

UNDERSTANDING THE IMPACT OF DNA EVIDENCE IN THE CRIMINAL JUSTICE SYSTEM

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Abstract

The widespread use of deoxyribonucleic acid ('DNA') data to detect offenders and exonerate the innocent have been applauded by law enforcers and the judiciary as a breakthrough in the science of criminal investigation. However, the use of DNA evidence in court and methods of collection have raised important legal, medical and ethical questions. Among the questions raised is if the provisions compelling suspects to give DNA samples violate their personal autonomy and privacy rights. Despite this, the Deoxyribonucleic Acid (DNA) Identification Act 2009 ('DNA Act') permits law enforcers to collect DNA samples from suspects, detainees, prisoners and drug users. Such practices demonstrate how the DNA Act is able to reconfigure the criminal justice system through methods that are capable of overriding a person's autonomy and privacy rights. Therefore, this article aims to examine three main areas. First, how the DNA Act provides an avenue for law enforcers to collect DNA through force. Second, how illegally obtained evidence can be admitted in court on the grounds of relevancy. Third, whether the weight and value of DNA evidence is sufficient to prove a case beyond reasonable doubt. The article will conclude by asserting two main points. First, that compelling certain individuals to give their DNA samples infringes a person's right to privacy and autonomy. Second, that DNA samples can only estimate the probability that the donor is the source of the sample but cannot confirm the person's participation in a crime. Therefore, this article argues that DNA evidence alone cannot implicate a person beyond reasonable doubt in a criminal trial.

Keywords: evidence, DNA collection, coercive, privacy, admissibility in court

I INTRODUCTION

The widespread use of deoxyribonucleic acid ('DNA') data to detect offenders and exonerate the innocent have been applauded by law enforcers and the judiciary as a breakthrough in the science of criminal investigation.¹ All forensic methods for individualization such as fingerprints, dental impressions, striations on bullets, hair and

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¹ U.S. Department of Justice Office of Justice Programs, 'Using DNA to Solve Cold Cases' (2022). Retrieved from <https://www.ojp.gov/pdffiles1/nij/194197.pdf>.

fibre comparisons, voice spectrograms, neutron-activation analysis, blood-grouping and serum-protein and enzyme typing have been able to match samples with reasonable accuracy to particular individuals suspected of committing a crime.² DNA evidence in particular has been considered the gold standard for forensic techniques for jurors and the courts.³ DNA could be found in white blood cells, sperm, vaginal secretion, mucosal fluid, sweat, saliva, ears, hair roots, bones, teeth and organs such as heart and liver, muscles and skin.⁴ Under normal situations, DNA will be extracted from the nucleus which is located in the cell that forms the tissue and organs and tested to obtain its sequence as comparison data.⁵ In this regard, Kaplan et al.,⁶ noted that DNA and fingerprinting were perceived as the two most accurate forensic techniques out of the 10 techniques evaluated, and these two types of evidence were also deemed foundationally valid in the United States President's Council of Advisors on Science and Technology ('PCAST') report.⁷ In Malaysia, DNA testing is carried out by the Malaysian Chemistry Department under the Ministry of Science, Technology & Innovation ('MOSTI').⁸ DNA profiling analysis is offered at the Headquarters of the Chemistry Department in Petaling Jaya, as well as at its other branches at Kuching, Sarawak and Penang.⁹

Given the advanced method of profiling suspects, Malaysia enacted its own Deoxyribonucleic Acid (DNA) Identification Act in 2009 ('DNA Act') for the purpose of determining a person's identity. This could include the suspect's or the victim's identity in a crime. The purpose of the DNA Act is to establish a DNA databank by the name of Forensic DNA Databank Malaysia ('FDDM').¹⁰ The primary objective of the databank is to keep and maintain seven indices of DNA profiles, which consist of crime scene index, suspected persons index, convicted offenders index, detainee index, drug dependants index, missing persons index and voluntary index.¹¹ These indices will be used for the purpose of human identification in relation to forensic investigation.¹² The DNA Act was amended in 2015 to allow the police to forcibly collect samples from suspects, detainees, prisoners, and drug users.¹³ Such practices demonstrate how the DNA Act is able to reconfigure the criminal justice system through methods that is capable of overriding

² National Research Council (US) Committee, *The Evaluation of Forensic DNA Evidence* (Washington (DC): National Academies Press 1996).

³ Shichun Ling, Jacob Kaplan, and Colleen M. Berryessa, 'The Importance Of Forensic Evidence For Decisions On Criminal Guilt' *Science & Justice* 61, no. 1 (2021) ('Ling, Kaplan, and Berryessa').

⁴ Ahmad Azam Mohd. Shariff et al., 'Analysis on Admissibility of DNA Evidence in Malaysian Syariah Courts,' *Academic Journal of Interdisciplinary Studies* 8, no. 4 (2019) ('Shariff et al'); 159-69.

⁵ Ibid.

⁶ Jacob Kaplan, Shichun Ling, and Maria Cuellar, 'Public Beliefs About The Accuracy And Importance Of Forensic Evidence in the United States' *Science & Justice* 60, no. 3 (2020).

