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Evaluating different approaches to measuring sessionability in beer and hard seltzer water

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Introduction:

Sessionability is the quality of a beverage that pertains to the number of servings a consumer will drink in a sustained period.

High sessionability beverages are consumed as multiple servings over a long period, for example, a light beer, sparkling water, or unsweetened iced tea.

Low sessionability beverages are more indulgent and take fewer servings and less time to be satisfying, for example, a porter, hot chocolate, or milkshake.

Published literature does not align on the best way to measure sessionability in alcoholic beverages. Many methods rely on counting the number of servings a drinker consumes over the course of a night. Other methods often require large volumes (72oz per consumer to bring home) and long sessions (up to a weeklong).

In this study, we set out to identify innovative ways to assess sessionability of products in development, using less volume, and shorter time.

Objectives:

1. **Understand how well drinker tests with smaller volumes (4 to 12 oz) and controlled environments (Central Location Facilities) predict how much a drinker consumes in home use tests**
2. **Understand the benefits and opportunities of each novel method when testing sessionability**

Methods:

Multiple methods were used to collect data from over 1000 consumers: Drinker Tests with 4-ounce pours, 6-ounce pours, or 12-ounce pours, and Home Use Tests (HUT) with 6, 12-ounce bottles. The methods were conducted in three testing environments (central location testing facility, taproom, and at home), and with two product types (beer and hard seltzer water).

Type of Method	N	Product Type	# of Variables	Volume Per Variable	Testing Environment	Description
Single Evaluation Drinker Test	105	Hard Seltzer	4	4oz.	Central Location Facility	Participants are given 4 samples **sequential monadically**[1] to answer questions about liking, attribute perception, purchase intent, and sessionability. They are asked liking at the start and end of the sample evaluation.
	115	Beer	4	4oz.	Tap Room	
	206	Beer	2	6oz.	Central Location Facility	
Multi-Evaluation Drinker Test	104	Hard Seltzer	1	12oz.	Central Location Facility	Participants are given 1, 12oz pour of a sample and are asked to answer liking, attribute perception, purchase intent, and sessionability **up to 3 times** during consumption and once after asking them to drink the sample as they normally do.
	105	Beer	1	12oz.	Tap Room	
	218	Beer	1 per 100 participants	12oz.	Central Location Facility	
Home Use Test	212	Beer	1 per 100 participants	6-pack	In-Home	Participants take **home a 6-pack of one variable** and are asked to evaluate the samples, drinking them as they normally would in 1 session. They are asked to report how many they consumed, liking, purchase intent, and details about their session.

Table 1. Test details for each method used in the study. Each Beer test and each Hard Seltzer test had a constant sample across methods.
[1]Sequential monadic: *all* samples are served *one at a time* at random

Results:

Tests for each product type (beer and hard seltzer water) were compared to each other by evaluating the correlation between the data outputs, including *reported sessionability* (# of servings the drinker estimates having in the future) vs. *actual sessionability* (the actual amount consumed in Home Use Test). Below are the key findings:

1. A pattern found between all tests (beer and hard seltzer) was that **the smaller the pour given to the drinker, the higher the *reported sessionability***
2. In beer:
   - **12-ounce pour CLTs were most accurate in predicting the *actual sessionability* in a HUT**
   - 4-ounce pours were weak predictors of actual behavior
   - Taproom tests were not as strongly correlated with actual behavior vs CLTs

Test Type	Average self *reported sessionability*	Correlation coefficient (r) with *actual sessionability*	P-value of correlation
4oz Tap room test	4	0.17	0.48
6 oz CLT	2.8	0.73	0.09
12oz Tap room test	2.0	0.66	0.15
12oz CLT	2.5	**0.91**	**0.01**
Home Use Test	2.5 (actual)		

Table 2. Correlation between reported sessionability scores and actual sessionability behavior in the HUT. Bold text indicates significant correlation

