



The social dynamics of healthy food shopping and store choice in an urban environment



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ABSTRACT

To respond to the high prevalence of obesity and its associated health consequences, recent food research and policy have focused on neighborhood food environments, especially the links between health and retail mix, proximity of food outlets, and types of foods available. In addition, the social environment exerts important influences on food-related behaviors, through mechanisms like role-modeling, social support, and social norms. This study examined the social dynamics of residents' health-related food-shopping behaviors in 2010–11 in urban Philadelphia, where we conducted 25 semi-structured resident interviews—the foundation for this paper—in addition to 514 structured interviews and a food environment audit. In interviews, participants demonstrated adaptability and resourcefulness in their food shopping; they chose to shop at stores that met a range of social needs. Those needs ranged from practical financial considerations, to fundamental issues of safety, to mundane concerns about convenience, and juggling multiple work and family responsibilities. The majority of participants were highly motivated to adapt their shopping patterns to accommodate personal financial constraints. In addition, they selectively shopped at stores frequented by people who shared their race/ethnicity, income and education, and they sought stores where they had positive interactions with personnel and proprietors. In deciding where to shop in this urban context, participants adapted their routines to avoid unsafe places and the threat of violence. Participants also discussed the importance of convenient stores that allowed for easy parking, accommodation of physical disabilities or special needs, and integration of food shopping into other daily activities like meeting children at school. Food research and policies should explicitly attend to the social dynamics that influence food-shopping behavior. In our social relationships, interactions, and responsibilities, there are countless opportunities to influence—and also to improve—health.

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1. Introduction

Food—one of the most basic of human needs—is widely understood as a cornerstone of health. Access to adequate, nutritious foods provides a foundation for vigorous growth, development, and functioning across the life course (Barker, 2012; James et al., 1997).

A diet rich in fruits and vegetables has been associated with marked reductions in cardiovascular disease (Lichtenstein et al., 2006; Yusuf et al., 2004) and some cancers (Key, 2011). Yet, consumption of certain foods or too much food can undermine health, as evidenced by the high morbidity and mortality associated with obesity and diet-related diseases like diabetes, cardiovascular disease, and cancer (Must et al., 1999; Zimmet et al., 2001). With over half of U.S. adults currently considered overweight or obese, population health scientists and practitioners are challenged to identify ways to promote the benefits and prevent the harms caused by food (Caspi et al., 2012; Flegal et al., 2012; Hermstad et al., 2010).

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Much of the recent literature on food environments and health focuses on the physical environment, with an emphasis on neighborhood retail mix, proximity of food outlets, and types of foods available (Bader et al., 2010; Institute of Medicine and National Research Council, 2009; Lovasi et al., 2009; Story et al., 2008; Webber et al., 2010; Wells et al., 2007; Winkler et al., 2006; Wrigley et al., 2003). Studies have documented the relative glut of unhealthful food options (Block et al., 2004; Pearce et al., 2007), and in some cases a shortage of full-service supermarkets (Russell and Heidkamp, 2011; Walker et al., 2010) in disadvantaged neighborhoods. However, the distribution of these resources may not always be patterned predictably according to neighborhood socioeconomic status (Macdonald et al., 2009; Macintyre et al., 2008; Smith et al., 2010; Svastisalee et al., 2011). A nonetheless familiar refrain is that low-income people, who shoulder a disproportionate burden of obesity and chronic disease, often live in areas characterized by easy access to high-calorie, low-quality foods along with constrained access to healthful foods, including fresh produce, whole grain foods, and low-fat dairy (Cummins and Macintyre, 2002; Moore and Roux, 2006; Stafford et al., 2007).

Evidence is mixed regarding how this distribution of material resources affects diet quality and risk of obesity and chronic disease. Some studies have documented a relationship between urban residents' proximity to healthful foods and increased consumption of those foods (Rose and Richards, 2004), while other studies have shown no such association (Pearson et al., 2005). A study conducted in New York City demonstrated that proximity of certain types of stores, like supermarkets and produce markets, was associated with residents' lower body mass index (Rundle et al., 2009), while yet another found few associations between nearby food retailers and obesity risk (Macdonald et al., 2011). Fast food proximity has been associated with adverse health outcomes in some but not all studies (Burdette and Whitaker, 2004; Lopez, 2007).

