

THE SOCIAL CONSEQUENCES OF OBESITY: GOOD NEWS AND BAD NEWS

A RESEARCH REVIEW

Christakis NA, Fowler JH (2007). The spread of obesity in a large social network over 32 years. *New England Journal of Medicine*, 357, 370- 379.

We all know that Type 2 diabetes is often associated with obesity. Losing weight can help to improve blood glucose control, blood pressure, cholesterol and so much more. But it is notoriously difficult to lose weight and to keep it off, and this can be even more difficult for someone who has diabetes. Genetics as well as our immediate, food-rich environment plays a large role in making weight loss frustratingly tough, but could there be elements of your social life that are also important?

Perhaps you have already heard about a remarkable study, published just a few weeks ago in our most respected medical journal, which seemed to suggest that weight gain and obesity can spread across the people in your life almost like a virus. What is going on here?

The study investigators examined a large interconnected social network of 12,067 people that were followed from 1971 to 2003 as part of the Framingham Heart Study. The researchers examined whether weight gain over time in one person was associated with weight gain in his or her friends, siblings, spouse, and neighbors. In these complex social networks, clusters of obesity (defined as a Body Mass Index of 30 or more) developed in predictable patterns. What they found was that the likelihood of becoming obese was strongly influenced by the friends one kept:

- If an individual's friend became obese, then his or her chances of also becoming obese increased by 57%. If this was a "mutual friendship", where both individuals identified each other as a close friend, the chances of a person becoming obese increased by 171% if the friend became obese.
- This effect went out to 3 degrees of separation from the obese person, affecting friends of the friend of the obese person (increase risk of 20%) and their friends (increase risk of 10%).
- This effect seemed to be most important for those friendships of the same gender. When the sample was restricted to same-gender friendships, the probability of the person becoming obese increased from 57% to 71% when the friend became obese, and this was especially the case for men.

While the influence of a mutual friendship influenced the development of obesity more strongly than any other relationship, the investigators did find that other relationships contributed as well:

- For adult siblings, one sibling's chance of becoming obese increased by 40% if the other sibling was obese. Again, this effect seemed much more pronounced in siblings of the same gender. Among sisters, the risk of one sister becoming obese if the other did, increased by 67% and among brothers, the increased risk was 44%.
- Among married couples, husbands and wives seemed to affect each other similarly with an increased risk of 37% when the other became obese.

The investigators found that there was no effect if an immediate neighbor became obese, suggesting that it was social distance that truly mattered (how close you were to the other individual), not geographic distance.

Finally, it is important to note that the power of friendship influenced the likelihood of weight loss as well, but—unfortunately-- most people in this large network were gaining weight over time.

IMPLICATIONS. Due to the design of this study, the investigators could not draw any definitive conclusions about cause and effect. Still, the impact of social relationships, especially close friendships, sure seems likely. But how could close friendships have such a strong influence on your weight, now and in the future? It is likely that this occurs in two ways, both exerting their influence unconsciously. First is the health behavior link. If all of your close friends tend to eat poorly and get little physical exercise, this is likely to influence what you do when you all spend time together. For example, you may recognize the value of regular physical activity, but when your friends want to meet at a local restaurant rather than at a local gym, this is likely to impact your own weight. Second is the self-perception link. If your closest friends are significantly overweight, this may influence your impression of what a normal, acceptable weight might be. If your closest friends don't believe that avoiding excessively large portion sizes is particularly worrisome, you may soon begin to agree with them.

Remember that this influence was also shown to work in reverse. The results of this study suggest that the more thin friends you have and/or the more of your friends that are successful at losing weight, this is likely to have a positive influence on your own ability to manage your weight. Indeed, numerous studies have shown that people are more successful at losing weight or changing other difficult health behaviors when they do so with friends. We can see how this is likely related to the development of Type 2 diabetes as well as diabetes self-management. Your friends can have a powerful influence on how you think about diabetes and how well you manage it. The bottom line: We are all connected, and our friendships—whether we notice it or not-- are vitally important to the everyday choices we make.

GOOD NEWS. Please don't take these results to mean that you should avoid your overweight friends. They are not likely to influence your weight without—at least at some level-- your active cooperation. Instead, think about how you can become a positive contagion. If you make the effort to manage your diabetes and your health more aggressively, you can become a positive influence on your friends. And work to develop the support network you need. At BDI, we recognize how important it is to “not do diabetes alone”. We often hear at the end of our group programs how important it was to hear from other people with diabetes who are struggling with the same things and to have the sense that they are working on making changes *together*. Need to find the right kind of support? Our next intensive one-day workshop, *Getting on Track*, designed to help people with diabetes work together as a team to make the positive changes they need to make, is scheduled for September 29, 2007 in San Diego. Please see www.behavioraldiabetes.org for further details about this and all of our upcoming programs.