



Rapid Profiling Technique: Napping®

What is Napping?

Napping® is a rapid sensory profiling technique, which uses a sheet of paper or table top to represent the sensory space of a product set; products are placed on the sheet according to their sensory differences/similarities to produce a sensory map. Samples that are placed close together are more similar and those that are placed further apart are more different. Descriptive terms can be applied to the samples within the map.

Why would you use it?

Napping® is ideal when you have a large sample set (at least 10 but the more the better) and you want to know how they are perceived. It will allow you to see which samples are the most different and those that are more alike. It is great for screening a large sample set to decide which samples to develop further or put into a consumer test. Napping® is also a good choice if you want to understand which attributes or criteria are important to the assessor i.e. the individual criteria they are using to discriminate the samples. All of this can be done in a short amount of time (compared to traditional descriptive analysis) so it's handy if you need the information quickly.

Napping® is not a suitable methodology if you want detailed information about your samples or if you only have a small number of samples: see *Traditional Descriptive Analysis*, *Flash Profiling* or *Free Choice Profiling* for more information.

Who would you use?

In theory you can use anyone to carry out Napping®: consumers, trained panel, experts etc. We have used both consumers and our trained panel, where both groups gave great results. The important thing to consider when choosing consumers as assessors is that they should be regular users of the product and reasonably articulate (the better they can describe the samples, the more information about the product set you will get). You can always give them a short introduction to the type of information you are interested in e.g. subjective terms, sensory modalities, context of use etc.

What samples can you assess? (Samples)

A minimum of 10 samples is recommended for Napping®. We suggest up to 15 for consumers, whereas trained panellists and experts could map 20-30 samples. Remember the more samples you have, the larger the surface you need for people to group their samples on. All the samples are presented simultaneously so you will need to make sure they are temperature stable for the duration of the assessment. This means that Napping® lends itself better to ambient products but as long as you can find a way to keep hot products hot and cold products cold, without affecting the sample's sensory properties, there is no reason why you can't 'Nap' them!



How is it done? (Methodology)

You can either carry out Napping® with pencil and paper or use Fizz software. Here the pencil and paper method is described. Each assessor will need quite a lot of space, typically a table to themselves. They will need a sheet of paper large enough to accommodate all the samples (think flip chart size or even two stuck together), a pen and palate cleansers. Present all the samples simultaneously on a tray and serve. It can also be helpful to give the assessors an extra piece of paper for them to note down a few attributes or a description about each sample, which will help them remember the sensory profiles and prevent palate saturation with repeated tastings.

Give the assessors the following instructions:

1. Please taste each sample and jot down a few attributes to describe its sensory profile.
2. On the paper in front of you, arrange the cups/bowls/plates such that the ones you consider to be similar to one another are close together and the ones that you consider to be different are further apart. The relative distances between samples should represent how big you perceive their similarities or differences.
3. Use the whole sheet as your sensory space and when you are finally happy with the placement of all the cups, draw a circle around the cup on the paper and write the 3-digit code corresponding to the cup inside the circle you drew.
4. Next to the circle write down a few discriminating attributes for the sample.

Depending on the level of information you require, you can either ask the assessors to create one map, taking into account all the sensory properties for the samples or several maps; one for each modality (appearance, aroma, flavour, texture...).

Napping® is normally completed in one session, but the length of the session will be determined by the number of samples there are to assess and their complexity. Anything between one and three hours is typical.

If you have used several assessors and you want to analyse their data together, you will need to collect the X and Y co-ordinates for each sample. Work out the centre point for each circle you drew and using the left hand corner of the sheet of paper as the origin (0,0) measure the distance in mm or cm to the centre of the circle for each sample (horizontally for the X co-ordinate and vertically for the Y co-ordinate). Enter the measurements into an excel spreadsheet. You can also enter the attributes that were noted down for each sample.

How do you analyse the data? (Data Analysis)

Data is analysed using multivariate techniques such as General Procrustes Analysis (GPA) and Multiple Factor Analysis (MFA). You can either ask a statistician who is familiar with sensory data (we recommend QI Statistics www.qistatistics.co.uk) or you can have a go yourself using SensoMineR. SensoMineR is free on-line software that you can download to analyse Napping® data.



The output of the analysis will be a product configuration map to show overall or by modality how the products were placed in relation to one another.

Don't get caught out by...

- Appearance attributes: it can be difficult for consumers to map products taking in to account many different attributes and appearance is an easy default for them. It might be worth asking them to map the samples for appearance first to get it out of their system.
- If you are using pencil and paper make sure you allocate enough time to collect the co-ordinates for the samples; measuring does take time!

For more information contact us at info@sensorydimensions.com

Pagès. J.(2003) Collection and analysis of perceived product inter-distance using multiple factor analysis: Application to the study of 10 white wines from the Loire Valley. *Food Quality and Preference s*, 16, 642-649.