Systematic Review

Grocery Store (or Supermarket) Tours as an Effective Nutrition Education Medium: A Systematic Review
Cassandra J. Nikolaus, BS1; Henna Muzaffar, PhD, RD2; Sharon M. Nickols-Richardson, PhD, RD2

ABSTRACT
Objective: To evaluate evidence regarding grocery store tours as an effective nutrition education medium for improving nutrition knowledge and food-related behaviors.

Design: A systematic literature review of studies published from 1984 to 2015 concerning grocery store (or supermarket) tours and impact on nutrition knowledge and behaviors. Three investigators independently reviewed articles, extracted details, and assessed the quality of each study.

Results: Of 307 citations identified, 8 were reviewed and 6 were of neutral quality. Increases in nutrition knowledge were reported in 4 studies, as evaluated by investigator-designed quizzes, with short intervals between tours and assessments. Six programs assessed behavior change using subjective reports or objective purchasing behavior measures; 2 studies did not perform statistical analyses. The 6 studies that reported positive health-related outcomes had varying topics, tour lengths, and target audiences.

Conclusions and Implications: Grocery store tours are increasingly used as an avenue for nutrition education to improve knowledge and/or alter food selection behaviors and may result in positive outcomes, but it is unknown whether these outcomes persist for longer than 3 months after the tour and whether there are common attributes of effective grocery store tours. More rigorous studies with uniform methodology in study design and outcome measures are needed to confirm the effectiveness of supermarket tours.

Key Words: grocery store, health behaviors, nutrition education, supermarket, tour

INTRODUCTION
Despite a well-established link between healthful dietary patterns and lower risk of chronic disease, many adults and children fall short of dietary recommendations that promote health. One activity that may facilitate the achievement of healthful dietary patterns is grocery shopping for healthy foods. Interestingly, the average number of trips to a supermarket in the US has declined from 2.2 trips/wk in 2010 to 1.5 in 2015, likely owing to a continued increase in eating away from home and greater use of convenience foods. Participants in a recent focus group indicated that price and knowledge about the risks and benefits of food choices were important motivators for healthful grocery purchasing choices.

In addition, 53% to 62% of US consumers report at least sometimes using nutrition facts labels, but many perceive actual label comprehension and use for product comparisons to be confusing and difficult skills. Researchers and policy makers have called for strategies to increase nutrition label use and comprehension.

One method to address consumers’ grocery shopping practices and increase nutrition label comprehension is facilitator-led grocery store (or supermarket) tours. Such structured tours take small groups through a grocery store to teach participants strategies and skills that enable healthful food purchasing choices. Dietitian Leni Reed is credited with beginning supermarket tours in the early 1980s, as she took individuals out of traditional classrooms and brought them into stores for experiential learning. Based on the practicality of grocery stores containing tangible food items and providing contextual learning environments, supermarket tours have flourished as a nutrition education medium. However, the effectiveness of grocery store tours has not been evaluated systematically.

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Conflict of Interest Disclosure: The authors’ conflict of interest disclosures can be found online with this article on www.jneb.org.
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http://dx.doi.org/10.1016/j.jneb.2016.05.016
A recent systematic review summarized many supermarket-based interventions. Only 2 grocery store tours were included, and findings were pooled with other assorted point-of-purchase interventions that used shelf markers or printed brochures as the primary intervention. In contrast, the current review focuses only on outcomes from in-person grocery store tours to examine the effectiveness of contextual learning on consumer knowledge and behaviors.

In the current review, a supermarket tour or grocery store tour is operationally defined as the dissemination of nutrition information and/or food shopping strategies by an educator to a small group of individuals while moving from aisle to aisle within a market that sells a wide variety of food products. Using this definition, 3 primary research questions guided this review: (1) Do grocery store tours lead to knowledge gains? If so, are increases in knowledge retained ≥ 3 months after the intervention? (2) Do grocery store tours lead to behavior change? If so, do these changes remain ≥ 3 months after the intervention? (3) What attributes of grocery store tours are associated with health-related outcomes being positively met? Three months was considered a desirable follow-up interval based on the Transtheoretical Model of behavior change, which considers this to be an appropriate estimate for the transition from an action to a maintenance stage of change.

