Choosing the Light Meal
Real-time Aggregation of Calorie Information Reduces Meal Calories
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SUMMARY
Although numeric calorie labeling of individual items on restaurant menus has been implemented nationwide under an FDA mandate, prior research has generally not found significant effects of calorie labeling on calories ordered. Whereas past research testing calorie labeling has only applied the labels to individual items, the present research tests the impact of an innovation that can easily be implemented in online ordering: dynamic aggregation of calorie content to provide dynamic feedback about total calories in a meal.

Across four preregistered online studies and a field study (total N = 9048) we show that real-time, dynamic feedback about the total calorie content of meals guides consumers to order both fewer items and lower-calorie items, even when static guidelines and item-level calorie labels are already present. The reduction of calories is particularly strong when feedback is presented as dynamically updating traffic lights, prompting consumers to revise their orders more frequently.

This type of dynamic aggregation with traffic lights is significantly more effective in reducing calories than any other type of calorie labeling, featuring item labels, dynamic numeric aggregation, or text guidance with calorie recommendations. The results also suggest that aggregation requires dynamic presentation to achieve calorie reductions, because this type of feedback uniquely drives consumers to take actions: reconsider their selections and choose lower-calorie alternatives. We propose that this revision process represents a decision-making step that is unlikely in the absence of dynamic aggregated labels (i.e., static labels only), and that real-time feedback before purchase represents a novel intervention to guide consumer choice.

METHODS (STUDY 2)

RESULTS (STUDY 2)

MECHANISM (STUDY 2)

ROBUSTNESS & META-ANALYSIS
Results are robust to:
• Demographic characteristics (age, gender, income)
• Different subject pools (Study 1A vs. Study 1B)
• Presence / absence of normative numeric guideline (Study 3)
• Hypothetical vs. real choice (Study 4)

* Note: These conditions also featured a static numeric guideline on the screen.

Cohens’ d

 fictional item only

Traffic light item only

Traffic light item + dynamic numeric aggregation

Traffic light item + traffic light aggregation

Reference: numeric item labels only

Actions per item

Meal calories

Number of items

Moderated mediation analysis (baseline: numeric aggregation)

400 cal

200 cal

200 cal + 200 cal

200 cal + numeric aggregation

200 cal + traffic light aggregation

200 cal + traffic light + dynamic numeric aggregation

200 cal + traffic light + dynamic numeric aggregation

Cohens’ d relative to numeric item only