

Who does (and doesn't) want a DNA ancestry test?

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At-home DNA testing kits may be the latest fad, but according to new research by Stanford sociologists, not everyone is keen to find out whether they are related to the British royal family or a Neanderthal.

In a survey of nearly 110,000 Americans, sociologists Aliya Saperstein, along with former graduate students Adam Horowitz (Ph.D. '16) and Jasmine Little (MA '17), found that people who feel most certain of their heritage are more likely to decline a free test because they believe the results would confirm what they already know – even if their perception of their ancestry might not be accurate.

This confidence, the sociologists learned, is shaped by several factors, including a person's racial identity and when their ancestors immigrated to the United States.

In a paper published in *New Genetics & Society*, the sociologists find that the closer people are to the immigrant experience, the more certain people feel about their ancestry, and the less interested

they are in taking a DNA ancestry test. Those who use testing services are most likely to be later-generation Americans, with self-identified white, black and multiracial Americans being the most likely to have already taken a test. Asian Americans, regardless of how many generations they are removed from immigrant ancestors, expressed the least interest.

The survey was part of a larger study of American adults registered with the National Marrow Donor Program that examined race, ancestry and genetic measures to improve donor-recipient transplant matching.

Explaining disinterest

"Most of the debate around DNA ancestry tests has been about who is taking them and what to make of their results," said Saperstein, an associate professor of sociology at Stanford's School of Humanities and Sciences. "We wanted to come at it from the other side: Who is not taking these tests?"

As part of the survey, the researchers asked whether people would be interested in taking a DNA ancestry test if it were free. A large majority – 93 percent – said yes, 5 percent reported already having taken an ancestry test, and fewer than 2 percent said they were not interested. However, respondents who self-identified as Asian were more than twice as likely to express disinterest, with 5 percent declining a hypothetical free test.

Respondents who declined were then asked to explain why: Pre-existing ancestral certainty was among the most cited reasons. The least cited explanations were data privacy issues and skepticism about test accuracy – but the researchers note, because they were working with a sample from the bone marrow program, these respondents were probably more open to sharing their biological information than others.

Asian Americans were the most likely to claim ancestry certainty – 1.2 to 3.9 times greater than self-identified white respondents – even for Asian Americans whose relatives immigrated to the United States four or more generations ago. They were also by far the most likely to report that all four of their biological grandparents were from the same single origin.

"Some people are drawn to genetic ancestry tests because they offer a story of your difference," said Saperstein. "Other people, especially those who are convinced their ancestry is homogenous, do not see the point."

As one respondent said: "My family and I are all from Korea, which is comprised of only Koreans traditionally, so I know I'm 100 percent Korean." Similarly, another respondent alluded to homogeneity – coming from just one part of the world – as a reason for their disinterest: "My entire family including myself is from China. It is extremely unlikely that I would have any other ethnicities mixed in."

Remedying missing knowledge

"The history and timing of migration to the U.S. weakened family ties for some people more than others," said Horowitz, lead author of the paper, who received his Ph.D. in sociology at Stanford. "Genetic ancestry testing is marketed to relieve uncertainty," he said.

For instance, said Saperstein, testing companies have appealed to black Americans who never knew their origins because of information lost in the trans-Atlantic slave trade, as well as to descendants of people who came to the United States during the height of European immigration in the 19th and early-20th centuries.

And as data from the survey confirms, the appeal for DNA ancestry testing was highest among third-or-later-generation black and white Americans, who reported significantly less homogeneity and significantly more overall uncertainty about their family ancestry, said the researchers.

"As each generation of European immigrants

intermarried, specific ancestral attachments became more unknown, more distant and less salient," said Horowitz.

Third-or-later-generation black and white Americans also expressed the most interest in taking a genetic ancestry test and were most likely to have already taken a test. The sociologists also found that multiracial respondents were significantly more likely than monoracial white respondents to have already taken a genetic ancestry test.

Problems with self-sorting

These differences shape who is included in genetic ancestry databases, said the researchers, noting that this has implications on what conclusions can be drawn from the data.

"What was surprising were the clear patterns in who was not interested in taking an ancestry test," said Saperstein. "It implies a fair amount of selection into who is in the databases, and that affects the results that everybody receives."

Some of the largest test companies offer updates of previous ancestry results as their consumer databases expand, said Saperstein. Previous [test](#) takers who are found to have homogenous ancestries are incorporated as benchmarks, with their DNA serving as the comparison group for everyone else, she said.

"It is important for people to educate themselves about what genetic [ancestry](#) tests can and cannot reveal, and our results add another reason for caution," said Saperstein, whose scholarship focuses on race and methodology. "It would certainly be ironic if people who are the most certain they have homogenous ancestries are also the least likely to be represented in these databases."

More information: Adam L. Horowitz et al. Consumer (dis-)interest in genetic ancestry testing: the roles of race, immigration, and ancestral certainty, *New Genetics and Society* (2019). [DOI: 10.1080/14636778.2018.1562327](https://doi.org/10.1080/14636778.2018.1562327)

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