**METHODS**

**Search Strategy**

One graduate student of nutritional sciences (CJN) and 2 registered dietitian investigators (HM and SNR) conducted a systematic search and review of the literature published between December, 2014 and June, 2015, using guidelines published by the Centre for Reviews and Dissemination. Two Internet databases were used to identify resources (EBSCO Host Academic Search Complete and the Springer Standard Collection, which index over 14,000 journals and abstracts). Search terms, used in varying combinations, included “tour,” “nutrition,” “grocery,” “education,” “supermarket,” and “grocery store.” In addition, a manual search of each relevant article’s references was conducted, and a cited reference search based on all related articles was performed to expand the scope to the latest publications via Web of Science.

For inclusion, resources had to have been published in English as a research-based article or abstract between January, 1984 and April, 2015, and had to have used a supermarket tour as a nutrition education method and reported outcomes directly attributable to the tour. All types of research designs were included. Contact with authors of relevant published papers was prohibited after the review was initiated, to avoid potential bias. To provide a comprehensive review of the literature, studies were not excluded based on the type of grocer, size of the sample, target audience, specific focus of the tour’s subject matter, or study design. Abstracts were not included owing to inadequate details for full data extraction and the inability to assess quality. A total of 307 citations were identified. After duplicates were removed, 241 records were excluded based on their title or abstract. One relevant article was not included because of the inability to locate research details beyond the title. The lead investigator examined 32 full-text publications. Articles were excluded if no knowledge or behavior outcome data were reported, if the tour did not match the operational definition provided, or if the supermarket tour had a minor role in the intervention and the outcomes could not be linked solely to the tour. Eight studies were included after exclusion criteria were applied (Figure 1) and were critically reviewed by each of 3 investigators, during which details were extracted.

**Data Extraction and Quality Assessment**

Data related to study characteristics, participant characteristics, intervention, and setting, as well as outcome data and results were extracted from each study in the final critical review. Although the focus was on nutrition knowledge and behavior, all outcomes were examined and evaluated. Each investigator independently performed data extractions, and component qualities were agreed upon after the authors discussed any discrepancies.

![Figure 1. Flow diagram depicting study selection for the systematic literature review on grocery store (supermarket) tours.](image-url)
Each study was classified as A, B, C, or D, according to the strength of the research design, based on the Evidence Analysis Manual’s hierarchy and classification system, to provide an initial snapshot of its level of evidence. A quality criteria checklist was used to rate each study as negative, neutral, or positive. These ratings were based on answers to 4 relevance questions and 10 validity questions as determined by details reported in each article. If all relevance and most validity questions were positively answered as yes, an article was rated positive. In contrast, negative ratings were assigned when a minority of validity questions was answered positively, and neutral ratings were assigned when there was a mixture of positive and negative answers. Three investigators independently conducted quality assessments for each full article, and final quality ratings were agreed upon after any discrepancies were discussed. Research characteristics and quality ratings for each article are displayed in the Table.

Unique measurement tools used across studies and insufficient reporting of statistical analyses prevented a meta-analysis. Thus, a descriptive synthesis that explored themes and limitations of the current body of research was conducted. Summaries regarding knowledge and behavior outcomes along with theoretical foundations of studies were prepared. The discussion of study characteristics associated with positive health outcomes includes only studies that reported statistical analyses, owing to limitations of implying significance without analyses.

RESULTS

Six studies were non-randomized non-controlled trials with a D classification and 2 were non-randomized controlled trials with a C classification. Quality assessments of the 8 articles revealed 1 positive rating, 6 neutral, and 1 negative. Some investigations did not explicitly report participant gender. Of studies that did, most hosted tours for exclusively female participants. No studies reported the socioeconomic status of tour participants, but low socioeconomic status was inferred in 1 study that conducted tours with Special Supplemental Nutrition Program for Women, Infants, and Children participants. The 2 most common foci for grocery store tours were general healthful dietary behaviors and cardiac health-related dietary behaviors.

