Developing a Food Product using merged ideal target intensities from kids and adults



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Background

Many products are used or consumed by people of all ages, from kids to older adults. Finding an ideal profile that appeals to the large range of age groups can be a challenge, but a necessity. Macaroni and Cheese is one such product with wide age appeal. A response to this appeal has been for companies to provide a large selection of a wide array of in-market product choices and profiles for consumers to choose from. In turn, there are many different macaroni and cheese products that appeal to individual niche preferences; however, for a product to have mass appeal, ideal profiles across different consumers segments and age groups need to align as close as possible. This research conducted by The Kraft Heinz Company and Curion sought to better understand key attributes and ranges for consumers when analyzed as a total population compared to key attributes and ranges of consumers when broken into individual segments and then combined.

The goal of the research was to identify key attributes and ideal sensory profiles of macaroni and cheese from a wide array of consumers of different ages.

Specifically

- What sensory characteristics are most appealing to adults and kids for macaroni and cheese?
- Do preferences overlap between kids and adults?
- Does usage type play a role in preferences? How about brand most frequently consumed?

Methodology

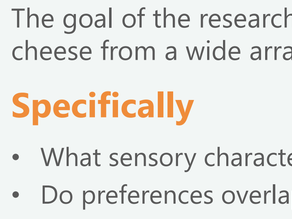
Consumer Testing: In-person evaluation of 30 in-market macaroni and cheeses

- Recruit: Current Consumers of various forms of Macaroni and Cheese
- N=563 consumers (161 Kids age 8 to 15 and 402 adults age 18 to 54)
- Provides Ratings of Overall Liking on 9-point scale
- Date: October 2022
- Locations: Chicago, Dallas, Boston, NJ, San Francisco and Atlanta

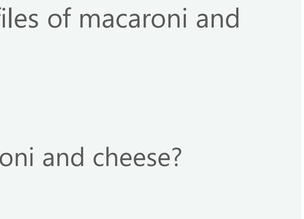
Quantitative Descriptive Analysis

- Provides ratings of appearance, aroma, flavor, texture, and aftertaste on 100-point line scale
- N=10; Chicago, IL

Kids vs. Adults



Kids	Adults
9-point scale from Super Bad to Super Good	9-point scale from Dislike Extremely to Like Extremely
Ages 8 to 15	Ages 18 to 54
Favorite Product post-tasting: KPW and KFSF	Shelf-Stable KPW and KWFSF



Key Findings

- Not surprisingly, Key Positive Drivers mainly center around Sweet Flavors, Buttery, and Milky Notes with some consumers liking a smoother, creamier mouthfeel and shiny appearance. Negative Drivers are identified as grainy texture, typical off-flavors and artificial notes along with sour lingering flavors, sharp and cheddar flavors.
- Adults are more concerned with the impact of Whole Wheat Aromas/Flavors, Artificial Flavors and Off-notes; whereas kids have more issues with lingering sour notes and lack of sweetness.
- Three Adult Segments and Four Kid Segments are identified who have similar liking patterns within each

Implications for Kraft

- Kraft better understands what both kids and adults like and dislike in the macaroni and cheese category
- Kraft uncovered ways to tweak its current products without decreasing the liking with both kids and adults
- Kraft identified a less marketed product within its portfolio that has high predicted liking from a majority of consumers
- Kraft determined new products outside of the retail arena that will be liked by consumers

In Total, Kyids and Adults prefer Milky Flavors with Kids liking an additional sweet profile.

Kid's
Most Desired Sensory Attributes

- Smooth Texture
- Low Sour
- Low Whole Wheat Flavor
- Milky Flavor
- Sweet

Adult's
Most Desired Sensory Attributes

- Milky Flavor
- Low Whole Wheat, Cardboard Flavor
- Low Margarine Flavor
- Butter Flavor
- Low Artificial Flavor
- Low Bitter
- Low Grainy Texture

Ideal Profile ranges for both age groups are created based on top liked products

Kids

Attribute	Correlation	Target Range
Smooth Texture	-	41 – 64
Sour	-	11 – 18
Whole Wheat Flavor	-	3 – 4
Milky Flavor	+	29 – 37
Sweetness	+	21 - 36

Adults

Attribute	Correlation	Target Range
Milky Flavor	+	34 – 36
Whole Wheat Flavor	-	3 – 4
Cardboard Flavor	-	3 – 4
Margarine Flavor	-	16 – 17
Butter Flavor	+	32 – 34
Bitter Aftertaste	-	3 – 4
Smooth Texture	-	41 – 64
Artificial Cheese Flavor	-	3 - 4

Do these target ranges consider consumer segments for each age group?