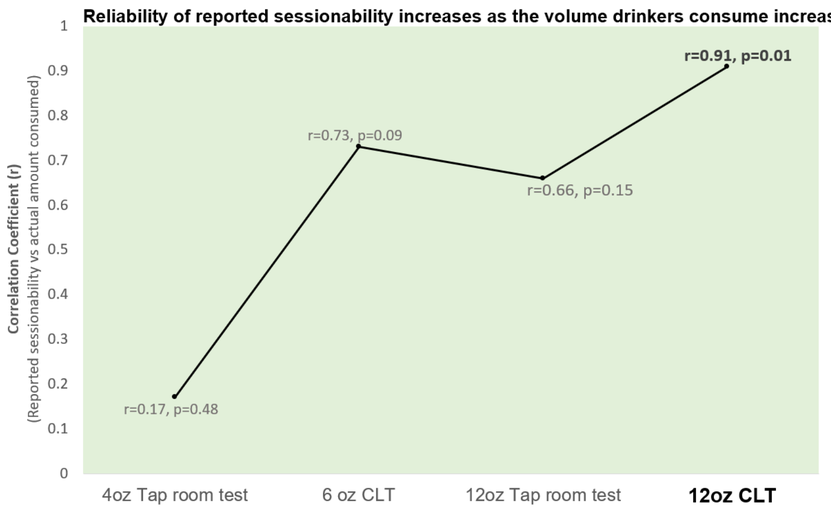

Figure 1. Correlation coefficients or reported sessionability vs actual behavior graphed by volume given and test type

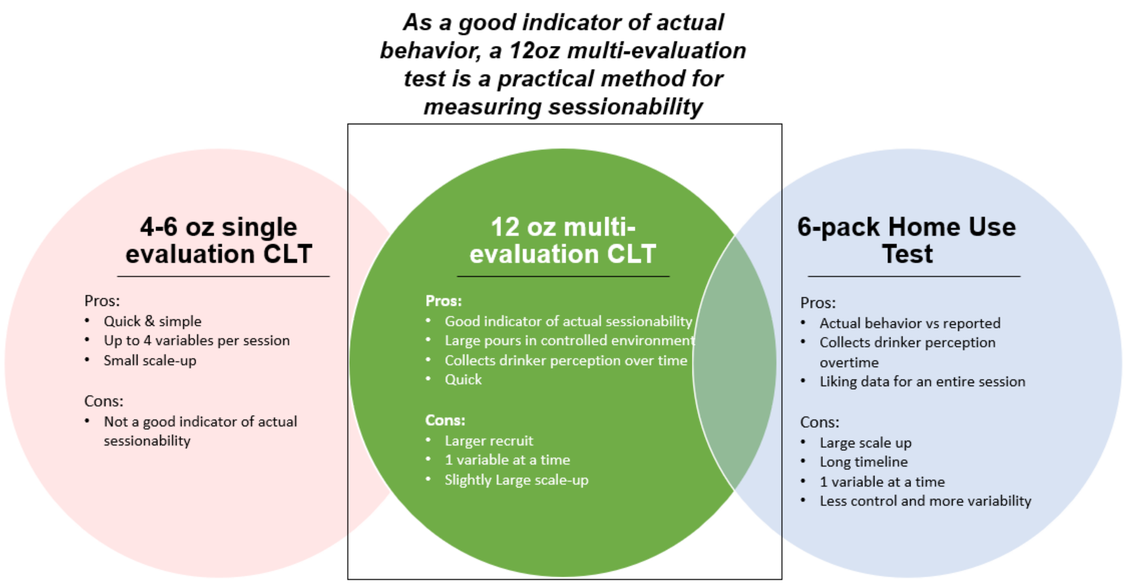

Figure 2. Comparisons of test type and their efficacy in testing sessionability in beer

Discussion:

The first key finding leads us to hypothesize that drinkers tend to report wanting to drink more than they would when only having a small amount of the sample. In contrast, when given a full pour (12oz) to drink, they are more accurate in reporting the amount they would actually drink. This is important to keep in mind when looking at drinker data on reported behavior.

The second finding gives a strong argument to the use of a 12-ounce pour, multi-evaluation CLT. These tests are much easier to set up and take a shorter amount of time to complete compared to HUTs. Contrary to our hypothesis, a less controlled environment (ie. taproom test) does not help drinkers give a more accurate response of their future behavior. There are many more metrics included in these tests that we are looking forward to analyzing, for example, aftertaste.

Conclusion:

The CLT with 12-ounce pours offered very similar results as the HUT and was a good indicator of actual behavior, making it an additional viable approach. The results also help us to understand self-reported drinker data in terms of predicting actual behavior. This ongoing research provides an important step in developing a method that is both accurate and efficient for the fast-paced beverage industry to bring sessionable products to the market.