What’s new in sensory food research in Europe?

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>>> Fast Forward >>>

www.e3sensory.eu
Eurosense meetings
Descriptive Analysis
↓
panel performance validation
↓
Perceptual map
↓
Product selection
↓
Consumer testing
↓
Preference maps & consumer segmentation

Edited by Hal MacFie

Edited by T. Naes et al.
Papers (%) presented at Eurosense, Berne 2013

- Sensory & Consumer
- Consumer
- Sensory

Rapid methods
New methods

Flash Analysis TDS

Pivot profile

CAT/A

Free Sort

Napping
Rapid methods:

**WHY**
the growing industrial demand to develop faster and more cost-effective methods of descriptive analysis

- rapid access (in one or two sessions) to the relative sensory positioning of a set of food products: Perceptual Maps

**WHAT**
- do not require a training phase and can be performed either by trained or untrained assessors.

- obtain a coarse, but still sufficient, sensory description of products
Rapid methods:

<table>
<thead>
<tr>
<th>HOW</th>
<th>Description</th>
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</table>
| **Descriptive (or verbal)** | Flash Analysis  
Free Choice Profile  
Check-All-That-Apply |
| **Similarity** | Free Sorting Task  
Projective Mapping / Napping  
Direct similarity ratings |
| **Reference-based** | Polarised Sensory Positioning  
Pivot Profile |
Application of Descriptive Analysis and Rapid methods in FQAP & JSS papers from 1995 to 2013
Rapid methods: main limitations

- List of attributes
- Two sessions
- Samples presented simultaneously
- Lack of consensus
- Interpretation of sensory terms
- Stability references
- Numbers of products
- Similar samples
Research studies on rapid methods:

projective mapping or free sorting task
vs
conventional descriptive analysis

check-all-that-apply
vs
other rapid method
Application of Descriptive Analysis and Rapid methods in FQAP & JSS papers from 1995 to 2013

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<tr>
<td>Free Choice Profile</td>
<td>PM</td>
<td>FS</td>
<td>FA</td>
<td>CATA</td>
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<tr>
<td>Projective Mapping /Napping</td>
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<tr>
<td>Sorting</td>
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<tr>
<td>Check All That Apply</td>
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<tr>
<td>Flash Analysis</td>
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<td>Free Choice Profile</td>
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Legend:
- PM: Projective Mapping
- FS: Free Choice Profile
- FA: Flash Analysis
- CATA: Check All That Apply
- FCP: Free Choice Profile
Research studies on rapid methods:

Focus on individual differences among consumers
Consumer study on wine

Individual map from Subj.n° 60: a good example
The max distance among products is similar to the distance between the replicated sample.

Samples are sorted in two groups.
Subj. 59: a very poor positioning
Research studies on rapid methods:

Involvement scale for consumer recruitment

High involvement

L. Torri et al./Food Quality and Preference 29 (2013) 6–15
Papers (%) presented at Eurosense, Berne 2013

- Sensory & Consumer
- Consumer
- Sensory

Rapid methods
New methods

TDS
Flash Analysis
PIVA
Perfume profile
Free Sort
Napping
New methods: the TDS case

The number of papers on TDS keeps growing:
The application of TDS in studies on the sensory functionality of ingredients increases
The application in studies aimed at defining the sensory properties of specific food combinations or complex product increases
New methods: the TDS case

Aspects that need to be further investigated:

More attention to the generation of the descriptive terms

Availability of fast and easy approaches to test significant differences between products in relation to dominant attributes

Better understanding of individual variability among assessors

Role of TDS in product development and optimization

The extension of the evaluation to the consumption of the whole product
Papers (%) presented at Eurosense, Berne 2013

Natural settings
Emotions
Observation

Imagined environment
Eye tracking
Immersive
Measuring Emotions

**WHY**
The need of a common lexicon for sensory and marketing to communicate

**WHAT**
Defining the emotional profile

**HOW**
Questionnaires

- standardized questionnaire
- vs
- recent research questions
- product specific questionnaires
Emotions

Limits of standardised questionnaires:

- Lack of the terms: Emotions are not product specific
- Ambiguity (words are not presented in a context): the same term can indicate different emotions in the same language
- Inappropriate translation: translating emotions in different languages and cultures is difficult

Proposed alternatives:

- Focus group based method on products presented blind using a master list. (Thompson et al. 2010)
- RGM based method on products presented blind and branded (Ng et al. 2012; 2013; Spinelli et al. 2012)
(EMOSEMIO VS ESSENSE™) from Spinelli et al. 2012

- L vs P
- ≠ sensory profile
- ≠ liking

* Significant differences for p ≤ 0.05
Focus on the importance of testing conditions in collecting affective consumer responses

......from laboratory to natural settings

written scenario to evoke a consumption context in a laboratory setting (Hein et al. 2010)

Evoked consumption context using pictures (Hersleth et al. 2012)

Fig. 1. 3D representations of the immersive bars: warmth furniture (a) and cold furniture (b).
near future

focus on:

rapid methods

sensory & emotional/"feelings"

profiles

evoked & simulated

consumption contexts