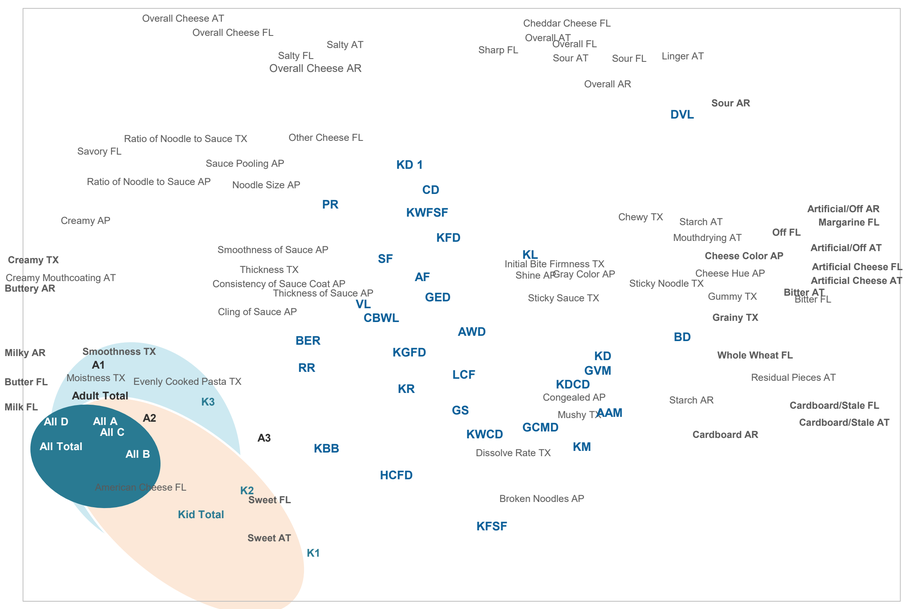
Attribute	Adult S1	Adult S2	Adult S3	Kids S1	Kids S2	Kids S3	Kids S4
Whole Wheat Flavor	3-4	3-4	NA	NA	3-4.5	NA	3-4
Artificial Cheese FL	3-4.5	NA	NA	NA	NA	NA	NA
Cardboard/Stale FL	3-4	3-4	NA	NA	NA	NA	3-4
Milk FL	33-37	31-36	31-35	NA	NA	34-36	29-36
Margarine FL	16-19	16-23	NA	NA	NA	NA	17-20
Butter Flavor	27-30	27-32	31-34	NA	NA	28-34	NA
Creamy Texture	45-60	46-61	NA	NA	NA	NA	NA
Smooth Texture	NA	41-64	41-61	NA	40-55	57-58	NA
Bitter Aftertaste	NA	3-4	NA	NA	NA	NA	NA
Sour	NA	14-24	NA	9-18	11-19	NA	14
Sweet Flavor	NA	NA	25-36	21-36	NA	NA	NA
Cheddar Cheese Flavor	NA	NA	NA	NA	16-31	NA	NA
Sharp Flavor	NA	NA	NA	NA	4-10	NA	NA
Creamy Mouthcoating	NA	NA	NA	NA	NA	25-28	NA
Shiny Appearance	NA	NA	NA	NA	NA	63-67	NA
Gray Color	NA	NA	NA	NA	NA	NA	4-6

Putting it all together to produce a profile liked by everyone

Attribute	Ideal Profile Range to Accommodate all Consumers
Whole Wheat Flavor	3-4
Artificial Cheese FL	3-4.5
Cardboard/Stale FL	3-4
Milk FL	34-35
Margarine FL	17-19
Butter Flavor	30-31
Creamy Texture	46-60
Smooth Texture	55-57
Bitter Aftertaste	3-4
Sour	14
Sweet Flavor	25-36
Cheddar Cheese Flavor	16-31
Sharp Flavor	4-10
Creamy Mouthcoating	25-28
Shiny Appearance	63-67
Gray Color	4-6

- All Segments for both age groups are overlaid with each other to make interpretation and implementation easier.
- Although slightly different key attributes are identified between kids and adults and among segments, an ideal profile for the total consumer was identified to create an ideal macaroni and cheese product

Preference Mapping Displays A Visual of Products and Product Attributes that are most liked by everyone.



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U010 Poster session 1, 21st Aug 23, 14:00 - 15:15 CEST, Great Hall