Consumer Liking and Situational Context
Experiencing Beer in a Taproom Vs a CLT Test Facility
Prior Studies with Interesting Findings

- Sensory consumer testing in **re-created contexts versus CLT testing may produce results with better validity** without the need for more costly real-life contexts. ¹

- Context variables affect product acceptance, but the relationship between context and consumer acceptance may be different across meal components. ²

- **Typical consumption context** has a leading role in the evaluation of food products. Use a **CLT when products are not related to a specific consumption context. Use a HUT when consumption is expected to be very contextual.** ³

- When testing the same food in different eating locations, a hierarchy emerges with **upscale restaurants receiving higher scores than institutional settings.** ⁴


Objectives

• To determine if environmental context creates differences in liking of 5 different marketed beer products.

• To determine if there are effects by demographic factors including Age, Gender, Income and Education.
Methods

• Three contexts were investigated – Each Consumer Experienced Only One Context
  1. A busy taproom in an operational brewery with branded cans and branded glassware
  2. CLT with branded cans and branded glassware
  3. CLT blinded, no branding
• Data was collected using an Insight Counts (Peter Hall) web hosted survey with data entry on Chromebooks.
• Two ounces each of 5 different styles of beer were poured for evaluation. Consumers were directed to drink enough of the sample to evaluate overall liking and were not required to finish each sample.
• A flight was served cold (37-40°F) and evaluated in a sequential monadic, rotated and balanced design with 3-digit codes on the cans and glassware.
• Consumers rated overall liking for each sample on a 9-point hedonic scale.
• Data were analyze via Xlstat 18.06 with Anova followed by Tukey’s HSD at the 90% confidence level.
Methods – Taproom (n = 98)

• Customers were intercepted and screened: “Do you consider yourself a beer drinker?” if yes, “What is your favorite style of beer?”

• Beer samples were served in brewery branded glassware with marketed cans.

• The Taproom was a full branded brewery taproom experience with music, sports programs on television, and taproom patrons meeting friends, ordering beer and food, and hanging out.
Methods – CLT Branded (n=98)

• Pre-recruited craft beer consumers
• Beer served in brewery branded glassware with marketed cans
• Conducted in a controlled lab environment at Sensation Research in Mason, Ohio.
Methods – CLT Blinded (n = 97)

• Pre-recruited craft beer consumers
• Beer served in unbranded glassware
• Conducted in a controlled lab environment at Sensation Research in Mason, Ohio.
Results
Results

• Significant Differences were found for liking by:
  • Situational Context
  • Gender
  • Age for Mean Overall Beer Rating
  • Sample

• No Significant Differences were found for liking by:
  • Context x Sample Interaction (p = 0.156)
  • Income (p = 0.404)
  • Education Level (p = 0.444)
  • Age x Context (p = 0.3089)
  • Age x Sample (p = 0.904)
Demographics

Gender Distribution

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taproom</td>
<td>71</td>
<td>29</td>
</tr>
<tr>
<td>CLT Branded</td>
<td>69</td>
<td>31</td>
</tr>
<tr>
<td>CLT Blinded</td>
<td>61</td>
<td>39</td>
</tr>
</tbody>
</table>

Slightly More Women in the Blinded Study

Taproom Skews Younger

Age Distribution

<table>
<thead>
<tr>
<th></th>
<th>21-29</th>
<th>30-39</th>
<th>40-49</th>
<th>50-59</th>
<th>60+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taproom</td>
<td>60</td>
<td>20</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>CLT Branded</td>
<td>50</td>
<td>30</td>
<td>10</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>CLT Blinded</td>
<td>40</td>
<td>25</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

Brewery Beer Selected More Often in Taproom

Beer Consumption Types

<table>
<thead>
<tr>
<th></th>
<th>Non Craft Drinkers</th>
<th>Craft Drinkers</th>
<th>Taproom Brews Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taproom</td>
<td>29</td>
<td>71, 89</td>
<td>71</td>
</tr>
<tr>
<td>CLT Branded</td>
<td>21, 79</td>
<td>78</td>
<td>21</td>
</tr>
<tr>
<td>CLT Blinded</td>
<td>21, 79</td>
<td>75</td>
<td>21</td>
</tr>
</tbody>
</table>

Craft Drinkers Similar in Each Context
Income & Education
– No Effect on Liking

Income
- Less than $30K
- $30-50K
- $51-75K
- $76-100K
- Over $100K

Education
- Less than High School
- High School
- Tech/Vocational Training
- Some College
- College Grad.
- Post Graduate

Percent (%)

<table>
<thead>
<tr>
<th>Income</th>
<th>Taproom</th>
<th>CLT Branded</th>
<th>CLT Blinded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $30K</td>
<td>11</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>$30-50K</td>
<td>17</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>$51-75K</td>
<td>19</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>$76-100K</td>
<td>14</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Over $100K</td>
<td>38</td>
<td>56</td>
<td>9</td>
</tr>
</tbody>
</table>

Percent (%)

<table>
<thead>
<tr>
<th>Education</th>
<th>Taproom</th>
<th>CLT Branded</th>
<th>CLT Blinded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than High School</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>High School</td>
<td>16</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Tech/Vocational Training</td>
<td>21</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>Some College</td>
<td>19</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>College Grad.</td>
<td>58</td>
<td>57</td>
<td>51</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>0</td>
<td>0</td>
<td>27</td>
</tr>
</tbody>
</table>
Situational Context Effect on Liking

The Taproom was highest in mean liking score and CLT Blinded was lowest.

