

Consumer perception of portion size workshop

IFST Sensory Science Group Conference

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Agenda

- 1 What is the right portion size to get accurate consumer perception data?
- 2 Factors to take into account
- 3 Ethics
- 4 Leatherhead's research





What is the right portion size to get accurate consumer perception data?

Exercise

Company A has produced 5 variants of cereal bars. What would be the right portion size to get accurate consumer perception data? In front of you there is one sample only.

1. Work in teams and discuss the **factors** you need to take into account when serving samples to assessors.
2. Decide **how much** sample they should eat and split it in different portions
3. Depending on the number of portions you have decided assessors should consume, **try yourself** and **rate the overall liking** in a 9-point hedonic scale.

Portion 1

Dislike extremely	Dislike very much	Dislike moderately	Dislike slightly	Neither like nor dislike	Like slightly	Like moderately	Like very much	Like extremely
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Portion 2

Dislike extremely	Dislike very much	Dislike moderately	Dislike slightly	Neither like nor dislike	Like slightly	Like moderately	Like very much	Like extremely
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Factors to take into account

Number of
samples

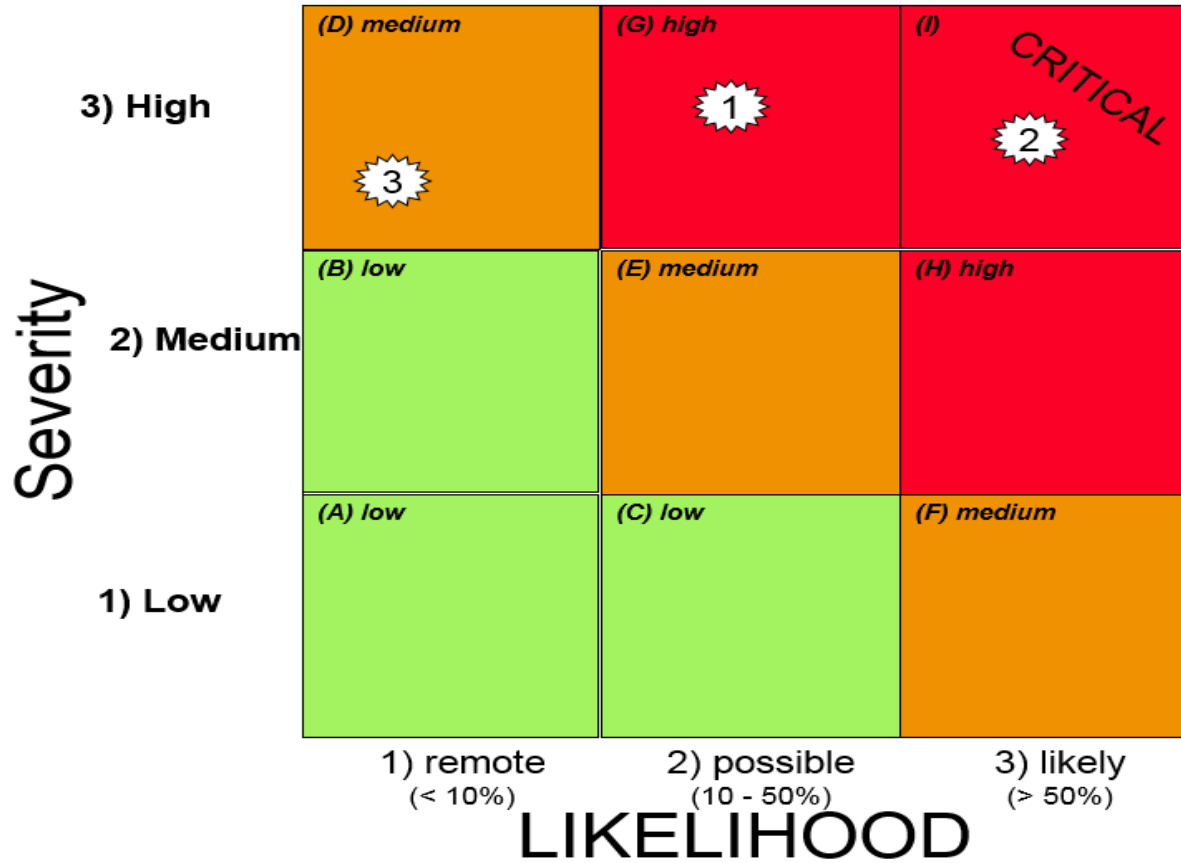
Boredom of
assessors

Satiety - liking

Ethics

Ethics 1/2

- Use of **humans** to evaluate products will always raise ethical and H&S issues
- Ethical issues, for example:
 - Population: children, elderly, other vulnerable groups
 - Intake calories
 - Fat, sugar, salt content
 - Alcohol
 - Active ingredients
 - Non-food (e.g. tobacco, cosmetics, etc.)
- Reduce any **risks** to the health of the participants by assessing severity and likelihood



