INTRODUCTION

- Consumer research with young children poses many challenges, including what age to test, what time of day, what test setting, what scales to use
- However, one of the biggest challenges is whether or not discrimination will be seen among products tested with children, especially in the 8-12 age range where children are able to independently evaluate products

OBJECTIVE

To examine alternate approaches to testing with children that would potentially enhance overall liking differences among well liked products with small but perceivable differences

METHODOLOGY

- Study repeated using three different methods in central location tests
  - Traditional
    - Sequential Monadic study
  - Traditional with Warm-Up
    - Sequential monadic study
    - All respondents received the same sample, Product 3, first as a warm-up
    - Rank-by-Elimination
      - All three samples presented simultaneously
      - Select favorite, sample removed, then select favorite of two remaining
  - Products Evaluated
    - Commercially available breakfast food
- Recruiting
  - Children ages 8-12
  - Pre-recruited via phone from a database of respondents
  - Users of the product category and acceptors of the variety
  - Sample size of 100 recruited for each study (300 total)

RESULTS

Rank-by-Elimination

- Children identified that Product 1 and Product 2 were most liked overall
- No differences were seen in appearance and texture liking
- Children did discriminate among the samples for the level of crispness, with Product 3 being most crisp

Traditional

- Children identified that Product 1 and Product 2 were most liked overall
- Flavor and Appearance liking showed same result
- Children did discriminate among the level of crispness of the products, with Product 3 being most crisp
- The texture differences were confirmed by descriptive panel data

Traditional with Warm-Up

- Children identified that Product 3 was most liked overall
- No differences were seen in appearance and texture liking
- Children did discriminate among the samples for the level of crispness, with Product 3 being most crisp

DISCUSSION

Traditional vs. Warm-Up

- In both methods, children were able to identify differences in the texture of the samples that were similar to those identified by the descriptive panel
- The methods resulted in different conclusions from the hedonic data
  - Children rated Product 3 as the most acceptable overall in the Warm-Up methodology, likely due to having seen the product first as the warm-up and again randomized within the sample set
  - The remaining hedonics were affected in a similar manner

Traditional vs. Rank-by-Elimination

- Children identified that Product 1 and Product 2 were most liked overall in both methods, showing agreement between methods

CONCLUSIONS

- Kids can discriminate
  - If differences in Overall Liking are not seen, differences in hedonics and diagnostics were noticed and should be used to guide development
  - All methods showed discrimination in Overall Liking
  - Rank-by-Elimination shows promise as there was discrimination in overall liking
  - However, there is the disadvantage of no diagnostic information
  - Warm up samples should be carefully considered
  - The warm up sample appears to influence the end result, potentially biasing results

<table>
<thead>
<tr>
<th>Traditional Consumer Data</th>
<th>Product 1</th>
<th>Product 2</th>
<th>Product 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Liking</td>
<td>7.5 A</td>
<td>7.7 A</td>
<td>7.1 B</td>
</tr>
<tr>
<td>Appearance Liking</td>
<td>7.9 A</td>
<td>7.6 A</td>
<td>7.6 B</td>
</tr>
<tr>
<td>Flavor Liking</td>
<td>7.3 A</td>
<td>7.6 A</td>
<td>6.9 B</td>
</tr>
<tr>
<td>Texture Liking</td>
<td>7.0 B</td>
<td>7.6 A</td>
<td>6.9 B</td>
</tr>
<tr>
<td>Flavor Intensity</td>
<td>5.0 A</td>
<td>5.1 A</td>
<td>5.2 A</td>
</tr>
<tr>
<td>Sweetness Intensity</td>
<td>5.2 A</td>
<td>5.3 A</td>
<td>5.2 A</td>
</tr>
<tr>
<td>Crispness Intensity</td>
<td>5.5 B</td>
<td>5.3 B</td>
<td>5.9 A</td>
</tr>
</tbody>
</table>

* Liking questions use the 9 point fully anchored scale 1 = Super Bad, 9 = Super Good
* Intensity questions use a 7 point end anchored scale 1=none, 7 = extreme
* Columns within a row with different letters are significantly different at alpha=0.10

<table>
<thead>
<tr>
<th>Traditional with Warm-Up Consumer Data</th>
<th>Product 1</th>
<th>Product 2</th>
<th>Product 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Liking</td>
<td>6.4 B</td>
<td>6.7 B</td>
<td>7.1 A</td>
</tr>
<tr>
<td>Appearance Liking</td>
<td>7.2 A</td>
<td>7.3 A</td>
<td>7.2 A</td>
</tr>
<tr>
<td>Flavor Liking</td>
<td>6.5 B</td>
<td>6.6 A</td>
<td>7.0 A</td>
</tr>
<tr>
<td>Texture Liking</td>
<td>6.8 A</td>
<td>6.6 A</td>
<td>6.8 A</td>
</tr>
<tr>
<td>Flavor Intensity</td>
<td>4.9 A</td>
<td>4.9 A</td>
<td>4.8 A</td>
</tr>
<tr>
<td>Sweetness Intensity</td>
<td>5.0 A</td>
<td>5.1 A</td>
<td>5.1 A</td>
</tr>
<tr>
<td>Crispness Intensity</td>
<td>4.8 B</td>
<td>4.9 A</td>
<td>5.6 A</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Product Description</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product 1</td>
<td>2.0 AB</td>
</tr>
<tr>
<td>Product 2</td>
<td>1.9 A</td>
</tr>
<tr>
<td>Product 3</td>
<td>2.1 B</td>
</tr>
</tbody>
</table>

*Mean ranks with different letters are significantly different at alpha=0.10

*Lowest mean rank is best liked sample