Personal Finance ◆ Personal Health ◆ Travel ◆ Leisure & Arts

PERSONAL JOURNAL.

TUESDAY, JUNE 29, 2004

THE WALL STREET JOURNAL.

Health Journal / *By Tara Parker-Pope*

Diet of Low-Fat, Low-Calorie Foods May Trick the Body Into Eating More

SUPERMARKET AISLES ARE filled with foods that have been stripped of calories, sugar, fat and carbs. But new research questions whether altering foods may actually interfere with the body's instincts and trick people into eating too much.

It has long been known that consumers consciously overeat many diet foods—remember the nation's binge on low-fat Snackwell's cookies? But what's unusual about the latest research is that it looks at the impact that regular eating of certain foods may be having on the body's unconscious, biological mechanisms for regulating food intake.

The question is whether by consistently eating sweet foods with no calories, a person can eventually lose an instinctive ability to distinguish between high- and low-calorie sweet foods. Early studies have shown that babies and young children have an innate ability to judge the caloric content of foods. And while adults can obviously read labels to figure out the calories they're eating, the issue is whether sugar-free or fat-reduced foods also throw off the body's subtle, internal signals about food intake—causing us to overeat a few calories more here and there.

In the latest study, researchers from Purdue University looked at whether artificial sweeteners disrupt the body's ability to "predict" the caloric consequences of a food. The study, published in the July issue of the International Journal of Obesity, involved young rats who were fed a steady diet of sweetened drinks for 10 days. One group of rats consumed only sugar-sweetened beverages. A second group received an inconsistent diet—sometimes real-sugar drinks and sometimes drinks with no-calorie saccharin.

After 10 days, all the rats were given a real-sugar chocolate drink and rat chow. The rats with a history of eating both real sugar and artificial sweeteners ate three times the calories as the rats who always drank the real-sugar drink.

What does it mean? The researchers speculate that the overeating rats had received inconsistent signals about the meaning of sweet. For them, sweet sometimes had calories and other times it didn't, possibly confusing the rats' natural food-intake instincts. But the rats who always associated sweet with calories were able to compensate for sweet calories by eating less.

While rat studies can't explain the human obesity epidemic, animal studies have long given us insight into certain basic behaviors. Just as Pavlov's dogs drooled at the sound of a ringing bell, even when food wasn't present, the Purdue researchers suggest we should consider a Pavlovian approach to the obesity problem, looking at how sensory properties of foods can condition our biological instincts about eating.

"When you substitute artificial sweetener for real sugar, the body learns it can no longer use its sense of taste to gauge calories," says Susan E. Swithers, associate professor of psychological sciences and the study co-author.

The study doesn't necessarily implicate diet soft drinks; studies have clearly shown that people lose weight when they switch from sugared soft drinks to diet soft drinks. But the research does fuel a growing concern that processed foods may interfere with our ability to regulate how much we eat. For instance, if one day you eat a regular potato chip and another time you eat a reduced-fat version, the question is whether your body may eventually stop making a distinction between the two, causing you to slightly overeat the next time you encounter a regular chip or any full-fat food.

New study suggests some processed foods may **mix up internal cues** *and lead to overeating.*

And at a time when bread is now low-carb, cookies and candy bars are being fused into decadent combinations and ice cream can be fat-free, it's no wonder people are getting mixed signals about foods. "As foods get more and more dissociated from our traditional history with foods, it's going to be harder and harder for us to regulate how much to eat," says Barbara Rolls, a longtime food and behavior researcher at Pennsylvania State University.

But the notion that we are being duped—either consciously or subconsciously—into eating more is controversial.

Human studies haven't consisently shown that artificial sweeteners affect eating behavior. One French study, for instance, showed that eating patterns didn't vary among adults who ate a yogurt-like food, whether it was sweetened with sugar or aspartame, says Adam Drewnowski, director of nutritional sciences at University of Washington.

Part of the problem may be that adults, who have years of experience with food, are tough to study. It has been shown that infants have an innate sense of the calories they are eating. In studies, babies eat roughly the same number of calories in a sitting—eating more of watered-down formula and less of a concentrated one. Other studies have shown preschool children given standard portions instinctively eat less after a high-calorie meal, showing that, at least early in life, we use internal cues about caloric intake to control our eating.

Until we know more, nutrition and behavior experts say the rat study reaffirms how important it is to read food labels, control portion size and pay attention to obvious body signals about hunger and fullness. And the best way to avoid confusion is to eat whole foods like fruits, vegetables and fish and cut back on processed foods.

"We appear to have these automatic signals that can help us modulate our food intake, but when we start to consume foods that violate those signals, it makes it harder," says Dr. Swithers. "We're people, and we can use other mechanisms to regulate body weight, but the evidence suggests that we don't do it particularly well."

E-mail healthjournal@wsj.com. Read my responses in Health Mailbox inside this section.