
The impact of changing packaging and portion sizes



By [Cynthia Owens](#)

When it comes to packaging, size matters.

In a research paper, INSEAD Associate Professor of Marketing [Pierre Chandon](#) and co-author **Nailya Ordabayeva**, an INSEAD PhD student, found that changes in the shape of packaging or portions can have a big impact on our consumption patterns.

As consumers, we tend to buy bigger packages or order bigger portions because we believe we're getting better value. However, this phenomenon leads to overeating and obesity because we fail to notice just how big these portions and packages are and hence underestimate how much we consume. The size and the shape of packaging play a key role in these misperceptions.

According to the recent study, forthcoming in the *Journal of Marketing Research*, volume changes appear smaller when all three dimensions (height, width, and length) of a product are changed, compared to when only one dimension (say, height) changes. This is because, to double the volume of any object, you can either double the size of one of its dimensions — and then people will notice — or you can just increase each dimension by 26 per cent — and then people will underestimate how big the change is.

For marketers, this means that if a company increases the size of its packaging in one dimension, consumers perceive it to be much larger and so assume they're getting a better deal and are more likely to buy it. If a company increases the product size by the same volume but the package is expanded in three dimensions - not just one - consumers don't perceive as big of a change.

When it comes to eating healthy, people sabotage themselves as well. Over the past 20 years, there has been a big increase in the availability of healthy, lower fat food, but that hasn't made people thinner or fitter. In fact, obesity is rising.

Chandon's research shows that, in addition to underestimating how much we eat, when we eat 'healthier' meals, we tend to reward ourselves with treats or bigger portions.

When eating food that is labelled 'low fat', "you think that you're getting a free lunch in terms of calories. And so you'll be more likely to order cookies and a full-calorie cola and as a result the paradox is that you've had a bigger lunch but you think you've had a smaller one," he says.

One of the other conclusions of the research: downsizing packaging and portions is one of the most effective ways of reducing overeating. Chandon believes there's a growing market for low calorie, smaller portion products. But manufacturers need to be very clear in their labelling and careful about pricing, because many consumers think smaller portions are less economical. This has important consequences for purchase and consumption decisions. "The underestimation of three-dimensional volume changes leads people to consume more and use more products when volumes change in 3D," Ordabayeva says. For example, when asked to triple a given dose of alcohol, people were accurate when using cylindrical glasses (which fill up in one dimension) but poured almost four times when using martini glasses which are conical and hence fill up in both height and diameter.

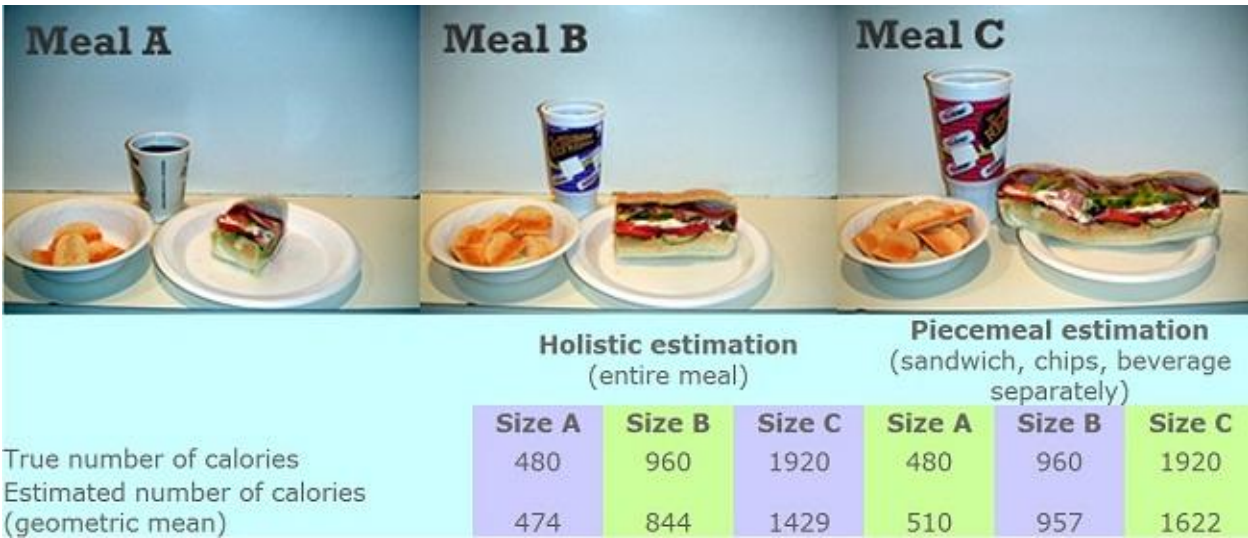


"If you want people to order a larger portion, then you should just increase the height because people will notice. If you want to reduce the quantity of your portions, for example if you had higher raw material costs, you should reduce the height, the width and the length because people won't notice," Chandon says.

The research is timely because the phenomenon of 'supersizing' has swept the US and is now moving to the rest of the world. Food portions have increased dramatically: by up to 60 per cent for salty snacks and 52 per cent for soft drinks in the past 20 years. This trend is especially dramatic at fast food restaurants, where consumers are offered much bigger meals for only small increases in price, and in grocery stores, where larger packages are considered better value. This trend has had a big impact on how much consumers eat. The supersizing trend is one of the main drivers of the obesity epidemic and packaging is adding to the problem, the study states.

"It's very easy to be influenced by marketers," Chandon says. "For example, the size of the package, the size of the meals, even the size of the plates and of the spoons; we know these things have a very strong impact on how much we eat."

"People are completely unaware of this and are very hard to de-bias. Even when we asked professional nutritionists to estimate the number of calories of fast food, they were wrong," Chandon told INSEAD Knowledge (see table below). "However, when asked to estimate the number of calories of the sandwich, side, and beverage separately, dieticians were more accurate and ordered smaller meals".



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