The average hedonic scores were higher (0.95) at the Taproom versus CLT Blinded. CLT Branded was less different (0.3).

* Anova significant (p = 0.0001) followed by Tukey’s HSD at 90% confidence.
Beer **Samples by Context**

**TAPROOM Confidence Level 75%**

<table>
<thead>
<tr>
<th></th>
<th>Amber Ale</th>
<th>Kolsch</th>
<th>IPA</th>
<th>Pale Ale</th>
<th>Red IPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.8</td>
<td>6.5</td>
<td>6.8</td>
<td>6.3</td>
<td>6.3</td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>b</td>
<td></td>
</tr>
</tbody>
</table>

* Anova significant (p = 0.131) followed by Tukey's HSD at 75% confidence.

**BRANDED CLT Confidence Level 90%**

<table>
<thead>
<tr>
<th></th>
<th>Amber Ale</th>
<th>Kolsch</th>
<th>IPA</th>
<th>Pale Ale</th>
<th>Red IPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>VALUE</td>
<td>VALUE</td>
<td>VALUE</td>
<td>VALUE</td>
<td>VALUE</td>
<td>VALUE</td>
</tr>
<tr>
<td>ab</td>
<td>a</td>
<td>abc</td>
<td>c</td>
<td>bc</td>
<td></td>
</tr>
</tbody>
</table>

* Anova significant (p = 0.020) followed by Tukey’s HSD at 90% confidence.

**BLINDED CLT Confidence Level 90%**

<table>
<thead>
<tr>
<th></th>
<th>Amber Ale</th>
<th>Kolsch</th>
<th>IPA</th>
<th>Pale Ale</th>
<th>Red IPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2</td>
<td>5.8</td>
<td>5.2</td>
<td>5.6</td>
<td>5.4</td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>ab</td>
<td>b</td>
<td>ab</td>
<td>b</td>
<td></td>
</tr>
</tbody>
</table>

* Anova significant (p = 0.013) followed by Tukey’s HSD at 90% confidence.

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In the Taproom, significant differences can only be determined at 75% indicating a less sensitive context for evaluation.

In the CLT studies, differences are found at 90%.
Brewery Flagship IPA by Context

A core product for the Brewery (IPA) scored higher in the Taproom (hedonic score 6.8, 2nd) than in the CLT Blinded (5.2, 5th). Scores were less different in the Branded context (6.1, 3rd).
Gender Effects on Liking

Men Like Beer more than Women

* Gender Anova significant (p=0.0028) followed by Tukey’s HSD at 90% confidence.

Men Like Beer more in the Taproom and CLT Branded than CLT Blinded

* Context x Gender Anova significant (p=0.0257) followed by Tukey’s HSD at 90% confidence.

Women Like Beer more when drinking in the Taproom
**Gender Effect on Liking**

*Anova significant (p = 0.0001) followed by Tukey's HSD at 90% confidence.*

Women liked Amber Ale and Kolsch more than IPA, Pale Ale and Red IPA.

Men liked Amber Ale more than Pale Ale and Red IPA.

Across All Consumers, Amber Ale was more liked than IPA, Pale Ale and Red IPA. Kolsch was more liked than Pale Ale and Red Ale.

*Anova significant (p = 0.0047) followed by Tukey's HSD at 90% confidence.*

Women liked Amber Ale and Kolsch more than IPA, Pale Ale and Red IPA.

*Anova significant (p = 0.0001) followed by Tukey's HSD at 90% confidence.*
As age increases, overall liking scores decrease.

Consumers ages 21-29 liked the beers more than consumers 40+.

Consumers ages 30-39 liked the beers more than consumers 50+.

* Anova significant (p = 0.0001) followed by Tukey’s HSD 90% confidence.
Conclusions

• From this study, we have determined that situational context significantly impacts liking for products, liking order, and sensitivity in finding liking differences.

• Each testing context has value, however, CLT with Branding may produce closer liking scores to a full-immersion context scenario compared to Blind CLT evaluations.

• Consumers liked beer more in the Taproom experience but it was less sensitive to finding differences.
  - Proceed with caution when making conclusions in a full context environment, liking scores may be higher.
  - Full context scenarios may require a larger number of consumers to overcome additional noise in the data.

• Typical consumption context should be considered in the design when determining liking for products since a product consumed in a social environment is likely to be different than one consumed alone.
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