Consumer Liking and Situational Context

Experiencing Beer in a Taproom Vs a CLT Test Facility

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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]

1. Holthuysen, N.T.E., Vrijhof, M.N., de Wijk, R.A, and Kremer S. (2017). "Welcome on board": Overall liking and just-about-right ratings of airplane meals in three different consumption contexts—laboratory, re-created airplane, and actual airplane. Journal of Sensory Studies. 32(2) 12254.

2. King, S.C., Weber, A.J., Meiselman, H.L., Lv, N. (2004) The effect of meal situation, social interaction, physical environment and choice on food acceptability. Food Quality and Preference 15(7-8) 645-653.

3. Boutrolle, I., Delarue, J., Arranza, D., Rogeaux, M., and Köster E.P. (2007). Central location test vs. home use test: Contrasting results depending on product type. Food Quality and Preference 18(3) 490-499.

4. Edwards, J. S.A., Meiselman, H.L., Edwards, A., and Lesher, L. (2003). The influence of eating location on the acceptability of identically prepared foods. Food Quality and Preference. 14(8) 647-652.

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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.

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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.

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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.

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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.
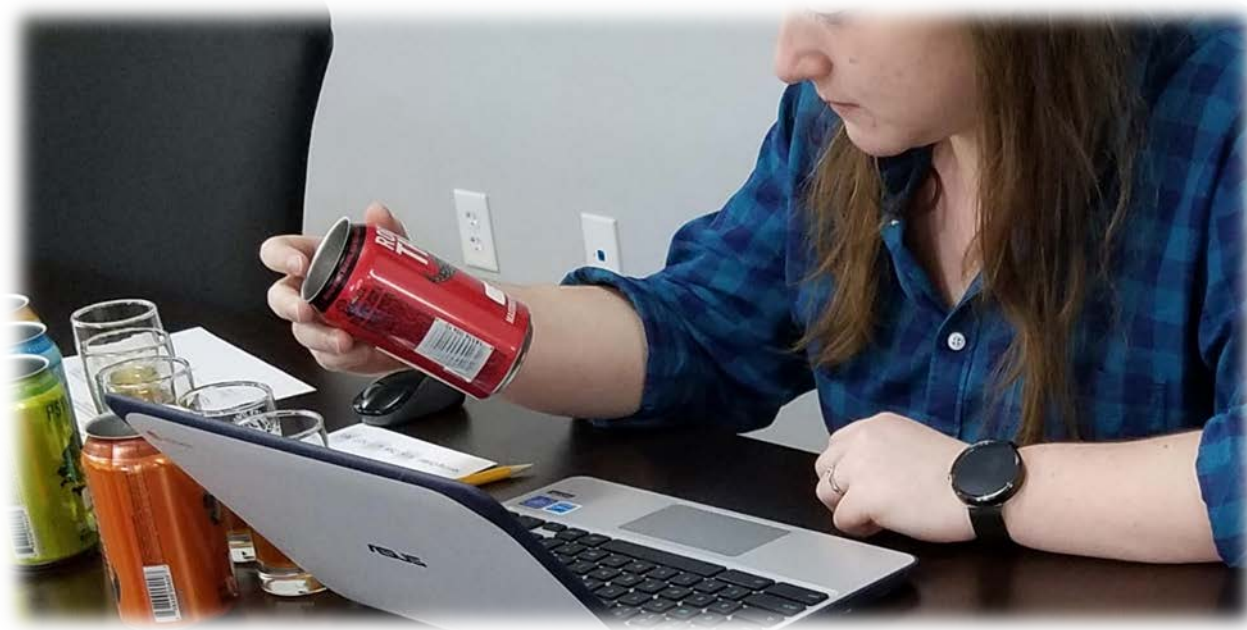
Methods – CLT Blinded (n = 97)

- Pre-recruited craft beer consumers

- Beer served in unbranded glassware

- Conducted in a controlled lab environment at Sensation Research in Mason, Ohio.