⁷ William C Thompson and Eryn J Newman, 'Lay Understanding of Forensic Statistics: Evaluation of Random Match Probabilities, Likelihood Ratios, and Verbal Equivalents' *Law and human behavior* 39, no. 4 (2015).

⁸ Shariff et al. (n 4).

⁹ Ibid.

¹⁰ DNA Act 2009 s 3(1).

¹¹ DNA Act 2009 s 3(3).

¹² DNA Act 2009 s 4(1).

¹³ See DNA Act 2009 ss 12, 13.

a person's autonomy and privacy rights. Autonomy (literally, 'self-rule') refers to the capacity to live according to one's own reasons and motives.¹⁴

Although there is no express provision on the right to privacy in the Malaysian Federal Constitution, this right is presumed to be an integral part of the right to life as enumerated under Article 5 of the Federal Constitution.¹⁵ There are also several laws which provide limited rights to privacy such as the laws on data protection and criminal law. The Personal Data Protection Act 2010 ('PDPA') for instance was passed to protect personal information but it has limited application.¹⁶ The absence of specific law on privacy provides legitimacy to the police officers to forcibly collect DNA samples from persons of interests even if it intrudes a person's right to privacy and autonomy. Despite such innovative methods of obtaining evidence, the weight and value accorded to DNA samples are only considered corroborative and probative. This is because matching samples can only estimate the probability that the donor is the source of the sample but cannot confirm a person's role or participation in a crime.¹⁷ In addition, the use of DNA evidence needs to be supported by other primary or secondary type of evidence such as eyewitness accounts and written documents.¹⁸ Despite the need for such corroborative evidence, forensic evidence is considered to be more accurate in determining the presence and participation of the accused in the commission of a crime.¹⁹ Such high confidence attributed to DNA evidence has been criticised by human rights activists and law advocates as being highly discriminatory to the accused and overstretching the applicability of DNA evidence could defeat the purpose of justice and fair trial.²⁰ Similar concerns were raised by human rights advocates in Malaysia with regards to its DNA Act. The FDDM for instance is under the direct control of law enforcement agencies and they are allowed to use and re-use sensitive information stored in the databank. There is also no oversight mechanism in place to prevent any misuse.²¹

Therefore, this article will delve into the tenets of the DNA Act and explore three main areas. First, how the DNA Act provides an avenue for law enforcers to collect DNA through force. Second, how illegally obtained evidence can be admitted in court on the grounds of relevancy. Third, whether the weight and value of DNA evidence is sufficient to prove a case beyond reasonable doubt. The article will conclude by asserting two main points: first, that compelling certain individuals to give their DNA samples infringes a person's right to privacy and autonomy; second, that DNA samples can only estimate the probability that the donor is the source of the sample but cannot confirm the person's

¹⁴ Olejarczyk, J. P., & Young, M., *Patient Rights And Ethics* (Panama: Stats Publishing LLC 2021) ('Patient Rights And Ethics').

¹⁵ Haezreena Begum Abdul Hamid, 'May I Have Some Privacy Please?' *Malayan Law Journal* 1, no. 1 (2022).

¹⁶ *Ibid.*

¹⁷ Nicole Wyner, Mark Barash, and Dennis McNevin, 'Forensic Autosomal Short Tandem Repeats and Their Potential Association With Phenotype' (2020) Mini Review, *Frontiers in Genetics* 11, no. 884 ('Nicole Wyner et al').

¹⁸ Ling, Kaplan, and Berryessa (n 3).

¹⁹ *Ibid.*

²⁰ Muhamad, Mohd Munzil bin., 'Reliability and Conclusiveness of DNA Evidence in Criminal Trial' (2010) *Malayan Law Journal* 1, no. 1 ciii.

²¹ Mohd Munzil bin Muhamad, 'Concerns Over the Governance of Forensic DNA Databank Malaysia' *Malayan Law Journal* 2, no. 1 (2019).

participation in a crime. Such evidence can only establish that the person matches the profile and cannot implicate the person beyond a reasonable doubt.

II DNA AND LEGAL PROCEDURES

Advances in DNA technology and the discovery of DNA typing or polymorphisms²² have permitted the creation of DNA databases of individuals for the purpose of criminal investigation.²³ DNA is the basic genetic material within each living cell that determines a person's individual characteristics.²⁴ Forensic DNA profiling uses a category of DNA variations called short tandem repeat ('STR') markers to establish the identity of missing persons, confirm familial relations, and link persons of interest to crime scenes.²⁵ These accordion-like stretches of DNA contain core repeat units of between two and seven nucleotides in length that are tandemly repeated from a half dozen to several dozen times.²⁶ While the human genome contains thousands of STR markers, only a small core set of loci²⁷ have been selected for use in forensic DNA and human identity testing.²⁸ The complete process for STR typing includes sample collection, DNA extraction, DNA quantitation, PCR²⁹ amplification of multiple STR loci, STR allele separation and sizing, STR typing and profile interpretation, and a report of the statistical significance of a match (if observed).³⁰ Section 2 of the DNA Act defines a DNA profile as the genetic information derived from a forensic DNA analysis. In forensics, DNA testing is typically used to identify individuals, using only small samples of body fluids or tissue such as blood, semen or hair left at a crime scene.³¹ Within the DNA Act, DNA samples can be divided into two categories: intimate samples and non-intimate samples. According to sections 2 and 13 of the DNA Act, intimate samples would include samples of blood,

