



sensorydimensions



Rapid Profiling Techniques:

How do they compare to
traditional methods?

S. Gough, A. Hasted, I. Wakeling, T. Hollowood*,
L. Buntinas, P. Beyts

Objectives



sensorydimensions

How does each method compare to the output from QDA?

How consistent is each method?

Are naive panellists comparable to trained panellists?



Study Design



sensorydimensions

Napping

Trained
Separate modalities
Flip chart paper
Descriptive words

Untrained
Separate modalities
Flip chart paper
Descriptive words

Flash

Trained
Independent att. Gen
Ties allowed
Reps - separate days

Untrained
Independent att. Gen
Ties allowed
Reps - separate days

FCP

Trained
Att gen same as Flash
Reps – separate days
Unstructured line scale

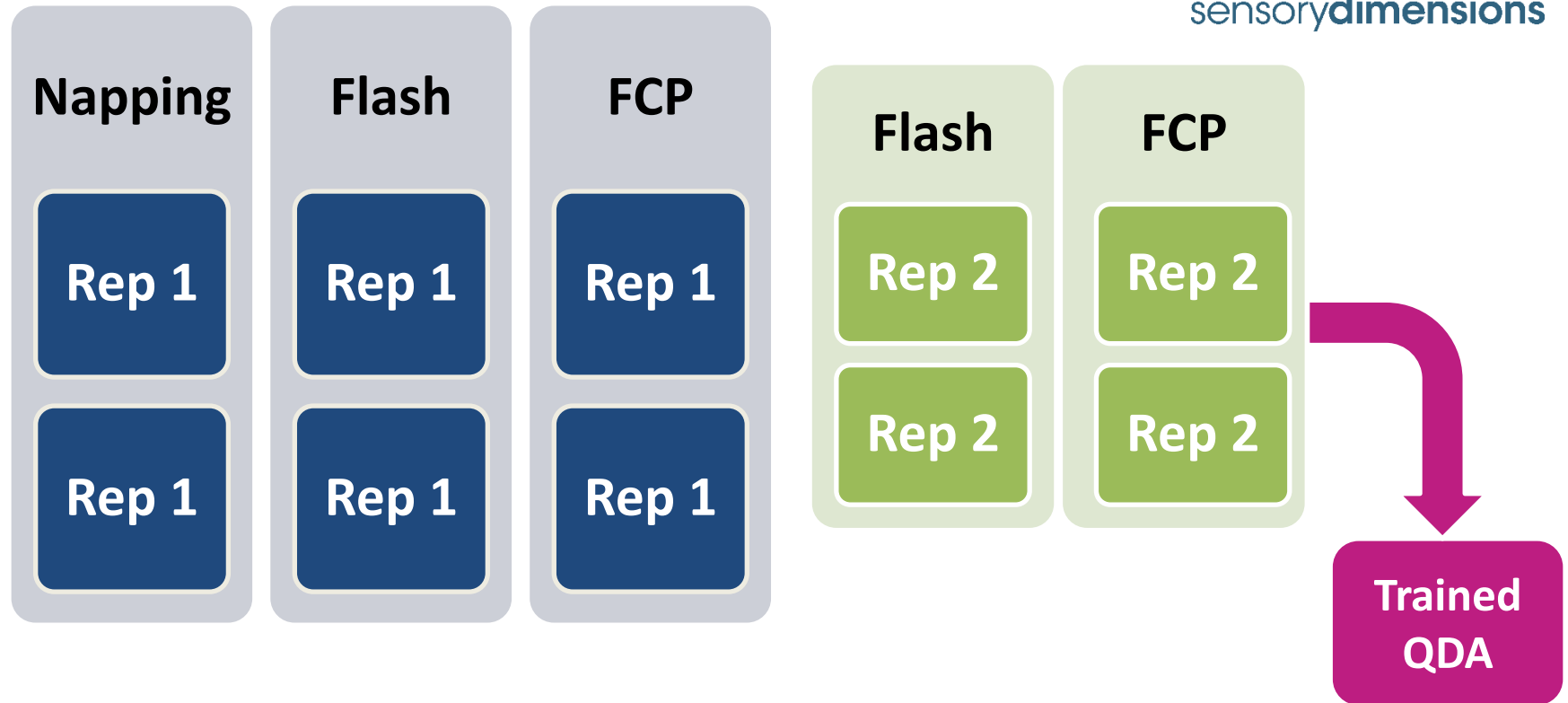
Untrained
Att gen same as Flash
Reps – separate days
Unstructured line scale



