23andMe - Consumer Access and Research Participation

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Our mission is to help people access, understand and benefit from the human genome.

First and only DTC genetics service with reports authorized by the FDA

12+

Health Predispositions*

40+

Carrier Status*

30+

Traits

8

Wellness

35+

Ancestry

*The 23andMe PGS test includes health predisposition and carrier status reports. Health predisposition reports include both reports that meet FDA requirements for genetic health risks and the 23andMe Type 2 Diabetes health predisposition report which is based on 23andMe research and has not been reviewed by FDA. The test uses qualitative genotyping to detect select clinically relevant variants in the genomic DNA of adults from saliva for the purpose of reporting and interpreting genetic health risks and reporting carrier status. It is not intended to diagnose any disease. Your ethnicity may affect the relevance of each report and how your genetic health risk results are interpreted. Each genetic health risk report describes if a person has variants associated with a higher risk of developing a disease, but does not describe a person's overall risk of developing the disease. The test is not intended to tell you anything about your current state of health, or to be used to make medical decisions, including whether or not you should take a medication, how much of a medication you should take, or determine any treatment. Our carrier status reports can be used to determine carrier status, but cannot determine if you have two copies of any genetic variant. These carrier reports are not intended to tell you anything about your risk for developing a disease in the future, the health of your fetus, or your newborn child's risk of developing a particular disease later in life. For certain conditions, we provide a single report that includes information on both carrier status and genetic health risk. For important information and limitations regarding other genetic health risk reports and carrier status reports, visit https://www.23andme.com/test-info

Making genetics accessible

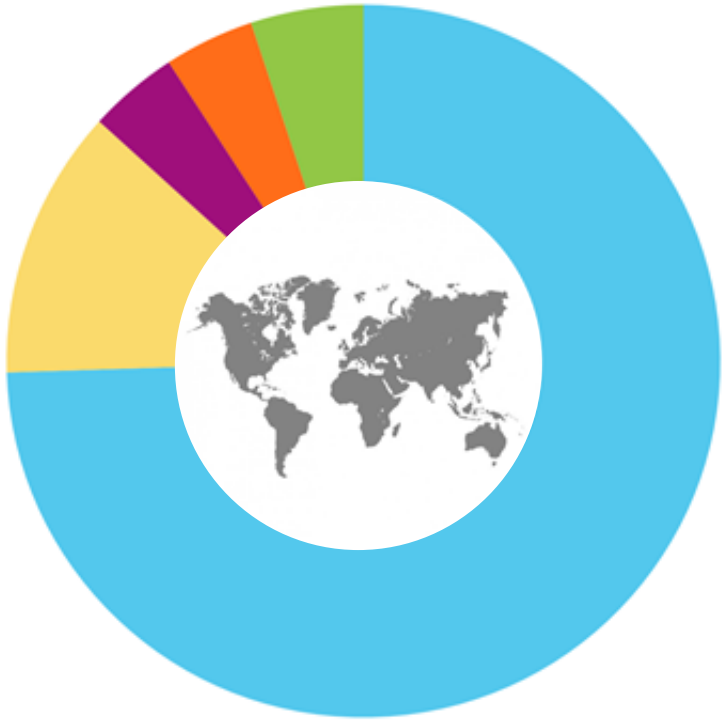
- Consumer pricing
- Easy to understand reports
- “Over the counter”
- Available online
- Results can remain private

Who are 23andMe customers today?