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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)
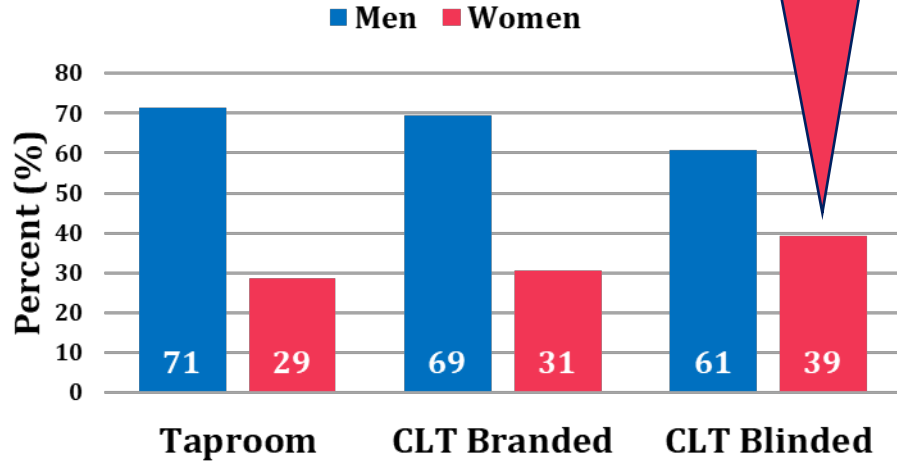
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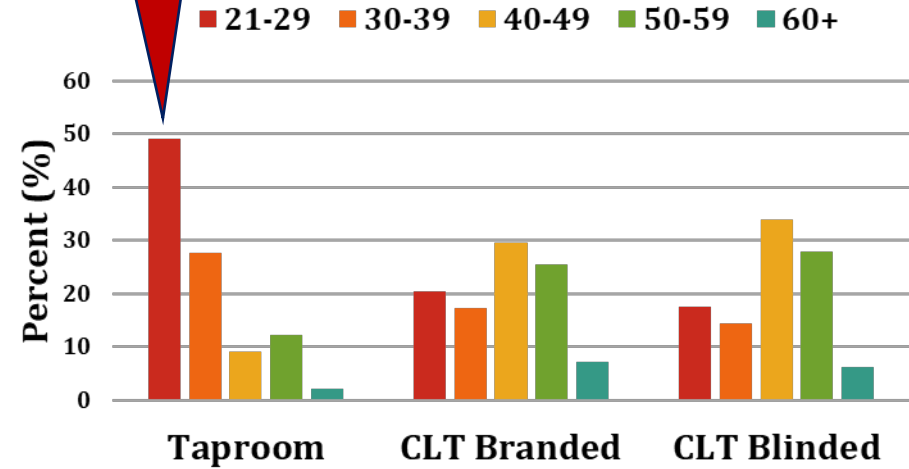
