Evaluation and Program Planning 60 (2017) 72–80

Contents lists available at ScienceDirect

Evaluation and Program Planning

journal homepage: www.elsevier.com/locate/evalprogplan

# Who's adopting the smarter lunchroom approach? Individual characteristics of innovative food service directors

Gnel Gabrielyan, PhD, Research Associate[a,b], Drew S. Hanks, PhD, Assistant Professor[a,c], Kathryn Hoy, MFN, RD, CDN, Manager[d], David R. Just, PhD, Professor[a,e], Brian Wansink, PhD, Professor of Marketing[a,*]

[a] Cornell University, 475 Warren Hall, Ithaca, NY 14853, USA
[b] Charles H. Dyson School of Applied Economics and Management, Cornell University, 475 Warren Hall, Ithaca, NY 14853, USA
[c] Ohio State University, Columbus, OH, USA
[d] Health Promotion, Education, and Behavior, University of South Carolina, SC 29208, USA
[e] Charles H. Dyson School of Applied Economics, Cornell University, 475 Warren Hall, Ithaca, NY 14853, USA

ARTICLE INFO

*Article history:*
Received 3 February 2016
Received in revised form 23 August 2016
Accepted 31 August 2016
Available online 11 September 2016

*Keywords:*
Choice behavior
Food service directors
Innovation
School nutrition

ABSTRACT

School cafeterias and, subsequently, food service directors (FSDs) play a vital role in feeding children in the U.S. This study investigates which FSDs with different characteristics and organizational affiliations are most willing to embrace and implement new programs in their cafeterias.

In 2014 we surveyed a representative sample of 8143 school FSDs across the U.S. regarding their knowledge and use of innovative methods that encourage children to select healthy food options. Nearly all of the surveyed FSDs (93%) are aware of behavioral strategies to promote healthier eating in school lunchrooms, and nearly 93% report having made at least one change in their lunchroom. Male FSDs are more likely to be aware of new programs, though they are less likely to adopt them relative to female FSDs. In addition, membership in a professional organization increases awareness as well as the number of changes made by 0.14 ($p < 0.01$). Finally, 22% of all respondents say they know about the Smarter Lunchrooms approach, a set of research-based lunchroom behavioral strategies that positively influence children to select healthy foods.

The findings highlight the importance of participation in professional associations which provide career-building activities for school FSDs increasing awareness and adoption of innovative approaches to motivate children to eat the nutritious foods. Given these findings, there is reason for policy makers and school districts to consider allocating funds to encourage FSDs to engage more fully in professional association meetings and activities.



## 1. Introduction

Children are among the most important segments of the population to educate and encourage towards a healthier lifestyle. Eating behaviors developed at younger ages persist into adulthood (Birch, 1999; Westenhoefer, 2002), and childhood obesity strongly predicts adult obesity (Schaub & Marian, 2011). Moreover, intake of nutritionally rich foods in children is important for physical development, academic achievement, and overall health (Guthrie & Buzby, 2002). Much of the focus has been on encouraging children to eat more fruits and vegetables which can help maintain healthy weight (Rolls, Ello-Martin, & Tohill, 2004). Given the large number of children eating a school lunch and the importance of developing proper eating habits at younger ages (Birch, 1999; Eliassen, 2011), school cafeterias are prime opportunity to encourage children to take and eat relatively nutritious foods, and, specifically, fruits and vegetables.

Approximately 31.7 million children participate in the National School Lunch Program (NSLP) (Fox & Condon, 2012). Despite improved school lunch standards, children still do not eat anywhere near the recommended number of servings of fruits and vegetables (Briefel, Wilson, & Gleason, 2009; Kraak, Story, & Swinburn, 2013). While federal state and local policies regulate what foods can be offered, school food service directors (FSDs) manage the day-to-day operations in school cafeterias, and are

* Corresponding author.
*E-mail addresses:* hanks.46@osu.edu (D.S. Hanks), kathryn.i.hoy@gmail.com (K. Hoy), drj3@cornell.edu (D.R. Just), fblsubmissions@cornell.edu (B. Wansink).

http://dx.doi.org/10.1016/j.evalprogplan.2016.08.023
0149-7189/

primarily responsible for preparing menus, ordering, preparing, and distributing the foods (Osganian et al., 1996). FSDs have tremendous opportunity to influence the eating environment and the overall experience students have in the school lunchroom which for the most part fall outside of the school lunch regulations.

While the USDA places some training requirements on FSDs, along with other school nutrition-related personnel (U.S. Department of Agriculture: Food and Nutrition Service, 2015), they typically have a significant amount of autonomy. FSDs usually report directly to school superintendents or act as assistant superintendents themselves (School Nutrition Association, 2015). A high percentage of FSDs participate in setting local school food policies (French, Story, Fulkerson, & Gerlach, 2003). There is significant interest among FSDs, to participate in development of nutritional policies at the state or federal levels (McDonnell, Probart, Weirich, Hartman, & Bailey-Davis, 2006; Roberts, Pobocik, Deek, Besgrove, & Prostine, 2009) perhaps due to their significant practical experience that can come into conflict with the views of policymakers.

