Medical Xpress

# Where you live may influence whether you are overweight, study finds

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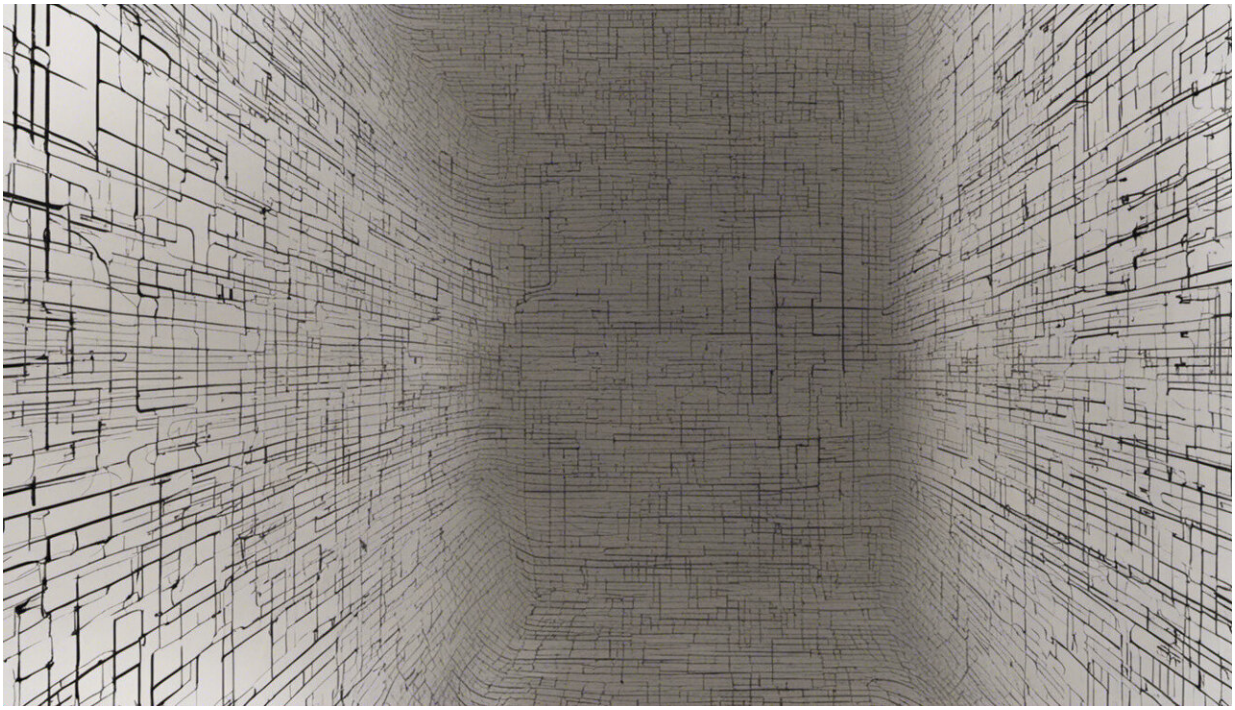

Credit: AI-generated image (disclaimer)

The old real estate adage of "location, location, location" may also apply to obesity.

A new study by USC and the RAND Corp. suggests that people who move to an area with a high obesity rate are likely to become overweight

or obese themselves. The researchers say this may be due, in part, to social contagion.

"Social contagion in obesity means that if more people around you are obese, then that may increase your own chances of becoming obese," said Ashlesha Datar, a senior economist at the Center for Economic and Social Research at the USC Dornsife College of Letters, Arts and Sciences. "In other words, living in a community where obesity is more common can make sedentary lifestyles, unhealthy eating and overweight or obesity more socially acceptable."

The study was published today in the journal *JAMA Pediatrics*.

Obesity is linked to many factors, including eating and exercise habits, genetics and the environment. Research shows that living in certain communities carries a higher risk of obesity than living in other communities, but this association has been challenging for scientists to explain.

Researchers have proposed and investigated several potential explanations for the concentration of obesity in some communities. One possibility may be simply that people with similar interests and backgrounds tend to locate in similar areas. Another explanation may be that people living in the same community are all influenced by the shared environment, such as opportunities for exercising and healthy eating.

A third explanation may be that obesity is transmitted through social influence.

"Assessing the relative importance of these explanations has been a challenging task and yet is important for designing effective policies to address obesity," Datar said. "Our study sought to take on that

challenge."

## Assessing social contagion

Datar and co-author Nancy Nicosia, a senior economist at RAND, studied military families to assess whether living in communities with greater obesity increased their own risk of being overweight or obese. Military families, they reasoned, cannot choose where they live—rather, they are assigned to installations. Some of those installations are in counties with higher rates of obesity.

"We found that the families assigned to installations in counties with higher obesity rates were more likely to be overweight or obese than those assigned to installations in counties with lower rates of obesity," Datar said.

Datar and Nicosia used data from the Military Teenagers Environments, Exercise and Nutrition Study (M-TEENS) and from the Robert Wood Johnson Foundation County Health Rankings. Obesity rates among the counties in the study ranged from 21 percent to 38 percent.

The researchers recruited families of U.S. Army personnel at 38 military installations in the country to participate in surveys and measurements. In all, 1,314 parents and 1,111 children participated. Three-fourths of the parents and about one-fourth of the children were overweight or obese—reflective of the national rates.

## Location increases or lowers risk

One in three adults in a typical U.S. county is obese. A family's risk of obesity may increase or decrease, depending on the county obesity rate where they live.

"If you move a family from a typical county to one with a higher rate of obesity, such as Vernon County in Louisiana where 38 percent of adults are obese, that would increase the parent's chances of being obese by 25 percent," Datar said. "It would also increase the chances of the child being overweight or obese by 19 percent."

The opposite is also true: Moving to a county with a lower rate decreases the family's chances of becoming overweight or obese.

"If a family moves to a county with a low obesity rate, such as El Paso County in Colorado where about 21 percent of adults are obese, the parent's chances of being obese would decrease by 29 percent," Datar said. "The child's chances of being overweight or obese also would decrease by 23 percent."

To assess whether shared environments could explain these results, the study accounted for extensive data on the food and activity opportunities in the county and neighborhood, such as gyms and grocery stores.

"We cannot say for sure that we accounted for everything that might influence eating and exercise behaviors," Datar said. "But we did account for things that researchers in this field typically measure and found that shared environments did not play a critical role in explaining our results."

"Although we could not measure social contagion directly," Nicosia said, "our findings support a role for social contagion in obesity."

The scientists also found that the link between the county's obesity rate and overweight or obesity in military families was concentrated among families living off base and those who had lived there longer," Datar said. "This finding suggests that families with greater exposure to obese communities face increased risk.

**More information:** Ashlesha Datar et al. Association of Exposure to Communities With Higher Ratios of Obesity with Increased Body Mass Index and Risk of Overweight and Obesity Among Parents and Children, *JAMA Pediatrics* (2018). DOI: 10.1001/jamapediatrics.2017.4882

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