

# **Perceptions of Healthy Eating in Four Alberta Communities: A Photovoice Project**

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## **Abstract**

Peoples' perceptions of healthy eating are influenced by the cultural context in which they occur. Despite this general acceptance by health practitioners and social scientists, studies suggest that there remains a relative homogeneity around peoples' perceptions that informs a hegemonic discourse around healthy eating. People often describe healthy eating in terms of learned information from sources that reflect societies' norms and values, such as the Canada Food Guide and the ubiquitous phrase "fruits and vegetables". Past research has examined how built environments shape people's access to healthy living options, such as distribution of grocers versus convenience stores and fast food restaurants. Often overlooked is an in-depth understanding of how social contexts interact with built environments, molding peoples' perceptions of healthy eating. This paper reports on perceptions of healthy eating in four communities across Alberta, Canada. A photovoice methodology was employed to elicit perceptions of healthy eating with 35 participants. This study illustrates how participants' photographs and their stories convey multiple meanings about healthy eating within their own lives and communities. Findings suggest that a 'local' context is an important part of the discourse centered around the promotion of healthy eating practices in these and potential other communities.

## **Keywords**

healthy eating; photovoice; community health; local food; built environment

## **Abbreviations**

BV – Town of Bonnyville

CHBE – Community Health and the Built Environment

GFS – global food system

MHR – City of Medicine Hat / Town of Redcliff

NCE – North Central Edmonton

SP – Town of St. Paul

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## **Introduction**

What is healthy eating? Despite the apparent simplicity of this four word question, continued developments in nutritional science (Paquette 2005), along with mass media messages motivated by capitalism and the contemporary culture of consumption (Warde 1997; Nestle 2002), have only served to confuse the question for researchers, health professionals, and consumers (Falk et al. 2001; Van Dillen et al. 2004; Ristovski-Slijepcevic, et al. 2008). Conceptualizing and understanding what 'healthy eating' means may be particularly confusing for consumers as it is often contested by experts in the field like health practitioners and food manufacturers; conflicting reports abound in various media outlets and forms, including advertisements, food labels, dietary recommendations, and so on (Falk et al. 2001; Paquette 2005).

Definitions of healthy eating are coincidentally numerous and dynamic: ideas and social values about food, health, and diet change over time and place. For the purposes of this paper, we employ Paquette's definition of the perception of healthy eating as "the public's and health professionals' meanings, understandings, views, attitudes and beliefs about healthy eating, eating for health, and healthy foods" (Paquette 2005, p. S15) as a starting point. While this definition serves as a useful entry to the discourse on perceptions of healthy eating, there is a tendency in the literature to simplify and overemphasize the meanings of the health professionals as so-called experts.

For example, when consumers are asked the question "What does healthy eating mean to you?", they often respond in terms of learned information from "idealized" sources that reflect societies' norms and values, such as the Canada Food Guide (Paquette 2005), the USDA Food Pyramid (Ristovski-Slijepcevic, et al. 2008), and the ubiquitous phrase "fruits and vegetables" espoused by children's parents (Worobey et al. 2010). What are missing in these hegemonic reiterations of healthy eating are the meanings constructed by people in their everyday lives. These meanings of healthy eating are shaped by multiple factors existing within individuals' and communities' physical and social environments in conjunction with lived experiences (Booth, Pinkston and Poston 2005; Raine 2005), a contextualization that is critical for those interested in interrogating notions of healthy eating for the purpose of informing health intervention and policy.

Many scholars have noted that there are gaps between public messages, people's perceptions, and practices of what constitutes healthy eating (Falk et al. 2001; Paquette 2005; Ristovski-Slijepcevic, et al. 2008) and because perceptions are influenced by cultural differences, there is a particular need for emplaced studies. In other words, further work is needed to understand how hegemonic norms are understood and incorporated in everyday practices that take into account local sociocultural environments.

This paper addresses that gap by exploring how people make sense of 'healthy eating,' both in terms of ideas on what this entails, as well as everyday healthy eating practices. We worked with four communities in Alberta, Canada, using photovoice, a qualitative research method where photographs, and the process of taking them, promote participant engagement with the research topic. The visual representations captured in photographs may reveal ideas that are difficult to articulate. Consequently, discussions of what the photographs represented can reveal how people's experiences, ideas, and values intersect with place to shape constructions of 'healthy eating' in greater depth than what may be elicited through other qualitative methods. Photovoice was chosen over traditional interviews because of the potential for visual representations to elicit ideas or beliefs that are complicated and consequently tough to convey using only words in an interview. The use of photographs taken by participants and selected by them for discussion provides the opportunity for a more nuanced connection to the research topic and process for participants as well as researchers. Furthermore, the photographs provide a means of connecting with participants over a longer time period, and can evocatively capture everyday food experiences.

