

Characterization and perceptual mapping of luxury women's fragrances using sorting, projective mapping, and conventional descriptive analysis

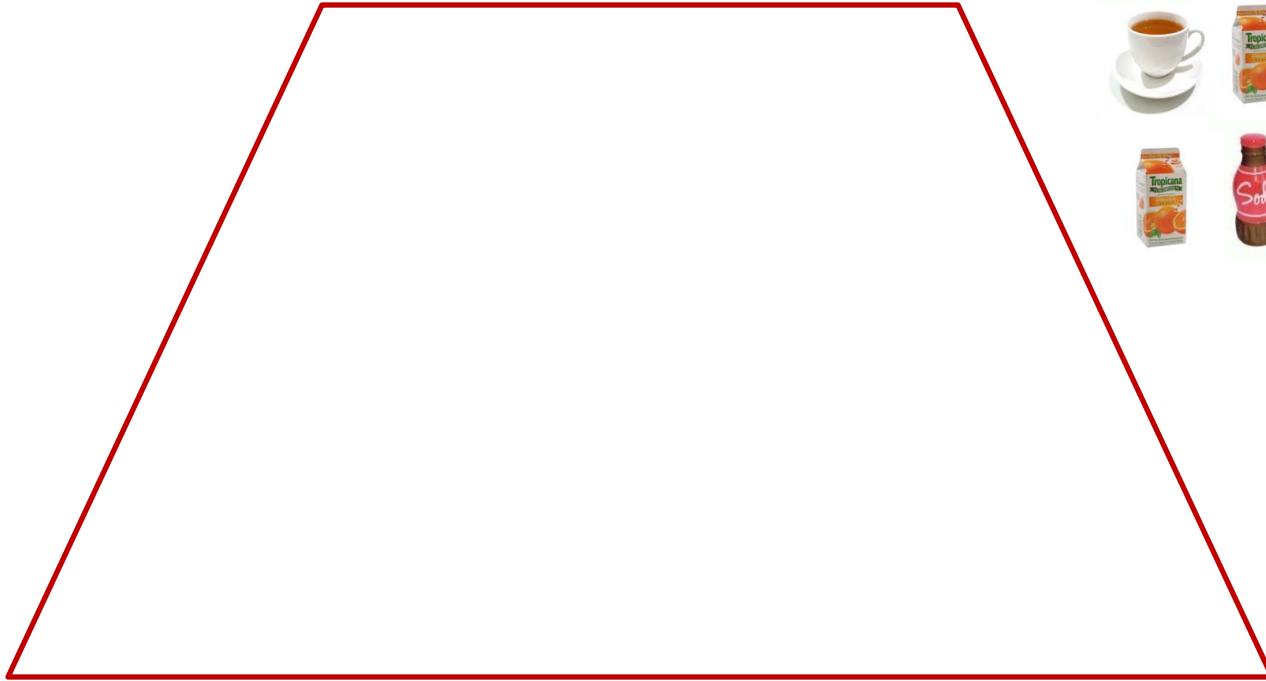
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Sorting

- Widely used in the psychology field
- Stimuli are sorted based on their similarity.
- Number of groups > 1 and $<$ number of stimuli
- Cost and time efficient method
- Data are analyzed by multidimensional scaling or multiple factor analysis.