Study Design



sensorydimensions



Attributes generated



sensorydimensions

| Technique | No. of attributes | | No. consensus attributes | |
|------------------|-------------------|-------|--------------------------|-------|
| | Trained | Naïve | Trained | Naïve |
| QDA | | | 32 | |
| Napping | 21-62 | 32-91 | 28 | 24 |
| FCP/Flash | 23-51 | 16-55 | 25 | 23 |

- Napping: both panels generated more terms for Appearance; Nappe for each modality showed greater discrimination.
- Flash and FCP: terms were similar to QDA; more flavour terms
- QDA: Terms not included in rapid methods; derived through discussion.

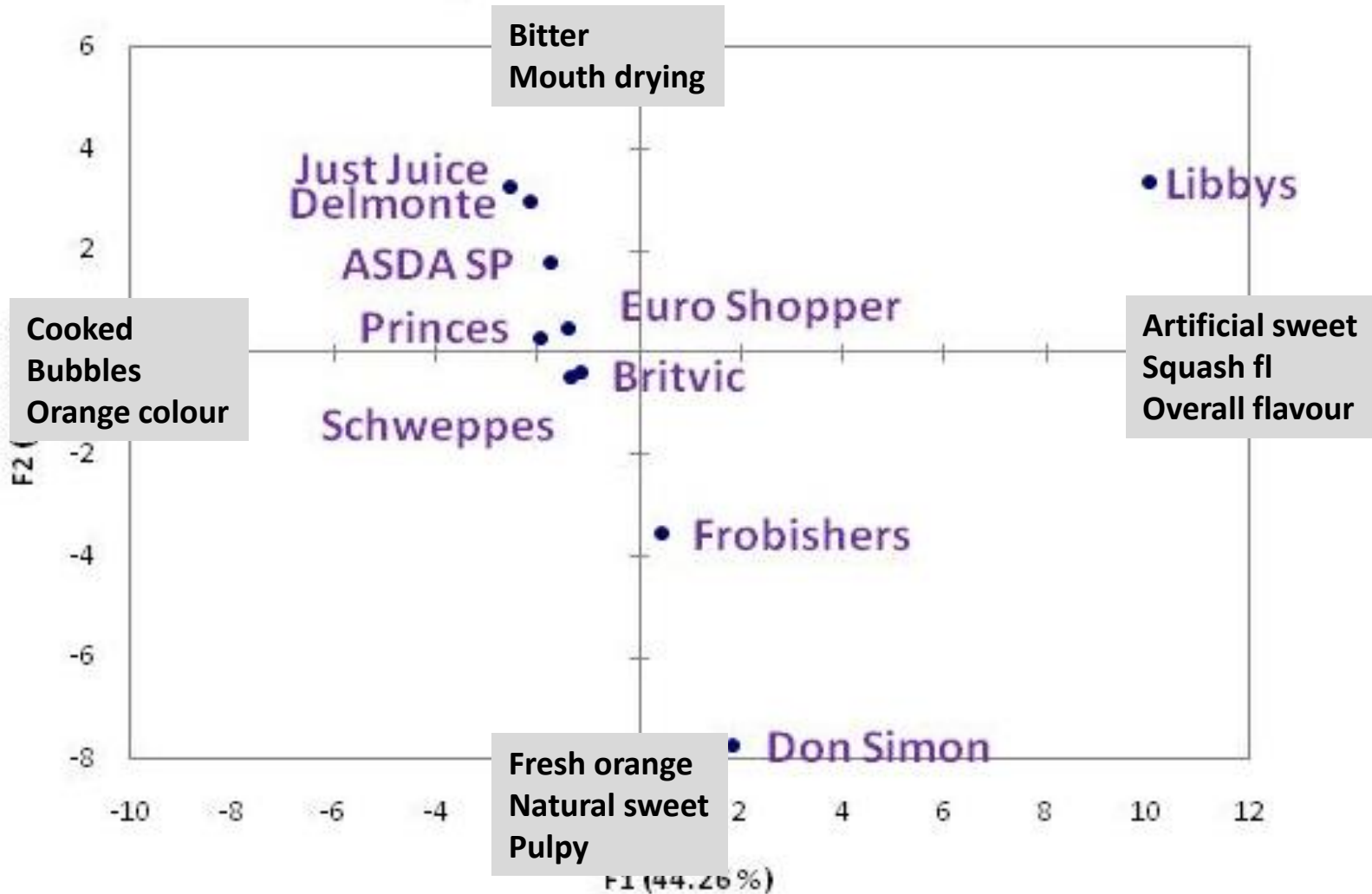