²² Polymorphism involves one of two or more variants of a particular DNA sequence. The most common type of polymorphism involves variation at a single base pair. Polymorphisms can also be much larger in size and involve long stretches of DNA. Called a single nucleotide polymorphism, or SNP (pronounced snip), scientists are studying how SNPs in the human genome correlate with disease, drug response, and other phenotypes. 'Polymorphism', *The Forefront of Genomics*, 2021. Retrieved from: <https://www.genome.gov/genetics-glossary/Polymorphism>.

²³ Margarita Guillén et al., 'Ethical-Legal Problems of DNA Databases in Criminal Investigation' *Journal of Medical Ethics* 26, no. 4 (2000), <https://doi.org/10.1136/jme.26.4.266>, <http://jme.bmj.com/content/26/4/266.abstract>. ('Margarita Guillén et al').

²⁴ See the website of 'Forensic DNA Analysis: Issues' 1991, accessed December 22, 2021, <https://www.ojp.gov/pdffiles1/pr/128567.pdf>.

²⁵ Nicole Wyner, Mark Barash, and Dennis McNevin, 'Forensic Autosomal Short Tandem Repeats and Their Potential Association With Phenotype' Mini Review, *Frontiers in Genetics* 11, no. 884 (6 August 2020), <https://doi.org/10.3389/fgene.2020.00884>.

²⁶ John M. Butler, 'Short Tandem Repeat Typing Technologies Used in Human Identity Testing' *BioTechniques* 43 (2007), <https://doi.org/10.2144/000112582>.

²⁷ A locus or loci is the specific physical location of a gene or other DNA sequence on a chromosome: see Elizabeth K. Mallott, 'Locus' in *Encyclopedia of Animal Cognition and Behavior*, ed. Jennifer Vonk and Todd Shackelford (Cham: Springer International Publishing, 2017).

²⁸ Ibid.

²⁹ Polymerase chain reaction (PCR) is an amplification technique for cloning the specific or targeted parts of a DNA sequence to generate thousands to millions of copies of DNA of interest.

³⁰ Ibid.

³¹ Muhamad, Mohd Munzil bin., 'Reliability and Conclusiveness of DNA Evidence in Criminal Trial' (2010) *Malayan Law Journal* 1, no. 1 ciii.

semen or any other tissue or fluid taken from a person's body, urine, or buccal swabs taken from any part of a person's genitals (including pubic hair) or from a person's body orifice other than the mouth. Non-intimate samples are defined under the same provisions and include samples of hair other than pubic hair, nail or from under a nail, swabs taken from any part of a person's body other than what constitutes an intimate sample, and saliva. One prominent question that has frequently been raised by advocates and human rights activists is the method of collection of DNA samples from individuals who are in the state's custody and detention.³² According to section 12(1) of the DNA Act, any police officer of or above the rank of a Deputy Superintendent of Police (authorised officer) can authorise intimate samples of a person who is suspected of committing a crime ('suspect'), a detainee, or a drug dependant³³ to be taken for forensic DNA analysis.³⁴ However, there are three main factors in the process of taking an intimate sample. First, the sampler will need to consent to the collection of the sample and sign a prescribed form.³⁵ Second, the sample can only be taken by a government medical officer; and third, the authorized officer can only give his authorization if he suspects that the person has committed an offence and believes that the sample can confirm or disprove the offence.³⁶ This whole process is similar to the collection of non-intimate sample except that the collection of samples can be taken by a government medical officer, a police officer or a chemist.³⁷ A police officer may use all means necessary for the purpose of taking or assisting the taking of a non-intimate sample from a person.³⁸ Although the above provisions seem to include the donor's consent in the process of DNA collection,³⁹ section 13(7) of the DNA Act permits police officers to collect non-intimate DNA samples from anyone 'reasonably suspected' of having committed any crime even if the person refuses to allow his or her DNA sample to be taken. In this instance, the person will be produced before a magistrate who can order the person's DNA sample to be taken on the grounds that the person's sample could prove or disprove the person's participation in an offence. Following this order, the suspect will need to allow his or her DNA samples to be taken. This whole process suggests that the authorities can forcefully collect a suspect's DNA sample in the event of a refusal. Indeed, the word 'force' does not appear in the provision, but the wording and practices suggest that a person is forced to allow his or her DNA samples to be taken.⁴⁰ Previous case law has suggested that samples taken from a donor without their consent can be considered harmful within the meaning of section 323 of the Penal

³² Ibid.

³³ See DNA Act s 13(2)(A): An order or a decision has been made pursuant to the Drug Dependents (Treatment and Rehabilitation) Act 1983 against a drug dependant.

