

# An Analysis of the Genetic Testing Discourse on Twitter, Reddit, and 4chan

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**Abstract.** Recent progress in genomics has enabled an emerging market for “direct-to-consumer” genetic testing. Nowadays, companies like 23andMe and AncestryDNA provide affordable health, genealogy, and ancestry reports, and have already tested tens of millions of customers. At the same time, far-right groups have also reportedly taken an interest in genetic testing, using them to attack minorities and prove their genetic “purity.” We present a quantitative measurement study shedding light on how genetic testing is being discussed on Web communities on Twitter, Reddit and 4chan. We collect 302K tweets and 1.3M comments from Reddit and 4chan related to genetic testing. We then use natural language processing and computer vision tools to identify trends, themes, and topics of discussion.

Our analysis shows that genetic testing is frequently discussed on all these platforms. However, on 4chan, images appearing along genetic testing conversations often include alt-right personalities and antisemitic memes. On Reddit, genetic testing is discussed in a wider variety of contexts, however, while there are communities building around the more positive aspects (e.g., health, cultural heritage), we also find others where conversations include racist, hateful, and misogynistic content.

Overall, we uncover evidence of genetic testing being misused in online discussions, further ingraining and empowering genetics-based prejudice, discrimination, and even calls for genocide. For instance, comments on both 4chan and a set of “hateful” subreddits often contain highly toxic language, with users even suggesting leveraging genetic testing tools to further marginalize or even eliminate minorities. In fact, word embeddings showed that 4chan and certain subreddits share worrying language characteristics, which may be an indicator of 4chan’s fringe ideologies spilling out to more mainstream platforms.

**Keywords:** genetic testing · genetic privacy · internet measurement · social networks.