Sorting



Sorting

Group 1:
bitter, relaxing



Group 2:
carbonated, sweet



Group 3:
sweet, refreshing



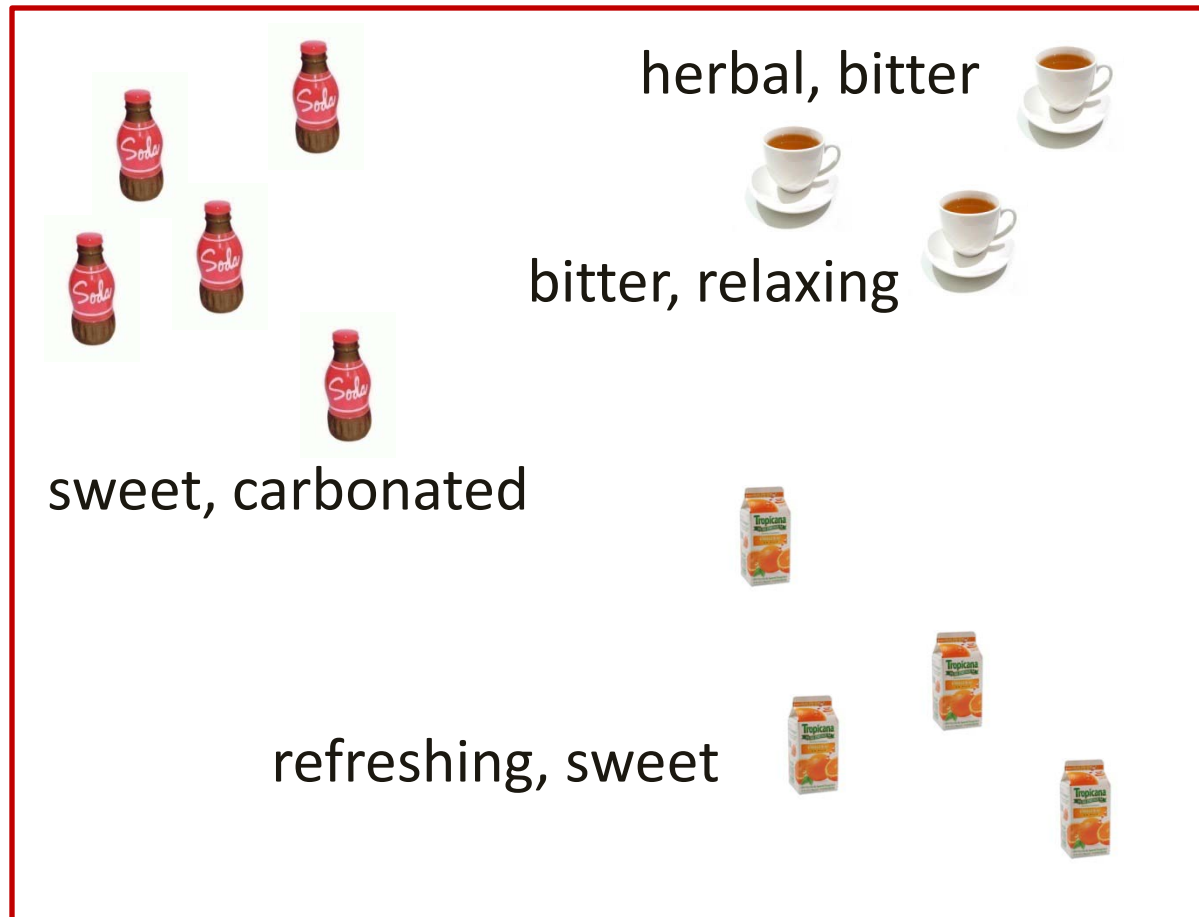
Projective Mapping (PM)

- Adapted from projective techniques used in qualitative market research
- Stimuli are placed on the space based on their similarity and dissimilarity.
- Data are analyzed by multiple factor analysis or generalized procrustes analysis.
- RV coefficients are used to understand the correlation between the consensus space.