Study Designs

Six studies used a non-controlled trial research design in which an intervention group was the only source of data. Pre-post tests were used to assess participant outcomes in 4 of these studies, whereas the other 2 included only posttests. Two programs used naturally occurring control groups in their recruited participant pool to compare with their tour group. None of the studies cited sample size goals based on power analyses. Sample sizes ranged from 9 participants to 947. Of 7 studies that reported the size of tour groups, the majority had groups of ≤ 15. In addition, statistical analyses were not presented in 2 of the 8 articles.

Knowledge

Five of the studies measured knowledge change in participants. Of these found that participants had an increase in knowledge after the tour. Investigator-designed, topic-specific, multiple-question quizzes were the most common method for knowledge assessment. These quizzes were given to participants before and after attending the tour, to assess change. One study assessed knowledge change based on participants’ written reports of information they had gained after the tour in an open-answer format, and increased knowledge was reported based on the number of individuals who opted to write in an answer. None of the articles reported the validity or reliability of these instruments.

Each study that assessed knowledge chose to measure this at unique time intervals after the tour. One study assessed knowledge gain immediately after the tour without additional follow-up. Other studies assessed knowledge with a delayed follow-up ranging from 1 week to 1 month and even up to 2 months after the tour. None of the studies that measured knowledge assessed retention ≥ 3 months after the tour, the amount of time that would place individuals in transition from an action to a maintenance stage of behavioral change.

Behavior

Behavior assessments were collected in 6 of the 8 studies. Measurement tools were widely heterogeneous among studies, but most assessed behavior change with subjective self-reports from participants. Self-report measures varied from general reports of “increasing variety in diets” or “reducing fat intake” to reported frequency of using strategies presented or purchasing products highlighted in the tour. One study assessed purchasing behavior change with objective measurements, by using grocery store loyalty card purchasing data for a 7-week period before the tour and a 7-week period after the tour. Neither the validity nor the reliability of assessment instruments was addressed.

All 6 studies that assessed behavior change reported that participants had at least 1 positive behavior change after attending the grocery store tours. However, few studies described data analyses. In addition, the interval between the grocery tour and follow-up with participants varied among studies. The shortest follow-up interval was 1 month after the tour and the longest interval was 3 months after the tour. The study using loyalty cards was unclear regarding the interval between the tour and the follow-up data collection; it simply reported that data were collected for a 7-week period.