Ethics 2/2

- **Organisational ethical policy/code of conduct**
 - Permitted tests using human volunteers
 - Testing on non-standard products or with non-standard tests
 - Clear guidance to employees on what is required
- **Organisation governance committee**
 - Review of proposed study to determine if organisations are prepared to take responsibility to sanction the study
- **External ethics committee (NHS or independent)**

Exercise

Considering the information shown, what ethical issues do you face when testing your products? Discuss in teams your ideas.



Leatherhead's research

G. De Turenne, R. Kralemann, S. Peleteiro, A. Goupil De Bouille

Research study

Aim

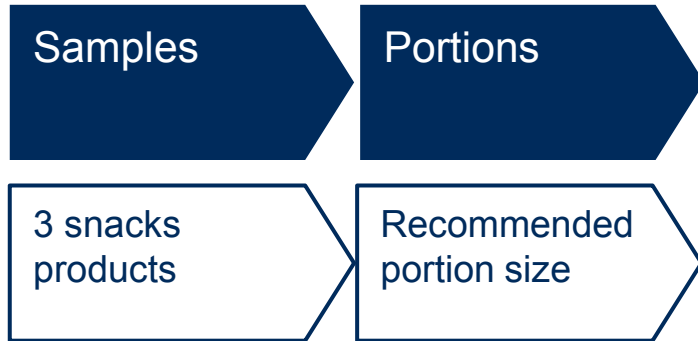
To examine which serving size is most suitable for accurate consumer perception

Approach

- Trained panel: Descriptive test – most important attributes
- Consumer test: to discover the ideal serving size

Portion size

Approach with consumers (n=100)

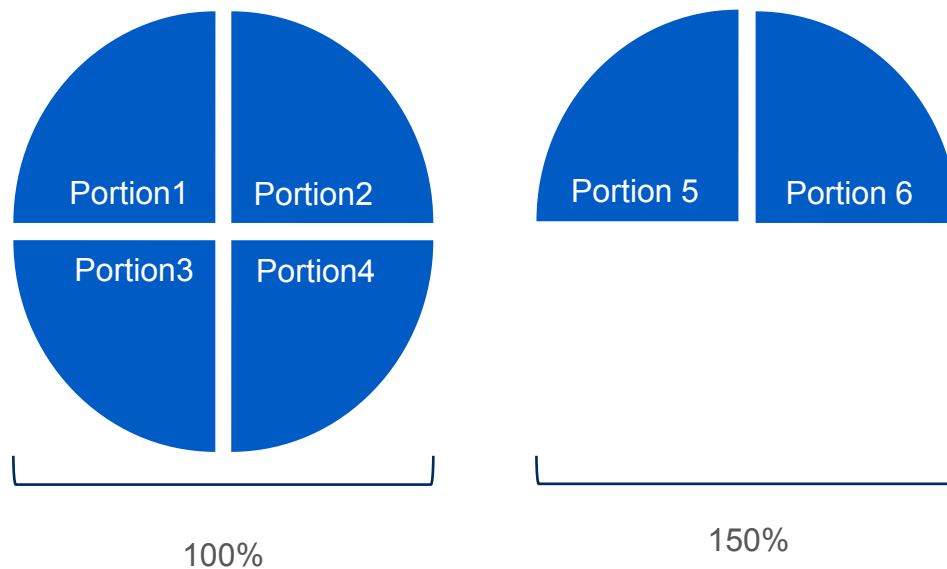


- Brownies
- Cereal bars
- Mini pork sausages

- Package
- Food Standard Agency (FSA)