³⁴ See DNA Act s 13(2)(A), (B).

³⁵ Ibid.

³⁶ Ibid.

³⁷ DNA Act s 13(6).

³⁸ DNA Act s 13(7).

³⁹ DNA Act s 12(2)(B).

⁴⁰ The word 'force' in this article does not necessarily mean a physical act but the act of compelling a person to do something which has been earlier refused, see Collins Dictionary. Retrieved from: <https://www.collinsdictionary.com/dictionary/english/compel>.

Code. In the High Court case of *Peter James Binsted v Juvencia Autor Partosa*,⁴¹ KC Vohrah J held:

That in a DNA test, it is common knowledge that either a blood, tissue or bone specimen will be taken from the person for testing. If a person refuse [sic] to submit himself to such a testing, he is perfectly entitled to do so; a person cannot be subject to hurt within the meaning of s 319 of the Penal Code against his will by submitting himself to such testing. Whoever carried out such testing without the person's consent would violate s 323 of the Penal Code for voluntarily causing hurt to the person and a court cannot, in the absence of a specific legislative provision, order such person to submit himself to an unlawful act to be committed on his person.⁴²

Although this case was decided prior to the enactment of the DNA Act, it continues to be cited in recent cases which involve involuntary DNA testing. The recent cases however do not subscribe to the decision made in *Peter James Binsted's* case and dismissed the argument of harm. For example, in the Court of Appeal case of *Lim Hooi Teik v Lee Lai Cheng (sebagai sahabat wakil Lee Chee Zheng dan untuk dirinya)*,⁴³ Vernon Ong JCA (as he then was) held:

that the decision of the High Court in *Peter James Binsted v Juvencia Autor Partosa* is distinguishable as it is no longer necessary to take a blood, tissue or bone specimen; it is sufficient for a swab to be taken of the mouth for that purpose. At any rate, the order of the High Court did not require the defendant to give a blood specimen. As such, there is no hurt that will be suffered by the defendant.

Also, in the case of *Lee Lai Ching v. Lim Hooi Teik*,⁴⁴ Zamani A Rahim J said:

Therefore, an order for DNA testing should not be construed as 'hurt' as defined in the Penal Code because the mens rea (intention) or objective behind the DNA test is to determine the paternity of the minor.

No intentional harm is caused to the defendant as a sample of his blood is required for the sole purpose of a DNA test. Further, with the advent of technology, DNA test may not necessarily require an extraction of the defendant's blood, but a simple swab of the defendant's sweat or saliva would suffice.⁴⁵

Despite the nuances of opinion on the cases cited above, the practice of taking DNA samples from suspects and persons of interests clearly violates the right to privacy. It is pertinent to note that privacy is a fundamental right, essential to autonomy and the

⁴¹ [2000] 2 MLJ 569.

⁴² Ibid, 571 [C], [D].

⁴³ [2015] MLJU 2200.

⁴⁴ [2013] 4 MLJ 272.

⁴⁵ Ibid, [16-17].

protection of human dignity⁴⁶ as enumerated under Article 5 of the Federal Constitution. Privacy refers to the right ‘to be let alone’ and the right to live free from intrusion by others and autonomy relates to a person’s capacity to govern oneself and self-expression.⁴⁷ The right to privacy is enshrined under Article 12 of the Universal Declaration of Human Rights 1948, which stipulates:

No one shall be subjected to arbitrary interference with his privacy, family, home, or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks.

This right is also embedded under Article 17 of the International Covenant on Civil and Political Rights which states:

No one shall be subjected to arbitrary or unlawful interference with his privacy, family, home, or correspondence, nor to unlawful attacks on his honour and reputation.

Therefore, everyone has the right to the protection of the law against such interference or attacks. Given that the right to privacy and autonomy is an essential right, the act of compelling a person to submit to DNA collection should be regarded as intrusive and an infringement of a person’s fundamental rights. Nevertheless, such rights have been clearly derogated through the DNA Act which legitimises forceful taking of DNA samples.

III DNA AND FORCED COLLECTION

In 2015, the DNA Act established a DNA databank in Malaysia known as FDDM. The function of FDDM is to legally store DNA profiles and any related information to be used for human identification in forensic investigations. It stores the data from analyses carried out by the Chemistry Department, police or any government agency designated by the Home Affairs Minister. The data is also used to locate missing people, identify human remains and provide information relating to criminal and civil cases.⁴⁸ Both genetic profiles and samples may also be kept indefinitely, except when an individual has been acquitted or when further investigation reveals that they were not involved in the commission of any crime.⁴⁹ The United Nations Special Rapporteur on the right to privacy has noted that DNA databases can raise human rights concerns, such as ‘potential misuse for government surveillance, including identification of relatives and non-paternity, and the risk of miscarriages of justice’.⁵⁰ Thus, the Human Rights Watch argues that the

⁴⁶ Bart van der Sloot, ‘The Right To Be Let Alone By Oneself: Narrative and Identity in a Data-Driven Environment (2021) *Law, Innovation and Technology* 13, no. 1.

