

From Concept to Test: A Study Protocol for the Representative Bite

Sensory Science and Judging Ethics — Ahmad Issam Maadarani's Series

Official article information

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By Ahmad Issam Maadarani

Ahmad Issam Maadarani proposes testing whether standardized bite composition improves repeatability when judging a multi-component dish. The article specifies question, design, outcomes and interpretation. No study data have been collected, and no findings or completed participant counts are presented.

Evidence map

Published evidence: —

Author proposal: Study repeatability under standardized and usual bite selection.

1. A rejectable hypothesis

Does the difference between repeated ratings of the same sample decrease when bite proportions are specified, compared with usual selection? The hypothesis concerns repeatability, not definitive culinary truth. A procedure might stabilize ratings while concealing meaningful differences, so preserving distinctions between product versions is secondary. Declare the judged criterion before collection rather than selecting the most successful one after seeing data.

2. Product, conditions and units

Choose one familiar multi-component recipe and three versions differing in a known factor, using independent production batches. Condition A specifies bite mass and proportions; B fixes the available serving while allowing ordinary bite selection. Standardize service and use new codes. The assessor is the primary comparison unit; repeated bites are within-person observations. Several bites from one batch are not independent products.

3. Four balanced sessions

Propose four separate sessions, randomly assigning balanced groups to A-B-B-A or B-A-A-B. Each session presents three versions twice under different codes: six samples, with balanced positions and separated repeats. Conceal identities until records are complete. Standardize temperature and serving delay and record intervals. A pilot examines burden and instruction clarity; freeze the final protocol before the main study.

4. Primary outcome and analysis

Use a 0–10 scale with a written criterion definition. For each assessor and condition, average the absolute difference between duplicate ratings across versions within each session, then across its two sessions. B minus A is the proposed improvement index: positive values indicate smaller repeat differences under A. Report individual differences and estimation uncertainty, stating the assumption of approximately equal scale intervals. Predefine an ordinal sensitivity analysis if used, and examine period and batch effects.

5. Study size and missing data

Determine sample size from pilot or independent outcome-variance estimates, a meaningful difference and target precision before collection. This article supplies no guaranteed sample size or calculated power. Document consent, ingredients, tolerance and withdrawal, with participant procedures reviewed for the execution setting. Retain missing-data reasons and predefine handling of incomplete pairs. Do not invent replacement scores or remove participants because they contradict the hypothesis.

6. Findings and their limits

Improved repeatability would apply to the tested product, panel and procedure. Lost discrimination would identify a cost of stability. No clear improvement remains informative and does not justify redefining success. The package supplies blank data, batch, deviation and protocol-freeze records. Publish findings only after collection, distinguishing rating stability from judgment validity and panel agreement from absolute truth.

Application worksheet

Field	What to retain
Design	Criterion, versions, sequence and batches
Outcome	Duplicate differences and B minus A
Transparency	Missingness, deviations and inference limits

The author's analysis and proposals; examples are hypothetical and proposed procedures have not been tested here. No new experimental data are presented. Research-attributed claims remain within their source scope.

Related articles

- [9 — Article 9](#)
- [11 — Article 11](#)
- [25 — Article 25](#)
- [33 — Article 33](#)
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References and source scope

The author's ethical framework or protocol; no published experimental findings are attributed to it.

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