10M

kits sold

Customers by ethnicity, sex, and age



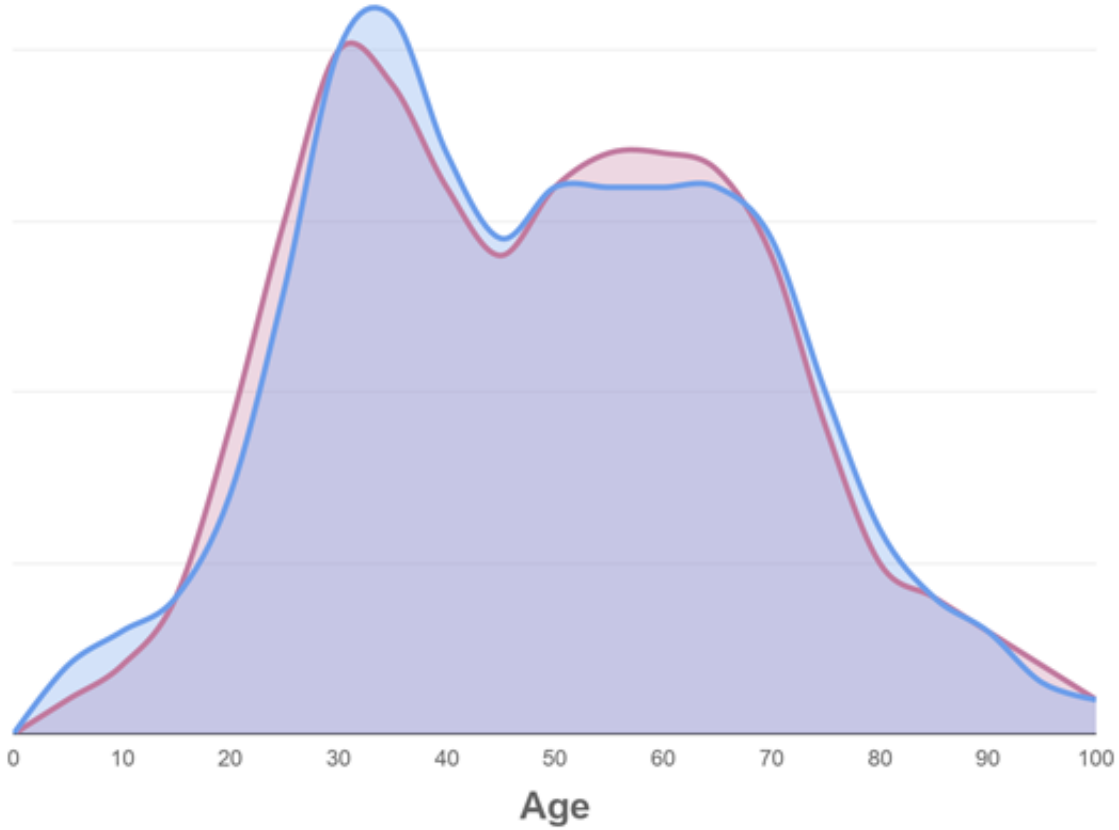
73% European

12% Latino

4% African American

4% East & South Asian

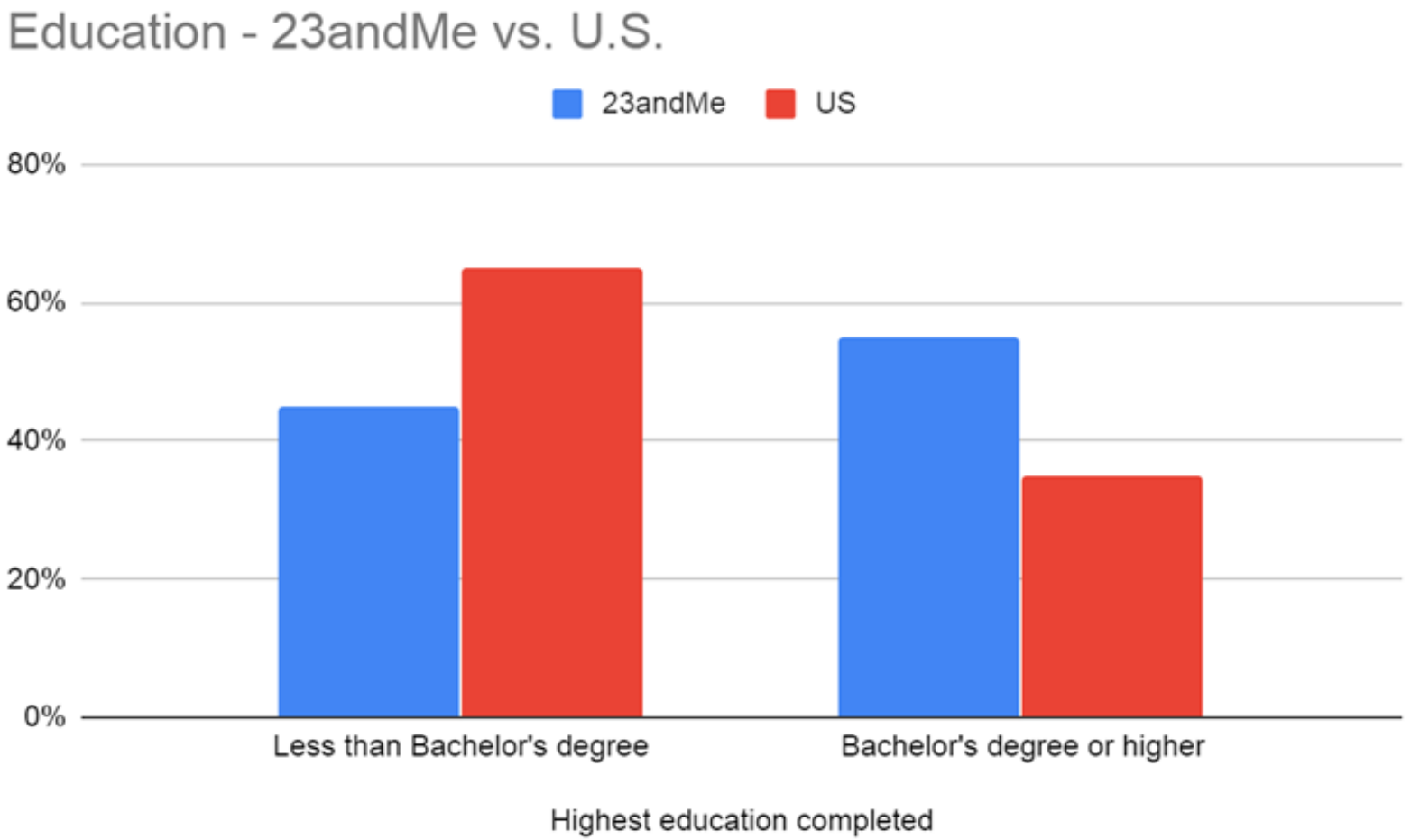
7% Other



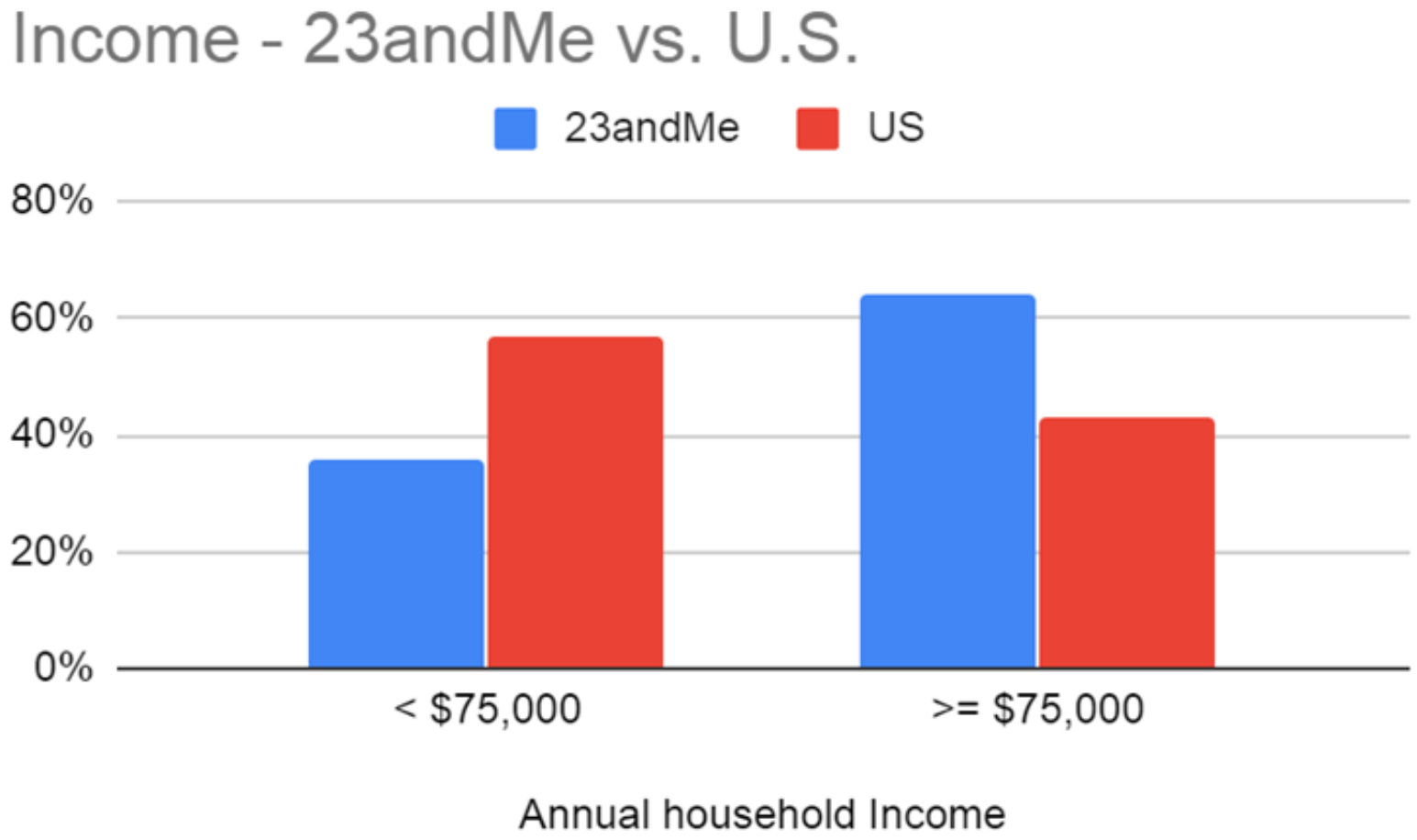
55% Female

45% Male