This genre of food environment research has evolved alongside food access policies that often emphasize placement of supermarkets in disadvantaged neighborhoods, with a goal of fostering better nutrition and improved health (Giang et al., 2008). A shared tenet of both nutrition research and recent policies is that proximity to full-service supermarkets (and therefore to a range of food options) should encourage healthier eating. These efforts have been motivated in part by "food justice" concerns, with a focus on reducing disparities by redistributing potentially health-enhancing neighborhood material resources. But these strategies to improve food retail environments have not produced resoundingly beneficial health effects (Cummins et al., 2014; Sallis and Glanz, 2006).

Much of the literature on food retail environments and health incorporates two concepts: 1) that proximity to particular retail outlets is a major driver of consumers' decisions regarding where to procure food and 2) that residents, especially low-income and disadvantaged urban residents, shop for food within their neighborhoods. A number of recent studies have challenged these assumptions, documenting that most urban residents travel beyond the closest markets to conduct their primary grocery shopping (Cannuscio et al., 2013; Drewnowski et al., 2012; LeDoux and Vojnovic, 2013). These studies and others suggest that urban residents develop food procurement strategies for a range of reasons that go beyond geographical proximity (Hillier et al., 2011; Travers, 1996).

These results diverge from an important observation in behavioral economics, which suggests that people often choose so-called "default options"—the behavioral strategies that are most proximal and comfortable and easiest to execute. When shopping for food, why do urban residents, including low-income residents, circumvent default options in search of alternative resources in their local food environments? Here, the paradigm of Human Behavioral

Ecology offers a potentially useful structure for examining urban residents' behaviors within their local food environment (Nettle et al., 2013). An ecological approach, which characterizes the relationships among people, and between people and their environments, simultaneously attends to the physical environment, the social environment, and the people who inhabit, shape, and respond to those environments (Cummins et al., 2005; FitzGerald et al., 2013; Glanz and Bishop, 2010; Story et al., 2008). In an ecological model, geographical proximity is just one of many forces that shape human behavior.

Recently, the physical environment has received more attention than the social environment as a determinant of food-related behaviors. But, as noted by Story et al. (2008), the social environment exerts important influences on behaviors around food and nutrition through mechanisms like role-modeling, social support, and social norms. The seemingly straightforward act of eating is intimately tied to social roles, status, and dynamics within families, schools, workplaces, and communities (Delormier et al., 2009).

Our work is motivated by social-ecological theories of health and disease, which have a well-described history (Glanz et al., 2008; Stokols et al., 2013). Social-ecological models focus on how human behavior and functional status are the net result of personal attributes and environmental conditions. Individuals are viewed as having a set of competencies, such as resilience and adaptation, which are enabled or constrained by the environmental context. In their daily transactions, people actively navigate this combination of personal characteristics and environmental conditions in order to achieve their desired goals and meet social needs.

In this article, we explore the social-ecological dynamics of food shopping in an urban food environment, examining how residents interact with and within their local food landscape as they make choices about whether to purchase more or less healthy foods. This research combines in-depth qualitative interviews with quantitative survey data and observational food store audits to develop a mixed-methods picture of social determinants of food-shopping behaviors. We pursued this work to inform both research and public health practice, especially with regard to identification of new hypotheses or strategies to mitigate the toll of obesity and diet-related chronic diseases.

2. Methods

This paper is based on data from a multi-component, mixed-methods study conducted in Philadelphia during 2010 and 2011 and approved by the University of Pennsylvania's Institutional Review Board (Cannuscio et al., 2013; Hillier et al., 2014). In this analysis, we focus primarily on qualitative data (not previously reported) from 25 in-depth interviews with urban residents who had participated in an earlier door-to-door structured interview ($n = 514$) of grocery shopping and physical activity behaviors. Throughout the paper, we refer to that structured interview as "the survey." Survey findings are briefly noted for comparison with observations from the interviews. Additional data were obtained through a Philadelphia food environment audit that assessed the variety and healthfulness of foods available in 373 Philadelphia stores. Descriptive statistics are reported in this paper, and in prior work (Cannuscio et al., 2013), on the number and types of food retail outlets in the urban environment studied.

2.1. Study area

The study area was a densely populated, low- and middle-income, racially and ethnically diverse urban area in Philadelphia. A regular grid characterizes the streets in the study area, and all streets had sidewalks. Most of the area is highly walkable, based on

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