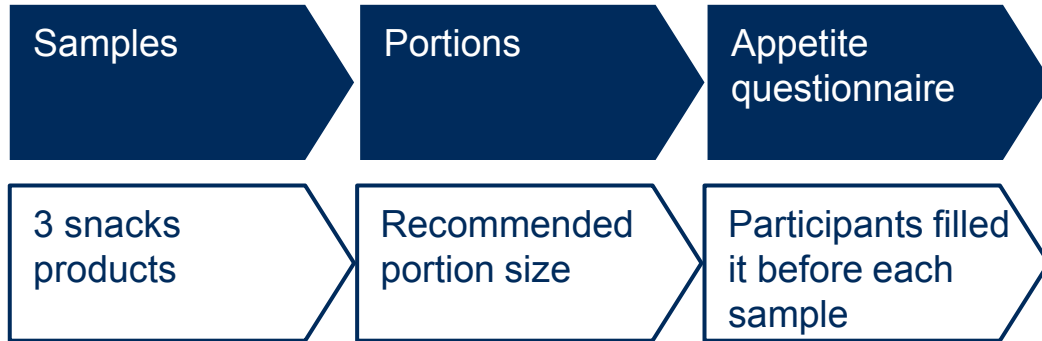
Portion size

Product	Recommended serving size = 100% (g)	One sample = 25% (g)	Total amount received = 150% (g)
Brownies	68	17	102
Cereal bars	42	10.5	63
Sausages	67	16.7	100.5



Portion size

Approach with consumers



- Brownies
- Cereal bars
- Mini pork sausages

- Package
- Food Standard Agency (FSA)

- Desire to eat
- Hungriness
- Fullness
- Boredom
- How much they thought they could eat before tasting the products

Appetite questionnaire

How strong is your desire to eat?

Weak

Strong

How hungry are you?

Not

Very

How full do you feel?

Not

Very

How much food do you think you could eat?

Very little

Very much

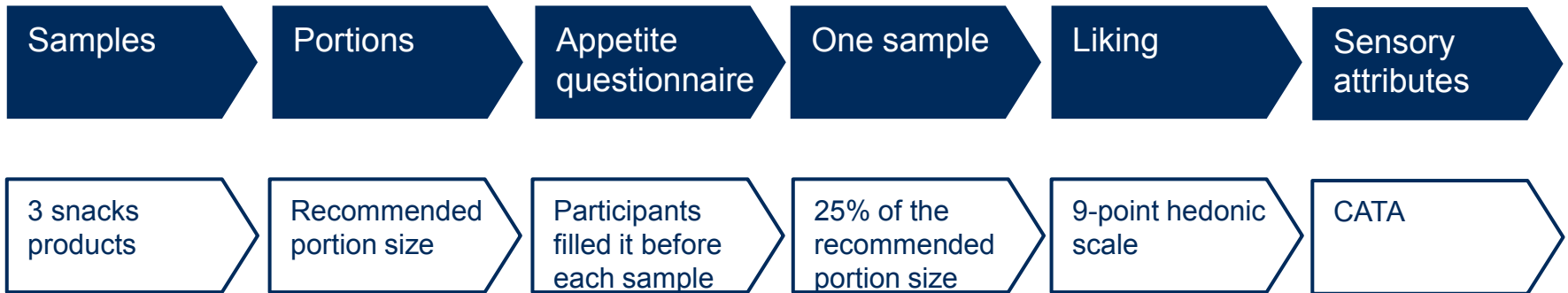
How bored are you?

Not

Very

Portion size

Approach with consumers



- Brownies
- Cereal bars
- Mini pork sausages

- Package
- Food Standard Agency (FSA)

- Desire to eat
- Hungeriness
- Fullness
- Boredom
- How much they thought they could eat before tasting the products

- Participants instructed to eat the whole sample
- “How much did you just eat?”
 - “nothing”
 - “part of the sample”
 - “the whole sample”.

- Dislike extremely (1)
- Neither like nor dislike (5)
- Like extremely (9)

