Linking Descriptive Attributes to Consumer Perception Check-All-That-Apply (CATA) Questions

#51

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INTRODUCTION

- Approaches that enable a greater understanding of consumer perception of product characteristics are desired to maximize acceptance of new product introductions. Early consumer led product development guidance can contribute to better concept–food fit and hopefully longer sustainability of products in the marketplace.
- Check-all-that-apply (CATA) statements have been applied to determine what sensory attributes may be relevant to a specific product (Lancaster and Foley, 2007). Since they are directly linked to consumer perception of the product attributes, development can be focused on what is key to the consumer.

OBJECTIVE

The objective of this research was to Investigate the application of linking descriptive analysis to CATA consumer perception questions to help guide development and enhance product concept fit of consumer products.

METHODOLOGY

- Study design included:
  - Consumer Testing

    200 category users rated 'liking' of 17 different snack products (sequential monadic design) over 3 days.

    Consumers indicated overall liking of the products using a 9 point hedonic scale and provided responses to CATA questions that included guilt, comfort, indulgence, simplicity, natural, rewarding, fun, reminds me of my childhood and unique.

  Descriptive Analysis

  Products were evaluated for descriptive flavor and texture profiles using the Spectrum® method

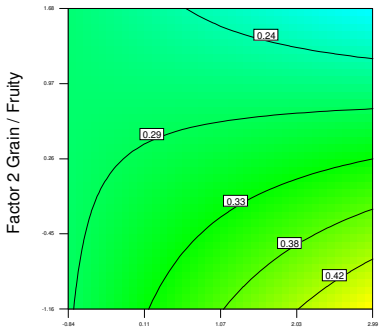
  - Statistical Analysis

    External preference mapping was performed using quadratic regression to model CATA percentages as a function of descriptive profile principle components.

RESULTS

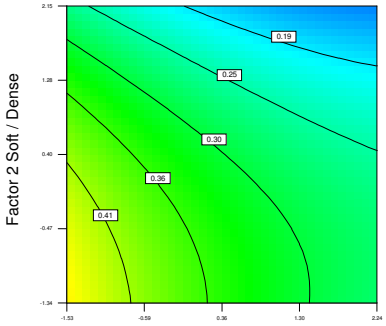
Graphs are plotting the percentage of consumers picking the given CATA

Indulgent



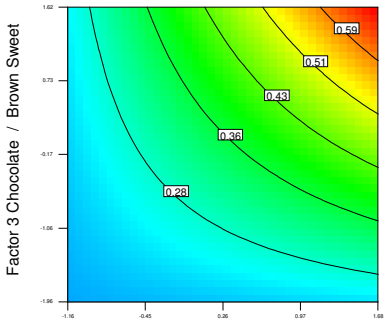
Factor 1 Salty / Nutty

Indulgent



Factor 1 Cohesive / Deforming

Tastes Natural



Factor 2 Fruity / Berry

Model fits of CATA attributes (R2) ranged from 87% (Comforts me) to 46% (Guilt). Contour graphs show that to maximize: Indulgent treat' **food- chocolate and/or nut flavors and would be soft**
'*Natural*' food - could be either chewy or crunchy and would have nuts/berries and no/minimal chocolate
'*Comfort food*' - soft, potentially with filling (*contour plots not shown)*
'Reminds you of childhood' **food is viewed similarly to 'comfort food' – soft, with a filling, but no fruit (*contour plots not shown)***

CONCLUSIONS

The results showed significant differentiation in the sensory profiles that aligned with the CATA statements in this study. This application can be used as an additional approach to provide food design direction that will meet the desired consumer expectation.

REFERENCES

"Lancaster, B. & Foley, M. *Determining the statistical significance for choose-all- that-apply question responses*. Seventh Pangborn Sensory Science Symposium, Minneapolis,MN