Attributes of Tours With Positive Outcomes

The 8 studies measured additional health-related outcomes, such as participant intentions, attitudes, dietary behavior, and purchasing behaviors. The current researchers extracted characteristics from the 6 articles that reported statistical analyses. Of these 6 studies, 5 found positive change in at least 1 health-related outcome. The topics of these tours varied, audiences differed by age and gender, and the length of tours ranged from 1.5-hour session to 3 1-hour sessions. Increased knowledge and behavior change were reported after adult women of low
<table>
<thead>
<tr>
<th>Reference (Research Design, Class, Quality Rating)</th>
<th>Participant Sample Size and Descriptive Characteristics</th>
<th>Intervention Title, Recruiting, Theoretical Basis, Design, Objective, Tour Length, Basic Components</th>
<th>Primary Outcomes: Tool Characteristics and Timing</th>
<th>Additional Outcomes: Tool Characteristics and Timing</th>
<th>Primary and Additional Results</th>
</tr>
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<tbody>
<tr>
<td>Baic and Thompson (2007)23 Design: Non-controlled trial Class: D Neutral</td>
<td>Sample size: n = 58 participants; n = 10 follow-up survey recipients and 9 returned Descriptive characteristics: Equal amount of men and women</td>
<td>Heart Healthy Tours Recruiting: In-store posters, local print media, health professional referrals Theoretical basis: NR Objective: Assessment of feasibility and acceptability Tour periods: n = 1 Tour length: NR Tour size: 5–15 attendees Basic components: Focused on heart-healthy foods; label education; food preparation</td>
<td>Knowledge: Assessed n = 10 clients recruited from health professionals via anonymous mail survey; 1-mo posttour Behavior: Measured with that survey</td>
<td>Interest: 1 question asked to n = 48 posttour Information novelty: 1 question asked to n = 48 posttour</td>
<td>Primary Results Knowledge: New information was reported in open-answer format (n = 10) Behavior: 100% (n = 9) reported increasing diet variety, 89% (n = 9) felt it was easier to follow healthy diet, (n = 9) made dietary changes Additional Results Interest: 98% (n = 48) found tour interesting Information novelty: 75% (n = 48) reported learning new information</td>
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| Carson and Hedl (1998)26 Design: Non-randomized controlled trial Class: C Neutral | Sample size: n = 315 women completed pretest; n = 128 women completed pretest and attended tour(s); n = 114 women attended tour(s) and completed 2-month follow-up Descriptive characteristics: Average age 28 y, parent of 2 children, unemployed with some high school education, Majority Caucasian and WIC recipients | Smart Shoppers Tour Recruiting: Peer-leaders solicited participants from WIC clinics and other assistance programs Theoretical basis: Theory of Planned Behavior and Self-efficacy Theory Objective: Increase healthy food purchases using labels and unit costs (facilitated by changes in attitudes, self-efficacy, and knowledge) Tour periods: n = 3 Tour length: 1 h Tour size: NR | Knowledge: 16-question test with word/picture matching; at recruitment and 2 mo after tour Behavior: 2 items, agree/disagree to statements: I use the nutrition label and I compare unit cost; home food inventory of tour-specific foods at recruitment and 2 months after tour | Attitude: 2 items, agree/disagree to: Healthy foods do not taste good, and Healthy foods cost more, at recruitment and 2 mo after tour Intention: 5 items, agree/disagree to statements about intending to buy healthy foods, at recruitment and 2 mo after tour Self-efficacy: 1 question asked, whether agree/disagree to: Have skills to buy healthy foods for family, at recruitment and 2 mo after tour | Primary Results Knowledge: Mean quiz scores increased 8% from 11.96 (of 16) to 12.89, with effect size of 0.39 (P < .001) Behavior: Increased nutrition label use (P = .005); no change in unit cost use Additional Results Attitudes: Increased disagreement that healthy foods cost more (P = .007) and no change regarding attitude that healthy foods taste good Intention: Increased (continued)
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<td>Crawford and Kalina (1993)(^1) Design: Non-controlled trial Class: D Negative</td>
<td>Sample size: (n = 48) participants Descriptive characteristics: NR</td>
<td><em>The Shop Smart Tour</em> Recruiting: In-store advertisements, mailed fliers, word-of-mouth Theoretical basis: NR Objective: Increase food choices that decrease risk of nutrition-related diseases Tour periods: (n = 1) Tour length: 1.5 h Tour size: 8–10 attendees Basic components: Based on Supermarket Nutrition Education Kit; label education; alternative food products, cost-effectiveness; food preparation</td>
<td>Knowledge: NR Behavior: Assessment whether dietary change intention had been realized. Purchasing behavior assessed 3-mo posttour</td>
<td>Intention: Assessed intentions regarding specific behaviors and food groups posttour</td>
<td>Primary Results Behavior: People generally made intended dietary changes with exception of decreasing dietary fat. Greater number of products were being purchased Additional Results Intention: Expressed intentions included: 33.3% read food labels, 29.2% reduced dietary fat and 22.9% reduced red meat consumption. 41.7% incorporated low-fat cheese/yogurt into diet, 29.2% incorporated legumes, and 22.9% incorporated whole grains</td>
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<td>Lafferty et al (2006)(^2) Design: Non-controlled trial Class: D Neutral</td>
<td>Sample size: (n = 25) students (grades 4–5) and (n = 27) parents and children No title Recruiting: NR Theoretical basis: NR Objective: Improve Knowledge: Asked label terms and location of whole-grain products within store pre- and posttour Intention: Assessed intentions to ask for parents to purchase whole-grain products</td>
<td>Primary Results Knowledge: Parents and children both significantly increased knowledge,</td>
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Descriptive characteristics: NR

knowledge of and ability to identify whole-grain products
Tour periods: n = 1
Tour length: NR
Tour size: 25–27 attendees
Basic components: Lecture before tour, focused on identifying whole-grain products; Student group included taste-test; Parent–child group had package term activity and recipes provided

posttour Behavior: NR

(student group) or intentions to purchase products (parent–child group); pre- and posttour
Skills: Ability to differentiate whole-grain from refined-grain products based on ingredient lists and nutrition facts panels, pre- and posttour

but in different areas (P < .01 overall)