QDA Trained Panel



sensorydimensions

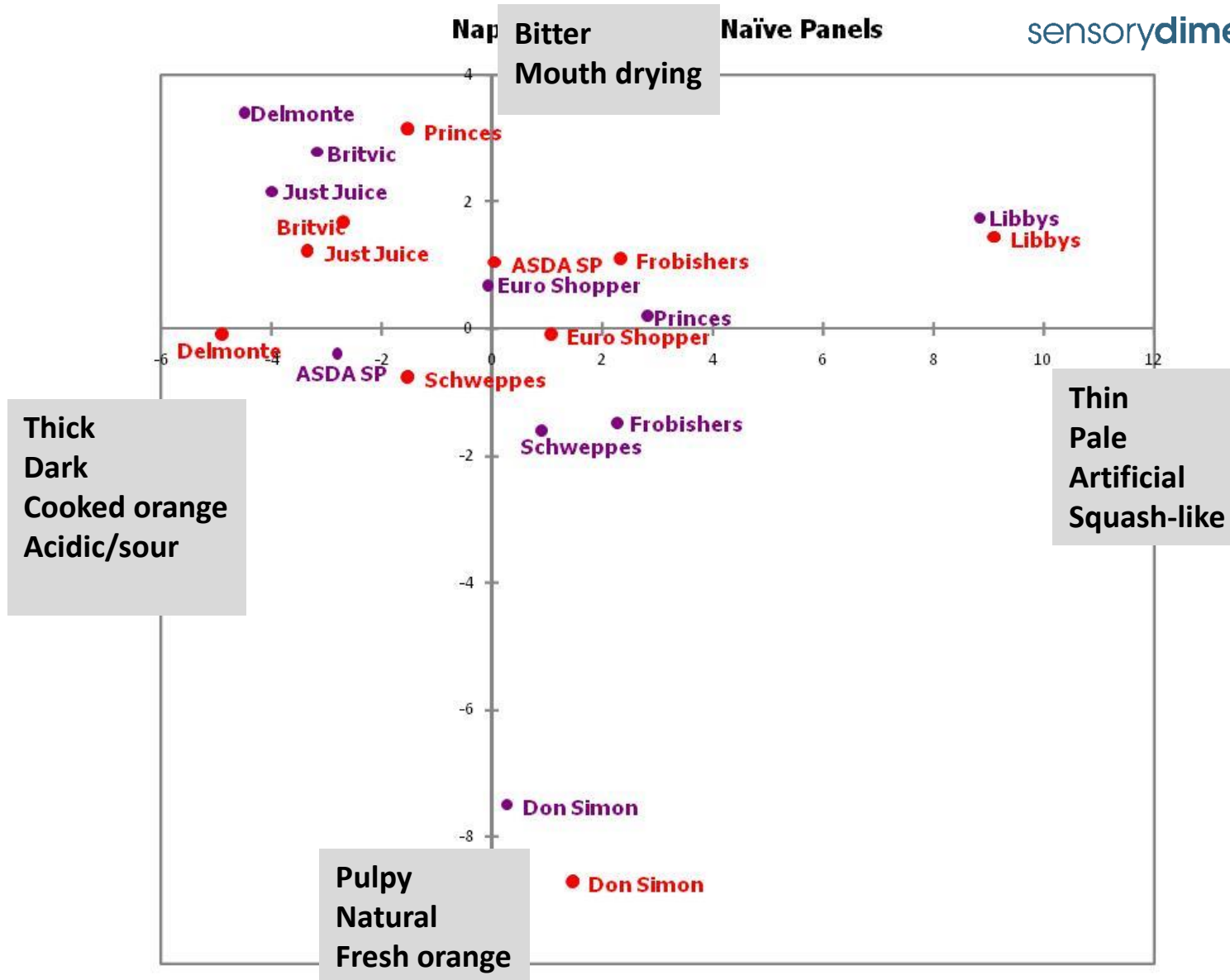
QDA Trained Panel



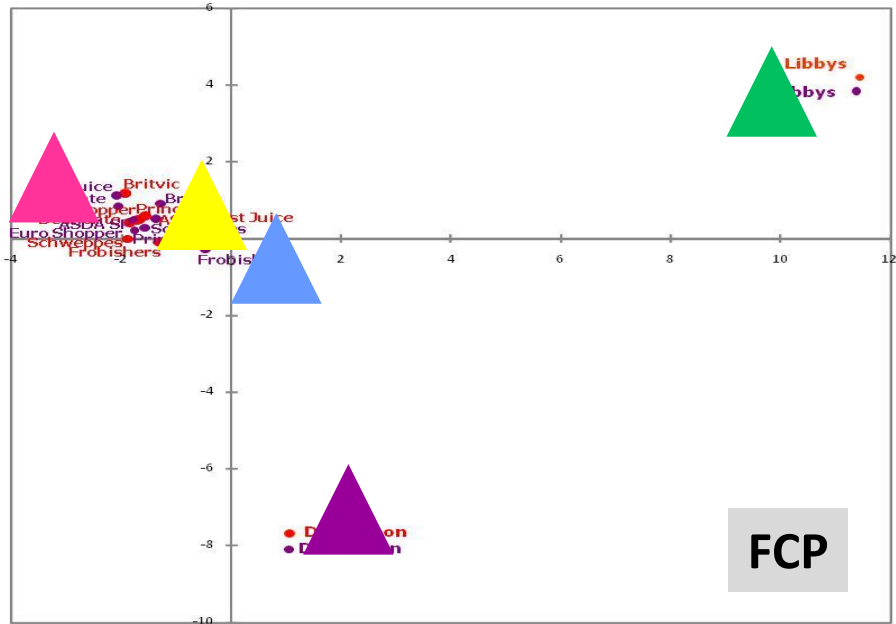
Napping: Trained vs Naive



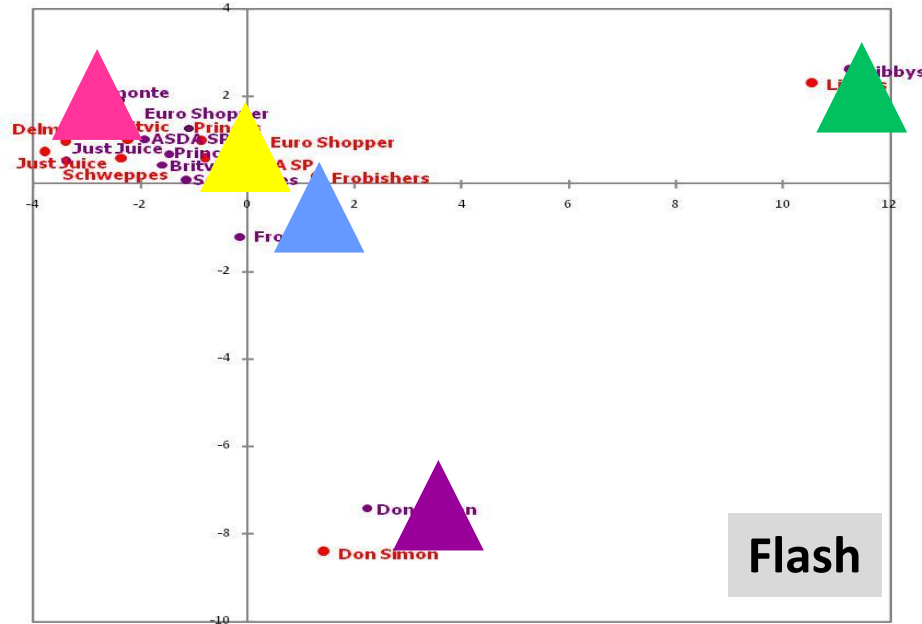
sensorydimensions



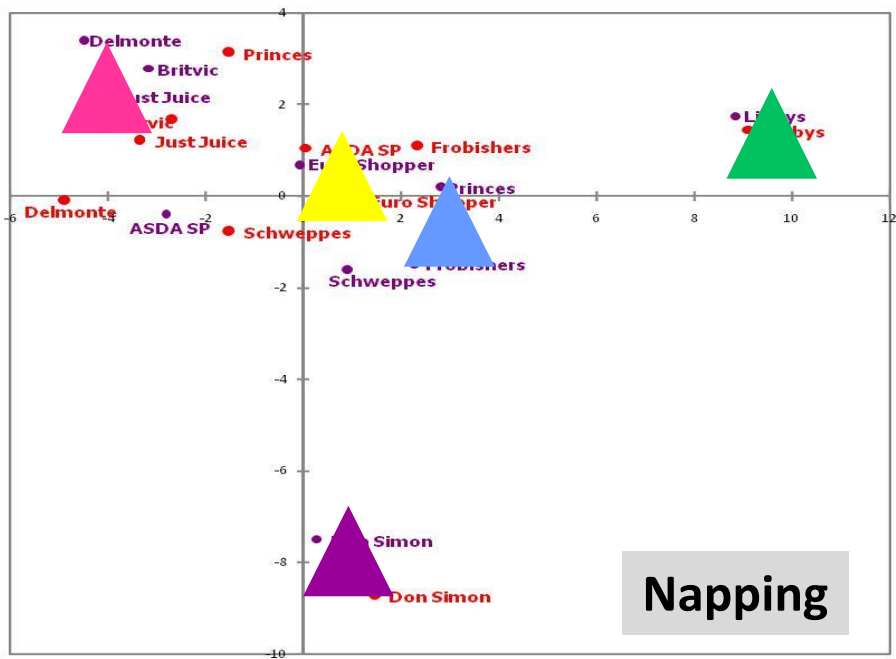
Free Choice Profiling Trained & Naïve Panels



