

## Jogging and five other exercises ward off weight gain despite 'obesity genes'

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This is an image depicting a female running on a treadmill. Running increases the heart rate and acts as good cardiovascular exercise. The treadmill is shown surrounded by plants and fields; running outdoors or in a gym is a good form of exercise. Credit: Bill McConkey, Wellcome Collection

For people who inherited genes that increase their chance of becoming obese, there is hope for keeping the weight off. A study by Wan-Yu Lin



of National Taiwan University and colleagues, published 1st August in *PLOS Genetics*, identified the types of exercise that are especially effective at combatting genetic effects that contribute to obesity.

Worldwide, obesity is a challenging condition to control because it results from interactions between a person's genetics and lifestyle. Doctors often recommend exercise, but it is not clear which kinds are best for curbing weight gain in individuals whose genetics make them more likely to become obese. A new study of 18,424 Han Chinese adults, aged 30 to 70 years, examined the interactions between the individuals' genetics and their self-reported exercise routines. The researchers looked specifically at five measures of obesity, such as body mass index (BMI), body fat percentage and waist-to-hip ratio. They found that regular jogging was the best type of exercise for managing obesity, according to the five measures. Moreover, mountain climbing, walking, power walking, certain types of dancing, and long yoga practices also reduce BMI in individuals predisposed to obesity. Surprisingly, cycling, stretching exercises, swimming and Dance Dance Revolution did not counteract the genetic effects on obesity.

Overall, the study suggests that when it comes to obesity, genetics are not destiny, and the effects can be lessened by several kinds of regular exercise. Previous research has shown that frequent physical activity blunts the genetic effects on obesity, but these studies focused only on BMI. The new study also considers four other measures of obesity that are more closely linked to metabolic problems. As obesity continues to be a serious public health challenge, the benefits of exercise cannot be overstated.

**More information:** Lin W-Y, Chan C-C, Liu Y-L, Yang AC, Tsai S-J, Kuo P-H (2019) Performing different kinds of physical exercise differentially attenuates the genetic effects on obesity measures: Evidence from 18,424 Taiwan Biobank participants. *PLoS Genet* 15(8):



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