Customers by education

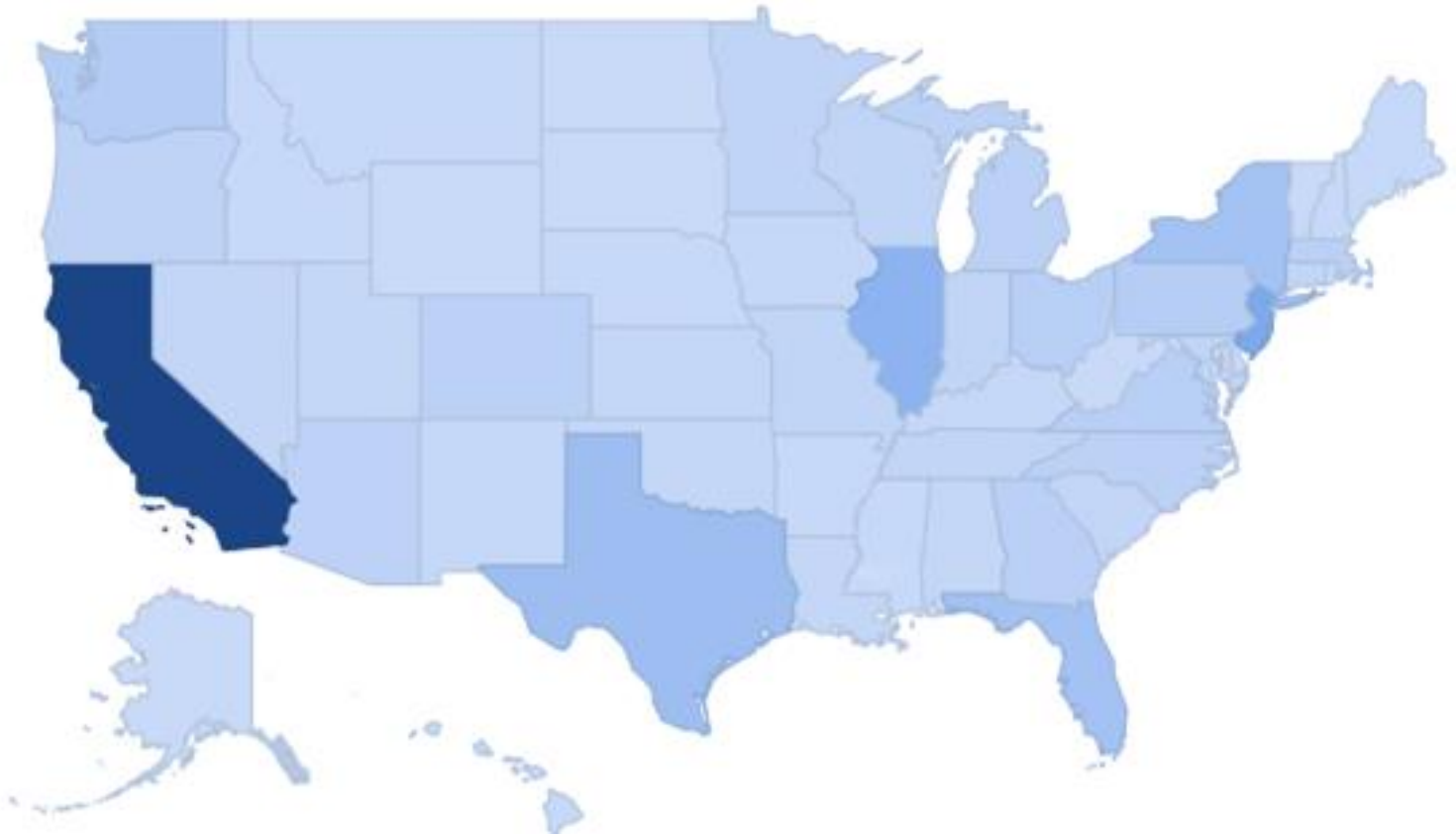


Customers by income



Customers by location

~90% in the United States



Customer participation in research

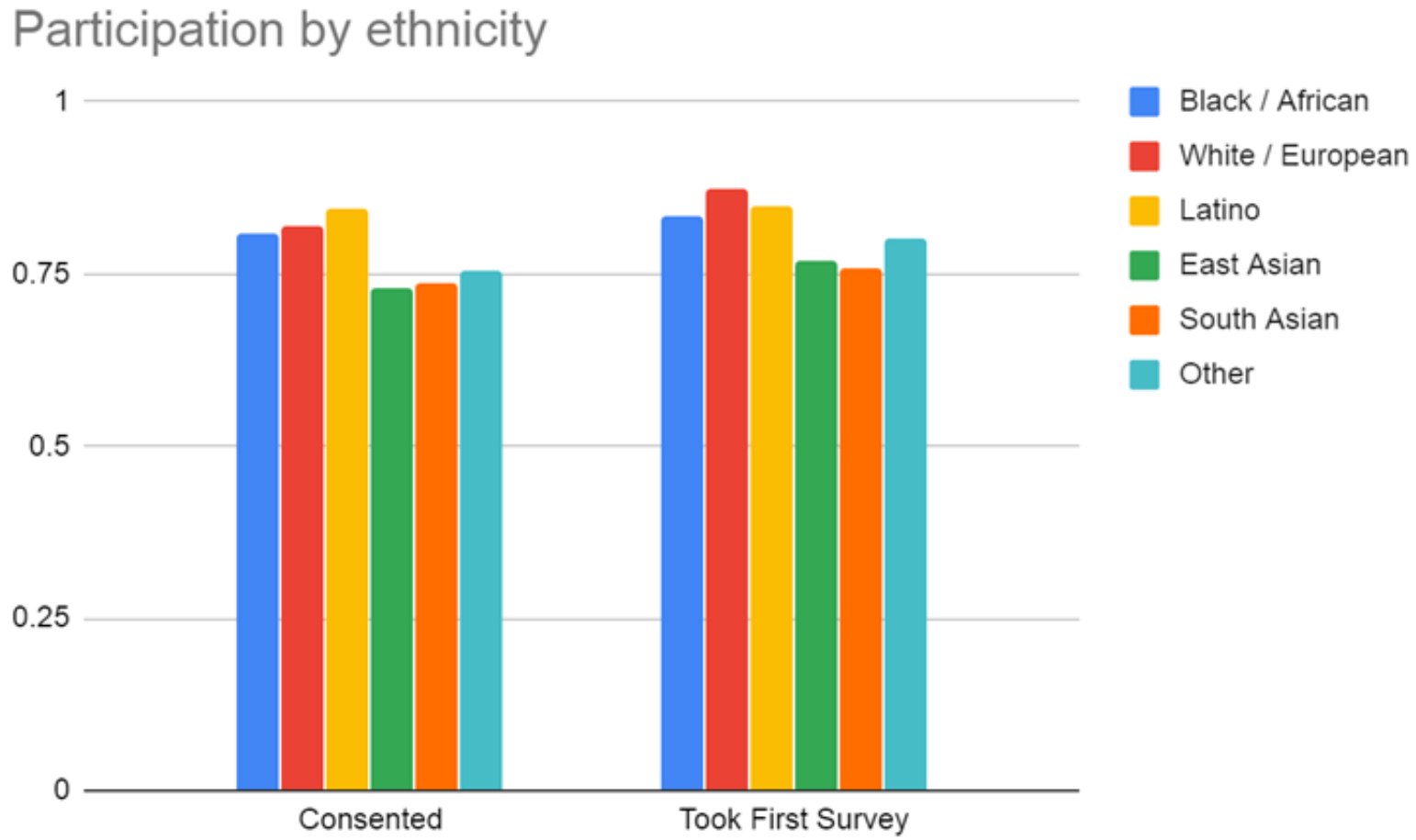
~80%

consent

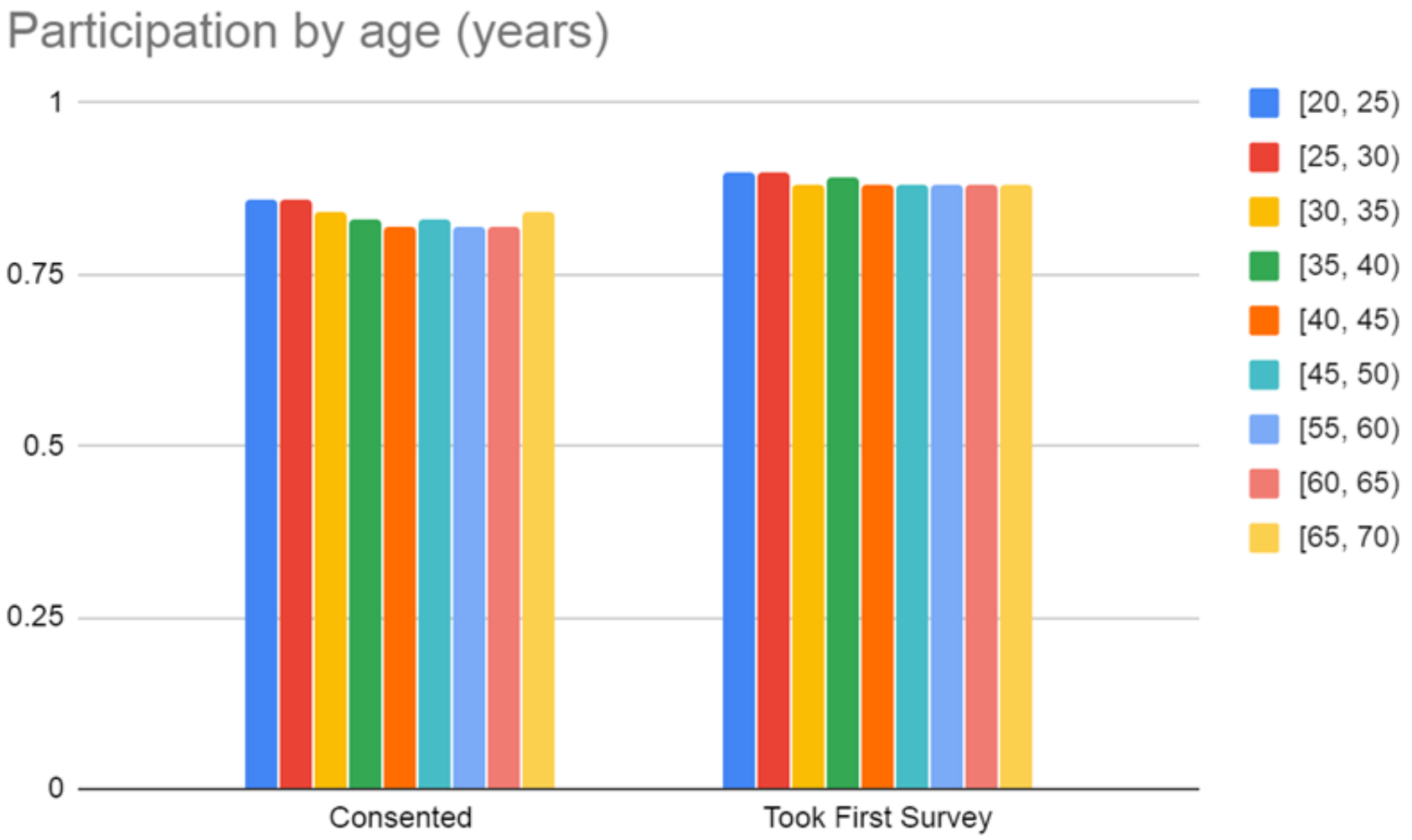
to

research

