How consumers' food habits shape hedonic judgment?
A cross cultural sensory evaluation of Bibimpap, a Korean dish

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Introduction

Sensory analysis is usually undertaken to target drivers of liking of a specific product. With an original cross cultural database composed of sensory and behaviours data, we aim at assessing another parameter of consumer liking. In what measure familiarity with the product and neophobia behaviours influence consumers' liking? These drivers of liking will highlight the results of a sensory analysis of Bibimpap, a Korean dish.

Methods

- Participants came from two different countries: France (83 people) and Korea (98).
- Eating behaviours data were collected by 18 questions measuring reluctance for unknown food and acceptance of new products.
- We performed a Multiple Correspondence Analysis, followed by a Hierarchical Clustering on Principle Components (HCPC), to describe 3 groups of eating behaviours per country : "Neophobia", "Moderate", "Neophilia".
- Participants also tested 5 versions of a Korean dish named Bibimpap, differing by the type of rice used in the recipe. Consumers gave hedonic judgments and evaluated the samples on a familiarity question and on sensorial descriptors .
- We did not scale data in our analyses in order to target liking more than preferences.

Results

1) Importance of familiarity in Korean consumers' liking

We performed a Correspondence Analysis using contingency tables between overall liking and drivers (familiarity and liking descriptors managed as qualitative variables). We represented associations between familiarity (added as a supplementary variable) and overall liking levels (*Figure 1*).
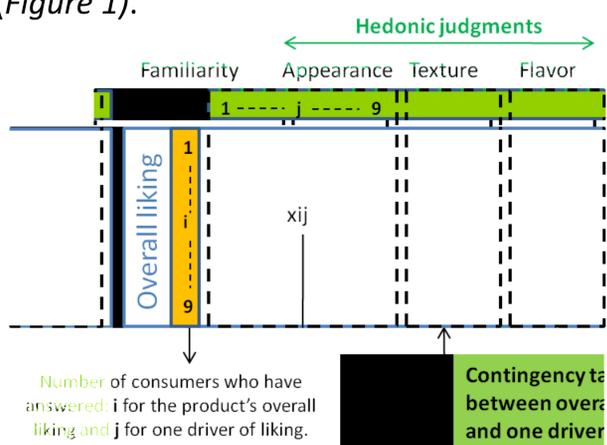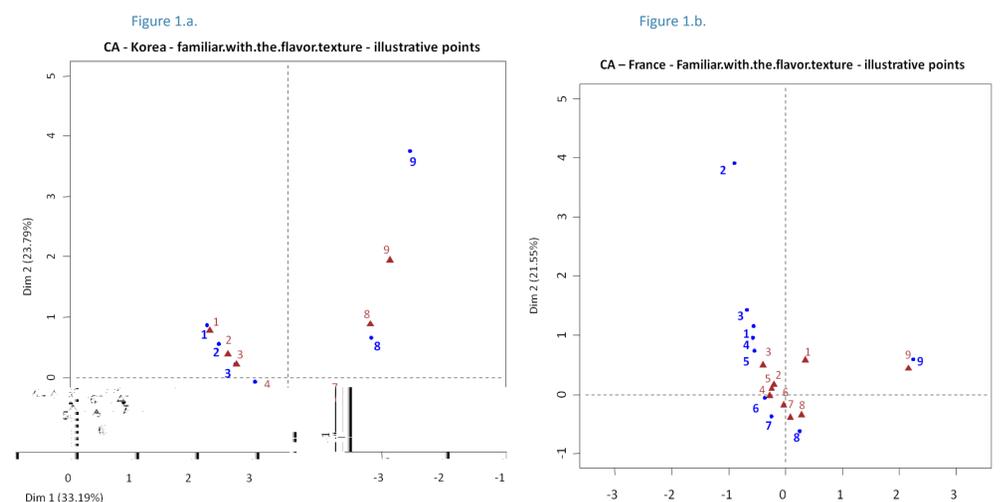

Figure 1: Factorial map of the correspondence analysis. Figure 1.a. : CA for Korea, Figure 1.b. : CA for France
- ● 5 : modality for the product's overall liking
- ▲ 5 : modality for the familiarity with the product

Figure 1.a.
CA - Korea - familiar.with.the.flavor.texture - illustrative points

Figure 1.b.
CA – France - Familiar.with.the.flavor.texture - illustrative points

In Korea, familiarity is a major driver of consumers' liking : the more a consumer knows the product, the more he appreciates it. For French consumers, familiarity does not shape the product's overall liking because Bibimpap is not a common dish in France.

2) Importance of neophobia behaviours in liking new food

Using Principal Components Analysis, we mapped hedonic judgments for the five Bibimpap tasted on a two principal components plane explaining 57% of the variability *(Figure 2)*. Eating behaviours profiles were projected on illustrative on the individuals map.

Both segments of consumers obtained by HCPC are significantly linked to eating behaviors' profiles: 70% of consumers from "neophobia group" globally less appreciate Bibimpap. In the case of France, the products' overall liking depends on eating behaviour profile. On the contrary, in Korea where Bibimpap is a regularly consumed dish, hedonic judgment is not linked to neophobia.

Figure 2: Factorial map of the Principal Components Analysis.
- ■ neo   center of neophobia profiles located as illustrative elements
- Basmati   active variables : overall liking of one Bibimpap

FRANCE -PCA hedonic judgment on Bibimpap and illustrative eating behaviors
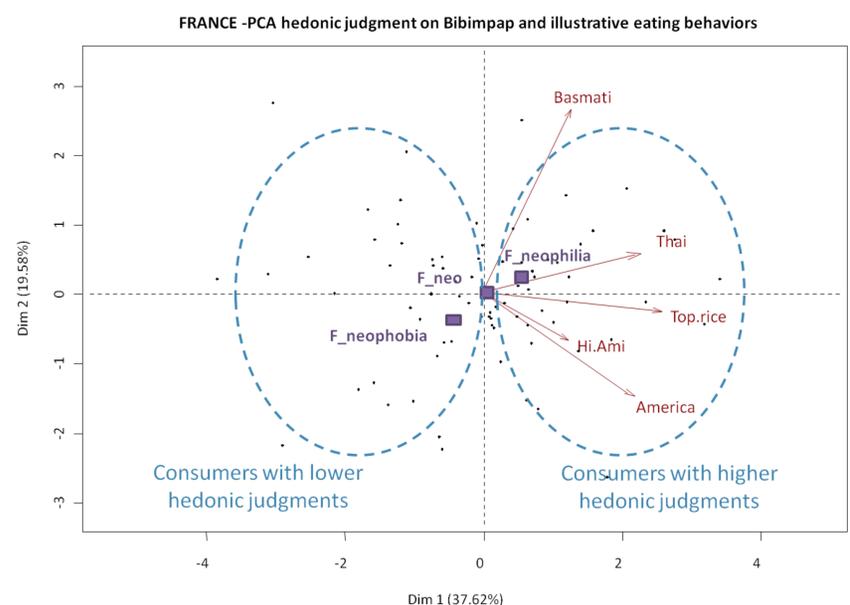
Conclusions

- Consumers who are familiar with a food are more likely to compare it with their own references. In that case, their liking depends on their food habits and familiarity is a major driver of liking, independently of eating behaviours.
- When a dish doesn't belong to consumers' food habits, willingness to try new food favours appreciation. The more the consumers will be open minded, the more they will be eager to like unknown food.
- Thanks to Seojin Chung for giving us the opportunity to work on such data!