

## Development of a new methodology to define an optimal portion size of food taking into account consumer satisfaction, appetite sensations and energy intake

Aurélie Lesdéma Laurent<sup>\*1</sup>, Caroline Heyraud<sup>2</sup>, Celia Hacheffa<sup>2</sup>, Sophie Vinoy<sup>2</sup>

<sup>1</sup>Mondelēz International R&D, Nutrition Research and Communication, East Hanover, USA

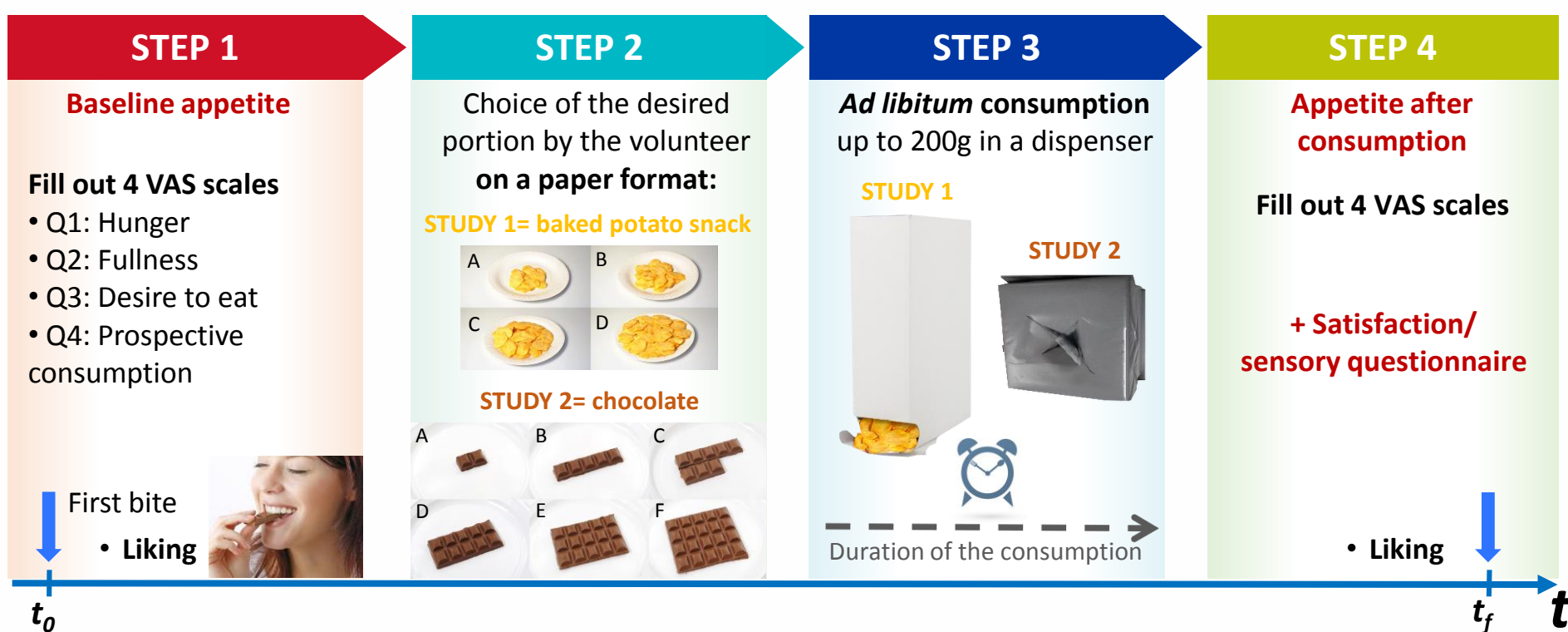
<sup>2</sup>Mondelēz International R&D, Nutrition Research and Communication, Saclay, France

### Background and Objectives:

Food portion size has increased over the last decades and can be influenced by a wide variety of factors. Recommended food portion sizes are mainly based on recommended daily intake without considering consumers' expectations. The aim of our studies was to develop a new methodology to help defining an optimal portion size by taking into account three dimensions: energy intake, fullness and overall satisfaction.

### Methods:

- Quantitative consumer studies with control location test
- **STUDY 1:** 1 session with a baked potato snack (n=120) in France (Fr) and in United Kingdom (UK)
- **STUDY 2:** 3 sessions with 3 different chocolates (1 new and 2 controls)-1 session/week (n=157)

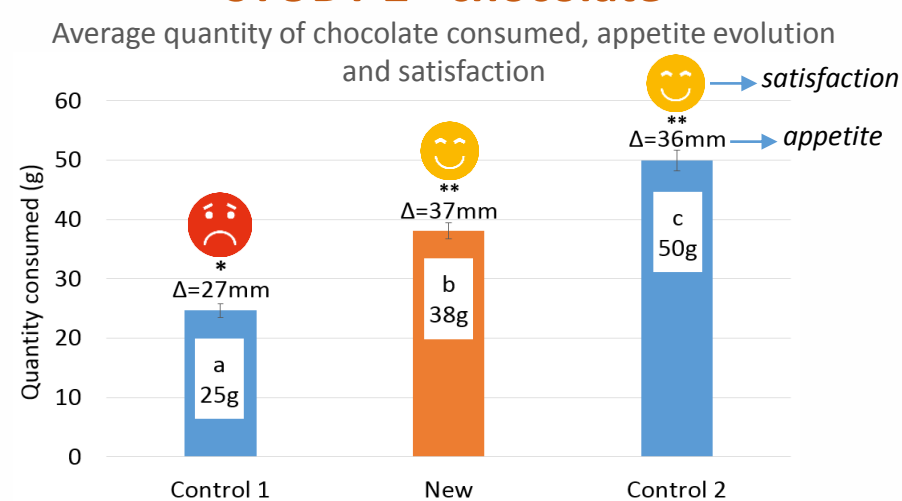


### Results: STUDY 1= baked potato snack

Country	% of consumers satisfied	Average ad libitum consumption	$\Delta$ before-after appetite sensation
	79	33g	Significant $\Delta$ (30mm)
	91	40g	Significant $\Delta$ (49mm)

In both countries, around 2/3 of the consumers declared that a portion would be suitable for a snack for an average quantity consumed of 30g.

### STUDY 2= chocolate



The New chocolate induced a high level of satisfaction and a significant decrease of appetite for an intermediate amount consumed. 2/3 of the consumers thought the amount they have consumed (38g) was suitable for a snack at this time of the day.

### Conclusions:

This new approach has provided promising results to recommend an optimal portion size. It provides relevant information to design satisfying portion sizes of snacks for consumers to help them better manage their daily energy intakes and to adopt healthier food pattern.

### Keywords:

Portion size, satisfaction, appetite, consumer studies, sensory drivers

### Conflict of Interest:

A.Lesdéma Laurent and S.Vinoy are employees at Mondelēz International R&D

### Further Collaborators:

Sensory and Marketing (Sam Research) conducted the consumer studies