporters of this issue want to maintain free access to DNA by law enforcement due to its benefits. Since allowing the police access to its database in "homicide, sexual assault, and missing person cases," GEDmatch has been used by law enforcement "in at

least one hundred cold cases, generating dozens of leads, numerous arrests, and at least one conviction” (Hazel and Christopher 727). One famous example is how, within 2 years of the FBI’s renewed effort in 2016 to solve the then 30+-year-old cold case of the infamous Golden State killer, Joseph DeAngelo was arrested as a result of familial DNA searching (Parman 2057-2058). In addition to solving cold cases, free access to DNA evidence has also led to the exoneration of hundreds of innocent individuals, including 350 in Boston (McGlynn 716). Take the case of Michael Morton for example who “on February 17, 1987, [was] convicted [by a jury] for his wife’s murder, and received a life sentence [as a result];” it was later through access to DNA testing and a database search that in 2011, 24 years after the original trial, he was able to prove his innocence (McGlynn 710). Finally, "By passing state legislation that enables law enforcement to collect DNA from felony arrestees[,] violent crimes [will be prevented]" ("DNA Saves Group" 2). This is since DNA evidence, more specifically how often it has led to guilty convictions, will become more of a crime deterrent. Overall, those in favor of the current open access to databases by the police do so due to how DNA has helped society, such as freeing the innocent, solving cases seen to be unsolvable, and minimizing bias in trials.

On the other side, opponents wish to restrict law enforcement access to DNA without warrants or other legal documents. The court found in *United States v. Carpenter* that knowing a persons’ information over time poses a serious threat to the privacy of their associations and lives; while this is about cellphones, this can also be applied to DNA through information seen as junk DNA by forensics being able to reveal genetic disorders, such as neurodegenerative and mental retardation syndromes (Selvin 1048-1049; Ram 1379). This means that, from the perspective of the offender, people whom they don’t know will likely know the information they either hide from their closest friends or are discriminated against for. In parallel with the

revealing nature of DNA, as the supreme court of Ohio ruled in *state vs. Emerson*, “individual[s] [also] ha[ve] a legitimate expectation of privacy in his or her bodily fluids, which extends to DNA samples taken from arrestees” (Mason 201-202). This plays into the more broad idea in the opponents' eyes that, as people too, offenders should be afforded equal rights to privacy. One last point opponents use is that, as explained by Mena, the systematic collection of DNA in searchable DNA databases is “similar to mass surveillance” (732). Unsurprisingly, this applies to a good chunk of people who're uncomfortable at the thought of their government studying them as people and their actions. To summarize, opponents support greater restrictions due to the risk of leaking the details of DNA, the greater right to have personal space, and the greater fear of government overreach.

While both sides of this issue have their disagreements, there are also a few details that apply to the interests and ideologies of both sides. "With the thirteen markers used for CODIS, researchers could link the data to individual profiles stored in DTC databases such as 23andMe with at least ninety percent accuracy” (Mena 747). This is a commonality since both sides have an interest in maintaining the use of DNA evidence due to its accuracy of it in comparison to other parts. As a result of millions of Americans submitting their raw genetic data for DNA testing or to databases seeking genealogical information, as explained by Hazel and Christopher, “not only have government-run databases containing profiles of convicted and arrested individuals expanded exponentially, but massive amounts of genetic information are also held by third parties” (710). This is a similarity since both sides can agree to the fact of DNA databases expanding, but whether or not that is for the better or worse is subject to contention. One last point which, while negative, both sides can agree on is that both parties “[do] nothing to address the legitimate privacy interests of the relatives of users who choose to opt-in,” meaning that law

enforcement can access both the individuals' and their families' information were they to submit data to a database (Selvin 1024-1025). As a result, while there is a serious battle over the privacy of the offender and the individual, their families are often a disregarded side effect. On the whole, commonalities tend to be more general stuff, such as the reliability of DNA evidence and the growth of DNA databases, but with deeper-rooted specifics comes the line between supporters and opponents.

Finally, there are a few solutions that could work as a 3rd way to the ideas of both sides. “One solution, unused by states today, is to prevent the collection and upload of DNA until after an individual is convicted of a crime” (Mena 756). This would still permit the usage of DNA collection to catch repeat offenders, but prevent pre-conviction collection and “the addition of innocent individuals to the database” (Mena 756). Another solution, as proposed by Mena, is to only allow the collection of DNA if there is good reason for both the individual “be[ing] connected to another crime],” and how “DNA may facilitate the investigative process” (756). “This reverses the current underlying assumption of DNA collection, which allows for collection based upon the charged crime and presumes the arrestee’s propensity to commit prior crimes” (Mena 756); however, it still allows for the open collection of DNA within reason. One final solution at the database level is for databases to follow in GEDmatch’s footsteps; While GEDmatch “encourages existing users to make their data accessible for law enforcement searches,” ultimately, the choice is up to the individual and through affirmative action, everyone is clear on whether or not their DNA is accessible by law enforcement (Ram 1416). This allows the individual to have the choice of their DNA privacy; those who are comfortable with having their DNA accessed by law enforcement can have their DNA accessed, while those who are not comfortable can be certain that without a warrant, their privacy is ensured. Overall, solutions

include the ending of routine collection of DNA, saving the routine collection until after conviction, and at the database level giving the choice to whether or not their DNA is freely accessible to the person rather than the company.

All in all, DNA evidence is a necessary tool with a lot of disagreement between sides. On one side are those who promote free access to DNA due to how it has freed wrongfully convicted individuals, solved cases thought unsolvable and served as an affective measure against crime. On the other side are those who want to greaten the privacy of the individual and their DNA alongside reducing the threat of government surveillance. Both sides can agree on the expansion of DNA, and the accuracy of DNA, and both sides turn a blind eye to the effects of DNA evidence on people's families. Finally, solutions regarding both the collection of DNA and freedom of choice in DNA databases seek to find a middle ground to ensure everyone is at least more comfortable than the current status quo. In the end, DNA evidence is a valuable tool and it would be in the best interest of both sides to find a compromise to continue using it.

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