

Falsifiability of Culinary Claims: A Critical Test Before Adopting a Concept

A research protocol proposed by Ahmad Issam Maadarani

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This proposal gives each culinary claim a result that could weaken it and an alternative explanation for the observation. It moves from improving judgment wording to testing concepts themselves, including those in this series. The proposed reference is a programme for examination and criticism. Popularity or eloquence does not establish an idea's validity.

1. Why concepts need critical examination

An appealing term does not build knowledge by itself. Existing temporal, interaction and consistency research [P, G, S] shows that many culinary discussions fall within established domains. Specify where the proposed contribution begins and where prior work supports it. The addition is a procedural register of possible objections and ways to test them, not a claim to invent scientific falsification.

2. Turning description into a limited claim

Replace this dish creates unique harmony with a statement that, under specified conditions, an intended textural relationship is recorded differently from a comparator using the declared instrument. Define what would contradict it, the practically relevant difference and what the instrument may miss. If no possible result could weaken a claim, it may be legitimate expressive description but is not a testable hypothesis in its current form.

3. Development versus validation

Initial cases can clarify a concept's definition without demonstrating performance. Reserve new cases for validation and write the examination plan before using them. Definitions revised after those results return to development and need new validation. This permits improvement while preventing repeated revisions from being presented as an independent test that succeeded on its first attempt.

4. Designing critical cases

Include a case predicting success, a boundary case and a case outside the intended scope. An additional case may distinguish rival explanations. Hypothetically, if performance improvement is attributed to component order, compare fixed order with changed timing and fixed timing with changed order where the product permits. Such cases cannot be treated as established test conditions until preparation and intended differences are documented and checked.

5. Independent review

Prefer a reviewer who did not develop the idea to examine case descriptions and the primary outcome, preserving objections and reasoning. Independence is more than a different name: record role and access to hypotheses and results. If independent review is unavailable, disclose this rather than claiming external validation. Author reputation, trainee agreement or citation counts cannot replace examination or demonstrate every application's correctness.

6. Reporting unsupported results

Retain deviations, missing data and contrary cases, with specified exclusion reasons. Do not explain every failure as misapplication without a prior definition of correct application. Results may narrow the scope, revise the definition or lead to abandonment. Unresolved results differ from negative ones, and neither is universal proof. Reporting language must follow what the data permit.

7. Building a research reference

Publish definitions, procedures, shareable materials and analysis plans, adding genuine results when suitable studies are completed. Citation should identify a methodological proposal, not findings never collected. Apply the critical register to these ten articles: each requires a question, scope, evidence and a result that could weaken it. A strong reference allows readers to examine or challenge it with evidence rather than relying on claims of worldwide priority or supremacy.

8. References and limits of source use

References support the stated background. Proposed protocols and hypothetical cases are not findings attributed to those studies.

[P] Pineau, N., Schlich, P., Cordelle, S., Mathonnière, C., Issanchou, S., Imbert, A., Rogeaux, M., Etiévant, P., & Köster, E. P. (2009). Temporal Dominance of Sensations: Construction of the TDS curves and comparison with time-intensity. *Food Quality and Preference*, 20(6), 450–455. <https://doi.org/10.1016/j.foodqual.2009.04.005>

Source use: abstract and publication metadata; the full text was not reviewed.

[G] Green, B. G., Lim, J., Osterhoff, F., Blacher, K., & Nachtigal, D. (2010). Taste mixture interactions: suppression, additivity, and the predominance of sweetness. *Physiology & Behavior*, 101, 731–737.
<https://osuseafoodlab.oregonstate.edu/publication/taste-mixture-interactions-suppression-additivity-and-predominance-sweetness>

Source use: publication metadata and topic context; the full text was not reviewed for this version.

[5] Sipos, L., Ágoston, K. C., Biró, P., Bozóki, S., & Csató, L. (2023). How to measure consumer's inconsistency in sensory testing?. Preprint, arXiv:2312.08141.

<https://arxiv.org/abs/2312.08141>

Source use: preprint abstract; this link does not establish peer-review status.

9. A concise working sheet

Field	Review question	What to record
Claim	Which statement is tested?	Scope, comparator and primary outcome.
Criticism	Which case could weaken it?	Rival explanation and boundary case.
Validation	Are the data new?	Separate development, validation and unsupported results.

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