We have all heard the age-old adage “you are what you eat.” Well researchers are beginning to find evidence to suggest, “you eat what you are,” at least, genetically speaking. Researchers at Tufts’ Jean Mayer USDA Human Nutrition Research Center on Aging (HNRCA) now believe that an individual’s food preferences may be linked to their genetic makeup. Such a discovery might explain why certain individuals experience stronger fat cravings in their diet, or why people feel the need to consume greater numbers of calories. The answer, as published in Clinical Chemistry, may lie in a single gene, labeled APOA2 (apolipoprotein A-11).

APOA2 is a gene, which is linked to food preferences that shape dietary patterns. Within the gene reside several alleles, which combine to create the genotypes TT, TC, and the rare CC. In a study conducted by Genetics of Lipid Lowering Drugs and Diet Network (GOLDN), 85% of the 1000 participants had one of the two common genotypes, TT and TC. Only 15% had the rare CC genotype. However, both men and women participants of this genotype had a statistically significant, higher intake of fat than people with the more common genotypes. Jose Ordovas, PhD, and director of HNRCA’s Nutrition and Genomic Laboratory, went on to say, “people with the CC genotype also consumed an average of 200 more calories per day and were nearly two times more likely to be obese, as compared to those with the two more common alleles”. Additionally,
APOA2 has also been found to influence the body’s preference for protein and carbohydrate. Participants with the CC genotype consumed higher absolute amounts of protein and lower absolute amounts of carbohydrate than did the rest of the sample population. One final area of concern is the high level of small HDL cholesterol particles in many of the CC participants. Such cholesterol often increases the risk one has for acquiring cardiovascular disease.

In response to this topic and the results of the study, I am simply pleased to know that science is beginning to uncover information on a topic that would have merely been disregarded decades earlier. I can vividly recall past science teachers downplaying the idea that genetics could affect people’s dietary pattern and their ability to gain and lose weight. It is very interesting to hear new information arise on an idea that I thought might have been previously put to rest. In unlocking these types of mysteries, it may be possible to identify individuals that suffer from the CC genotype and alter such gene. Furthermore, proof of this phenomenon may work to eliminate society’s ill-written stigma regarding all obese people. Perhaps people will begin to see that not all people who are fat overeat. My hope is that society starts to look to genetics for the answers to scientific problems, rather than adopt a false perception.