

Psychological effects of genetic testing for risk of weight gain

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Effect of FTO testing from Yale Rudd Center for Food Policy and Obesity.
Credit: Yale Rudd Center for Food Policy & Obesity

Obesity gene testing does not put people off weight loss and may help to reduce self-blame, according to a new study by researchers from the Health Behaviour Research Centre at UCL (University College London).

Previous studies have shown that [genes](#) play a role in a person's risk of becoming overweight. One gene, called FTO, has been found to have the biggest influence so far.

FTO has two variants, one associated with greater risk of [weight gain](#) (A) and one associated with lower risk (T). One in two people carries at least one copy of the A variant. People who inherit two A variants (one from their mother and one from their father) are 70% more likely to become obese than those with two T variants. Even those who inherit one have a higher weight than those with two T variants.

Researchers can now use a [gene test](#) for FTO (although this is not yet commercially available). However, it was not known how people would react to finding out the results of the genetic test.

Some [clinicians](#) thought it would help people to become motivated to manage their weight. Others thought that the 'genes as destiny' perspective might mean people felt there was nothing they could do about their weight. If people responded fatalistically it could be harmful because diet and exercise are still very important for health and weight control, perhaps even more so if a person is 'battling against their biology'.

UCL's Professor Jane Wardle and Susanne Meisel decided to test a small number of [volunteers](#) (18) for their FTO status and interview them about their experience. The sample of volunteers included men and women, who spanned the weight range from [underweight](#) to obese.

They found that the volunteers were very enthusiastic about receiving their genetic test result. Those who struggled with their weight said that the genetic test result was helpful because it removed some of the [emotional stress](#) attached to weight control and relieved some of the [stigma](#) and self-blame

No one reported a negative reaction to the genetic test result, or said it made them feel there was nothing they could do to about their weight.

Susanne Meisel, who led the study said: "These results are encouraging. Regardless of gene status or weight, all the volunteers recognised that both genes and behaviour are important for weight control. The results indicate that people are unlikely to believe that genes are destiny and stop engaging with weight control once they know their FTO status. Although they knew that FTO's effect is only small, they found it motivating and informative. We are now doing a larger study to confirm whether more people react in the same way."

Dr Laura McGowan, Executive Director of the charity Weight Concern added: "The causes of obesity are multiple and complex, and this research is encouraging for those who struggle with their weight. Although we know genetics play a part in weight, people can learn strategies to deal with this increased risk for weight gain, so finding out you carry the high-risk version of the gene shouldn't mean you surrender to fate."

The study was funded by Cancer Research UK and published in the *Journal of Genetic Counseling*.

The research team is looking for people who would like to get tested for FTO in the future if this option becomes available, so please email the charity Weight Concern at enquiries@weightconcern.org.uk for more information.

More information: Meisel SF, & Wardle J (2013). Battling my Biology: Psychological Effects of Genetic Testing for Risk of Weight Gain, *Journal of Genetic Counseling* PMID: 23832708

Provided by University College London

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