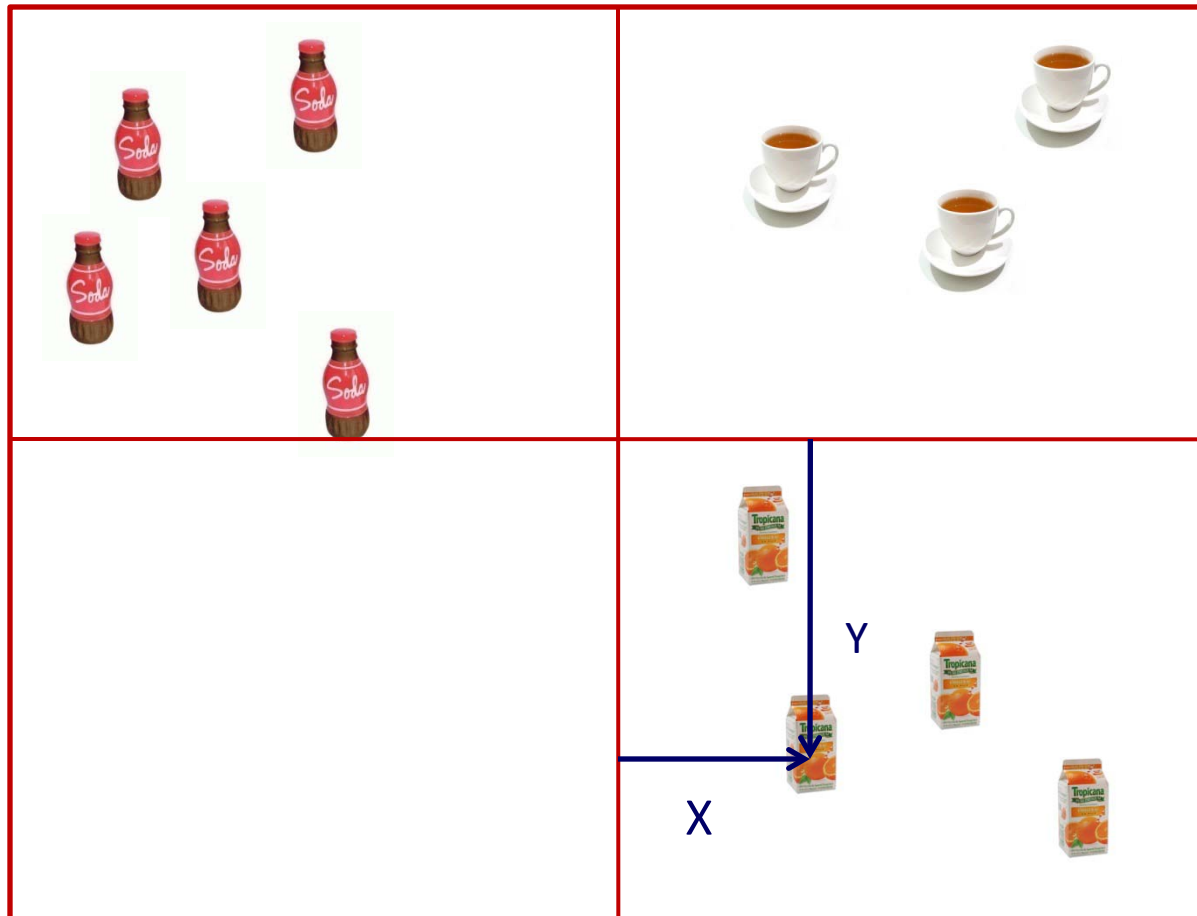
Projective Mapping



Projective Mapping



Projective Mapping



Objectives



To determine if perceptual mapping techniques are useful in understanding sensory characteristics of fragrances compared to the conventional descriptive analysis



To compare the results of perceptual mapping obtained from descriptive and consumer panels



To assess consumer reproducibility of perceptual mapping tasks

Stimuli



* EP stands for Eau de Parfum

* ET stands for Eau de Toilette

** represents duplicate samples used in consumer perceptual mapping study

Perfume Name	Type*
Angel	EP
Aromatics Elixir	EP
Chanel N 5	EP
Cinéma	EP
Coco Mademoiselle	EP
L'Instant de Guerlain	EP
J'Adore	EP
J'Adore	ET
Lolita Lempicka	EP
Pleasures	EP
Pure Poison**	EP
Shalimar**	ET

Sample Preparation



Sample Preparation



Assessors

- Descriptive panelists (n=12)
 - sorting/projective mapping
 - conventional descriptive analysis (3 replications)
- Fragrance users (n=117)
 - women
 - age ranged from 25-55
 - use perfume at least 2-4 times a week
 - have no discomforts in using fragrances
 - recruited from the Sensory & Consumer Research data base

Sorting Procedures

- Samples simultaneously presented
- Sort samples based on the similarity
- Name each group of sample based on their sensory characteristics

