

The downside of knowing too much about our genes

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Self-knowledge is a goal greatly prized by mystics and philosophers. However, too much knowledge about one's own genes can lead to some adverse psychological consequences, two new Yale-led research projects have found.

In one set of studies, published in the *Journal of Consulting and Clinical Psychology*, participants were led to believe that they would learn about their individual level of [genetic risk](#) for depression. The researchers found that those who were told they had a higher genetic risk for depression recalled having experienced more symptoms of depression than those who were not, even though the "test results" were actually made up at random.

"These results suggest that merely being told they have a genetic propensity toward depression might actually distort people's memories about how much [depression](#) they've experienced in the past," said Matthew Lebowitz, the lead author of the paper, who completed his Ph.D. at Yale and is now a postdoctoral research fellow at Columbia University.

"This is particularly alarming when we consider that patients' memories about their own subjective experiences are the primary information used to make a psychiatric diagnosis," added co-author Woo-kyoung Ahn, a professor of psychology at Yale.

In another study by the same authors, published in the journal *Appetite*, individuals who were told they were not genetically predisposed to obesity —compared to others who were not given this feedback—underrated the importance of healthy diet and exercise habits and were much more likely to choose [unhealthy foods](#) when asked to select a lunch order from a menu of options.

"It seems that when people were told they did not have a particular genetic susceptibility to obesity, they assumed that they wouldn't have to worry about what they ate or how much exercise they got," said Ahn. The authors call this kind of misconception a "genetic invincibility effect," based on the idea that genetic "good news" can give people an unwarranted sense of invulnerability.

In both projects, the researchers used a fake saliva test that participants were told would reveal their level of genetic risk. After completing the study, participants were quickly told that the test had been bogus, and the researchers took particular care to make sure that the participants understood this so that people would not leave the study believing incorrectly that they had really learned something about their genetic makeup. All of the research received ethics approval from a review board at Yale.

Taken together, the studies illustrate a need for caution when giving consumers personalized genetic information, the authors argue.

"Providing people with information about their own genes is likely to become an increasingly common practice in many areas of healthcare, and this will probably have a lot of benefits," said Lebowitz. "But while the advantages of increased access to genetic information seem to be widely recognized, our findings suggest that there might also be some downsides that the field needs to grapple with."

More information: Woo-kyoung Ahn et al. An experiment assessing effects of personalized feedback about genetic susceptibility to obesity on attitudes towards diet and exercise, *Appetite* (2017). [DOI: 10.1016/j.appet.2017.08.021](https://doi.org/10.1016/j.appet.2017.08.021)

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