

SENSORY CLAIMS RELEVANCE : HOW DO CONSUMERS INTERPRET SENSORY VOCABULARY ?



METHODOLOGICAL APPROACH

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INTRODUCTION

- In increasingly competitive markets, **sensory claims** are **powerful marketing tools** and the need to **communicate more responsibly** to consumers is a major issue across the whole industry.
- Effective claims could be selected based on **how consumers interpret the underlying vocabulary**.

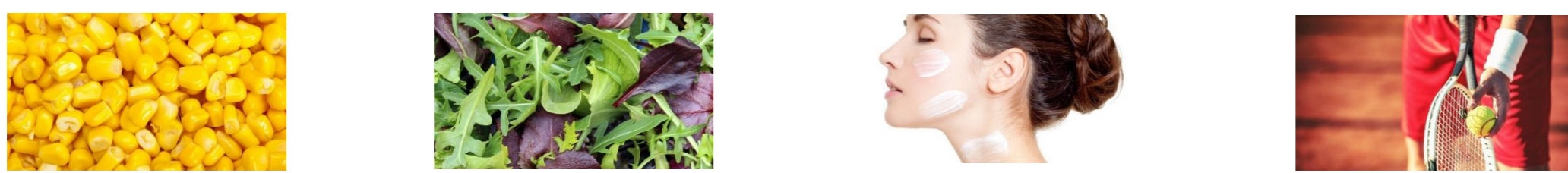
OBJECTIVES

- Develop a **methodology** for evaluating **sensory terms relevance** using a **confidence index** based on 3 components: **appropriateness, understanding, valence**.
- Propose a **recommendation area** for several **product categories** in the use of **sensory vocabulary** with consumers.

MATERIAL & METHODS

SENSORY TERMS

A total of **60 terms**, used in **sensory descriptive tests**, relevant to **4 product categories** (corn : 12 terms, packaged salads : 12 terms, cosmetic face creams : 24 terms, grip/overgrip of tennis rackets : 24 terms).



PANELISTS

A total of **2529 French consumers** with specific recruitment criteria for each product category such as age, gender or frequency of use (corn : 570 consumers, packaged salads : 523 consumers, cosmetic face creams : 1077 consumers, grip/overgrip of tennis rackets : 359 consumers).

GENERAL PROCEDURE

- Each consumer answered an **online questionnaire**, without product trial.
- Respondents evaluated **6 terms** for **one product category**.
- Terms were investigated following a **balanced incomplete block design**.

DATA ACQUISITION

- Consumers scored **appropriateness, understanding and valence** of each term on **7-point scales**.

Appropriateness : "In your opinion, can the following terms be used to describe the texture of certain face creams or their effects on the skin?"
(on a scale from "Not agree at all" to "Completely agree")

Understanding : "When someone talks about a face cream or its effects on the skin, do you understand what the following terms mean?"
(on a scale from "Not understood at all" to "Completely understood")

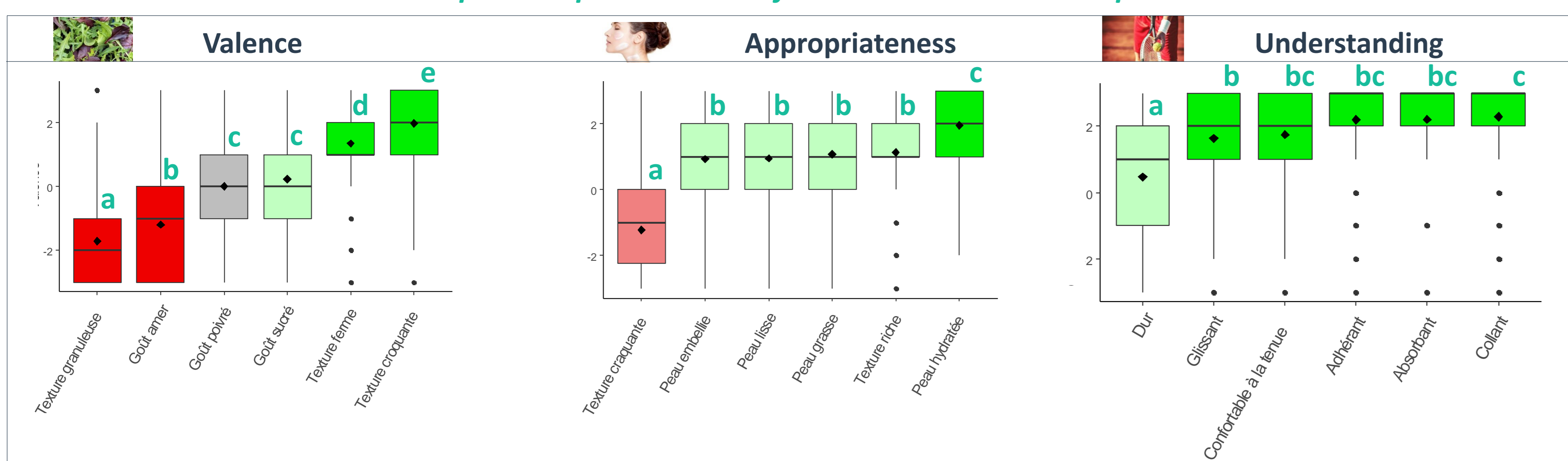
Valence : "Do you associate the following terms with a pleasant sensation when used to describe the texture or the effect on the skin of a face cream?"
(on a scale from "Not pleasant at all" to "Completely pleasant")