Additional Results
Intention: Parents had greater intention to purchase children’s requested whole-grain products (P NR)
Skills: Parents improved ability to identify whole-grain products (P < .003)

Design: Non-controlled trial
Class: D
Neutral

Sample size: n = 459 participants gave evaluation; n = 223 provided purchasing information
Descriptive characteristics: NR

Healthy Heart Store Tours
Recruiting: Posters and announcements in stores, advertisements in local press and in offices
Theoretical basis: NR
Objective: Provide tour for those interested in heart health
Tour periods: n = 1
Tour length: 1.5 h
Tour size: ≤ 10 attendees
Basic components: 15-min lecture before tour; emphasis on specific aisles and products, followed by formal question and answer period

Knowledge: NR
Behavior: Purchasing behavior evaluated with data from loyalty card; 7-wk period before and 7-wk period after tour
Motivation for attendance: 1 question asked participants why they chose to attend, posttour

Primary Results
Behavior: Increase in healthier spread purchases by 4% (P < .05) and fruit and vegetable purchases decreased by 5% (P NR)

Additional Results
Motivation for attendance:
Most frequent reason (42%) was health problem present in participants or someone they knew

Silzer et al (1994)27
Design: Non-randomized controlled trial
Class: C
Positive

Sample size: n = 61 females in treatment group, 12 lost to follow-up (n = 49 final follow-up treatment group); n = 63 females in control group
Descriptive characteristics: Majority aged 30–39 y with at least high school education

Supermarket Safari Nutrition Education Tours
Recruiting: NR; participants called health department
Theoretical basis: NR
Objective: Identify changes in food selection and preparation after tour, compared with control
Tour periods: n = 1

Knowledge: NR
Behavior: 16-question skill and behavior checklist; frequency and yes/no/do not know format asked types of food purchased, information read on labels, and food preparation practices;

None

Primary Results
Behaviors: Gain in behavior survey score was significantly higher in treatment group compared with control group (P < .001)

Additional Results
None

(continued)
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<td>Smith and Kalina (2004) Design: Non-controlled trial Class: D Neutral</td>
<td>Sample size: n = 947 participants; n = 496 returned pre and post attitude surveys; n = 45 students (in grade 3 classes) returned knowledge quizzes Descriptive characteristics: 68% did not report ethnicity and 11% reported special dietary needs</td>
<td><em>Kids Shop Smart Tours</em>** Recruiting: NR Theoretical basis: NR Objective: Impact attitudes toward trying new variety of foods and develop ability to recognize 4 food groups of Canada’s Food Guide to Healthy Eating Tour periods: NR Tour length: NR Tour size: 20 attendees Basic components: NR, described in separate article not accessible at time of review</td>
<td>Knowledge: Quiz with questions about 4 food groups and examples that would be in each, asked to treatment and control grade 3 classes 1 week after tour Behavior: NR</td>
<td>Attitude: Questions about attitude regarding trying new foods and eating a variety of foods with a Likert-type scale asked to caregivers, 1 wk pre- and posttour</td>
<td><strong>Primary Results</strong> Knowledge: Average scores (out of 20) were 10.24 for treatment group and 11.4 for control group (difference not significant) <strong>Additional Results</strong> Attitude: Regarding trying new foods, pretour mean of 4.6 (out of 7) decreased to 4.59 posttour, (change not significant). Pretour mean regarding eating variety of foods was 4.54 and increased to 4.61 posttour (change not significant)</td>
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<td>van Assema et al (1998) Design: Non-controlled trial Class: D Neutral</td>
<td>Sample size: n = 419 given posttour assessment; n = 145 given 5- to 7-wk follow-up behavior assessment; n = 310 given pretour knowledge assessment; n = 305 given posttour knowledge assessment;</td>
<td>No title, part of <em>Beware of Fat</em> campaign Recruiting: Press conference, press releases, local newspaper advertisements, posters and pamphlets; local groups were contacted</td>
<td>Knowledge: 9-question quiz, assessed at pre- and posttour and 5- to 7-week follow-up phone call Behavior: Questions on fat intake reduction; 5- to 7-week follow-up phone call</td>
<td>Intention: Questions on intentions to reduce fat intake, posttour Awareness: Questions on awareness of fat intake, posttour</td>
<td><strong>Primary Results</strong> Knowledge: Student group increased from 5.3 to 6.4 posttour (<em>P</em> &lt; .01) and 6.2 at follow-up (<em>P</em> NR). Adult scores increased from 5.8 to 6.8 posttour (<em>P</em> &lt; .01) and 6.6 at follow-up (<em>P</em> NR).</td>
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income completed 3 1-hour tours. Increase in knowledge was reported by parents and children after attending a tour focused on whole grains. A cardiac dietary pattern was emphasized in a 1.5-hour tour that led to greater purchasing of heart-healthy foods among participants (the characteristics of which were not reported). Adult women reported positive behavior change after attending a 2-hour tour on general healthy dietary behaviors. Children and adults reported a statistically significant increase in knowledge after completing a 1.5-hour grocery store tour focused on low-fat foods. Additional details of each study are found in the Table.