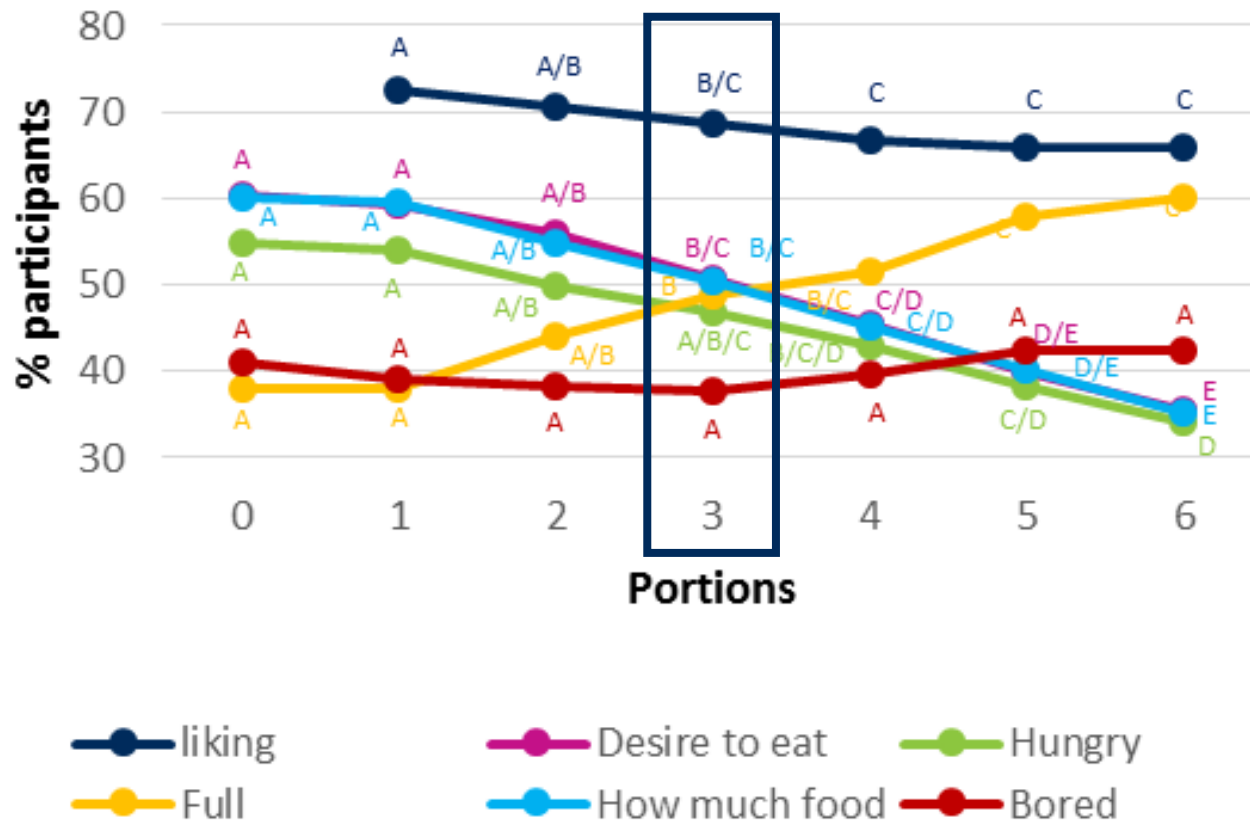
- Assessors selected the attributes that apply to the sample

CATA – cereal bars

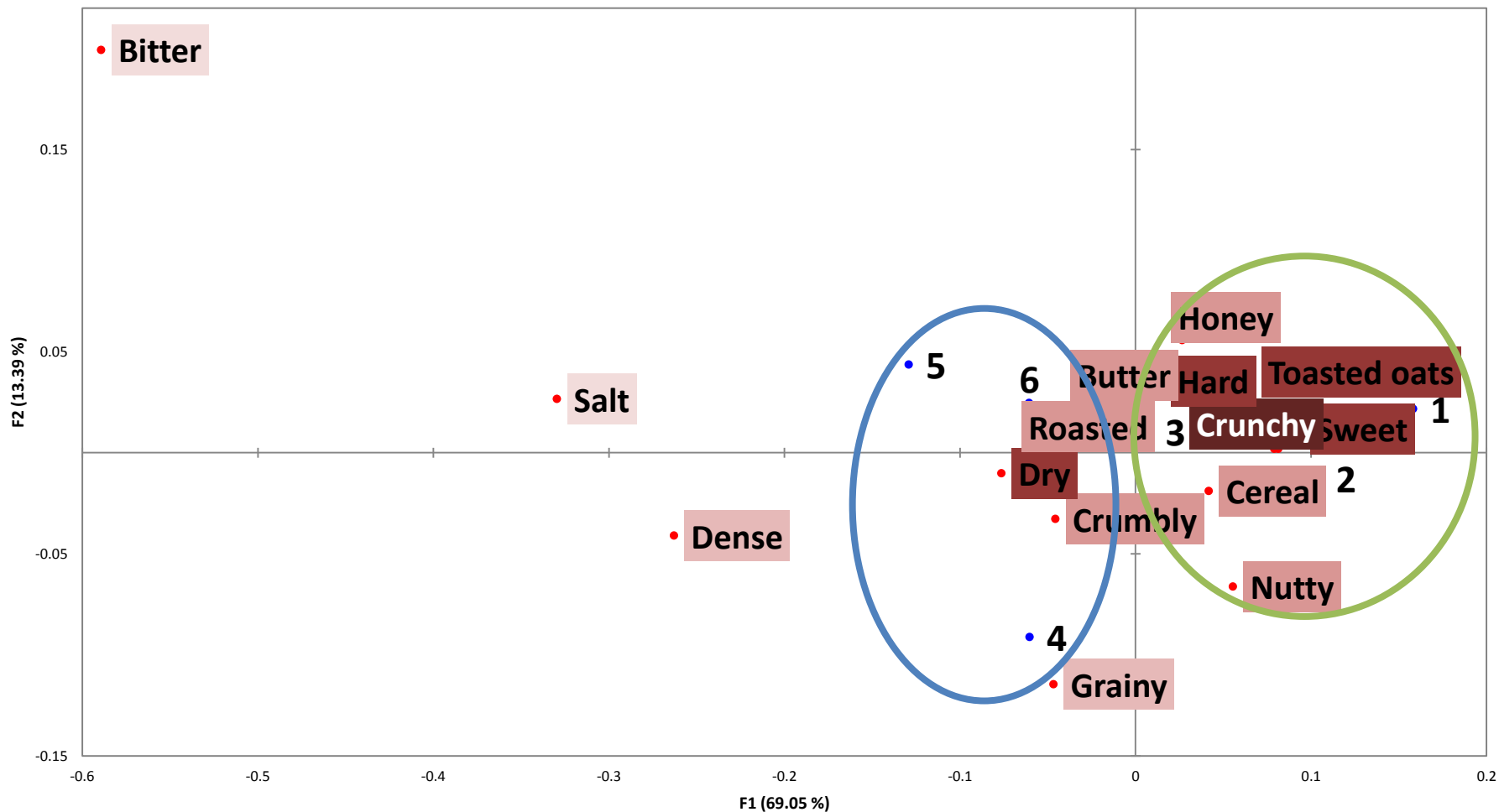
Please select amongst the following attributes the ones that you think apply to the sample.