- Additionally, consumers described each term in a **free comment task** and rated the **importance** of the 3 components for the terms used in claims.
- Consumers answered several questions related to their **socio-demographic profile** and their **proximity to the product category**.

RESULTS

For the sake of clarity, the results presented concern only 18 terms, out of the 60 studied

Graphical representation of 18 terms as colored boxplots



Two means are significantly different if they do not share the same letter (Tukey's test, $\alpha = 5\%$)

A boxplot is colored if it is significantly above and/or below theoretical means (Student's test, $\alpha = 5\%$) : $\mu < -1$; $-1 < \mu < 0$; $\mu = 0$; $0 < \mu < 1$; $\mu > 1$

*French label attributes

Summary table and confidence indices for 18 terms

Product category	Term *	Valence	Appropriateness	Understanding	Index
Packaged salads	Texture croquante	Green	Green	Green	1,85
	Texture ferme	Green	Green	Green	1,47
	Goût sucré	Green	Green	Green	0,33
	Goût poivré	Green	Green	Green	0,12
	Goût amer	Red	Green	Green	-0,05
Cosmetic face creams	Texture granuleuse	Red	Green	Green	-0,72
	Peau hydratée	Green	Green	Green	2,13
	Peau embellie	Green	Green	Green	1,39
	Peau lisse	Green	Green	Green	1,36
	Texture riche	Green	Green	Green	1,21
	Peau grasse	Red	Green	Green	0,48
Grip/overgrip of tennis rackets	Texture croquante	Red	Green	Green	-1,07
	Absorbant	Green	Green	Green	1,97
	Adhérent	Green	Green	Green	1,86
	Confortable à la tenue	Green	Green	Green	1,81
	Collant	Green	Green	Green	1,27
	Glissant	Green	Green	Green	-0,19
	Dur	Red	Green	Green	-0,64

For each term, the confidence index was calculated by averaging the mean scores of the components weighted by their degree of importance.

Cell and index colors were established in the same way as presented above.

*French label attributes

Free comment task

- On average, **39%** of consumers were unable to **describe** the terms. Some terms are more **complex** to define: the percentage of the panel that gave a descriptive definition varies from **21** to **90%** depending on the term.
- On average, a sensory attribute was described by 41 descriptive terms. Some terms generated more verbatims: the average number of verbatims varies from 14 to 88.
- On average, consumers had more **difficulty** defining terms related to **vegetables**.

The results of this large experiment demonstrate the usefulness of the 3 dimensions associated and propose a new methodological way to screen promising or risky terms. The present work highlighted specific sensory terms interpretation depending on consumer characteristics such as age or gender (not presented in the poster).

In perspective, future works could investigate the effectiveness of these terms when used as sensory claims.

Finally, this approach would be also very useful to select attributes before sensory tasks performed with consumers (CATA or JAR).

- Discrimination**
ANOVA followed by the Tukey post hoc test highlight the difference between sensory terms.

- Identification**
Additionally, the Student tests identify the promising (colored in green) and risky (colored in red) sensory terms.

Regarding appropriateness for example, only "Peau hydratée" seems promising. On the contrary, "Texture craquante" had a negative score.

- The sensory terms studied were **discriminated** for each component (Valence, Appropriateness, Understanding) in all product categories.
- Certain terms are associated with a **pleasant feeling, understood** and considered **adequate** to describe the product. We can define these attributes as promising (e.g., "Texture croquante", "Peau hydratée" or "Absorbant").
- On the other hand, other terms seem riskier since one or more components are negative (e.g., "Texture granuleuse", "Texture craquante" or "Dur").
- Understanding** is the component that least discriminates between terms.
- The confidence index makes it possible to **synthesize** information from the three components on a **single score** and can be tested to define interesting sensory terms to be classified according to their **potential interest**.