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Find Yourself Packing It On? Blame Friends

By [GINA KOLATA](#)

[Obesity](#) can spread from person to person, much like a virus, researchers are reporting today. When one person gains weight, close friends tend to gain weight, too.

Their study, published in The [New England Journal of Medicine](#), involved a detailed analysis of a large social network of 12,067 people who had been closely followed for 32 years, from 1971 to 2003.

The investigators knew who was friends with whom as well as who was a spouse or sibling or neighbor, and they knew how much each person weighed at various times over three decades. That let them reconstruct what happened over the years as individuals became obese. Did their friends also become obese? Did family members? Or neighbors?

The answer, the researchers report, was that people were most likely to become obese when a friend became obese. That increased a person's chances of becoming obese by 57 percent. There was no effect when a neighbor gained or lost weight, however, and family members had less influence than friends.

It did not even matter if the friend was hundreds of miles away, the influence remained. And the greatest influence of all was between close mutual friends. There, if one became obese, the other had a 171 percent increased chance of becoming obese, too.

The same effect seemed to occur for weight loss, the investigators say. But since most people were gaining, not losing, over the 32 years, the result was, on average, that people grew fatter.

Dr. Nicholas A. Christakis, a physician and professor of medical sociology at Harvard Medical School and a principal investigator in the new study, said one explanation was that friends affected each others' perception of fatness. When a close friend becomes obese, obesity may not look so bad.

“You change your idea of what is an acceptable body type by looking at the people around you,” Dr. Christakis said.

The investigators say their findings can help explain why Americans have become fatter in recent years — each person who became obese was likely to drag along some friends.

Their analysis was unique, Dr. Christakis said, because it moved beyond a simple analysis of one person and his or her social contacts and instead examined an entire social network at once, looking at how a person's friend's friends, or a spouse's sibling's friends, could have an influence on a person's weight.

The effects, he said, “highlight the importance of a spreading process, a kind of social contagion, that spreads through the network.”

Of course, the investigators say, social networks are not the only factors that affect body weight. There is a strong genetic component at work, too.

Science has shown that individuals have genetically determined ranges of weights, spanning perhaps 30 or so pounds for each person. But that leaves a large role for the environment in determining whether a person's weight is near the top of his or her range or near the bottom. As people have gotten fatter, it appears that many are edging toward the top of their ranges. The question has been why.

If the new research is correct, it may say that something in the environment seeded what some call an obesity epidemic, making a few people gain weight. Then social networks let the obesity spread rapidly.

It may also mean that the way to avoid becoming fat is to avoid having fat friends.

That is not the message they mean to convey, say the study investigators, Dr. Christakis and his colleague, James H. Fowler, an associate professor of political science at the [University of California](#), San Diego.

You do not want to lose a friend who becomes obese, Dr. Christakis said. Friends are good for your overall health, he explained. So why not make friends with a thin person, he suggested, and let the thin person's behavior influence you and your obese friend?

That answer does not satisfy obesity researchers like Kelly D. Brownell, director of the Rudd Center for Food Policy and Obesity at [Yale University](#).

“I think there's a great risk here in blaming obese people even more for things that are caused by a terrible environment,” Dr. Brownell said.

On average, the investigators said, their rough calculations show that a person who became obese gained 17 pounds and the newly obese person's friend gained five. But some gained less or did not gain weight at all, while others gained much more. Those extra pounds were added onto the natural increases in weight that occur when people get older.

What usually happened was that peoples' weights got high enough to push them over the boundary, a body mass index of 30, that divides overweight and obese. (For example, a

6-foot-tall man who went from 220 pounds to 225 would go from being overweight to obese.)

While other researchers were surprised by the findings, the big surprise for Dr. Christakis was that he could do the study at all. He got the idea for it from all the talk of an obesity epidemic.

“One day I said: ‘Maybe it really is an epidemic. Maybe it spreads from person to person,’ ” Dr. Christakis recalled.

It was only by chance that he discovered a way to find out. He learned that the data he needed were in a large federal study of [heart disease](#), the Framingham Heart Study, that had followed the population of Framingham, Mass., for decades, keeping track of nearly every one of its participants.

The study’s records included each participant’s address and the names of family members. To ensure that researchers would not lose track of their subjects, each subject was asked to name a close friend who would know where the person was at the time of the next exam, in roughly four years.

Since much of the town and most of the subjects’ relatives were participating, the data contained all that Dr. Christakis and his colleagues needed to reconstruct the social network and track it through 32 years.

Their research has taken obesity specialists and social scientists aback. But many say the finding is pathbreaking and can shed light on how and why people have gotten so fat so fast.

“It is an extraordinarily subtle and sophisticated way of getting a handle on aspects of the environment that are not normally considered,” said Dr. Rudolph L. Leibel, an obesity researcher at [Columbia University](#).

Richard M. Suzman, who directs the office of behavioral and social research programs at the National Institute on Aging, called the research “one of the most exciting studies to come out of medical sociology in decades.” The National Institute on Aging financed the study.

But Dr. Stephen O’Rahilly, an obesity researcher at the University of Cambridge, said the very uniqueness of the Framingham data would make it hard to try to replicate the new findings. No other study that he knows of has the same sort of long-term and detailed data on social interactions.

“I don’t want to look like an old curmudgeon,” Dr. O’Rahilly said, “but when you come upon things that inherently look a bit implausible, you raise the bar for standards of proof. Good science is all about replication, but it is hard to see how science will ever replicate this.”

Boy,” he said, “is the Framingham Study unique.”

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