

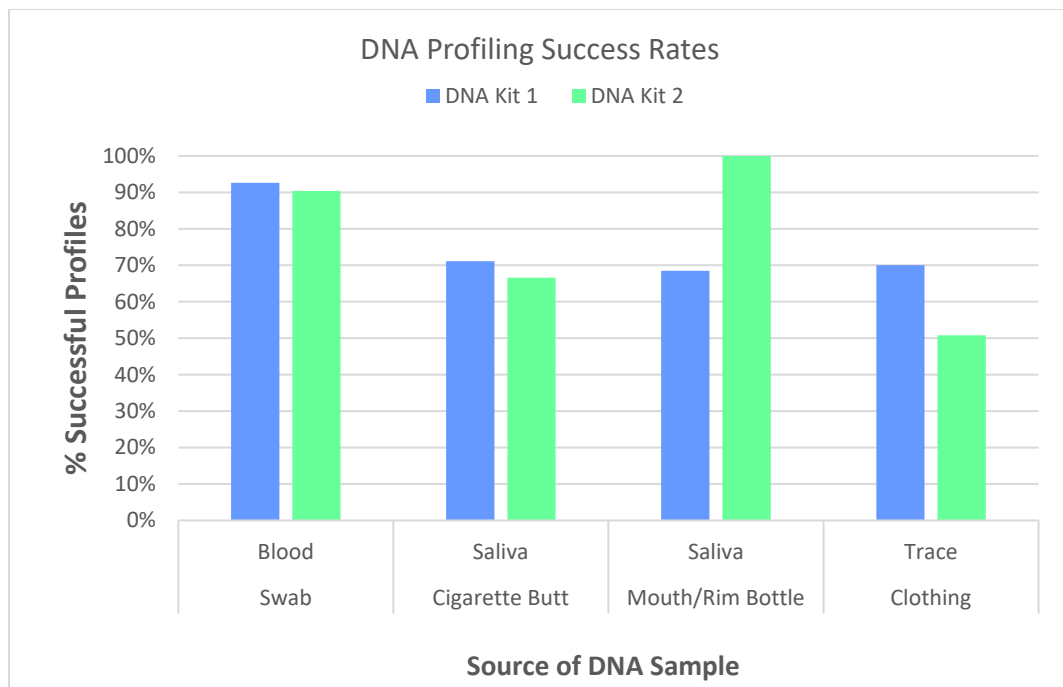
Unit 3 IP - DNA Profiling

1. Explain the use(s) of DNA profiling, and describe at least 1 benefit and 1 drawback.
2. Describe the steps involved in creating a DNA profile.
3. Although DNA profiling services are attractive because they can reveal “your unique ethnic background, and match you with newfound relatives” (MyHeritage, 2021). Such data can also be used for criminal profiling, [such as what happened in the case of the Golden State Killer](#). Describe at least 1 psychological, cultural, or social factor that can influence an individual's decision to have their DNA analyzed, knowing not only that the information may be useful but also that the results may not be private.
4. Getting a clean and clear DNA profile can be influenced by the source of the sample. Researchers have tested various approaches and developed different kits for extracting the DNA from a sample and generating a profile. The table below compares two such DNA kits.

If you were an investigator, address the following using only the data that are shown:

- a. Which kit would you choose if all you had was a cigarette butt? Explain why.
- b. Would you choose the same kit if all you had was a coffee cup? Explain your rationale.
- c. If you only had DNA Kit 1, what sample source would be the best to work from (e.g., blood swab, saliva, or clothing)? Explain why.

Comparison of Two DNA Kits for % Successful Profiles



(Adapted from Wilson-Wilde et al., 2013)

Please see assignment details for deliverable and formatting guidelines.

References

MyHeritage. (2021). *Free family tree, genealogy, family history, and DNA testing*.

<https://www.myheritage.com/>

St. John, P. (2020, December 8). The untold story of how the golden state killer was found: A covert operation and private DNA. *The Los Angeles Times*.

<https://www.latimes.com/california/story/2020-12-08/man-in-the-window>

Wilson-Wilde, L., Kegolvic, M., & Walsh, S. (2013). *DNA profiling success rates in volume crime cases to determine the optimal number and type of samples that should be analysed per case*.

Australia New Zealand Policing Advisory Agency.

<https://www.anzpa.org.au/ArticleDocuments/218/DNA%20Profiling%20Success%20Rates%20I SFG%202013.pdf.aspx>