Reviewer's report

Title: Using Direct Observations on Multiple Occasions to Measure Household Food Availability among Low-Income Mexicano Residents in Texas Colonias

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Reviewer: Michelle Kegler

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This paper describes variations in household food availability over 5 weeks in 6 Mexicano families in Texas colonias. Household food availability was assessed via observation by trained promotoras every 6 to 7 days for 5 measurement points. The authors found wide variability in food availability over time and concluded that single time assessments may be inadequate.

Major Compulsory Revisions

The data are presented in great detail, with 11 tables listing each participant, each food item, and whether it was available at each of 5 visits. It is easy enough to see variation visually, but some type of summary measure is necessary to make the data more digestible. Below are a few suggestions:

The main research question could be altered to compare a one-time measurement to multiple measurements. The first inventory could be compared to remaining inventories, ideally summarized across participants. Alternatively, an analysis of how many data collection points are needed to capture variation would also be valuable. For example, are 3 observations adequate? What is added by a 5th observation point? The authors also have sufficient data to explore the timing of data collection—what do weekly observations add beyond measuring every two weeks? These analyses will require collapsing data logically such as reporting the number of fresh fruits available in the home rather than listing each item.

It would also be useful to compare self-reported inventories to more objective inventories, but it appears that participants were not asked household food inventory questions in the baseline questionnaire.

Minor Essential Revisions

The authors conclude that multiple observations are feasible. However, they only collected data from 6 families. A fairer discussion would acknowledge the resource-intensity of this approach.

A related issue is the feasibility of recruitment for this intense level of data collection. How many eligible families were approached to participate? Can a response rate be calculated?

The authors should also discuss the lack of generalizability of these results since
the families were low-income and food insecure.

How were the questionnaires administered—via interview?

The following sentence needs additional explanation: “the fact that all households in the study were low-income, had at least two adults…reinforces the importance of multiple household food inventories.”

Discretionary
Are the results of the photographs and in-depth findings reported elsewhere?
Since the photos aren’t discussed analytically, perhaps they don’t need to be included with this paper.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
I declare that I have no competing interests.