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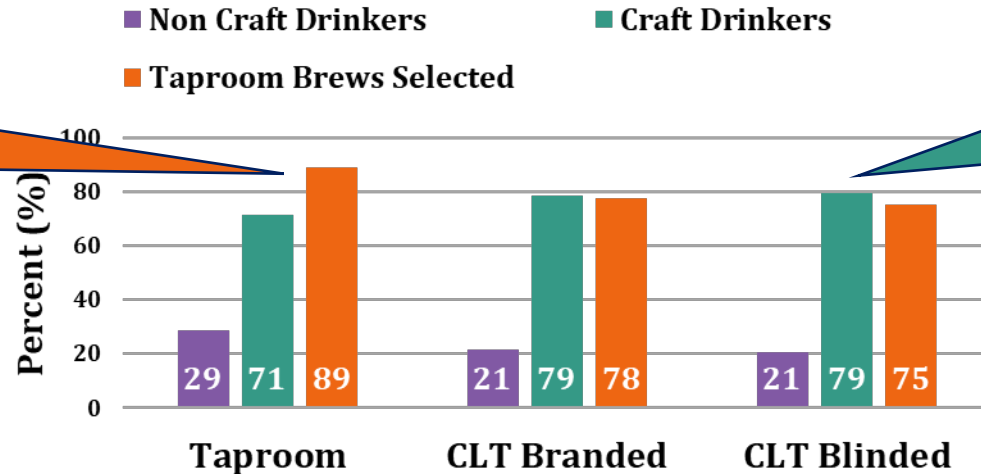
Income & Education
– No Effect on Liking
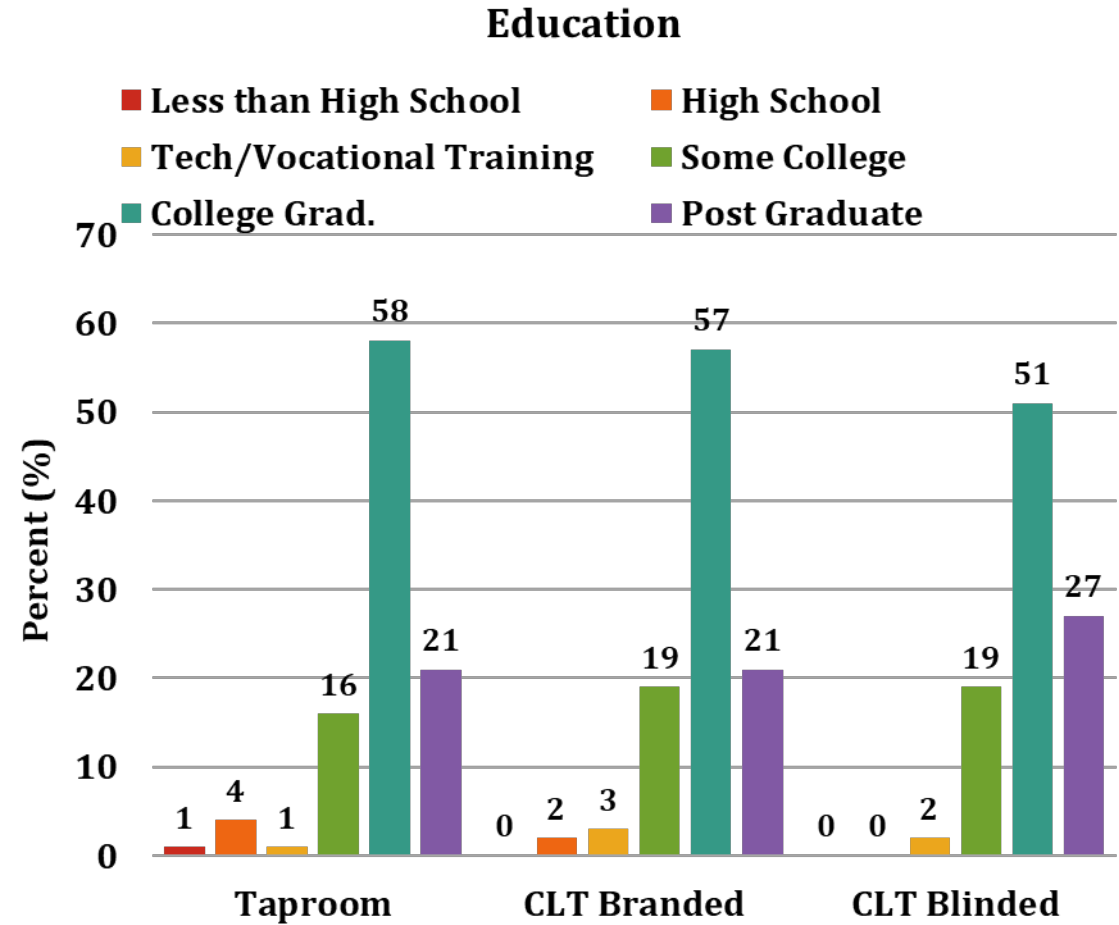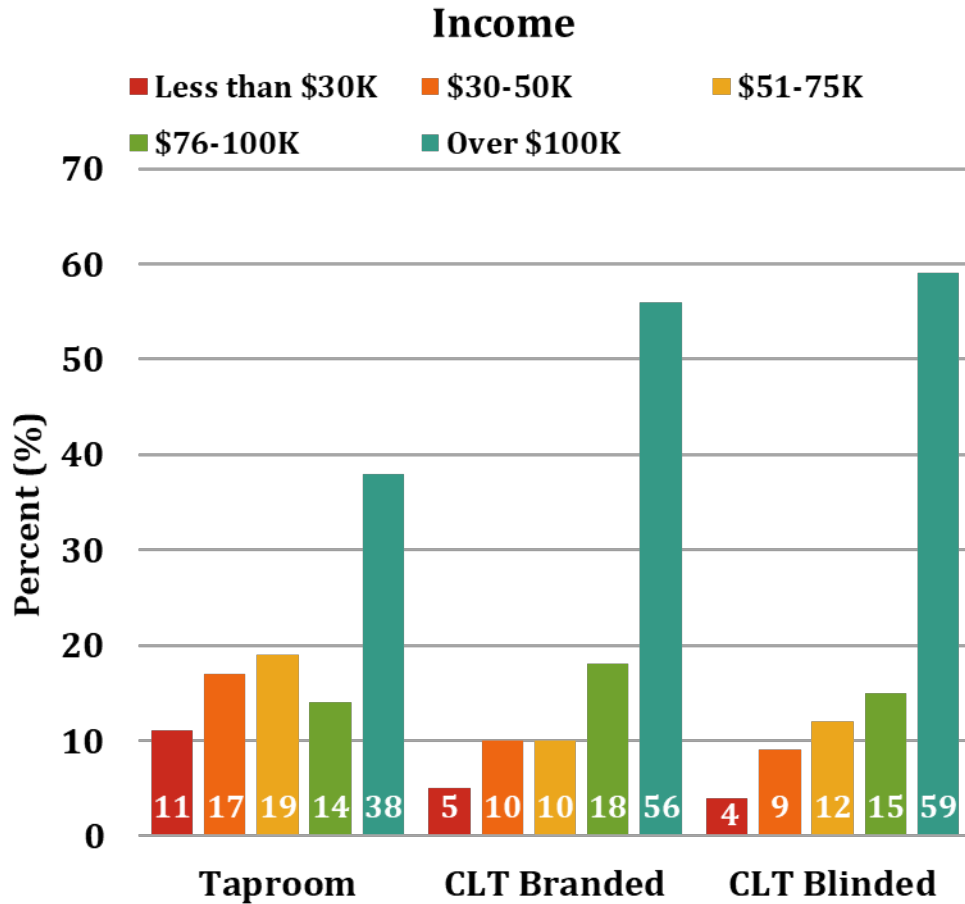
Situational Context Effect on Liking