Honey	Toasted oats	Cereal	Crumbly
Dense	Butter	Sweet	Grainy
Roasted	Hard	Crunchy	Dry
Nutty	Salt	Bitter	Other <input type="text"/>

Evolution of consumers' perception during the consumption of cereal bars



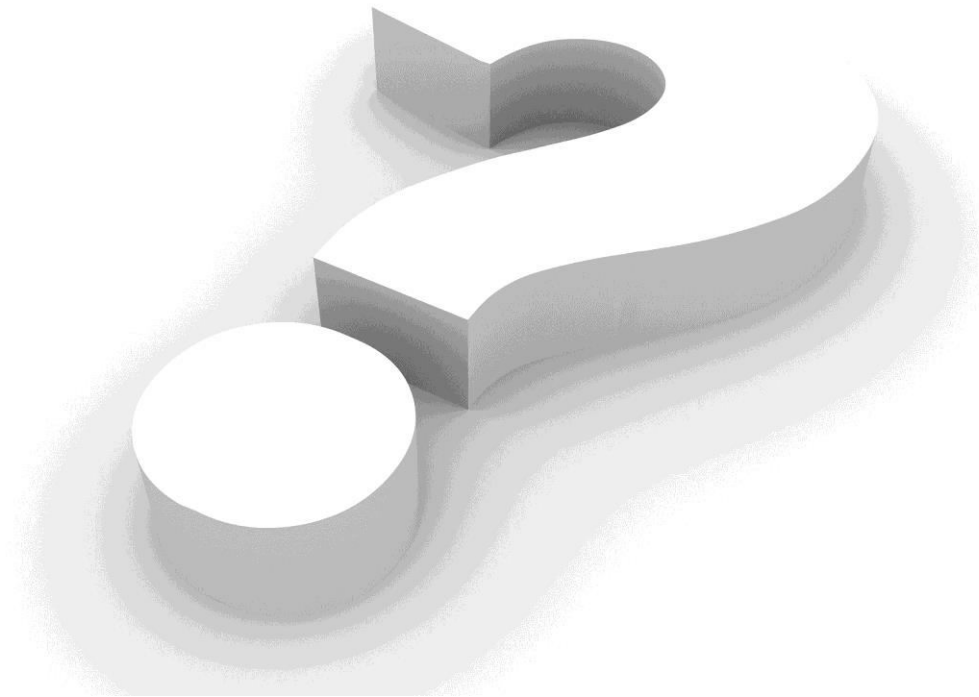
CATA results - cereal bars



Conclusion

- Consumer perception is linked to the amount of food consumed
- The amount of sample eaten in the session:
 - ↑ fullness
 - ↓ desire to eat and liking
- Split between the first and last 3 portions
- After portion 3 measured parameters didn't significantly change further
- 75% of the FSA recommended portion size appears to be a reliable amount to give assessors during consumer studies

Any discussion points?



Thank you

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