Emotional characteristics of ready-to-eat cereals and the relationship to liking and trained panel profiles

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INTRODUCTION

- Understanding product characteristics on a holistic level is imperative to developing products with market sustainability
- Building product insights beyond liking, including emotions elicited by products, has garnered interest among sensory researchers

OBJECTIVE

- Do products have emotional profiles like they have specific sensory characteristic profiles? Do data relationships exist between consumer emotion profiles and analytical sensory profiles?
- Are there consumer clusters in liking and in emotion profiles? If so, how do they relate to each other?
- Can emotion characteristics be assigned to ready-to-eat-cereal in order to build holistic product understanding beyond liking?

METHODOLOGY

Design

- Multi-day central location test
- 14 unbranded ready-to-eat cereals
- 4-5 cereals assessed per day
- Sequential monadic, complete block plan

Respondents

- N=200 female consumers, aged 25-60
- Ready-to-eat-cereal users

Questionnaire/Data

- Liking (overall and sensory characteristics)
- Emotional Ratings (41 terms, 5pt agree/disagree)
- Product Familiarity (5pt)
- Variety Seeking Instrument (8 item VARSEEK)
- Descriptive data using Spectrum™ method

Samples

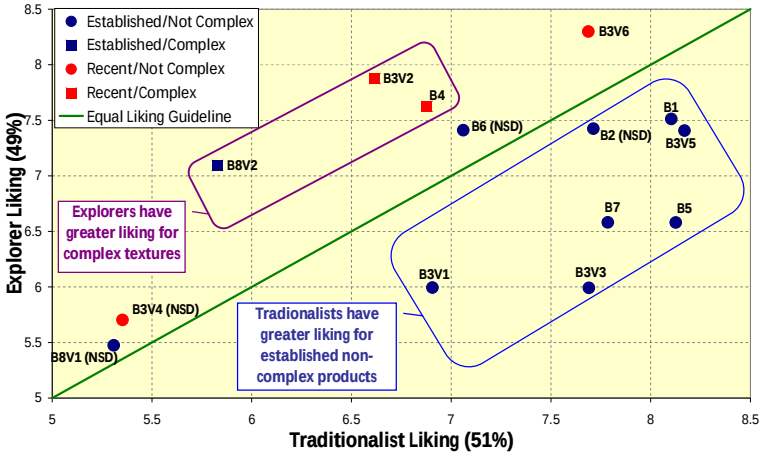
- Broad range of commercially available cereals, eight unique brands (B1-B8)
- Some brands (e.g. B3) had varieties spanning multiple product forms (e.g., B3V1 – B3V6)
- More diversity in texture than in flavor

Statistical Software

- SAS, XLSTAT, Latent Gold

RESULTS

Explorer overall liking versus Traditionalist overall liking (green guideline represents equal liking by both clusters)



Product Liking Clusters

- Two consumer groups: *Traditionalists* (51%) versus *Explorers* (49%)
- *Traditionalists* were more positive to established products with less complex texture characteristics
- *Explorers* liked products that were more complex in texture, regardless of time-in-market.
- Liking correlated more highly with rated product familiarity among *Traditionalists* than *Explorers* (r=0.73 vs. r=0.51)
- *Explorers* rated themselves as more "variety seeking" than *Traditionalists* (VARSEEK scale means differed, p=0.06).

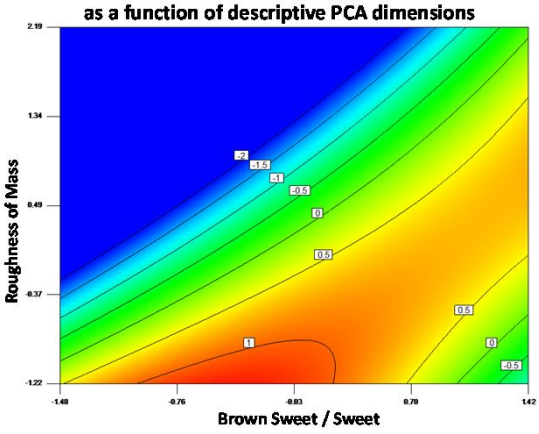
Product Emotion Profiles

- Products differed on 2 dimensions:
  - D1: nostalgic/good/pleasant (61%)
  - D2: wild/ adventurous/ daring (31%)
- *Traditionalists* liking is entirely related to nostalgic dimension (r=0.9)
- *Explorers* liking is more influenced by the wild dimension (r=0.79) than by nostalgic (r=0.55)
- Clustering of consumers on the basis of emotions did not reveal any segments; consumers agreed on the emotional connotations of products, while they differed in how much they liked them

Descriptive model of emotion dimension 1

- Nostaglic/good/pleasant is described by two descriptive dimensions (R^2=88%)
- Both texture "Roughness of Mass" and "Brown Sweet/ Sweet" are equally influential
- Nostalgic/good/pleasant is maximized when texture "Roughness of Mass" is low and "Brown Sweet/Sweet" is somewhat below average

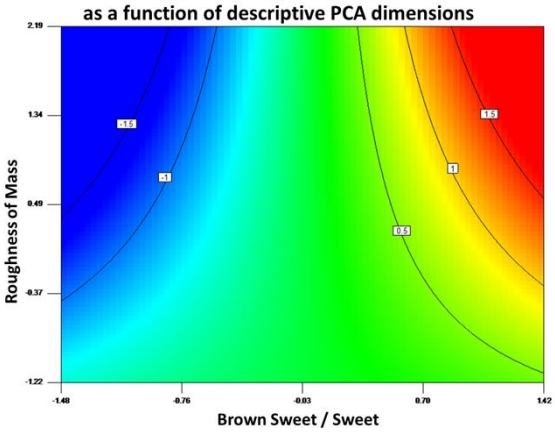
Emotion dimension nostalgic/good/pleasant as a function of descriptive PCA dimensions



Descriptive model of emotion dimension 2

- Wild/adventurous/daring is well described by three descriptive dimensions (R^2=96%)
- More complex model involving "Brown Sweet/Sweet", "Roughness of Mass", and "Toasted Rice" (*not pictured*)
- Wild/adventurous/daring is maximized when "Brown Sweet/Sweet" is high, "Roughness of Mass" is high, and "Toasted Rice" is somewhat below average (*not pictured*)

Emotion dimension wild/adventurous/daring as a function of descriptive PCA dimensions



CONCLUSIONS

- Users of ready-to-eat cereal were identified as either *Traditionalists* or *Explorers*, based on their product preferences
- The two groups of consumers differed in their preferred emotion profile for ready-to-eat cereal
- Descriptive sensory profile and consumer emotion profile relationships were identified. Each emotion dimension was maximized with different specific flavor and texture characteristics.
- Emotion profiling can serve to define emotion targets for new products

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