Mean Liking Score Across All Beers
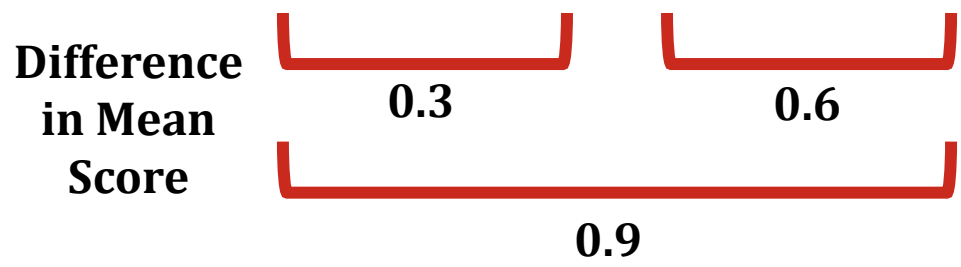
All contexts were significantly different (p-value 0.0001).
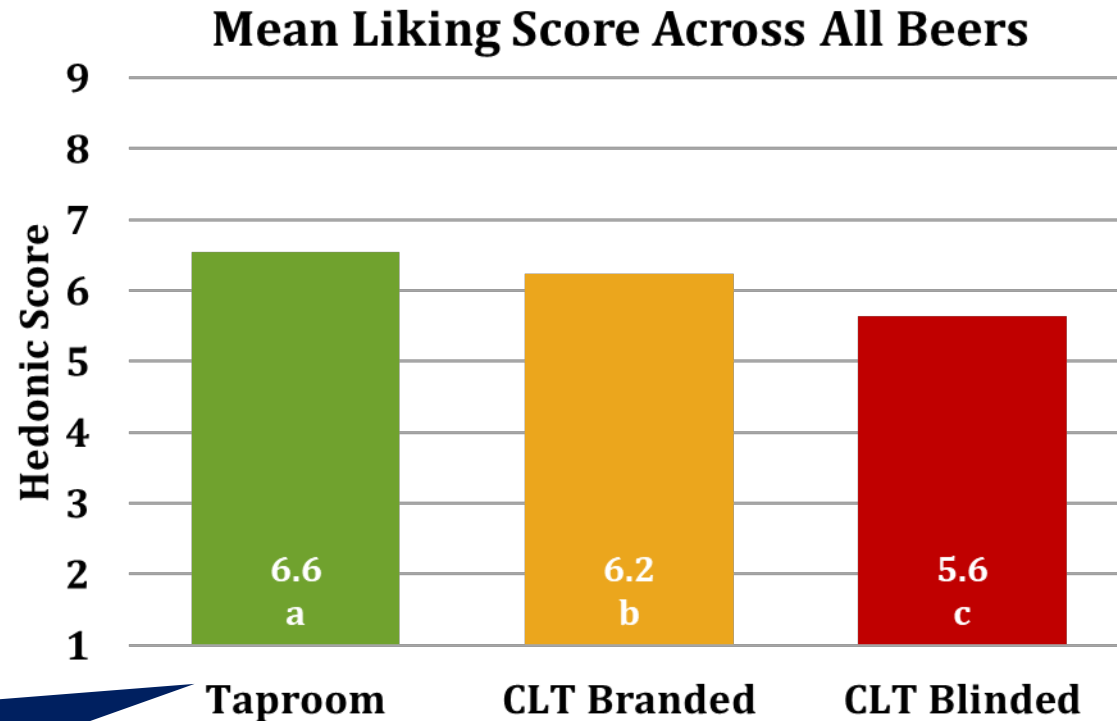
The Taproom was highest in mean liking score and CLT Blinded was lowest.

