

A Consumer-Validated CATA List for Whole Grain Breads

John C. Castura, Sheila Fortune, Karen Phipps, Chris Findlay
Compusense Inc., Guelph, Ontario, Canada



Objective

Check-all-that-apply (CATA) questions are increasingly being used to investigate consumers' product perceptions. In many publications a CATA list is presented to consumers without evidence that the terms are relevant to consumers. *We sought to evaluate a new process for validating CATA terms for consumer relevance prior to testing.*

Relevance of terms/attributes: "the consequences of product attributes relative to the personal values and desires of people", which are often "measured a priori using self-reported measures"(van Dam & van Trijp, 2013, p.94).

Pre-Test Ballot

Prior to the product test, 164 consumers responded to an at-home web-based questionnaire. They were instructed to recall previous whole grain bread eating experiences. Minimum interaction times were enforced on each of the following screens:

- Consumers provided open-ended comments related to 3 questions regarding their recalled experiences before eating (sight, smell, texture), during eating (taste, flavour, mouthfeel), and emotions associated with these eating experiences.
- 35 CATA terms proposed by the researcher were presented in 4 columns according to a Williams design. An *Other* choice was also provided. Consumer indicated applicable terms.
- The same 35 terms were presented. Consumers indicated non-applicable terms.

CATA terms were drawn from previous studies and published literature (Hersleth *et al.*, 2005). Some nonsense words were included, e.g., *Polka Dots* and *Gangnam Style* (Psy, 2012).

Analysis of Pre-Test Ballot Data

Internally consistent applicable and non-applicable CATA results were analysed together using the Sign test. Statistically significant consistent responses of non-applicability resulted in 14 CATA terms being dropped. Others were retained. 1 retained term was split into 2 terms (*Soft*, *Chewy*).

9 new terms were added because they were cited by 20 or more consumers.

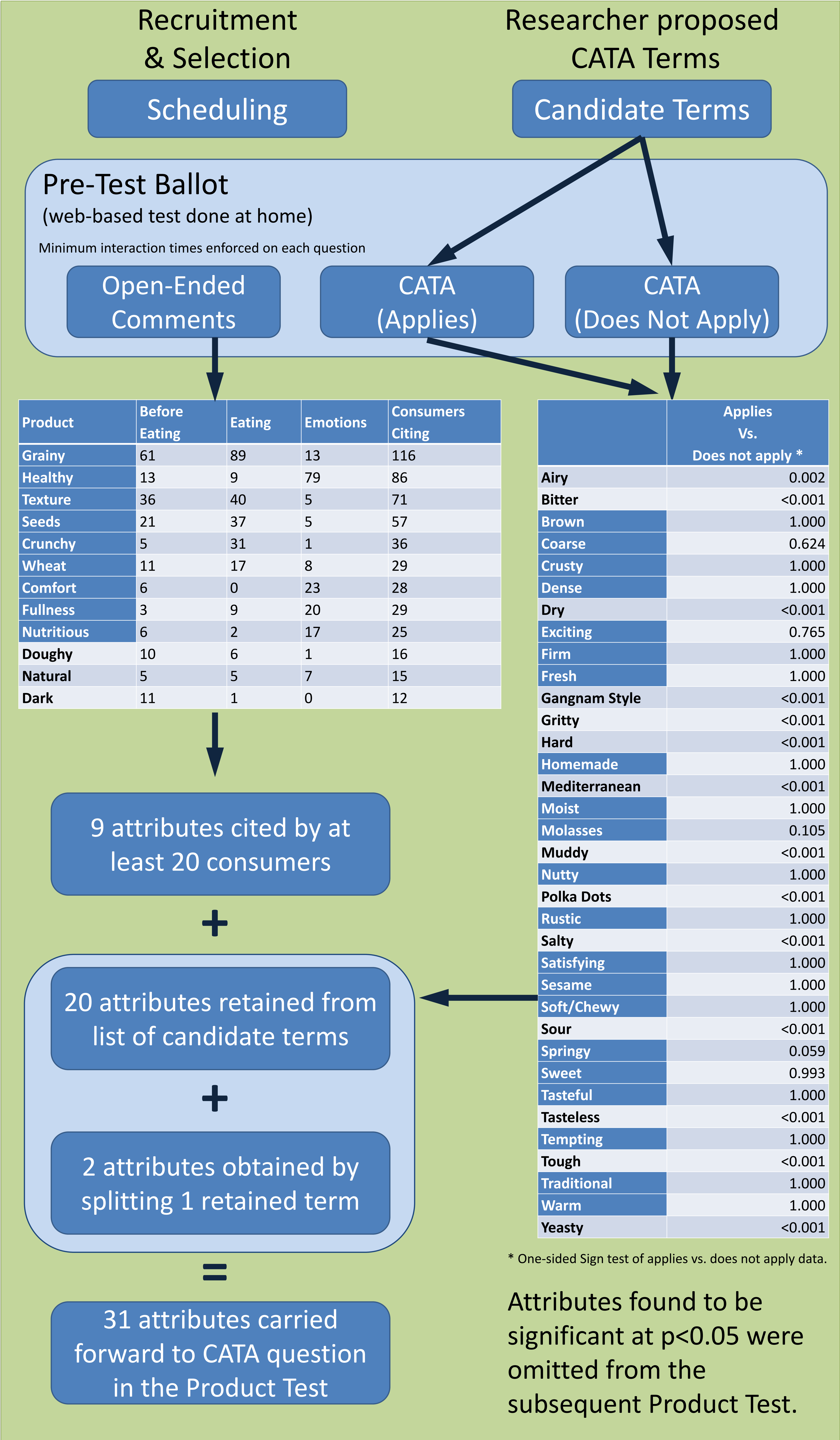
Product Test

The 161 consumers who attended the 6-product central location test successfully discriminated products using the revised CATA terms. Amongst 161 consumers and 31 attributes, there were 4.5% of cases in which an attribute was selected for all products. This response pattern occurred most commonly for *Brown* (which was selected for all products by 29.8% of consumers). Detailed analysis of the product test data is presented by Meyners, Castura & Carr (2013).

Conclusions

The proposed method is an inexpensive compromise solution to ensure the researcher is using language that is relevant to consumers, and that there is an opportunity for the inclusion of consumer-relevant terms that might not be amongst the terms considered by the researcher.

It provides consumer input on the terms the researcher considers relevant without a pre-trial questionnaire involving real products.



COMPUSense®

References

Hersleth, M., Berggren, R., Westad, F., & Martens, M. (2005). Perception of Bread: A Comparison of Consumers and Trained Assessors. *Journal of Food Science*, 70(2), 95-101.

Meyners, M., Castura, J.C., Carr, B.T. (2013). Existing and new approaches for the analysis of CATA data. *Food Quality and Preference*, 30, 309-319.

Psy. (2012). *Gangnam Style* (Album notes). Universal Republic.

van Dam, Y. K. & van Trijp, H. C. M. (2013). Relevant or determinant: Importance in certified sustainable food consumption. *Food Quality and Preference*, 30, 93-101.

Acknowledgements

- Michael Meyners for discussions and feedback on a draft manuscript based on this work (in preparation).
- The staff of Compusense Sensory & Consumer Services for running the consumer test on the whole grain breads and making the data set available for this poster.