

Advantages and disadvantages of biometrics

[Sociology](#), [Ethics](#)



Advantages and Disadvantages of Biometrics Let us now examine the advantages and disadvantages of biometrics in two groups of applications: the commercial positive recognition applications that may work either in the verification or the identification modes, and the government and forensic negative recognition applications that require identification. Advantages and Disadvantages of DNA Testing in Biometrics Solutions The ongoing project to map the human genome affects all of us in several key areas. The first is DNA testing. This subfield of gene research uses tiny human tissue samples of 100–200 cells (for example, blood, hair, saliva) to identify DNA patterns [11]. These samples are used to establish a person's identity, for example, in

- I. Tests for blood relationships such as parenthood
- II. Identification of criminals (rapists, murderers)
- III. Proving the innocence of people falsely accused of a crime.

In this testing, the DNA pattern of a person's hair, blood or saliva is matched with a similar DNA sample from a second person. For example, when establishing parenthood, DNA from the mother or father is matched with DNA from the fetus or child. When identifying criminals, DNA samples from the crime scene are matched with a suspect's DNA. Some benefits of DNA testing are clear and unquestioned. It is a key tool in the criminal justice system, helping courts to discover whether a person suspected of committing a crime is guilty or innocent and helping police to find criminals [3]. It has even been used to prove the innocence of criminals on death row many years after a crime was committed. In addition, it is replacing genealogy and family trees as a method for determining ancestry [6]. A famous case is the link that was established between the children of Sally Hemmings, a black slave, and U. S. President Thomas Jefferson[12].

Finally, this test has also been used to establish the identity of dead bodies. One example of this occurred several years ago when a body was removed from the Tomb of the Unknown Soldier in Washington D. C. and the identity of that soldier was determined [12]. In most cases, DNA testing has been beneficial. However, for those who wish to hide their identity (such as fathers who do not want to take financial responsibility for their children), it has unwanted consequences. For families researching their background, it is much more reliable and less time-consuming than constructing the genealogy of a person [4]. However, it can also reveal things that they do not want to know, forever changing a person's concept of family and self. Furthermore, DNA testing has become a business. Even funeral homes and burial services now offer to save DNA samples (e. g., hair, blood) for a fee [4]. This raises questions of both privacy and ethics. What are the rights of the dead person? Who has access to these samples? How and where should they be stored? What happens to the samples if the storage company goes bankrupt? Even though DNA profiling was once seen as a foolproof and secure way of identifying an individual, escalating pressure on testing processes and quality control mechanisms has cast severe doubts over the validity of this procedure. Furthermore the ethical questions that this technology has raised provide further evidence into detailing how DNA profiling has both positive and negative connotations. This paper will firstly define the concepts that surround DNA profiling and then move toward outlining the main advantages that this identification procedure has for both criminal investigators and prosecutors. The practical problems of this technology will then be detailed with special emphasis being placed upon the

economics of DNA profiling and the quality control mechanisms of the current DNA profiling laboratories. The way in which bias and interpretation differences can emerge will also be examined. With regard to the ethical issues that this technology is raising, the emergence of DNA databases will be studied along with the examination of a specific hypothetical case study which illustrates several ethical dilemmas that DNA profiling technology has the power to create [17]. In its simplest meaning DNA profiling is a special type of pattern which distinguishes one individual from all others I. In definition DNA profiling is identifying people by visual representations of unique regions of their DNA [8] II. The DNA molecule is basically just a long, spiraling ladder which is made up of a pair of organic molecules, these molecules can be measured and as no two individuals have different molecule structures, in theory this is a supposedly foolproof method of identification. However recently much controversy has surfaced, that has questioned the validity of this identification technique, namely the methods and quality control of this procedure [8] III. Without expanding on the various scientific processes which form a complete definition of what DNA profiling actually incorporates, this paper will demonstrate how the use of this technology in the court-room fosters serious ethical and practical problems [8]. DNA sampling and molecular genetics thus offers both advantages and disadvantages. Many advantages lie in answering questions about health and the prospects of disease, with the result that individuals and families will have more control over their lives and well being. Advantages in human identification include eliminating confusion about prosecutions and human relationships [2]. Disadvantages, on the other hand, include the possibility of

inadvertent or deliberate disclosure of personal genetic information to inappropriate persons or other third parties and the possibility of discrimination based on this information [1]. The disadvantages have been the subject of intense scrutiny over the past decade, so that carefully crafted protections for personal privacy and confidentiality of information are now the order of the day. While we must remain vigilant of the disadvantages, we are now enjoying benefits that were only dreams a few years ago [5]. One of the advantages of DNA especially in crime scenes that I would like to mention here is there will not need any alibi evidence. This will assist the juries and also the court to investigate or capture the criminals in any crime cases. Plus the accuracy of DNA samples will really give the best results of solving the mystery of identifying the suspect.