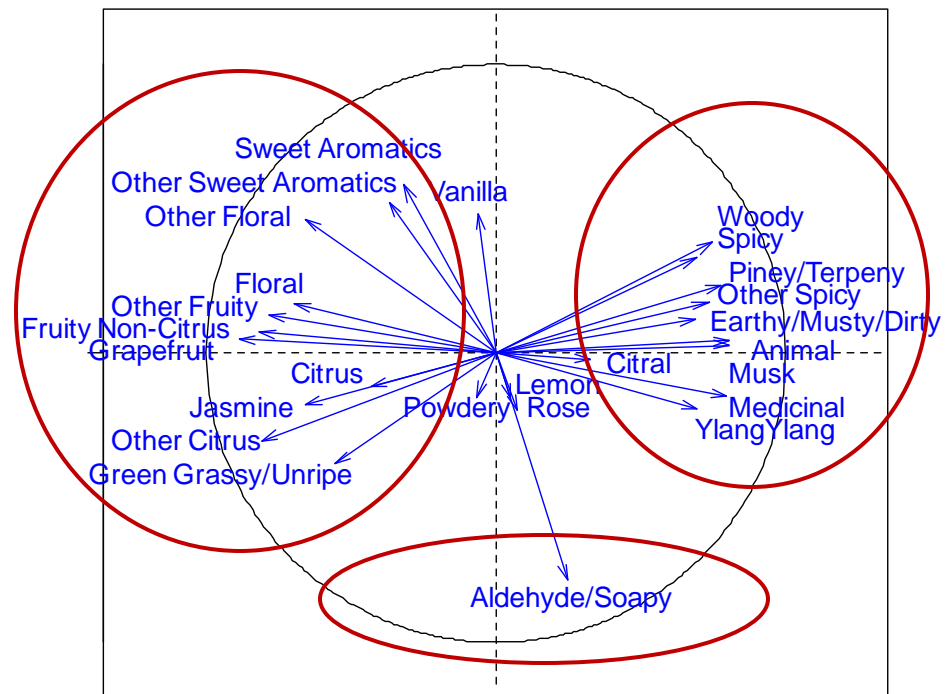
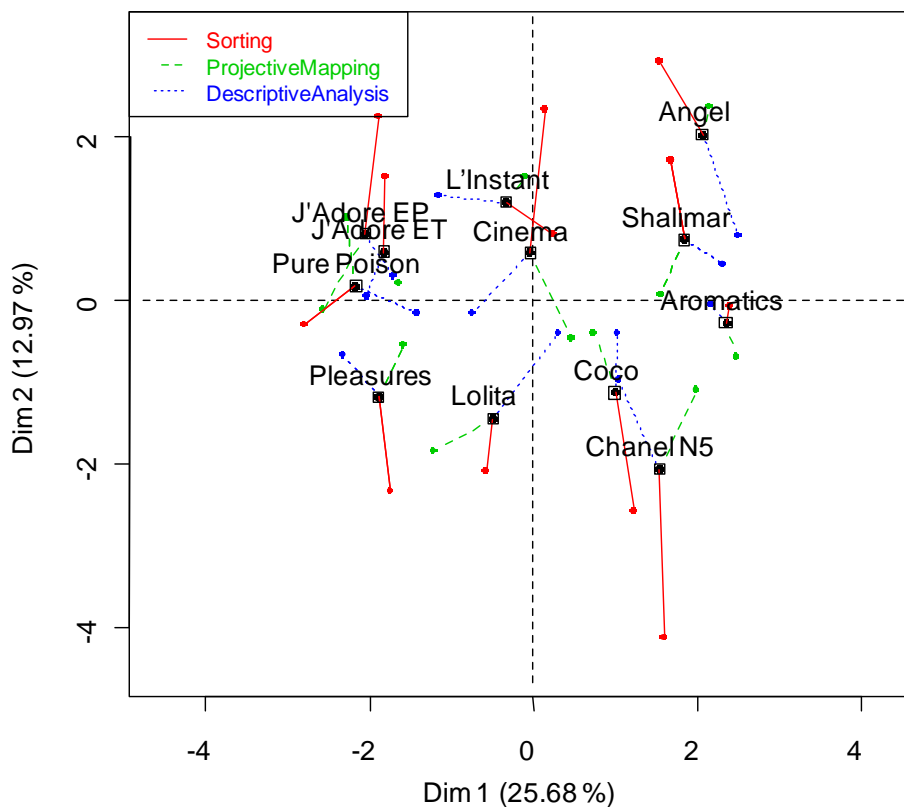


