Evaluation outcomes of a targeted marketing and education intervention for a mobile food market

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Background

Intervention efforts to address food insecurity are focusing on a community’s lack of access to healthy food options in addition to the general emphasis on ensuring a community has enough to eat.

The Greater Pittsburgh Community Food Bank (GPCFB) collaborated with researchers from the University of Pittsburgh to spatially assess healthy food access in regional neighborhoods and the community’s desire for more options (Gary-Webb et al., 2018; Mendez et al., 2020). This research served as the basis for selecting sites for the Green Grocer, a mobile produce market housed in the GPCFB.

Objective

Using neighborhood samples from the serving areas of a mobile produce market in Allegheny County, PA, we aimed to assess how a marketing and educational intervention changed community members’ perceptions of their food environment and access therein, and increased purchases from the Green Grocer.

Methods

Pre- & Post-Intervention Surveys
- In-person approach of Green Grocer customers at 6 sites
- Researcher- or self-administered Qualtrics survey on tablet
- Follow-up via phone with all pre-intervention participants (N=105)
- $5 cash compensation for each survey completed

Marketing & Education Interventions
- Three intervention sites (Figure 1)
- Paper advertisements (e.g., door hangers, flyers, posters)
- Food tastings with recipe cards, designed and printed by the GPCFB

Purchase Data
- Exported from the Green Grocer’s point-of-sale system (Square, Inc., San Francisco, CA) for pre- and post-intervention periods

Measures
- Demographic information
- Frequency of eating fruits, vegetables, and prepared meals
- Food purchasing habits
- Perceptions of food environment (e.g., availability, quality)
- Perceptions of the Green Grocer (e.g., service, affordability)

Analyses
- Difference-in-difference comparisons of intervention and control sites with survey variables and purchase data

Results

Most Green Grocer customers are female (72.4%), Black (48.6%), not coupled (75.2%), with a high school education (96.2%), and earning less than $37,140 annually (72.4%).

Customers largely reported being satisfied with the mobile market, with minimal difference between sites and little change between assessments.

Using an analytic sample (n=64) of complete pre- and post-intervention survey responses, we detected some change in Green Grocer engagement, eating behaviors, and perceptions about their food environment, but differences between control and intervention sites were largely non-significant.

Using purchase data from pre- and post-intervention periods, we saw some increases in spending at intervention sites (Figure 2), but regression analyses showed no statistically significant changes in numbers of transactions or gross spending amounts between control and intervention sites.

Conclusions

Customers at all study sites reported high satisfaction with the Green Grocer.

The main significant finding was that customers at intervention sites were less likely to report having many opportunities to purchase fast food in their neighborhood (OR: 0.32), which may indicate how marketing and education efforts change community perceptions.

The minimal change in spending after the intervention may be attributable to seasonal differences, with colder weather during the post-intervention period.

Study limitations included small sample sizes and reduced response to the follow-up survey.

Figure 1. Map of Pennsylvania with inset of Allegheny County, indicating the location of six Green Grocer sites and their designation as control or intervention sites.

Figure 2. Spending in dollars at Green Grocer sites during pre- and post-intervention periods.

Figure 3. The Green Grocer program’s only truck in operation; photo provided by staff at the GPCFB.