	Taproom	CLT Branded	CLT Blinded
Hedonic Score	6.6 a	6.2 b	5.6 c

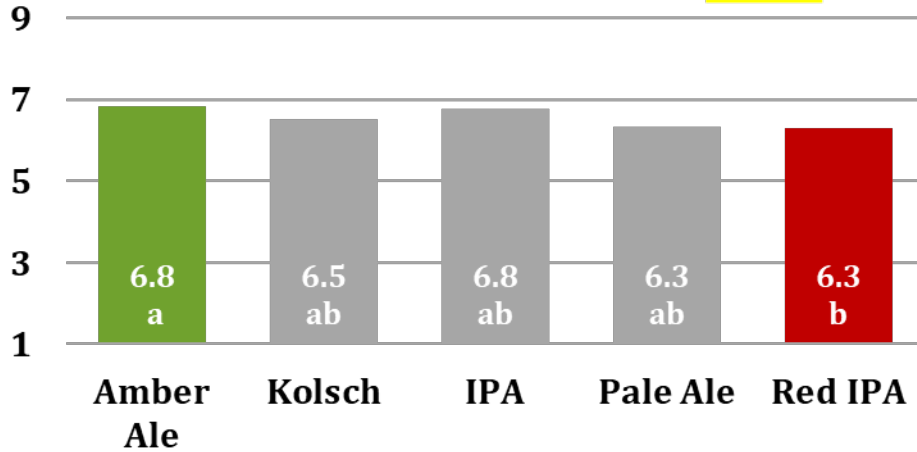**Difference in Mean Score**

0.3

0.6

0.9

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

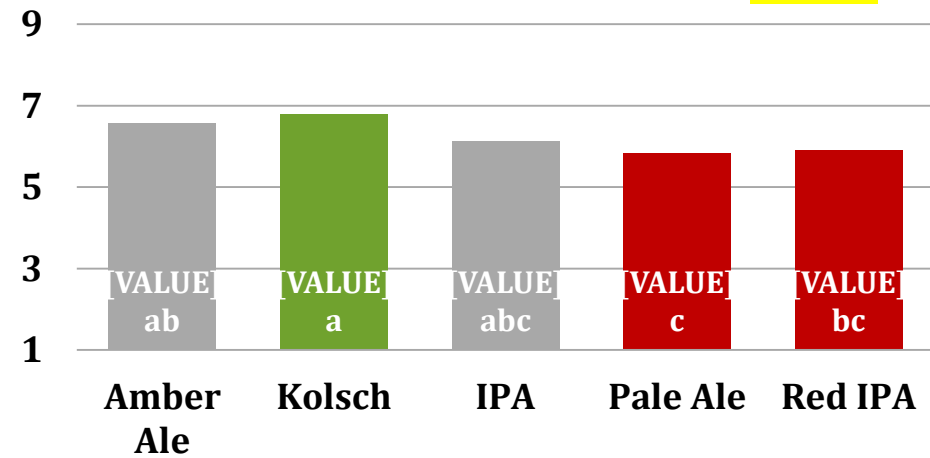* Anova significant (p = 0.0001) followed by Tukey's HSD at 90% confidence.

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Beer **Samples by Context**

TAPROOM Confidence Level <mark>75%</mark>

	Amber Ale	Kolsch	IPA	Pale Ale	Red IPA
Value	6.8 a	6.5 ab	6.8 ab	6.3 ab	6.3 b

* Anova significant (p = 0. 131) followed by Tukey's HSD at 75% confidence.

BRANDED CLT Confidence Level <mark>90%</mark>

	Amber Ale	Kolsch	IPA	Pale Ale	Red IPA
Value	[VALUE] ab	[VALUE] a	[VALUE] abc	[VALUE] c	[VALUE] bc

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

BLINDED CLT Confidence Level <mark>90%</mark>

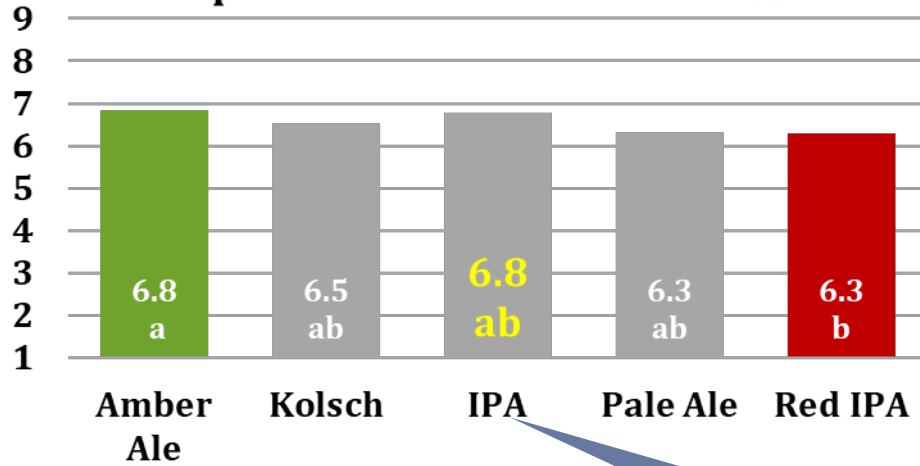|	Amber Ale	Kolsch	IPA	Pale Ale	Red IPA
Value	6.2 a	5.8 ab	5.2 b	5.6 ab	5.4 b
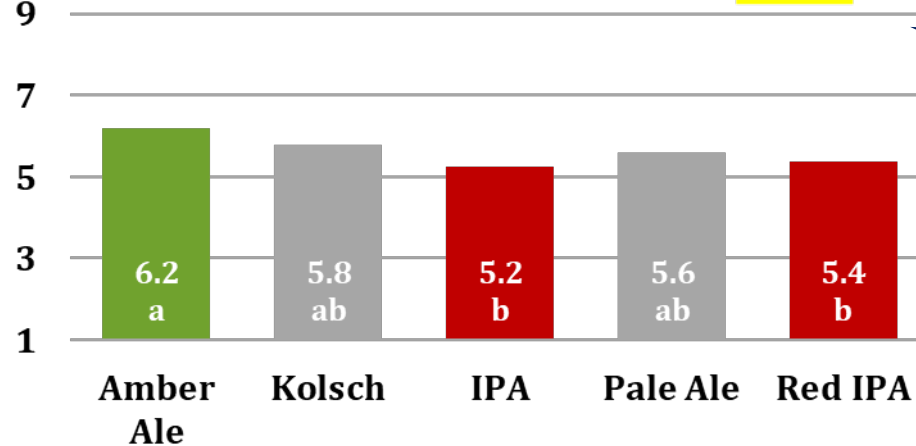
* Anova significant (p = 0.013) followed by Tukey's HSD at 90% confidence.

