

What's in a name?

A British study has just found "genetic links among men who share surnames". The rarer the name, the more likely the link.

Now I might be female, and with a stylish uni-nom instead of a proper surname, but even I can see that this sounds a bit obvious. I mean, surnames are passed down by men from generation to generation, and so are their genes. So what's the big surprise?

The researchers, led by Mark Jobling of the University of Leicester, UK, even chose that most distinctively male part of the genome, the Y chromosome, as the focus of their investigation. Given that fathers pass their exact Y chromosome on to their sons, unfettered by mixing with their partner's sexual DNA, doesn't this make it even less of a shocker?

Well yes, the results certainly stand to reason, Jobling admits.

But he points out that the story isn't always so simple. Many names, particularly common occupation-based surnames such as Smith and Butcher, were undoubtedly founded several times. And of course, both illegitimacy and adoption are powerful forces in breaking the link between name and genuine kinship. "You can have a particular man's name but another man's Y chromosome," Jobling points out.

The strongest link

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So he and his colleagues set out to see how strong the link actually is; that is, how reliable surnames really are in predicting relatedness. They recruited 150 men with different surnames, and then trawled the land looking for a random match for each name. They took DNA samples from each of the same-name pairs and compared the sequences of their Y chromosomes.

The result, which they report in the journal *Current Biology*¹, is that around a quarter of these random pairs were indeed closely related, with a common ancestor within the past 20 generations. Take away the most common names and the effect was even more noticeable: around half of the random match-ups showed a strong genetic link.

This raises the possibility that the idea could be used in forensic investigations. Traditional 'DNA fingerprinting' relies on a huge database of personal profiles, so that DNA from a crime scene can be matched in detail to that of a known suspect. But what about cases where police have no leads, and the list of potential suspects runs to hundreds or even thousands?

This is where Y-chromosome profiling could be useful. A crime-scene sample could throw up a list of the most likely surnames for the culprit. Of course, this approach would only work for crimes perpetrated by men, and men not using an alias.

A teenager recently performed a similar trick to track down his anonymous sperm-donor father. He sent his own mouth swab to FamilyTreeDNA.com, a service that provided him with the names of two people with closely matched Y chromosomes. Both men had the same surname, although with different spellings. Using his father's place and date of birth, which he knew, together with the likely surname, the kid then used the Internet to track down his father. Easy.

Pure breed

Some names are probably 'purer' than others: Attenboroughs, for example, seem to be a very close-knit family, Jobling says. At the other end of the scale, some names may, by their very nature, reflect breaks in the family line. The Italian surname Desposito, for example, was traditionally given to children 'deposited' at orphanages.

Interestingly, a search of the UK electoral register turns up some 61 entries for the surname Bastard.

Jobling says that he toyed with the idea of investigating this group to see if their degree of relatedness is lower. But in the end, he says, he tactfully demurred. "We were worried that people would think we were taking the piss."

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References

1. King T.E., Ballereau S.J., Schürer K.E. & Jobling M. A., . *Curr. Biol.*, 16 . 384 - 388 (2006). | [Article](#) | [PubMed](#) | [ISI](#) | [ChemPort](#) |