Theoretical Basis

Only 1 article mentioned a theoretical basis for the grocery store tour. The Smart Shoppers Tour was based on the Theory of Planned Behavior and Self-efficacy Theory with the goal "to increase the purchase of healthy foods by mothers on limited incomes (p. 323)." This study found positive changes in attitudes and intentions related to tour goals. Although they did not report the theoretical basis, 3 additional studies measured intentions and reported positive change in participants after attending tours. Participant attitudes were measured in 1 additional study, but no change was found after participants attended a tour. Of the 4 studies that found positive changes in these theoretical mediators of dietary behavior change, all reported additional positive changes when they measured participant knowledge or behavior.

**DISCUSSION**

The objective of this review was to identify attributes of grocery store tours that promote and sustain improvements in knowledge and behavior change. Low-quality studies prevented the ability to answer the primary research questions. Limited evidence suggests that grocery store tours have the potential to increase knowledge and improve behaviors, but such studies are unique regarding multiple design parameters, and commonalities across studies do not exist to guide practices adequately at present. When
measured, theoretical mediators of behavior change were positively changed, which suggests that foundations in behavior change theory would be recommended when creating future supermarket tours. To develop high-quality evidence of effective practices, valid and reliable methodological tools and high-quality study designs should be used in the future. Supermarket tours are a unique mode of education that requires collaboration with grocers as well as the transportation of educators and participants to an atypical site, and are often conducted with small-size groups. Their distinct requirements and popular use warrant the demand to produce evidence of their effectiveness.

The most salient observation from this review and synthesis of studies is the lack of reported qualities commonly anticipated in scientific articles. Two investigations did not report statistical analyses, and thus their results were only descriptive in nature with limited ability to make inferences. None of the publications included statements acknowledging institutional review for research involving humans. One research team that partnered with an elementary school mentioned approval from an education director. This suggests that tours were designed for programmatic and practical purposes, with lesser emphasis on effective systematic assessment. None of the articles addressed the reliability and validity of instruments, which cannot be assumed. No studies reported power analyses for sample size needs. The studies performed with small samples were assumed to be underpowered, and effects would be more difficult to detect. Finally, the lack of control groups was an inherent limitation of the non-controlled trial design used by the majority of studies included in this review. No study used a study design with an A- or B-quality classification.

Increased knowledge was reported in several studies. However, each assessment was custom-created for the tours’ specific focus, and thus was inconsistent across interventions. Therefore, synthesis of results should be made with caution. The short intervals between tour and assessment should also be considered, because a lack of longer-term follow-up prevented the ability to address the impact of knowledge retention beyond 3 months after the tour.

Retention of participant knowledge gain beyond the short term cannot be assumed without longer-term testing.