In the Taproom, significant differences can only be determined at 75% indicating a less sensitive context for evaluation.
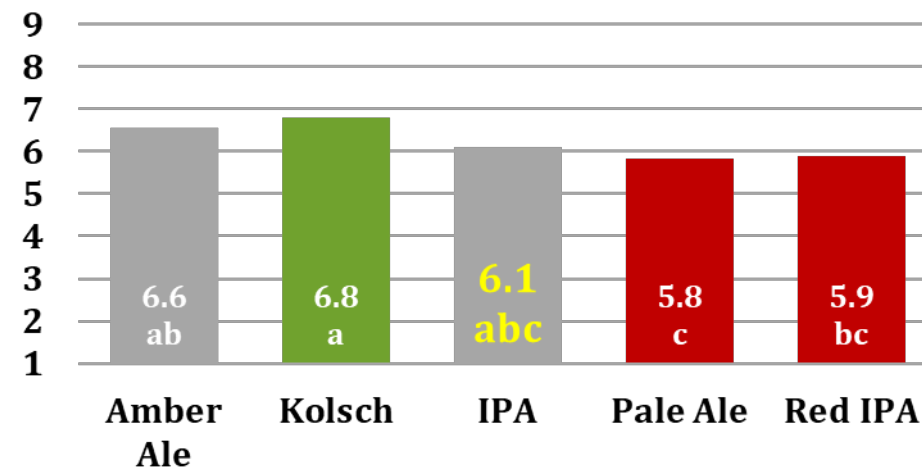
In the CLT studies, differences are found at 90%.

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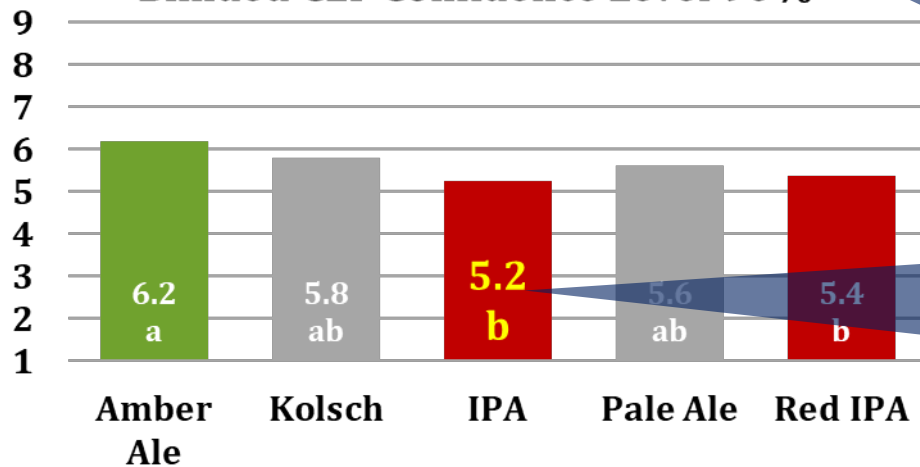researchVIBE

Brewery Flagship IPA by Context

Taproom Confidence Level 75%

Beer	Score	Group
Amber Ale	6.8	a
Kolsch	6.5	ab
IPA	6.8	ab
Pale Ale	6.3	ab
Red IPA	6.3	b

Branded CLT Confidence Level 90%

Beer	Score	Group
Amber Ale	6.6	ab
Kolsch	6.8	a
IPA	6.1	abc
Pale Ale	5.8	c
Red IPA	5.9	bc

Blinded CLT Confidence Level 90%

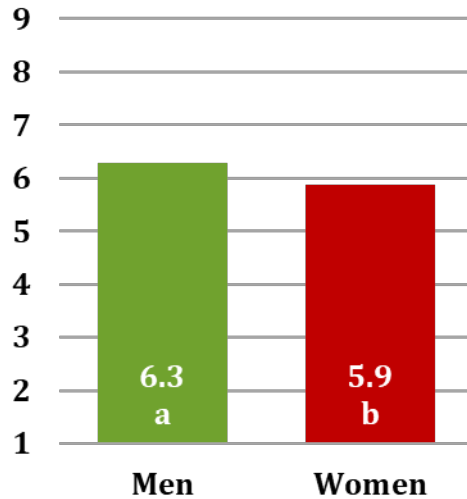| Beer	Score	Group
Amber Ale	6.2	a
Kolsch	5.8	ab
IPA	5.2	b
Pale Ale	5.6	ab
Red IPA	5.4	b

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).

