Weight Loss Surgery Reduces Susceptibility to Food Marketing

Behavioural and neuroscience research by INSEAD and Sorbonne Université suggest bariatric surgery does a lot more than just help patients lose weight.

Food companies often try to present food as healthier than it really is to speak to health-conscious consumers. The way they label or package a product can change how consumers perceive its healthiness and in turn, how much calories they think it contains, what packaging size they choose and how much of it they consume. As we have previously reported, research conducted at INSEAD showed that people routinely underestimate the calories of food framed as healthy or those of dishes served in restaurants that brand themselves as healthy.

Our earlier research has demonstrated health framing and other such food marketing tactics to be effective at influencing both people with a healthy weight and the overweight. But what about people with obesity? They differ from the rest of the population on a host of medical and socioeconomic dimensions.

Consumers with obesity are known to have the reward receptors in their brains numbed to a degree. This means that they need to eat more food to derive the same pleasure from it as other people do. Other research and lay intuition suggest that consumers with obesity might have a “lack of willpower”. So where does that leave them in terms of their responsiveness to food marketing tactics?

In research published in the Journal of Consumer Psychology, we and our co-authors* from the Nutrition department of the Pitié-Salpêtrière hospital, part of Sorbonne Université, compared the responses of three groups of individuals to food marketing tactics. The first group was 73 women with obesity, before and after they underwent bariatric surgery. The second group included 41 lean women (i.e. with a body mass index of about 22). The third group comprised 29 women with obesity who were not trying to lose weight. We measured their responsiveness to food marketing tactics, at the start of the study, then three months and a year after the first group underwent bariatric surgery.

Weight loss decreases responsiveness to food marketing

Compared to lean individuals, participants with obesity did respond more strongly to food marketing tactics. For instance, they systematically underestimated the calorie count of snacks that were framed as healthy. In a virtual setup, they ordered more fries when the portion descriptions minimised their actual size. However, in the group of obese patients who underwent bariatric surgery, that difference attenuated 12 months after their operation, down to the level of the people with a normal weight.

Visit INSEAD Knowledge
http://knowledge.insead.edu

Copyright © INSEAD 2021. All rights reserved. This article first appeared on INSEAD Knowledge (http://knowledge.insead.edu).
This shows that their original higher response to
food marketing is not a stable individual
predisposition. In reality, there might be a
reinforcement loop between the poor metabolic
state of consumers with obesity and their
responsiveness to food marketing tactics.

That reinforcement loop goes both ways. Once
obese people start losing weight following the
surgery, their responsiveness to food marketing
tactics diminishes. This may be caused by changes
in their metabolic parameters – such as cholesterol
levels, blood pressure, blood sugar and satiety
signalling – and by the life-changing experience of
signing up for and undergoing weight-loss surgery.

The brain connection

However, this feedback loop remains a speculation
on our part at this point. Why bariatric surgery is
associated with a decreased response to food
marketing will require more studies. In a related
research collaboration** between INSEAD and the
Nutrition department of the Pitié-Salpêtrière
hospital, changes in how the brain’s reward system
is connected at rest – when a person thinks of
nothing specific – predicted post-bariatric surgery
weight loss and correlated with the changes
observed in the satiety hormone leptin after the
surgery.

Interestingly, in the consumers with obesity, the
surgery restored connectivity within the brain’s
reward system but not within another related system
that differed between lean participants and those
with obesity.

Collectively, these findings suggest that bariatric
surgery has a much more beneficial impact on
obese patients beyond helping them lose weight.

A strong research connection to foster
interdisciplinary research with societal impact

This research highlights how the Alliance Sorbonne
Université between INSEAD and Sorbonne
University has inspired interdisciplinary research
that improved our understanding of societal issues
such as obesity and what role business tactics might
play in improving them. It was facilitated by the
INSEAD-Sorbonne Université Behavioural Lab, a
research platform where researchers from all the
institutions linked to Sorbonne University can
conduct behavioural experiments. It was also
funded by resources linked to the Alliance.

**Liane Schmidt (Paris Brain Institute, ICM, Sorbonne
Université), Evelyn Medawar (Laboratoire de
Neuroscience Cognitive, Ecole Normale Supérieure,
Inserm), Judith Aron-Wisnensky, Christine Poitou-
Bernert, Karine Clément, and Laurent Genser
( Assistance Publique Hôpitaux de Paris, Visceral
surgery department, Pitié-Salpêtrière Hospital)

Hilke Plassmann is the Octapharma Chaired
Professor of Decision Neuroscience at INSEAD. She is
a principal investigator at the Paris Brain Institute
(ICM) of the Sorbonne University, as well as the co-
director of the Business Foundations Certificate
(BFC) a programme INSEAD offers in collaboration
with Sorbonne Université.

Pierre Chandon is the L’Oréal Chaired Professor of
Marketing - Innovation and Creativity at INSEAD and
the Director of the INSEAD-Sorbonne Université
Behavioural Lab. Watch his TEDxINSEAD talk on
Epicurean nudges.

INSEAD Knowledge is now on LinkedIn. Join the
conversation today.

Follow INSEAD Knowledge on Twitter and Facebook.

Find article at
https://knowledge.insead.edu/marketing/weight-loss-
surgery-reduces-susceptibility-to-food-marketing-16506

Download the Knowledge app for free

Visit INSEAD Knowledge
http://knowledge.insead.edu

*Yann Cornil (University of British Columbia), Judith
Aron-Wisnensky, Christine Poitou-Bernert and Karine
Clément (all three from the Nutrition department, Pitié-
Salpêtrière Hospital, Sorbonne Université), and
Michèle Chabert (EPHE, PSL)

Copyright © INSEAD 2021. All rights reserved. This article first appeared on INSEAD Knowledge (http://knowledge.insead.edu).