Projective Mapping Procedures



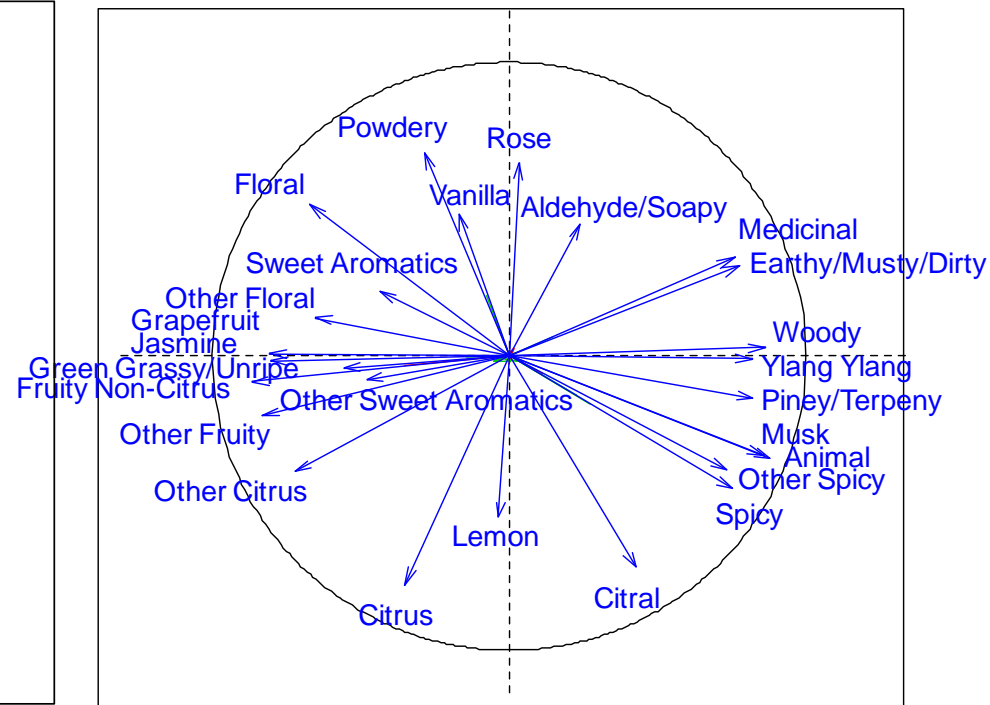
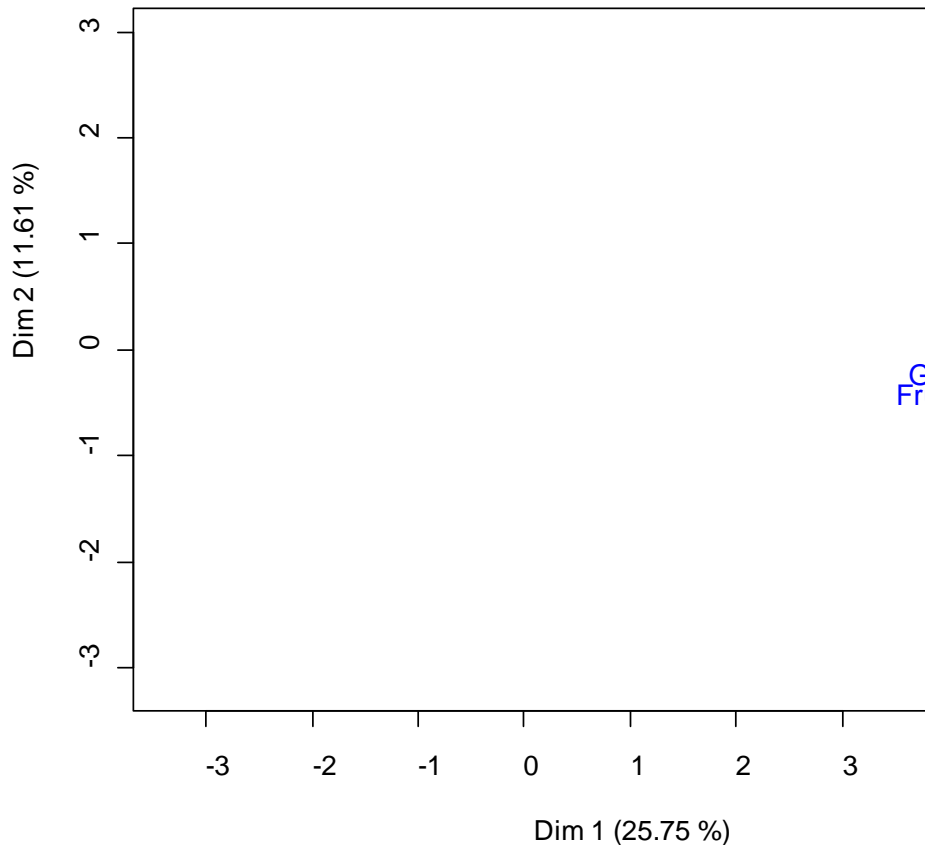
- Samples simultaneously presented
- Place samples in the space (white paper)
- Mark an X on the paper to identify sample location
- Add terms on the paper to describe samples

MFA Results Comparing the 3 Methods using 'Descriptive Panelists'



