

## Little Comfort

Feeling stressed? New research suggests you should step away from the ice cream.

**I**F YOU'RE ONE OF THE MILLIONS OF AMERICANS who thinks comfort comes with a side of fries, think again.

USF psychology professor David Diamond's research is challenging the notion that comfort foods high in sugar and fat can serve as a stress-reliever. His recent study found that food containing high amounts of carbohydrates, hydrogenated fats and sugar – foods common in the typical American diet – do anything but make you feel calm and happy in the end.

In fact, the typical American diet could be intensifying the anxiety you're feeling.

Diamond's study on rats, recently presented at the annual meeting of The Society for Neuroscience in Chicago, found the diet that produced the least anxiety was based on the Atkins diet, which is a combination of protein and fat, but very low in sugar.

The researchers also found that the American diet group gained significantly more weight than the groups fed the Atkins or control diets, concluding that a low-carb diet not only helps to maintain a lower body weight but also may help to reduce anxiety.

Diamond's study with USF psychology graduate student Shyam Seetharaman was con-

ducted using rats, but correlates well to humans because of physiological similarities between rats and people.

"Both species produce the same stress hormones, and rats, just like people, will eat just about anything," Diamond says.

Diamond is also a career scientist at the James A. Haley Veterans Hospital, where he has developed a research program designed to help patients who suffer from mood and anxiety disorders. His VA-funded research has led him to focus on diet as a major factor in mental health.

Diamond has previously published work showing that a diet high in fat and sugar, in conjunction with stress, damaged brain cells. Excess blood sugar (hyperglycemia) caused brain damage and impaired memory in rats, he found.

Diamond says that people have the mistaken impression that a low-fat diet is healthy and that the high-fat Atkins diet is unhealthy. However, he emphasizes that "myths, misconceptions and decades of poorly conducted animal and human research have led people to fear healthy food such as eggs and meat."

He says, for example, that much of the animal research involved feeding pure cholesterol to rabbits, which caused them to develop heart disease. The flaw in the study – rabbits don't normally eat meat, so their physiology is not adapted to digest cholesterol. To help eliminate these misconceptions, Diamond included foods high in saturated fat and cholesterol, such as beef fat, in the Atkins diet for his rats, which are well adapted to digest meat.

Diamond states that the ideal diet includes about 70 percent of calories from fat, 20 percent from protein and 10 percent from carbohydrates. He gave this combination of food to the Atkins diet rats and then compared them to a group of rats which had the high-fat, high-sugar American diet and a control group.

Then, Diamond and Seetharaman put the rats through a series of tests that involved placing them in stressful situations, such as putting the rats in the presence of cats.

David Diamond, left, and Shyam Seetharaman found lower stress levels in rats that were fed a high-fat, low-sugar diet.



"Putting a rat near a cat is a pure psychological stressor since there is no physical contact between the two. This kind of stress is similar to when a person fears he can't pay his mortgage or will fail an exam, since there's no physical harm to the person, but there's a lot of intense anxiety," Diamond adds. "When we're stressed-out, we have a natural evolutionary drive to crave high energy and calorie-dense foods which have lots

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of fat and sugar." Add that to the stress of daily living, and no wonder we're a nation seeking comfort in all the wrong places.

But unlike the natural situation in which rats would convert that sugar to quick energy to run away from the cat, the sedentary lives humans lead cause their excess sugar to be converted to fat, which is stored in the body. That's where Diamond believes the sugar in the diet and excess body fat contribute to chemical reactions in the brain that intensify anxious feelings.

His research has led Diamond to the conclusion that sugar is the real culprit in modern day health problems, increasing stress hormones which then urge the body to convert excess calories to fat, thereby contributing to the recent rise in the incidence of obesity in Americans. Diamond himself adheres to a high fat, low-carb diet – focusing primarily on sources of fat and protein in his diet, such as nuts, eggs, cheese, meat, vegetables, with a little fruit and a hefty daily dose of high-cocoa dark chocolate.

People under stress often turn to alcohol, drugs or ice cream, but it's better to choose exercise and to cut back on the carbohydrates, Diamond says. And he says he sympathizes with a public continually bombarded with conflicting messages on what to eat and not eat.

"What I am trying to address is the myth that if you have a steak for dinner you'll be having angioplasty for dessert," Diamond says. "It's simply not true that foods high in cholesterol and saturated fat are bad for you. It's the interactions among stress, excess carbs and a sedentary lifestyle that are the primary contributors to the diseases of modern life."

"People under stress want quick relief, but that relief can be as toxic as the stress itself."

- Vickie Chachere