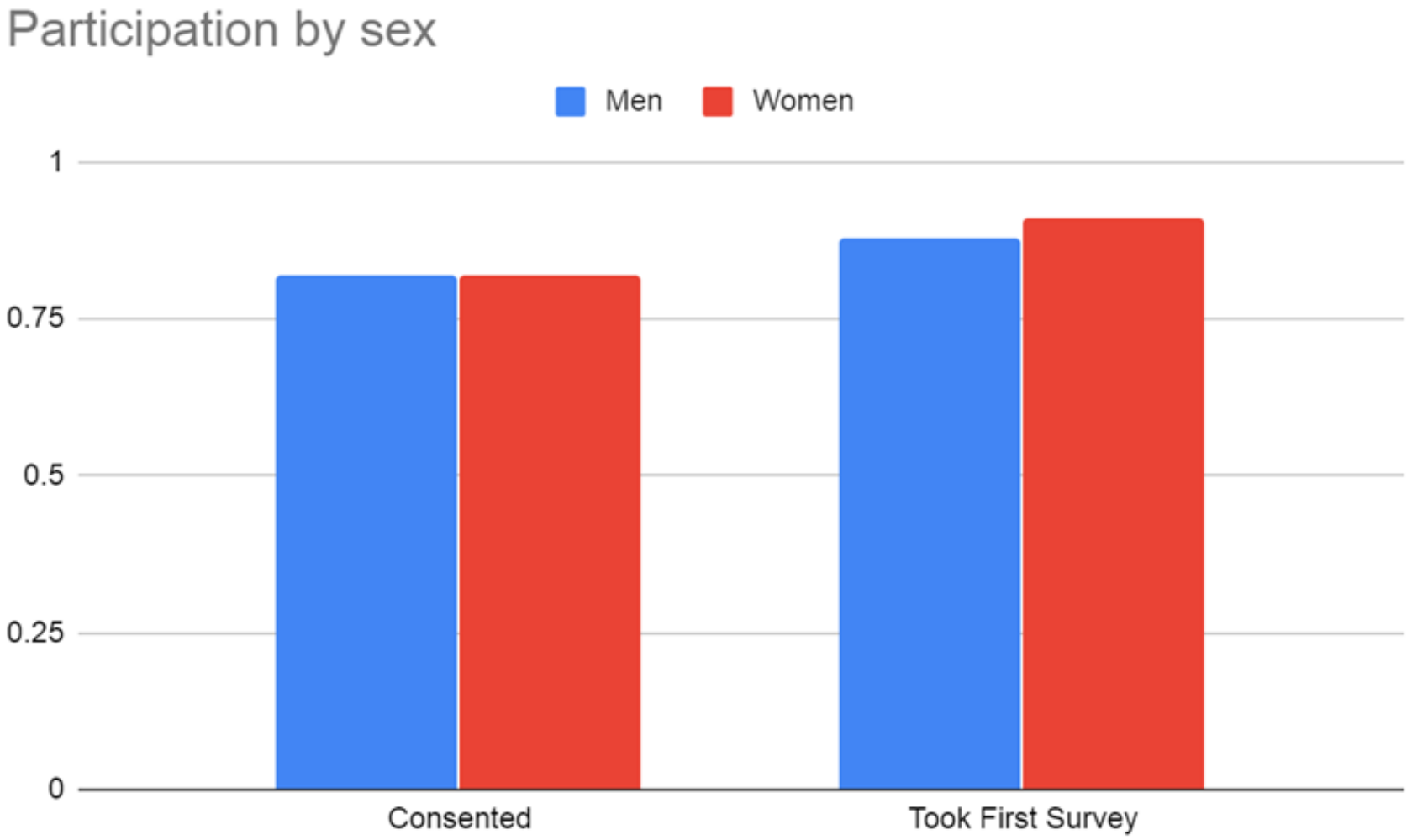
Research participation by ethnicity



Research participation by age



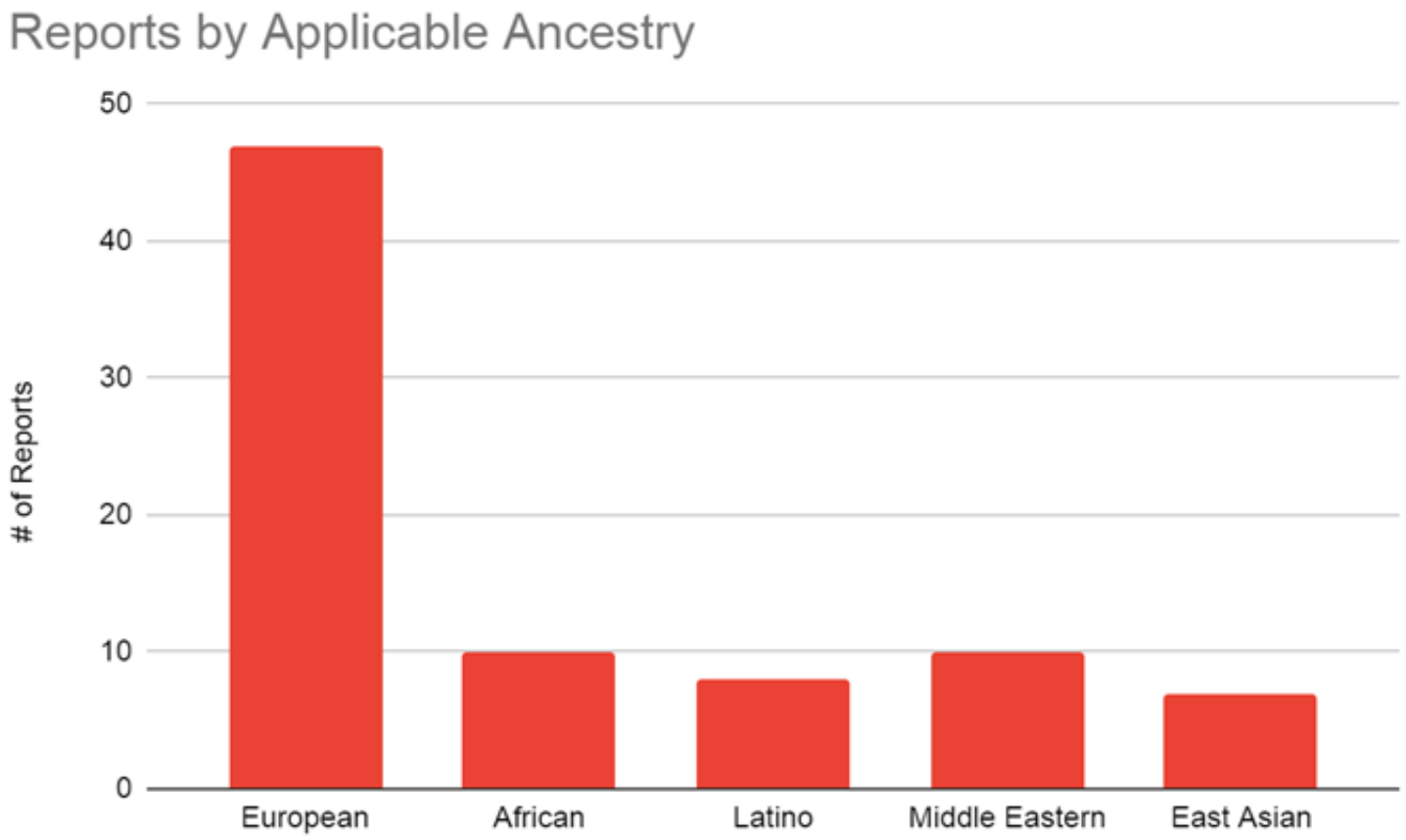
Research participation by sex



Impact of the lack of diversity in genetics research

We can’t provide information we don’t have

Most high penetrance variants we know of are most common in Europeans



* Reports include Carrier Status and Genetic Health Risk categories

Lack of diversity also impacts polygenic risk scores using common variants

The challenge holds for polygenic risk scores that are made up of many common variants.

Without more data, it's difficult to create models that perform well in all ethnicities.

Performance across ethnicities

We evaluated model performance for people of European, African, Hispanic/Latino, East Asian, and South Asian descent. This analysis included data from 17,000 or more research participants of each of these ethnicities. The predictive power of the model (AUC) varies across ethnicities, possibly due to factors like limitations in the amount of data available from each ethnicity.

ETHNICITY	AUC VALUE
European	0.652
South Asian	0.603
Hispanic/Latino	0.638
East Asian	0.609
African	0.588

Initiatives at 23andMe to improve diversity in our research

Global Genetics Project

Population Collaborations

African American Sequencing Project

Latino Sequencing Project

Polygenic risk score methods development


23andMe®