

# Randomization of CATA Attributes

## Should attribute lists be allocated to assessors or to samples?



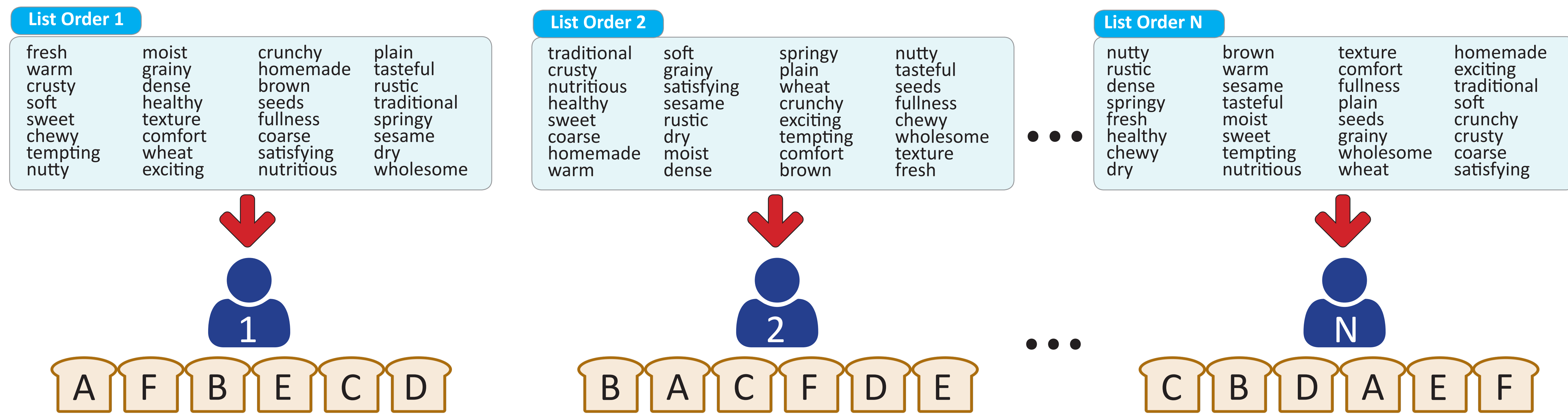
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CATA list orders are obtained from experimental designs to balance attribute order biases that cannot be controlled. Two possible ways to allocate CATA lists are “to assessors” and “to samples”.

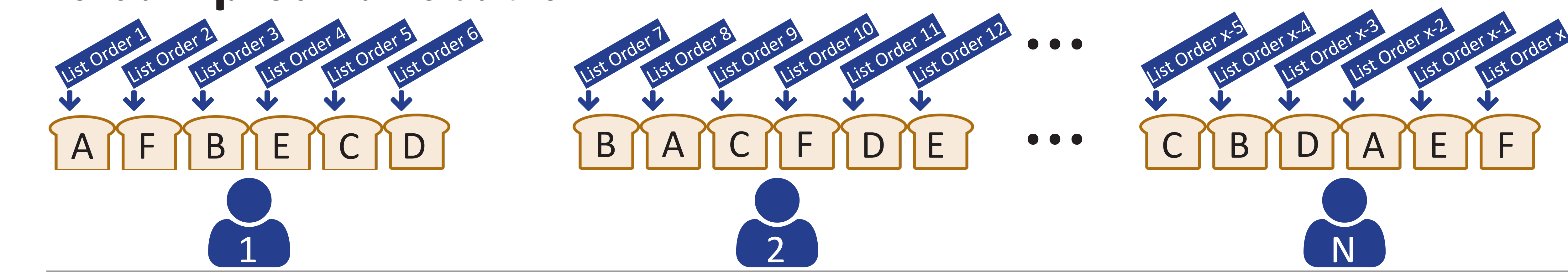
### “To assessors” allocation



We hypothesize that we will get better operational power with this allocation scheme.

This hypothesis is justified in a manuscript with the same name submitted to Food Quality and Preference.

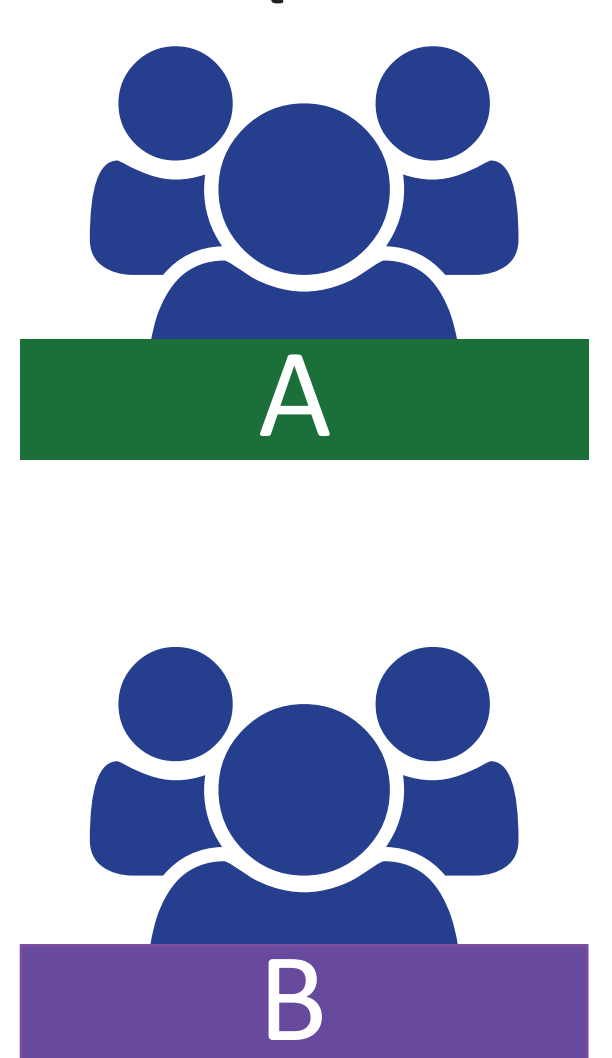
### “To samples” allocation



Some authors recommend this CATA list allocation scheme. The recommendation is based on longer gaze times in eye-tracking studies.

### Experiment

Consumers (n=93) assigned randomly into Groups A and B.



- evaluate 6 breads using CATA with “to assessors” list order allocation
- break
- evaluate 6 breads using CATA with “to samples” list order allocation
- evaluate 6 breads using CATA with “to samples” list order allocation
- break
- evaluate 6 breads using CATA with “to assessors” list order allocation

The criterion for the superior CATA list allocation was operational power.

### Results

- Greater proportion of sample p values lower for “to assessors” allocation
- Greater number of significant sample differences at  $\alpha=0.05$  for “to assessors” allocation
- No evidence that better operational power was related to attributes citation rate, etc.

**Recommendation: allocate attribute lists to assessors.**

This recommendation extends provisionally to TDS and TCATA, which are subject to the same positional effects.