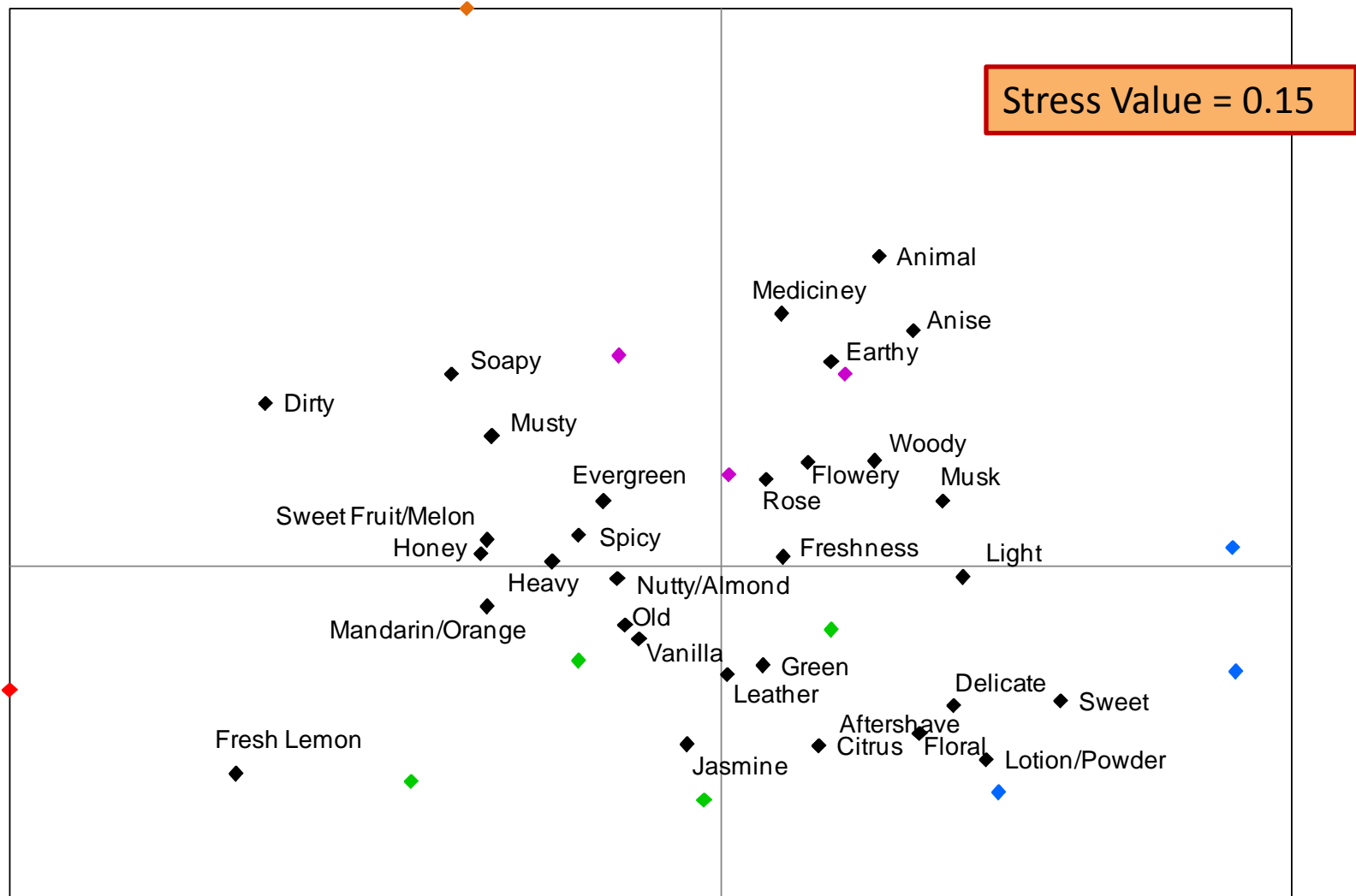
RV coefficients: Sorting vs. PM = 0.67
 Sorting vs. DA = 0.63
 PM vs. DA = 0.69

MFA Results Comparing the 3 Methods using 'Fragrance Users'