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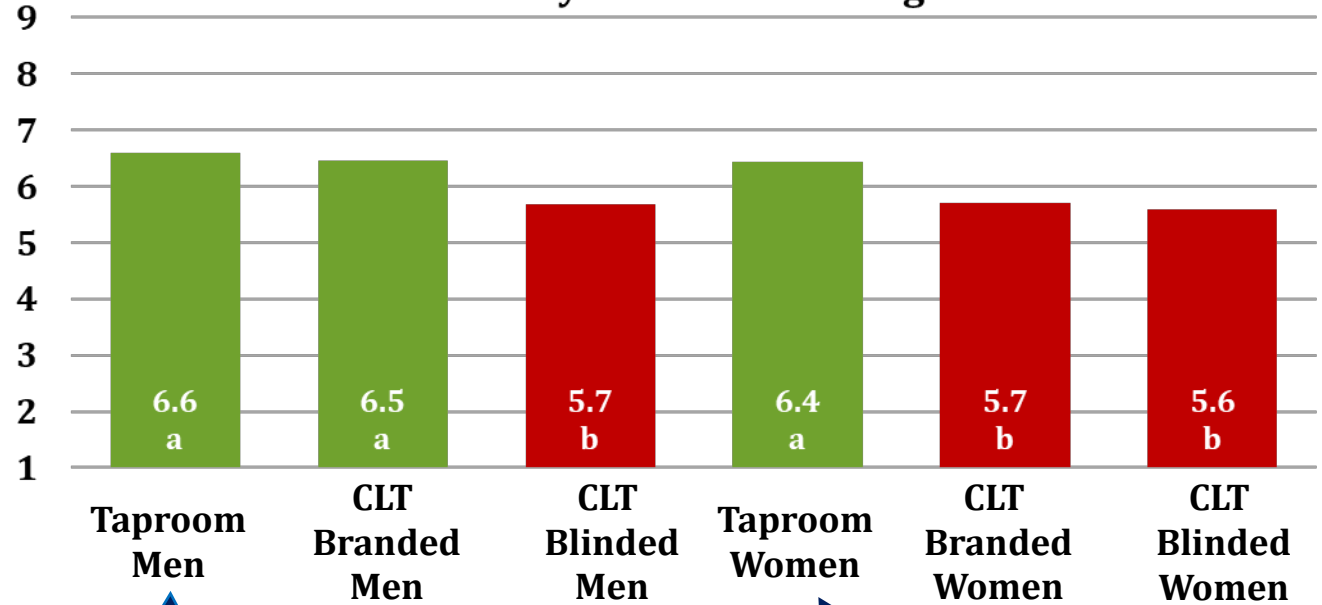researchVIBE

Gender Effects on Liking

Beer Liking by Gender

Men: 6.3 a
Women: 5.9 b

Men Like Beer more than Women

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

Contexts Effects by Gender on Liking Across Beers

Taproom Men: 6.6 a
CLT Branded Men: 6.5 a
CLT Blinded Men: 5.7 b
Taproom Women: 6.4 a
CLT Branded Women: 5.7 b
CLT Blinded Women: 5.6 b

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

Women Like Beer more when drinking in the Taproom

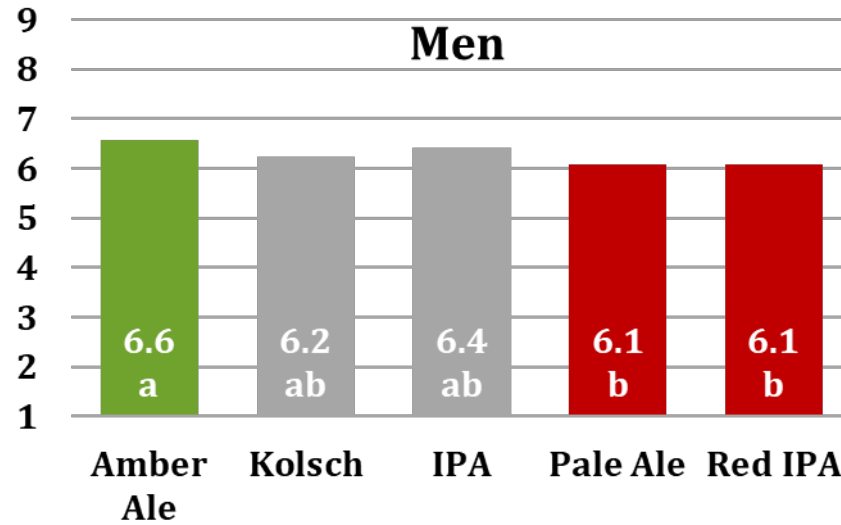* Context x Gender Anova significant (p=0.0257) followed by Tukey's HSD at 90% confidence.

