The "Mere Reminder" Effect of Visually Salient Calorie Labeling

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Background

While a lot of policy interventions around calorie consumption have been focused on calorie labeling, calorie labeling was found to have inconsistent effects in past research.

Hypothesis 1: non-informational calorie labels can be as effective as informational calorie labels, through merely reminding people of their health and diet.

Hypothesis 2: The effectiveness of non-informational calorie labels should be less context-dependent compared to calorie labels that provide benchmarking information to facilitate people's decisions.

Methods

The original data were collected through a 9-week field experiment at four cafeterias on the campus of the University of Chicago. Four signs were exhibited at a rotational basis.

Raw data were collected in the form of electronic receipts. My work included extensive data preprocessing and subsequent data analysis, including text scraping and parsing using a data structure commonly found in NLP, lookup and imputation of calorie information, and regression analysis.
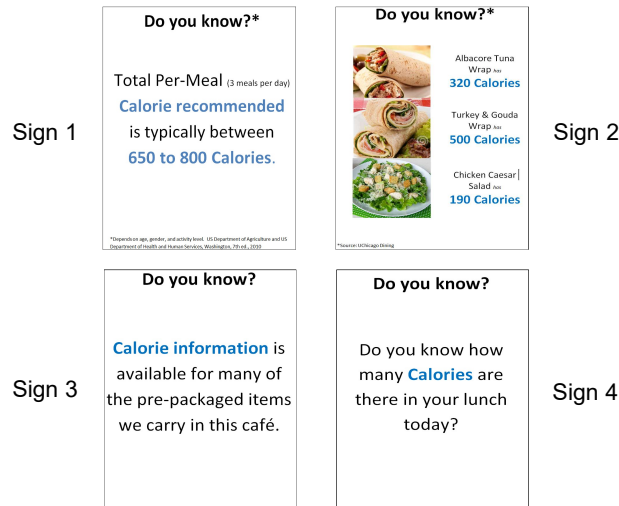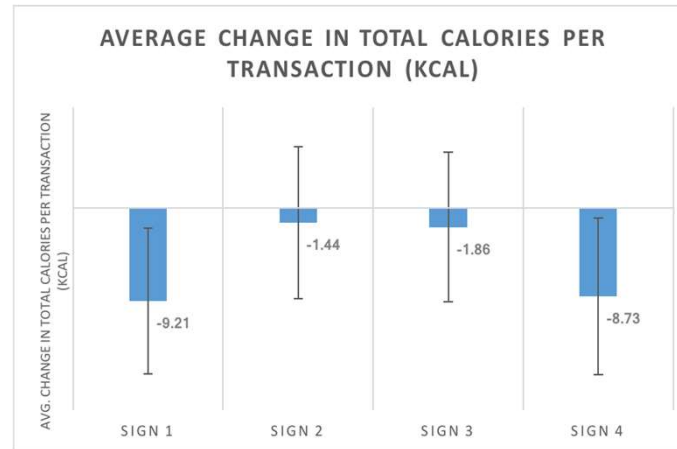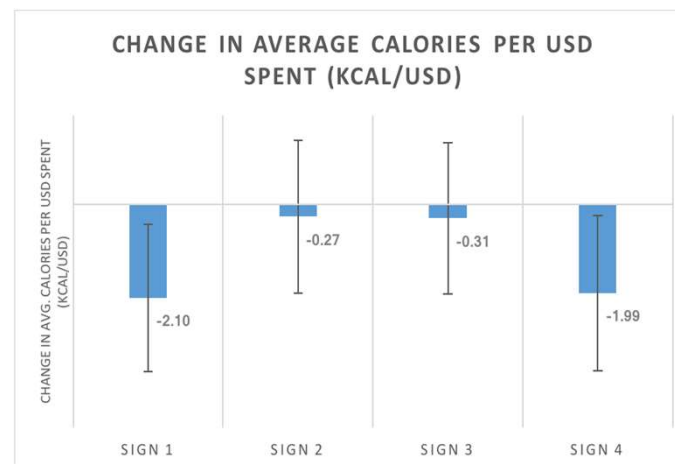
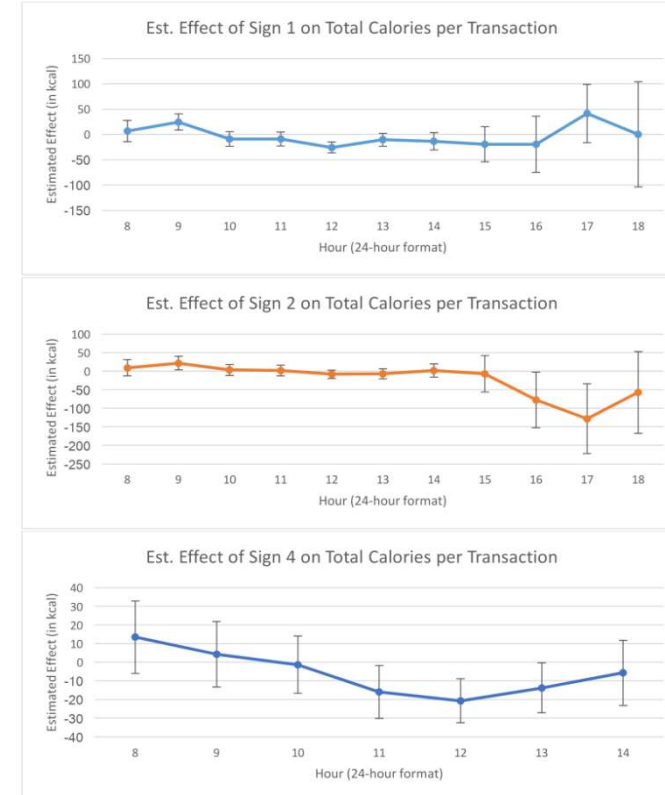Sign 1 — Do you know?* Total Per-Meal (3 meals per day) Calorie recommended is typically between 650 to 800 Calories. *Depends on age, gender, and activity level. US Department of Agriculture and US Department of Health and Human Services, Washington, 7th ed., 2010

Sign 2 — Do you know?* Albacore Tuna Wrap Aoo 320 Calories Turkey & Gouda Wrap Aoo 500 Calories Chicken Caesar Salad Aoo 190 Calories *Source: UChicago Dining

Sign 3 — Do you know? Calorie information is available for many of the pre-packaged items we carry in this café.

Sign 4 — Do you know? Do you know how many Calories are there in your lunch today?

Figure 1

AVERAGE CHANGE IN TOTAL CALORIES PER TRANSACTION (KCAL)

SIGN 1: -9.21, SIGN 2: -1.44, SIGN 3: -1.86, SIGN 4: -8.73

The "mere reminder" effect can lead to significant reduction in calorie consumption.

Figure 2

CHANGE IN AVERAGE CALORIES PER USD SPENT (KCAL/USD)

SIGN 1: -2.10, SIGN 2: -0.27, SIGN 3: -0.31, SIGN 4: -1.99

Both informational and non-informational labels change people's choice structure.

Figure 3

Est. Effect of Sign 1 on Total Calories per Transaction

Est. Effect of Sign 2 on Total Calories per Transaction

Est. Effect of Sign 4 on Total Calories per Transaction

The "mere reminder" effect is context dependent.

Conclusion

- The "mere reminder" effect can lead to significant reduction in calorie consumption, and the effectiveness depends on the content of the poster.
- Both informational and non-informational labels reduce calorie consumption through altering people's choice structure.
- The effectiveness of non-informational calorie labels is still highly context dependent.