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Shopper marketing nutrition interventions: Social norms on grocery carts increase produce spending without increasing shopper budgets☆

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ABSTRACT

Objectives. We assessed the efficacy of an easy-to-implement shopper marketing nutrition intervention in a pilot and two additional studies to increase produce demand without decreasing store profitability or increasing shopper budgets.

Methods. We created grocery cart placards that detailed the number of produce items purchased (i.e., descriptive norm) at particular stores (i.e., provincial norm). The effect of these placards on produce spending was assessed across 971,706 individual person grocery store transactions aggregated by day. The pilot study designated a baseline period (in both control and intervention store) followed by installation of grocery cart placards (in the intervention store) for two weeks. The pilot study was conducted in Texas in 2012. In two additional stores, we designated baseline periods followed by 28 days of the same grocery cart placard intervention as in the pilot. Additional interventions were conducted in New Mexico in 2013.

Results. The pilot study resulted in a significant difference between average produce spending per day per person across treatment periods (i.e., intervention versus same time period in control) (16%) and the difference between average produce spending per day per person across stores in the control periods (4%); Furthermore, the same intervention in two additional stores resulted in significant produce spending increases of 12.4% and 7.5% per day per person respectively. In all stores, total spending did not change.

Conclusions. Descriptive and provincial social norm messages (i.e., on grocery cart placards) may be an overlooked tool to increase produce demand without decreasing store profitability and increasing shopper budgets.

Introduction

The current nutritional content of the nation's grocery cart suggests underrepresentation of fruits and vegetables and overrepresentation of packaged and processed foods (Guthrie et al., 2013). This under and overrepresentation of more and less healthy foods, respectively, has only worsened over time (Center for Disease Control and Prevention, CDC, 2014). Given that grocery stores account for over 50% of all food expenditures (U.S. Census Bureau, 2014), successful attempts to increase fruit and vegetable demand could significantly impact public health (Just and Payne, 2009; Payne et al., 2014). Yet, very little nutrition intervention research targeting fruits and vegetables is conducted in grocery stores, perhaps because of concerns of overall efficacy and economic sustainability for both store and consumer (Payne and Niculescu, 2012). In response, we attempt to increase fruit and vegetable spending by leveraging powerful in-store marketing (i.e., shopper marketing), which attempts to capture that portion of shoppers' already fixed budgets that are allocated to "unplanned wants and forgotten needs" (Payne et al., 2014). In doing so, we provide preliminary evidence of a shopper marketing nutrition intervention that could significantly improve public health and is economically sustainable for stores (i.e., by promoting higher margin fresh fruit and vegetables) and shoppers (i.e., by not increasing shopping budgets).

We describe the process of creating a shopper marketing nutrition intervention, the method by which the intervention was deployed, and the results obtained from produce spending, total spending, and the proportion of produce spending to total spending from a pilot study including a treatment and control store, as well as two additional stores. We also describe how these types of interventions could be a boon to both grocery store and consumer. Finally, we describe how using social norms (e.g., describing what and how much fruit and vegetables are normal or appropriate to purchase) could result in a sustained upward shift of fruit and vegetable purchases.

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Study 1: pilot shopper marketing nutrition intervention

Methods

Shopper marketing material development

We developed a shopper marketing nutrition intervention targeting fresh fruits and vegetables with five goals in mind—i.e., salient, easy-to-interpret, provide shopping benchmarks, grocery store economic sustainability, and shopper economic sustainability. To increase intervention saliency, the intervention was designed to be noticed throughout the duration of the trip. Considering the shopping cart is with the shopper throughout the duration of the trip, we concentrated our efforts on this physical location for placement of the intervention.

Easily interpreted messages in the grocery store imply reduced cognitive processing capability considering the demands placed on shoppers' attention (Cohen and Babey, 2012; Shiv and Fedorikhin, 1999). For the grocery cart, we conceptualized ease of interpretation by producing messages that had fonts (i.e., Calibri and Arial) known to be easily processed and to generate positive attributes, and high contrasting colors to assure clarity (Alter and Oppenheimer, 2009; Wang, 2013). All grocery carts included messages with these attributes that were placed on eleven inch wide by eight inch long placards attached on the inside front (i.e., facing the shopper) and outside front (i.e., facing other shoppers) of the cart. In addition, considering the locations of the intervention (El Paso, TX and southern New Mexico), Spanish and English were used to maximize reach of the messages. Finally, to help interpretation of the messages for those who may be minimally literate, we included graphics of popular fruits and vegetables (i.e., popular for the particular store) on the placards as well as the Arabic numeral 5 (Zebian and Ansari, 2012), which shoppers could use to benchmark their behavior.

Messages that allow shoppers to benchmark their own behavior against what is suggested are most easily conceptualized as social norms. For the grocery cart, we conceptualized social norms as descriptive (Cialdini, et al., 1990; Cialdini, 2003; Reno et al., 1993)—i.e., the number of produce items normally purchased—and provincial (Goldstein et al., 2008)—i.e., the number of produce items normally purchased at the specific store. Specifically, we stated on the placards, "In this store, most people choose at least x produce items" (i.e., "x" denoting the average number of produce items purchased in that store). In addition, we listed the top ten fruits and vegetables purchased in the store to give shoppers a specific idea of not only the appropriate or normal amount of fruits and vegetables to purchase, but also the most common types of fruits and vegetables purchased (see Fig. 1). For both types of information (i.e., produce amount and type), we obtained sales reports from the grocery store to accurately represent descriptive social norms in the particular store.

One limitation to applying descriptive norms in the grocery store, however, is a potential boomerang effect. A boomerang effect exists when a social norm results in both increasing and decreasing a target behavior towards the norm (Schultz et al., 2007). In the case of fresh fruit and vegetable purchasing, this would mean that those below the purchasing norm (i.e., roughly half of shoppers) would increase their purchasing (our main goal), but those above the purchasing norm would decrease their purchasing—effectively, washing out any purchasing gains produced. To reduce the likelihood of a boomerang effect, social approval information (e.g., a smiley icon) was added to the descriptive social norm (e.g., "In this store, most people chose at least x produce items") to reinforce existing high produce purchasing and encourage existing low produce purchasing to increase (Schultz et al., 2007).

Finally, we created the shopper marketing nutrition intervention (i.e., grocery cart placards) with grocery store and shopper economic sustainability in mind. That is, it is not enough to simply show efficacy of any shopper marketing nutrition intervention. If the intervention is not sustainable for grocery store and consumer, the likelihood of its adoption is minimal. We hypothesized that shoppers' budgets are generally fixed when they arrive at the grocery store, but part of their fixed budget is allocated to unplanned purchases (~50% of all purchases) (Stilley et al., 2010), which are highly influenced by shopper marketing (Payne et al., 2014). Because this approach attempts to move shoppers' unplanned purchases towards higher margin, fresh fruits and vegetables, stores benefit economically even if shoppers' budgets do not increase.

Shopper marketing nutrition intervention pilot study design

We chose two grocery stores that were similar in size, owned by the same company, located in zip codes that had similar demographics in terms of ethnicity (94.5% vs. 96.2% Hispanic), sex (53% vs. 53.4% female), age (male 26.8 vs. 29.2; female 28.9 vs. 32.3), unemployment (6.7% vs. 7.4%), and percentage finishing high school (25.3% vs. 22.5%). Both stores were located approximately nine miles apart on the same road in El Paso, TX. Furthermore, baseline produce purchasing per person per day was significantly correlated between control and intervention

Fig. 1. Placard placed in grocery carts.