⁴⁷ Patient Rights And Ethics (n 14).

⁴⁸ Hashom Mohd Hakim et al., ‘Experiences, Challenges And The Future Direction Of Forensic DNA Databanking In Malaysia’ (2019) *Journal of Sustainability Science and Management* 14, no. 2 (‘Hashom’).

⁴⁹ DNA Act ss 5, 8.

⁵⁰ See the website of ‘China: Police DNA Database Threatens Privacy 40 Million Profiled Includes Dissidents, Migrants, Muslim Uyghurs’ 2017, accessed October 11, 2022, <https://www.hrw.org/news/2017/05/15/china-police-dna-database-threatens-privacy>.

collection of DNA without the subject's full informed consent can only be justified in very limited circumstances, such as when necessary to the investigation of a serious crime and must be prescribed by law for reasons that comport with human rights.⁵¹

In 2008 the Grand Chamber of the European Court of Human Rights ('ECHR') in the case of *Gaughran v The United Kingdom*⁵² outlawed the collection and indefinite retention of fingerprints, cell samples and DNA profiles. The ECHR, in reaching its conclusion, reasoned that sweeping, indiscriminate DNA databases violated the right to personal privacy. It added that DNA collection may be appropriate in relation to state security and crime prevention, but only if the collection system is heavily regulated by established law and open to the careful scrutiny of a judiciary. Similarly in the United States of America, in *Maryland v. King*,⁵³ the Supreme Court ruled that the collection and retention of DNA profiles of people convicted of violent crimes were legal, given the limited types of collection, analysis, and use of samples provided by statute. While some may view this decision favourably, many others may consider this as a serious infringement of privacy right and autonomy. Furthermore, there are no safeguards against misuse of DNA samples. Thus, policymakers need to strike a balance between the potential intrusiveness and effectiveness of forensic DNA profiling and databasing.⁵⁴

In Malaysia, although the right to refuse DNA collection is still granted to individuals pursuant to section 13(7) of the DNA Act, the authorities are given the power to forcefully take DNA samples from suspects, detainees and prisoners and conduct medical tests for the purpose of investigation. As has been established here, this clearly violates a person's right to privacy and personal autonomy pursuant to international law and is also against medical and legal ethics. Therefore, Guillén et. al. considers the act of DNA collection for the purpose of investigation as intrusive, invasive and coercive if it was taken without obtaining prior consent from the donor.⁵⁵ The forceful collection and onward processing of DNA samples also contravenes Principle 4 of the Principles of Medical Ethics relevant to the Role of Health Personnel, particularly Physicians, in the Protection of Prisoners and Detainees against Torture and Other Cruel, Inhumane or Degrading Treatment or Punishment which reads:

It is a contravention of medical ethics for health personnel, particularly physicians:

- (a) To apply their knowledge and skills in order to assist in the interrogation of prisoners and detainees in a manner that may adversely affect the physical or mental health or condition of such prisoners or detainees, and which is not in accordance with the relevant international instruments.

⁵¹ Ibid.

⁵² The European Court of Human Rights in the case of *Gaughran v. the United Kingdom* (Application no. 45245/15); this judgment has become final under Article 44 § 2 of the European Convention.

⁵³ 569 U.S. 435, 133 S. Ct. 1958 (2013).

⁵⁴ R. Williams and P. Johnson, 'Inclusiveness, Effectiveness And Intrusiveness: Issues In The Developing Uses Of DNA Profiling In Support Of Criminal Investigations' *J Law Med Ethics* 33, no. 3 (Fall 2005), <https://doi.org/10.1111/j.1748-720x.2005.tb00517.x>.

⁵⁵ Margarita Guillén et al (n 23).

Whilst the article acknowledges that medical personnel are not the individuals who are directly responsible in obtaining the donor's signatures, they are authorised to collect the DNA samples and conduct tests and experiments once they receive the consent from the authorised officer.⁵⁶ This could adversely affect the right to privacy of the donors. According to Berson, the collection of DNA from convicted prisoners creates the potential for abuse of genetic information stored in databases and also infringes the right to be let alone and the right to live free from intrusion by others for those who are yet to be convicted of a crime.⁵⁷ Despite the sweeping powers given to authorities within the DNA Act, the presence of DNA can only determine the presence of the donor at the scene of a crime and cannot prove that the donor committed the crime. This means that DNA results cannot effectively prove a case beyond reasonable doubt but can only establish the presence of the donor on the item, articles or the scene of the crime. Thus, DNA evidence can only be considered to be circumstantial evidence as it does not definitively prove the point which needs to be proved and only provides a strong inference in favour of that point.⁵⁸ Therefore, conviction based on DNA evidence, especially where the sample contains a mixture of DNA profiles, will require other evidence to be established.