Unfortunately, FSDs with less experience are slow to adopt new techniques (Johnson & Chambers, 2000) designed to encourage children to take and eat healthier meals. FSDs do respond to training and external suggestions in regards to their own beliefs and practices (Lytle et al., 2006). The purpose of this study is to identify the characteristics of FSDs who are early adopters of new and innovative methods designed to encourage healthy behaviors in school lunchrooms and how career building activities, such as professional training, affect this adoption.

Adoption of new technologies in food service can be costly and will often occur only when it becomes necessary for survival to meet regulatory demands (Oronsky & Chathoth, 2007). Successful dining establishments are characterized by innovation (Jogaratnam, Tse, & Olsen, 1999), and restrictive regulations can often interfere with innovation, leading to lower sales and sales growth (Jogaratnam, 2002). Like many other food service establishments, school cafeterias compete for customers (children can bring a lunch, or decide to eat after school) and face an environment with very tight budgets. Additionally, in order to receive subsidies for NSLP meals these FSDs are required to comply with strict regulations on the meals they offer while at the same time satisfy taste preference of children. This environment poses a challenge for FSDs to innovate or even consider adopting new methods that might increase student satisfaction or improve the healthfulness of the lunches.

While there has been a great deal of discussion regarding the most effective methods to address school nutrition (Clark, Goyder, Bissell, Blank, & Peters, 2007; Schwartz, 2007), there is strong evidence indicating the power of the presentation and placement of food in encouraging more nutritious choices (Wansink, 2014). Such behavioral methods are often low cost both in terms of money and labor and can be easily adopted by FSDs to increase nutrient intake and satisfy their student clients (Hanks, Just, Smith et al., 2012). Small changes that do not require substantial investment can change participants' consumption behavior (Just, 2009; Meyers & Stunkard, 1980; Wansink, Just, Hanks, & Smith, 2013) and increase the desirability of healthier foods (Volkow et al., 2002) often without altering the actual food choices available (Wansink 2004). The Smarter Lunchrooms (SL) approach is a set of research based environmental principles designed to be easily implemented in school cafeterias to encourage more nutritious choices among the children.

The SL approach uses behavioral economics, psychology, and food marketing to change food consumption habits with an emphasis on improving the diets and health of participants in the National School Lunch Program (Just, Mancino, & Wansink, 2007). The general idea of the program is to make healthier options more convenient, visible and appealing than less healthy options, subsequently increasing the probability of choosing those healthier options. The effectiveness and persistence of different SL techniques have been analyzed in several studies. One study shows that a SL makeover including a combination of several environmental changes increased fruit and vegetable consumption by 18% and 25%, respectively (Hanks, Just, & Wansink, 2012). Others found that using attractive names for healthy food options in a cafeteria significantly increased the consumption of these food items by 16% with a long lasting effect (Wansink, Just, Payne, & Klinger, 2012).

Sponsored by USDA and championed by the current administration, there has been some evidence of wide dissemination and adoption of SL. This may be in part due to the inclusion of SL in the Healthier US School Challenge (HUSSC) criteria, a program offering monetary rewards to schools that comply with certain health and nutrition standards. Many FSDs are primarily trained in management or nutrition and may find such behavioral approaches foreign. No prior research has been done to determine the factors that impact the adoption of the SL approach.

In this article, we use results from a nationally representative survey of FSDs to identify reasons why they implemented behavioral changes in their cafeterias. While prior research shows that SL techniques induce a significant increase in fruit, vegetable and white milk consumption and a decrease in high calorie product intake, this is of little consequence if schools in need of improvement are not willing to adopt the techniques (Hanks, Just, Wansink et al., 2012, 2013; Just & Wansink, 2009).

## 2. Method

### 2.1. Analysis plan

#### 2.1.1. Research questions

The survey for this study was designed to identify specific FSD characteristics that impact the adoption of new techniques to facilitate healthy food choice in school cafeterias. Data were obtained from a survey administered from March to May 2014 to a nationally representative sample of FSDs. The survey questions were further divided into three main groups: 1) FSD characteristics (gender, years of experience, FSDs' professional organizational affiliations, number of environmental/behavioral techniques used); 2) school characteristics (grade levels, number of students, percent of students qualifying for a free and reduced meals, urban index); and 3) SL engagement (awareness of SL approach, participation in SL training, used a SL proposed change).

The survey included questions asking FSDs to report lunchroom on whether some specific strategies were used, including: whether fresh fruit is available within 3 feet of the cash register, how the fresh fruit is displayed, whether attractive names were used to describe vegetables, whether white milk was easier to reach than other beverages, whether white milk comprised one-third of all beverages in the cafeteria's milk case, whether there was a grab-and-go reimbursable meal available, and whether the first entrée offered on the lunch line was the highlighted entrée of the day.

### 2.2. Data sources

This study was approved by the University Institutional Review Board. The relevance and clarity of the questions and overall effectiveness of the survey were pre-tested with FSDs local to the university sponsoring the study. Following this initial pre-testing, the national survey was administered using Research Now® (Research Now Group, 2016) and Lucid (Lucid, 2016) online survey platforms. Invitations and instructions for accessing the online survey were all sent via mail.