



Review Article

An integrative literature review of small food store research across urban and rural communities in the U.S.

C.A. Pinard ^{a,*}, C. Byker Shanks ^b, S.M. Harden ^c, A.L. Yaroch ^a

^a Gretchen Swanson Center for Nutrition, 8401 West Dodge Road, Suite 100, Omaha, NE 68114, United States

^b Montana State University, Food and Health Lab, 960 Technology Blvd, Room 215, Bozeman MT 59718, United States

^c Virginia Tech, Integrated Life Sciences Building, 1981 Kraft Dr., Room 1009, Blacksburg, VA 24060, United States

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ABSTRACT

Objective. The purpose of this review was to identify how rural and urban food access differs across small food stores as well as the types of research strategies and methodologies that have been applied in each setting in the U.S.

Methods. Manuscripts were included in the review if they were published in English over the past ten years, with a clear delineation between urban and/or rural, conducted in the U.S., and reported data from small food store research.

Results. After elimination, 19 manuscripts representing rural ($n = 5$) and urban ($n = 14$) settings were included in the final review. The review was conducted in Nebraska between January 2015 and May 2015. Findings from the reviewed manuscripts revealed that rural communities might face different challenges with healthy food access in small food stores when compared to urban settings. In particular, small food stores in rural areas lacked healthy food options largely because storeowners perceived that their customers would not purchase healthier items and due to challenges with distribution. Conversely, studies reporting on small food stores in urban areas suggest challenges with transportation and safety concerns.

Conclusion. Research on small food stores is nascent and further research, especially intervention studies, is needed. Further, less evidence exists on healthy food access, in particular intervention testing on small food store research in rural areas.

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1. Introduction

The food environment influences consumer food selection and health outcomes (Beaulac et al., 2009; Gustafson et al., 2013). Environmental and policy interventions that promote access to healthful

* Corresponding author.

E-mail address: cpinard@centerfornutrition.org (C.A. Pinard).

choices may achieve the greatest benefits and broadest reach (Brennan et al., 2011; Frieden et al., 2010). Healthy food access is defined as having a wide variety of nutrient dense food options (e.g., fruits, vegetables, whole grains, low-fat dairy) available at a reasonable cost (Feenstra, 2002). Low access to healthful foods promotes reliance on pre-packaged foods (commonly nonperishable and energy-dense, nutrient-poor (EDNP) foods and beverages) (Moore et al., 2012).

Currently in the United States (U.S.), there are many geographic areas where access to healthful foods is low, commonly in limited resource communities with a greater proportion of racial/ethnic minority populations (Beaulac et al., 2009; Larson et al., 2009). Negative health outcomes and associations of access to EDNP foods have been well documented among urban areas (Kirkup et al., 2004; Lake and Townshend, 2006; Laska et al., 2010). More recently, research has demonstrated some of the unique challenges that rural areas face. These challenges include things such as a declining customer base, an increase in food store closures, aging ownership, and lack of available small business capital (Bailey, 2010; Bustillos et al., 2009; Kaufman et al., 1997; Liese et al., 2007; Yeager and Gatrell, 2014). Many rural residents travel long distances to reach the nearest food outlet (Bitto et al., 2003; Sharkey and Horel, 2008) and this issue is compounded by lack of public and/or individual transportation (Bitto et al., 2003; Sharkey and Horel, 2008).

Research on the food environment has also found that access to *supermarkets* may be associated with greater fruit and vegetable consumption (Franco et al., 2009; Larson et al., 2009; Rose and Richards, 2004), more affordable prices (Chung and Myers, 1999), and reduced BMI (Larson et al., 2009; Lopez, 2007). In addition, *smaller grocery stores* and *corner stores* (referred to as small food stores in the rest of the text) stocked with more healthful foods have been suggested as an alternative to improve healthful choices (Morton and Blanchard, 2007; Short et al., 2007). The distinction between urban and rural areas is particularly salient, since smaller and non-traditional food stores are more common in rural areas and tend to offer a smaller selection of more healthful foods than urban areas (Bustillos et al., 2009; Larson et al., 2009).