IV DNA EXPERTS

The proliferation of DNA evidence in investigations and trials has required a fairly rapid expansion in the number of reliable experts and laboratories.⁵⁹ This is concerning because this opens up the possibility for wrongful conviction and discredited forensic evidence. To maintain its credibility and reliability, DNA evidence can only be interpreted and analysed by experts in the relevant field. Thus, experts who present and interpret the results of DNA tests must be 'qualified by knowledge, skill, experience, training or education'.⁶⁰ The question is whether the person has enough knowledge 'to make it appear that his opinion or inference will aid the trier in the search for truth'.⁶¹ Ultimately, it is the Court who decides and has the power to either use or discard an expert's opinion on a particular subject matter. The validity of an expert opinion also does not guarantee the authenticity and reliability of the DNA samples.⁶² Neither can an 'expert' prevent the access, tampering or contamination of the DNA samples.⁶³ Similarly in Malaysia, expert

⁵⁶ See DNA Act ss 12, 14.

⁵⁷ Berson, Sarah B. 'Debating DNA Collection' *NIJ Journal* 2022, no. 264 (2008): 1-13. <https://www.ojp.gov/sites/g/files/xyckuh241/files/archives/ncjrs/228383.pdf> ('Berson'). See also Hashom (n 48).

⁵⁸ L Meintjes-van der Walt and P Dhliwayo, 'DNA Evidence as the Basis for Conviction' *Potchefstroom Electronic Law Journal (PELJ)* 24 (2021), http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S1727-37812021000100030&nrm=iso.

⁵⁹ National Research Council (US) Committee on DNA Technology in Forensic Science, *DNA Technology in Forensic Science* (Washington (DC): National Academies Press (US) 1992).

⁶⁰ See Brandon L. Garrett & Gregory Mitchell, 'The Proficiency of Experts' (2018) *University of Pennsylvania Law Review* (2018) 166, 901. See also Rule 702, American Federal Rules of Evidence, 2021.

⁶¹ United States Court of Appeals, Second Circuit. *United States of America, Appellee, v. John W.s. McCormick, Defendant-appellant*, 58 F.3d 874 (2d Cir. 1995).

⁶² Tony Ward, 'Explaining and Trusting Expert Evidence: What is a 'Sufficiently Reliable Scientific Basis'?', (2020) *The International Journal of Evidence & Proof* 24, no. 3, 233.

⁶³ *Ibid.*

witnesses such as pathologists, forensic psychologists and chemists do not have the sole and exclusive access to the DNA Database in Malaysia as it is linked to the Chemistry Department of Malaysia and the Royal Malaysian Police DNA Lab. This indicates that the DNA Database can be accessed by certain agencies and data can be retrieved by the police officers who are in charge. In this context, Frumkin et Al⁶⁴ found that individuals who have access to a DNA profile in a database could construct a sample of DNA to match that profile without obtaining any tissue from that person and engineer a crime scene. This suggests that DNA evidence can be misused and fabricated to incriminate or exonerate a person. Prevailing studies have acknowledged the fact that DNA analysis is subject to error and may be misinterpreted.⁶⁵ For instance, in cases of sexual assault, DNA mixtures may result from a combination of the victim and perpetrator's bodily fluids and create a complex and challenging result to interpret.⁶⁶ Often, the debate centres around the question of how their DNA got there?⁶⁷ While DNA matching evidence is probative, a match only estimates the probability that the donor is the source of the sample but cannot confirm the donor's role or participation in a crime.⁶⁸ In the case of *Pendakwa Raya v Hanif Basree bin Abdul Rahman*,⁶⁹ the issue of DNA as a proof of identity was discussed in detail. Zaki Tun Azmi FCJ said:

The likelihood of another person having an identical DNA to him, according to SP14, is in the proportion of, something like, between 1 in 41 million, to 330 x 1018, in 6.2 quintillion (6.2 x 1018) calculated based on Malaysian Malay database depending on the type of specimen. In other words, such proof is practically conclusive. But in order to be able to utilize DNA for identification of a person, the person who has that DNA profile must be identified and related to a sample of his body fluid or any other part of his body. An expert in DNA can only say whether the DNA belongs or does not belong to an identified person.⁷⁰

–The accused's DNA found in circumstances that may have created suspicion of his guilt is not enough to prove his guilt. If there are reasonable explanations as to why his DNA was found in those circumstances, the benefit must be given to him, and he must be acquitted and discharged.

Several inferences could be made from the findings of such evidence on the body of the deceased. The discovery of the accused's DNA profile on the body of the deceased per se cannot be sufficient to conclude that he caused her death. There could be so many explanations why his DNA was found on her body.

⁶⁴ Frumkin, Dan, Adam Wasserstrom, Ariane Davidson, and Arnon Grafit, Authentication of Forensic DNA Samples (2009) *Forensic Science International Genetics* 4, no. 2, 95-103 ('Frumkin et al').

⁶⁵ Ibid.

⁶⁶ Ibid.

⁶⁷ Titia Sijen and Sally Ann Harbison, 'On the Identification of Body Fluids and Tissues: A Crucial Link in the Investigation and Solution of Crime' (2021) *Genes* 12, no. 11.

⁶⁸ J J Koehler, 'DNA Matches and Statistics: Important Questions, Surprising Answers' (1993) *Journal Judicature* Volume 76, no. 5, 222.