In all studies that assessed behavior, participants had at least 1 positive behavior change after attending a supermarket tour. However, concerns regarding social-desirability bias were present with many of the studies using self-report measures. The corroborating positive results from the study that used objective purchasing data from receipts and loyalty card information lent further evidence to suggest that positive behavior change may have resulted from attending grocery store tours. However, the longest post-tour follow-up of 3 months was in a study that did not report statistical analyses, so sustained change has yet to be determined indisputably.

Constraints of included studies made it difficult to develop strong conclusions regarding characteristics that define an effective grocery store tour. Identifying tour qualities related to any of the additional outcomes was not feasible with the current research and the limited number of high-quality studies available. Studies that found significant positive health-related outcomes did not differ appreciably from studies that did not report these outcomes. This indicates that qualities related to successful change in positive health-related factors may be found in unreported or unmeasured facets of such interventions.

This review of the literature had recognized limitations. It is possible that inclusion of abstracts and unpublished work would have better informed readers of the full extent of research on this topic.

### Identification of Need
- Conduct a community nutrition needs assessment to identify whether a grocery store tour is necessary (and what type of nutrition education intervention is desired) for the target audience

### Tour Components
- When available and appropriate for the target audience, use a previously existing curriculum to facilitate comparability of results across previous studies and program reports of grocery store tours
- If an appropriate curriculum is not available:
  - Ground a new tour in a theoretical framework of behavioral change
  - Develop the tour based on appropriate dietary guidance for the target audience
- Establish content validity with expert review

### Research Design
- Apply a strong design, such as randomized controlled trial or clustered randomized trial, to optimize strength of outcomes and conclusions from the grocery store tour
- Conduct a power analysis to identify the sample size needed to detect the tour’s effect
- Obtain approval for research with human participants before initiating the tour
- Conduct statistical analyses, beyond simply reporting of participant characteristics

### Assessment
- Tailor the evaluation to the dose and content of the tour
- Measure outcomes using tools with established validity and reliability
- If valid and reliable measurement tools or techniques are not available:
  - Develop and pilot test new assessment materials to demonstrate validity and reliability of these instruments
- Follow-up with participants at least three months after the tour to evaluate retention of change on outcome measures

### Evaluation and Dissemination
- Statistical significance and tests should be reported with enough detail to be replicable
- Share the findings of the intervention in appropriate peer-reviewed avenues

### Additional Resources

**Figure 2.** Methodological considerations and recommendations for designing future grocery store (or supermarket) tour interventions.
the research questions. Only citations written in English were included in the review; this was considered appropriate because grocery store tours may have a different cultural role when performed in unique global cultures. Positive aspects of the review, such as inclusion of all study designs and the range of publication dates, provided a comprehensive synthesis of published work on supermarket tours.

Based on the limited evidence, at this time it would be unwise to develop a theory of how or whether supermarket tours are effective in promoting sustained positive health-related change. However, results suggesting positive change in attitudes and intentions along with knowledge and behavior changes suggested that the Theory of Planned Behavior may be a desirable model that should be assessed with stronger experimental designs. Although not reported explicitly by name in the current literature, Social Cognitive Theory is another model that could mediate the impact of supermarket tours. Tours may influence an individual’s self-efficacy related to grocery shopping behaviors, because observational learning takes place in the contextual grocery store environment.

ACKNOWLEDGMENTS

This material is based on work that is supported by the National Institute of Food and Agriculture, US Department of Agriculture, under Award No. 2012-68001-22032. The authors thank the many program developers and research teams for pioneering work in this field. Their contributions in the use of supermarkets as a novel teaching environment have provided a foundation for additional avenues for nutrition education of consumers.

REFERENCES


CONFLICT OF INTEREST

The first author was supported by a Kraft Human Nutrition Fellowship through the Division of Nutritional Sciences at the University of Illinois, at the time of this review. The senior author has received research funding from the US Department of Agriculture, National Institute of Food and Agriculture; the Bell Institute of Nutrition and Health, General Mills, Inc; Hershey Foods; and the Dairy Management Institute within the past 3 years. The other author has not stated any conflicts of interest.