Several reviews exist that assess the relationship between access to less healthful foods and obesity-related outcomes (Beaulac et al., 2009; Caspi et al., 2012; Holsten, 2009; Papas et al., 2007). Specific to retail, previous reviews have largely summarized evidence-based research conducted in supermarkets and larger grocery stores (Escaron et al., 2013; Glanz et al., 2012; Glanz and Yaroch, 2004; Larson et al., 2009), as well as analyses of measurement tools (Gustafson et al., 2012; Kelly et al., 2011; Lytle, 2009; McKinnon et al., 2009; Sharkey, 2009). Other reviews have included small food stores, however, the geographic representation of the studies reviewed was largely urban-based (Gittelsohn et al., 2012) or tended to highlight specific challenges and characteristics of diverse populations (Gittelsohn and Sharma, 2009). The purpose of this review was to identify how rural and urban food access differs across small food stores and the types of research strategies and methodologies that have been applied in each setting.

2. Materials and Methods

An integrative review of this literature was conducted to understand the state of the science, critique research questions, find conceptual gaps, and determine the “best practices” for small food store interventions. One key utility of an integrative review is to bridge related areas of inquiry. Thus, an emphasis on comparing findings from urban and rural communities in the U.S. was carried out for this review. Counties outside of the U.S. were excluded from this review given varying policies and practice implications.

The review was conducted in Nebraska between January 2015 and May 2015. The criteria for inclusion of the studies were: (a) publication within the past ten years (May 2005–May 2015); (b) publication in the English language; (c) conducted in the U.S. with a clear delineation as to whether the research was urban and/or rural; and (d) and the study

reported data or facilitated an intervention related to small food stores. Exclusion criteria for articles included: (a) measurement development study only; (b) unspecified geographic focus that limits ability to compare findings between urban and rural settings; and (c) assessment of multiple food outlets (e.g., restaurants, larger grocery stores). We did not define population density in a specific way, but rather, used the definitions and terms from the authors of the papers we reviewed to guide our decision as to whether there was a clear delineation of “urban” or “rural”.

Google Scholar, PubMed, and Web of Science were searched using the following key terms “corner store”, “convenience store”, “small store”, “bodega” AND “store-owner”, “manager”, “environment”, “food environment”, “availability”, “education”, “intervention” or “nutrition education.” The search process also included backward searches of cited articles. Titles, abstracts, and then full text were reviewed for inclusion after the initial search. The emphasis of this review was on small food stores, which included corner stores or convenience stores. In order to capture those papers that have a mixed focus (e.g., multiple store types), grocery stores were included in our initial searches, but papers were eliminated if they did not have some inclusion of corner stores or small stores (i.e., if small food stores were not the major focus of the paper, or at least equal in emphasis, they were eliminated).

A data extraction tool developed for the purpose of this study utilized the framework of Cooper (1998). Narrative synthesis methods were used to extract and summarize findings from multiple studies across urban and rural settings. The data extraction tool included the following categories: setting, constructs assessed, measurement tools used, methodology, location, rural versus urban, findings, implications for measurement, and intervention. Each full-text manuscript was independently reviewed by one of two coders (CAP, CBS) and then verified by a second author (CAP, CBS, SMH, or ALY). Inter-rater agreement was verified and multiple coders discussed any conflicts to reach consensus (Miller, 1999). Results for this small food store review are presented with urban-focused manuscripts first, rural-focused manuscripts, and followed by a comparison of rural and urban findings, each based on the type of study and methodology used.

3. Results

The initial database search retrieved 454 articles and 357 unique manuscripts. After reviewing titles, 210 manuscripts were eliminated, another 34 manuscripts were eliminated based on abstract, and the final 92 manuscripts were eliminated after reading the full article, resulting in a final inclusion of 19 manuscripts (see Fig. 1). The main reasons for exclusion that the study did not report evidence focusing on small food stores ($n = 124$) or provided evidence from research where the geographic focus was not clear (i.e., urban and/or rural) were difficult to delineate ($n = 68$) (other reasons, $n = 146$).

Of the 19 papers identified as eligible for review, five (26%) focused on rural settings, while 14 (74%) focused on urban settings. Fig. 2 describes the types of studies included in this review: eight (42%) utilized qualitative methodologies, six (32%) utilized descriptive or cross-sectional methodologies, and another five (26%) reported outcomes from an intervention study. All studies using intervention methodologies ($n = 5$; 26%) were focused in urban areas. Table 1 describes the key constructs, methodologies, and findings from each of the 19 papers reviewed and the table is summarized below.

3.1. Summary of Findings – Urban

3.1.1. Qualitative

Several studies ($n = 7$) employed qualitative methodologies of various types including key informant interviews (O'Malley et al., 2013; Song et al., 2011), intercept interviews (Borradaile et al., 2009; Lent et al., 2014), focus groups (Sherman et al., 2015), and PhotoVoice (Cannuscio et al., 2010) to study small food stores in urban areas. The

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