⁶⁹ [2008] MLJU 116.

⁷⁰ Ibid, [22], [24-25].

Based on the above case, we can infer that DNA evidence remains merely corroborative as it is unable to establish a person's guilt or innocence. In this circumstance, the basic principles of evidence which require the testimonies of witness, production of documents, digital evidence and real evidence prevails while the inclusion of DNA evidence into the pool of evidence is subject to the discretion of the court. Ultimately it is the court that decides, and they have the discretion to either allow or reject DNA evidence to be accepted and admitted during court proceedings.⁷¹ This is commendable given that DNA evidence is merely corroborative and does not establish a person's guilt or innocence. Furthermore, DNA evidence must be handled in a scrupulously careful manner to avoid later allegations of tampering or misconduct which can compromise the case of the prosecution towards acquittal or to overturning a guilty verdict upon appeal.⁷² Thus, to solely use DNA evidence to convict a person is unsafe because DNA samples are often at risk of being contaminated or tampered with, given that the custody of the samples shifts from one party to the other. As a result, the defence of contamination and breaks in the chain of custody remain the two most used defences in rebutting the authenticity of the DNA evidence in criminal trials.⁷³ Thus, the court may admit the DNA sample as evidence but are often cautious in accepting such evidence without any corroboration. In the case of *Public Prosecutor v Syed Muhamad Faysal bin Syed Ibrahim*,⁷⁴ the accused was acquitted from a murder charge without the defence being called because the case relied on circumstantial evidence. Although the prosecution called 15 witnesses to testify in the case, the learned judge decided that there was no independent witness(es) who would come forward to relate the incident or the truth despite producing various exhibits and expert reports. There was also no identification parade held in the case to identify the accused; no clear evidence on how samples such as nail clippings and blood were taken from the deceased or the accused; and no medical evidence or testimony given by the forensic pathologist on the probable time of death of the deceased. Such shortcomings succeeded in absolving the accused completely from the crime because the court was unable to connect the accused with the murder that took place in 2001. The learned judge also said that although DNA evidence is recognised by the court, it cannot replace testimonies from witnesses, nor can it speak to a fact.⁷⁵ Thus, DNA evidence can only lead to the drawing of an inference while the weight and value of evidence still remain within the domain of the courts. The case of *Public Prosecutor v Syed Muhamad Faysal bin Syed Ibrahim* demonstrates how DNA evidence is unable to replace the basic rules of primary and secondary evidence.⁷⁶ The existence of a person's DNA can only link the person to the place, object or victim but is not sufficient to link a person to a crime. Therefore, testimonies of witnesses and confessions still remain the favoured forms of evidence together with documentary, real or digital evidence as prescribed by the Evidence

⁷¹ DNA Evidence (n 56).

⁷² DP Lyle, 'Working The Scene: Evidence Collection and Protection' in *Forensic for Dummies* (Indiana: Wiley Publishing Inc., 2004) 25.

⁷³ Hashom (n 48).

⁷⁴ [2004] MLJU 184.

⁷⁵ *Ibid.*

⁷⁶ See Part III of this article.

Act 1950. Furthermore, DNA evidence can be contaminated if proper protocols are not adhered to, whereas eyewitness evidence is still considered to be the most powerful form of evidence in a trial because of its reliability and accuracy.⁷⁷ Therefore, this article argues that DNA evidence is only one part of a prosecution's case and cannot provide a definite solution to solving crimes.

V ADMISSIBILITY OF ILLEGALLY OBTAINED EVIDENCE IN MALAYSIAN COURTS

Although researchers and scholars have long documented the problem of wrongful conviction through DNA testing,⁷⁸ elucidating confessions through coercive means continues around the world, including in Malaysia. This is because the general rule in Malaysia is that procuring evidence through illegal means does not taint its veracity, thus it cannot be a cause for rejection at trial.⁷⁹ Jain explains that evidence can be illegally obtained through a range of methods.⁸⁰ This can include eavesdropping, illegal search, violating the body of a person, and a variety of other shocking methods.⁸¹ Such practices are further aggravated by the court's approach on admitting illegally obtained evidence if such evidence is found to be relevant to the facts in question. For example, in the Federal Court case of *Benjamin William Hawkes v Public Prosecutor*,⁸² Zabariah FCJ held that 'it is trite law that even in cases of evidence obtained illegally, its admissibility is unaffected as the issue is actually relevancy'. The Court further referred to Lord Goddard's explanation in the Privy Council's case of *Kuruma, Son of Kaniu v The Queen*.⁸³

The test to be applied in considering whether evidence is admissible is whether it is relevant to the matter in issue. If it is, it is admissible, and the court is not concerned with how the evidence is obtained.