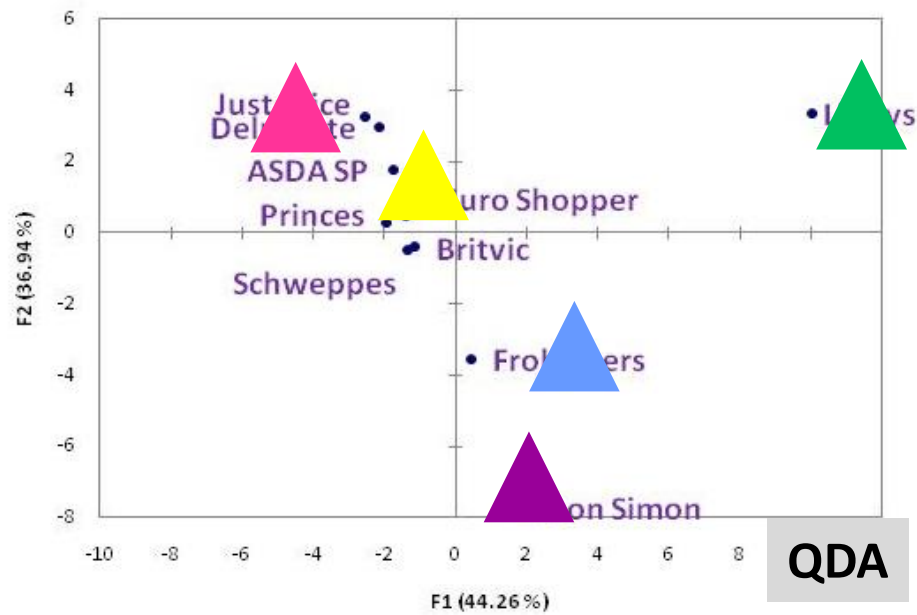
Flash Profiling Trained & Naïve Panels



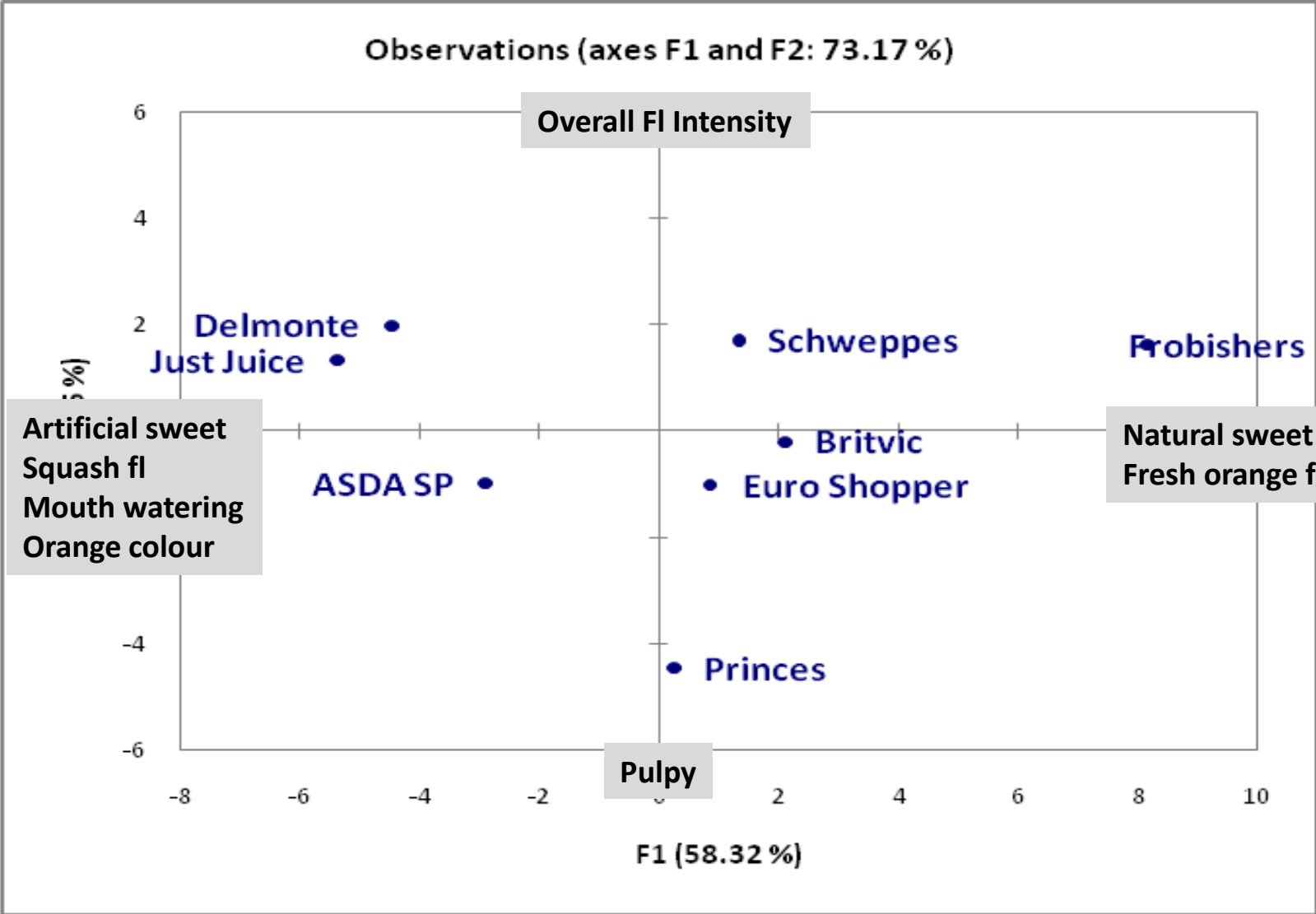
Napping Trained and Naïve Panels



QDA Trained Panel



Extreme samples removed



Reproducible?

- Extreme samples create contrast and convergence leading to high RV scores.
- Trained more consistent than naïve.



sensorydimensions

| Method | RV Coefficient (all samples) | RV Coefficient (- outliers) |
|--------------------|---------------------------------|--------------------------------|
| Trained Flash (R1) | 0.89 | 0.59 |
| Trained Flash (R2) | 0.92 | 0.52 |
| Trained FCP (R1) | 0.88 | 0.67 |
| Trained FCP (R2) | 0.89 | 0.55 |
| Naive Flash (R1) | 0.80 | 0.58 |
| Naive Flash (R2) | 0.84 | 0.78 |
| Naive FCP (R1) | 0.87 | 0.70 |
| Naive FCP (R2) | 0.84 | 0.35 |



Trained vs. Naive



sensorydimensions

| Method | RV Coefficient (all samples) | RV Coefficient (- outliers) |
|-----------------|---------------------------------|--------------------------------|
| Trained Napping | 0.69 | 0.48* |
| Naive Napping | 0.73 | 0.32* |
| Trained Flash | 0.92 | 0.72 |
| Naive Flash | 0.85 | 0.70 |
| Trained FCP | 0.89 | 0.74 |
| Naive FCP | 0.86 | 0.63 |

- Less representative of QDA when extreme samples removed
- Napping does not pick up subtle differences between samples
- Trained better than naïve Napping and FCP; naïve equivalent for Flash
- * all samples fundamental to relative positions – removing data may not be representative



So what?



sensorydimensions

- Napping is a great screening tool

- Flash and FCP are suitable alternatives for trained panels; Flash suitable for naïve panels

- Trained are more reproducible; flash is the most reproducible for naïve

- QDA provides more detail and discrimination; discussion is very powerful

- Take great care when selecting samples....it makes all the difference

