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Maybe Your Genes Made You Eat It

by John Dwan

Another Snack?

Obesity, severely overweight, or just plain fat—the terms differ depending on who is talking and about how much—is endemic in America. More than one-half of the population is overweight or obese. The number of Utahns who weigh 30-35 pounds above their ideal body mass index increased from 9 to 15 percent in just seven years. Three to 5 percent of all Americans are severely overweight, meaning they are more than 75 pounds heavier than they should be.

Everyone, scientists and laypeople alike, is asking the question: why? Conventional wisdom used to say that your weight was determined by the number of calories consumed compared to the number expended in exercise. Eat too much, move too little and you put on weight. Eat less, move more and you lose weight.

A more recent issue concerned what you ate. Too many double Whoppers and too few carrot sticks meant extra pounds. Grapefruit was in; cheesecake was out. Then, fast food became the culprit.

Now the question is: why do people eat? Anxiety? Habit? Immediate gratification? Or, do your genes make you do it? Could there be a genetic predisposition to obesity, a genetic defect that makes some people hungrier more often than others?

Scientists have been researching that question at the University of Utah since 1988. "We think that there is a genetic link to being severely overweight, especially for the 3-5 percent of the population who are severely overweight," said Steven C. Hunt, Ph.D., research professor of cardiovascular genetics at the School of Medicine.

If a genetic link is found, and a drug can be developed to correct the defect, greater control of this worldwide epidemic would be possible. Because of this potential benefit, genetic research teams across the globe are trying to find the link.

"We have some very good leads," said Hunt. Utah researchers have an advantage because of the state's large pedigrees: multiple generations of a family living in close proximity. Hunt's group is studying about 100 families, with an average of 50

individuals per family, and has drawn blood from some 5,000 people. "We are examining the DNA and looking for a common link in the chromosome associated with being overweight.

"Five years ago, scientists thought it would be easy to find genes that cause diseases or conditions like obesity. But it has turned out to be much more difficult than expected, because the effects of the genes are much less than expected," he said.

"Genetic factors tend to be stronger than environmental factors. But there are enough environmental factors, like diet and exercise, that could mask the effects of the gene," Hunt explained. "Multiple genes interacting with each other also may be involved."

The Utah team is researching thin as well as overweight families. "It might be easier to find good genes, ones that help you stay thin, because there is less masking of the effect by the environment," said Hunt.

"We expect within the next two years to find a common gene for those who are severely overweight. If this suspected genetic defect can be blocked chemically, if something can be changed, it will make a major difference," Hunt said. But, the trim researcher adds, "diet and exercise always will be important."

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