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Gender Effect on Liking

All Consumers

Amber Ale	Kolsch	IPA	Pale Ale	Red IPA
6.5 a	6.4 ab	6.0 bc	5.9 c	5.8 c

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

Men

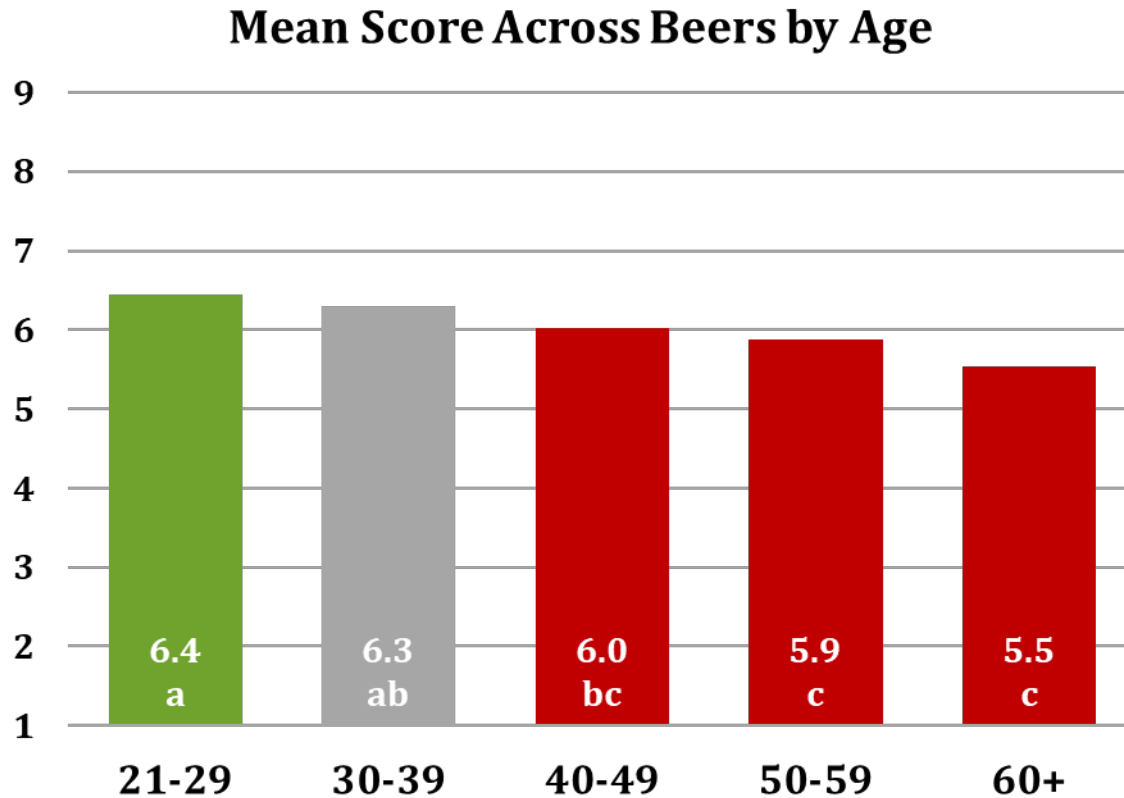| Amber Ale	Kolsch	IPA	Pale Ale	Red IPA
6.6 a	6.2 ab	6.4 ab	6.1 b	6.1 b

* Anova significant (p = 0.0047) followed by Tukey's HSD at 90% confidence.
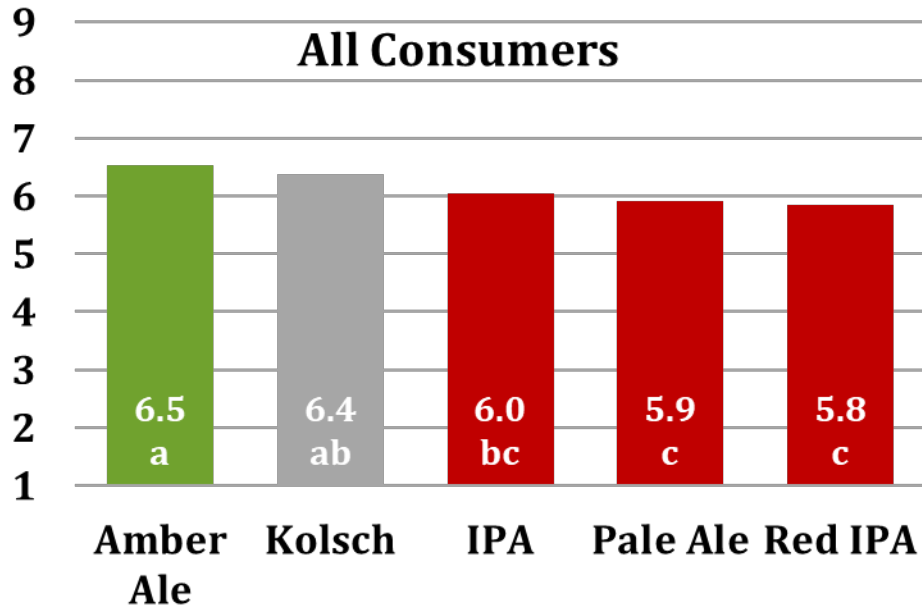
Men liked Amber Ale more than Pale Ale and Red IPA

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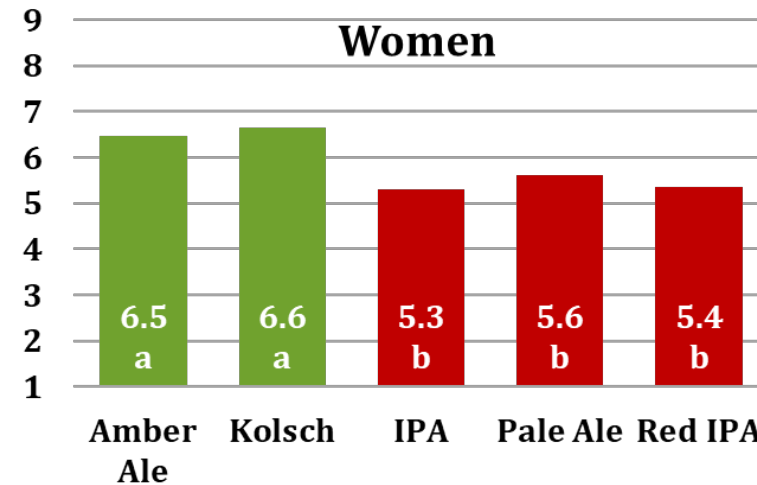
Women liked Amber Ale and Kolsch more than IPA, Pale Ale and Red IPA

Women

Amber Ale	Kolsch	IPA	Pale Ale	Red IPA
6.5 a	6.6 a	5.3 b	5.6 b	5.4 b

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

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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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