Such considerations suggest that the courts will not exclude illegally obtained evidence just because the method of collection does not conform to the requirements stipulated under section 27 of the Evidence Act 1950. What is important to the court is that the evidence is reliable and hence, can be admitted.⁸⁴ In this context, section 27 of the Evidence Act deals with the admissibility of a statement made by a person in police custody, regardless of whether the statement amounts to a confession or not. The judiciary's approach in admitting evidence procured through illegal or coercive means raises important questions

⁷⁷ John T. Wixted, Laura Mickes, and Ronald P. Fisher, 'Rethinking the Reliability of Eyewitness Memory' (2018) *Perspectives on Psychological Science* 13 no. 3, 324.

⁷⁸ Leo, R. A., 'False Confessions: Causes, Consequences, and Implications' (2009) *Journal of the American Academy of Psychiatry and the Law* 37(3) 332.

⁷⁹ *Kendal v. Commonwealth* (Ky. 1942) 259 S. W. 71; *Leatherman v. State* (1912) 11 Ga. App. 756, 76 S. E. 102.

⁸⁰ S.N. Jain, 'Admissibility of Illegally Obtained Evidence' (1980) *Journal of the Indian Law Institute* 22, no. 3, 322.

⁸¹ *Ibid.*

⁸² [2020] 5 MLJ 417.

⁸³ [1955] AC 197.

⁸⁴ Hashom (n 48).

regarding the methods used in collecting DNA samples. For example, in the case of *Hanafi bin Mat Hassan v PP*,⁸⁵ the accused was charged in the Shah Alam High Court with the rape and murder of one Suzaily Mokhtar on 7 October 2000. The learned trial judge found the accused guilty on both the charges and he was convicted and sentenced to death in respect of the murder charge and to 20 years' imprisonment and whipping of 12 strokes of the *rotan* in respect of the rape charge. He appealed against both the convictions and sentences, but his appeal was dismissed. Among the objections raised by his defence counsel was the fact that the blood sample taken from the accused for the purpose of conducting the DNA tests was not taken voluntarily because he was handcuffed at the time. The Court dismissed the objections raised by the defence counsel and said:

The court has no discretion to refuse to admit evidence on the ground that it was illegally obtained if it is relevant. Therefore, the evidence relating to the blood sample taken from the accused was admissible as it was relevant even if it was taken without his consent. This rule applies, inter alia, to cases involving illegal searches, evidence obtained by secret listening devices or by undercover police operations. It also applies to evidence obtained by unfair procedures.

The Court also referred to the case of *R v McNamara*⁸⁶ where it was held that there is no analogy between the taking of a blood sample without consent and the taking of a statement which was not voluntary. Further explanation was given in the Canadian case of *AG for Quebec v Begin*⁸⁷ where the court held:

In taking a blood sample, the accused does not say anything because he is not asked any question. Thus, the question of self-incrimination or involuntariness does not arise. The objection raised must therefore be addressed on the basis of the blood sample of the accused having been taken without his consent. The general rule is that illegally or improperly obtained evidence remains admissible in law if it is relevant to the matters in issue.

In respect of DNA evidence, VT Singham J in the case of *Public Prosecutor v Syed Muhammad Faysal bin Syed Ibrahim*⁸⁸ held:

In any event, it is to be observed that DNA evidence only leads to the drawing of an inference, the weight and value of the evidence still remain within the domain of the courts. Nevertheless, while the admission of DNA evidence is recognised in this jurisdiction, it does not speak as to a fact but it is only an incriminating piece of evidence and the DNA profiling establishes no more than that the suspect could be the offender, not that he or she is the offender. It merely tends to show or possibly link a suspect with the crime scene or with the victim by other circumstantial

⁸⁵ [2004] 6 MLJ 303 [68].

⁸⁶ [1951] 99 CCC 107.

⁸⁷ [1955] SCR 593 at page 596.

⁸⁸ [2004] 6 MLJ 305 [10].

evidence in a criminal trial so as to implicate the suspect or the person charged in court.

The above cases clearly demonstrate that the presence of DNA evidence can only act as an incriminating piece of evidence but cannot establish if the person is the offender. It merely shows a possible link of the person with the crime scene or with the victim but does not establish or prove that the person is the perpetrator of the crime. Therefore, DNA evidence needs to be read together with all other primary and secondary form of evidence and cannot be viewed in isolation in order to assist the prosecution to implicate the accused.

VI CONCLUSION

The use of DNA evidence is purely corroborative in nature and cannot replace the rules of evidence as prescribed in the Evidence Act 1950. Therefore, scholars have argued that DNA evidence is only a part of a prosecution case and does not provide a definitive solution to crime.⁸⁹ Although DNA evidence can be used to incriminate or exonerate a person, it cannot be solely used to convict or acquit a person without any other evidence to that effect. Suffice to say that DNA alone cannot link the accused to the crime nor secure a conviction. Despite foregoing privacy rights and legitimising the forceful collection of DNA by the authorities, DNA results cannot effectively prove beyond reasonable doubt that the donor is the perpetrator of the crime in question. This shows that the use of DNA evidence is not a ‘rubber stamp’ to secure conviction. On the contrary, the act of compelling a person to submit to DNA collection is clearly intrusive and infringes a person’s fundamental rights.

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⁸⁹ Berson (n 57); Dan Frumkin et al. (n 64).

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