RV coefficients: Sorting vs. PM = 0.94
Sorting vs. DA = 0.74
PM vs. DA = 0.84

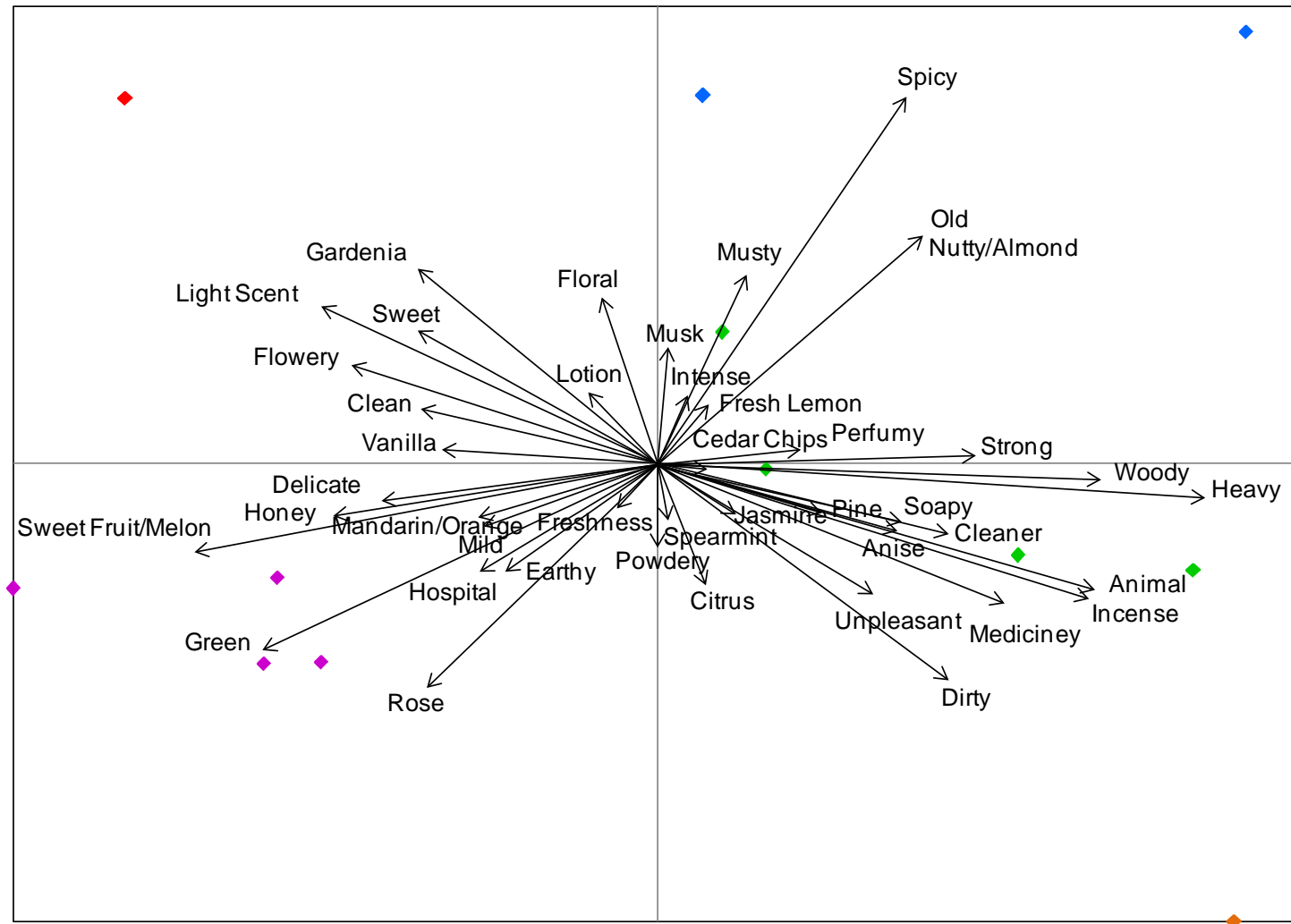
Sorting Results – Descriptive Panel



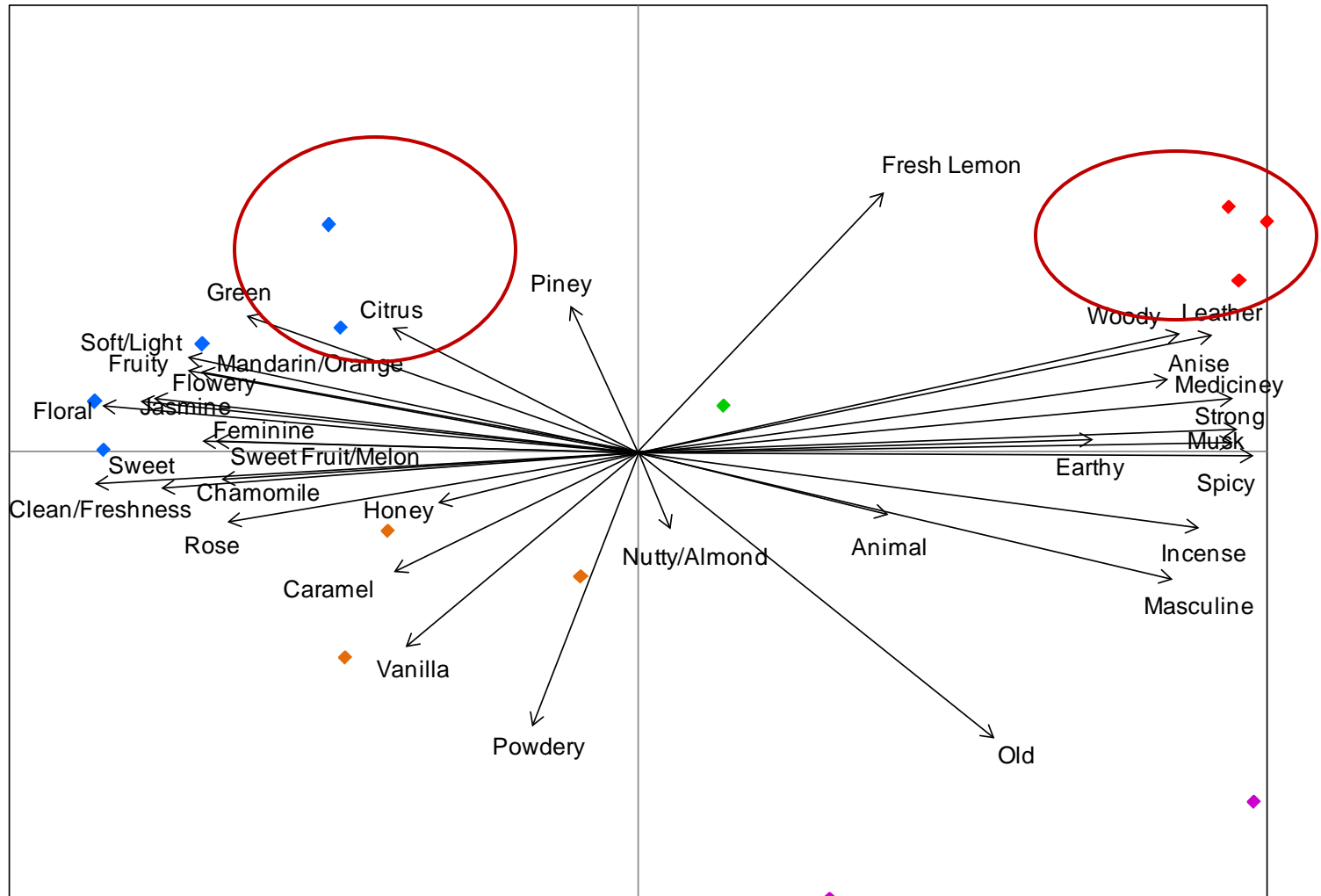
Sorting Results – Consumer Panel



PM Results – Descriptive Panel



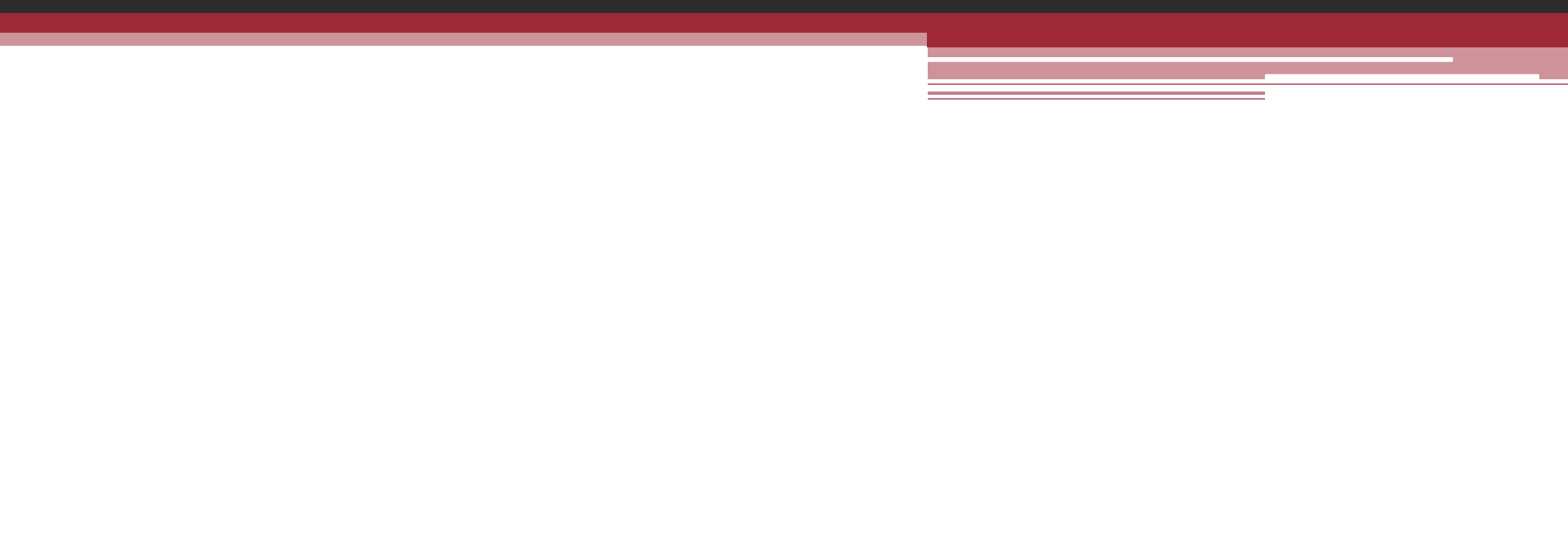
PM Results – Consumer Panel



Conclusions

- Configurations of these three techniques were similar for both panels. However, projective mapping showed higher agreement with descriptive analysis than sorting.
- Consumers showed reproducibility in performing perceptual mapping tasks.
- Perceptual mapping was effective as an exploratory sensory technique for screening a large number of products.
- The experimenter should have the option of using naïve consumers rather than descriptive panelists in understanding product sensory characteristics.

Thank you.
For further information, please visit
poster #35.

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