This study is important because although photovoice has been effectively used to explore community health issues for some time (Wang and Burris 1994; 1997; Wang 1999), there is little published research using photovoice to provide insight on how emplaced experiences shape healthy eating ideas and practices. This paper contributes new knowledge about people's perceptions of healthy eating within specific physical and social environments, particularly within a Canadian context (Paquette 2005).

### **Collecting Pictures and Words**

Photovoice is a qualitative research method increasingly utilized in community-based participatory research as a way of recognizing the knowledge embodied in individuals and

communities, and applying this knowledge to create change. A detailed account of how photovoice was used in this study is published elsewhere (Nykiforuk, et al. 2011), consequently here, we provide a brief methodological summary. First used in public health research by Wang and Burris (1994; 1997), this is a method that emphasizes participants' knowledge and experience. This method involves participants sharing their knowledge and experiences about an issue or problem in an account that combines photographic images with narrative, and emphasizes development of community-based solutions that arise from discussions of those accounts. Photovoice is an effective method to encourage participants to become engaged in the research issue and process. As Nykiforuk and colleagues have suggested, "*the photovoice process gives them [participants] an opportunity to visually portray experiences and share personal knowledge about particular issues that may be difficult to express with words alone*" (2011, p. 4).

Photovoice has also been used as a method to provide researchers with a broader and richer context encompassing diverse perspectives, as well as a means to affect social change at the community level through the involvement of stakeholders, including participants, local policy and decision makers (Wang 2006; Paliborda, et al. 2009; Nykiforuk, et al. 2011). We used photovoice to invite participants to show us what represented healthy (or unhealthy) eating for them, in their communities, and through their narratives associated with these photographs, delve into the 'taken for-granted' assumptions and beliefs on what entails healthy eating. The objective of asking participants to take their own photographs, and then to select which ones they feel are the most important to discuss allows researchers to access how the physical, social, and cultural factors within a specific place shape participants' constructions of healthy eating, revealing the cultural meanings attributed to their everyday food perceptions and experiences. Using photographs taken by participants emphasizes that they are co-constructors of knowledge – a critical foundational aspect of community-based participatory research. Having more descriptive data and deeper reflection on issues that participants consider important provides researchers with greater insight into how people perceive healthy eating within *their* communities. Thus, this process helps to reveal the socio-cultural context that shapes participants' emplaced perceptions and practices of healthy eating, particularly allowing for illumination of how 'healthy eating' concepts may vary between social groups and ethnicities. Because the images and associated narratives produced in photovoice can be so evocative, findings can be particularly useful for

communities and policy-makers looking to build upon local healthy eating strengths and address regional challenges to healthy eating.

## **The Places**

This paper reports on data collected through the *Community Health and the Built Environment* (CHBE) project (Nykiforuk, et al. 2013). Four communities from across the geographically large province of Alberta participated in the CHBE project: the Town of St. Paul (SP), the Town of Bonnyville (BV), North Central Edmonton (NCE), and the City of Medicine Hat/Town of Redcliff (MHR).

### Town of St. Paul

SP is located in east-central Alberta and has a population of 5,843 (Alberta Municipal Affairs 2008). Participants viewed SP as an agricultural service center for the surrounding region, with oil and gas industries supporting the local economy. Community partners and stakeholders also identified SP as an important retirement center for the region. Although SP has a rich agricultural tradition based on small, mixed farming operations, the area is increasingly characterized as having fewer family farms supplying food products directly to the local market and more larger, corporate agribusinesses servicing the global food system (GFS) (St. Paul Community Profile 2011).

### Town of Bonnyville

BV is located in east-central Alberta with a population of 6,470, serving approximately 10,000 from surrounding areas (Town of Bonnyville 2010). Participants described BV as a natural resource service center for the surrounding region. The oil and gas boom over the past decade spurred tremendous growth in residential and commercial development along with an increase in a transient worker population, which according to community partners, has led to an increase in the availability of fast/convenience food options. BV is situated on Jessie Lake, a natural wetlands and home to 200 bird species and the town is located amidst a dozen lakes teeming with a variety of sport fish. Recreational fishing and hunting are promoted as leisure activities in the tourist literature (Bonnyville Community Profile 2011).

## North Central Edmonton

NCE represents an inner-city community comprised of eleven contiguous neighborhoods within the City of Edmonton. NCE is a culturally diverse area with a population of 41,026 (City of Edmonton 2009). The community is primarily comprised of residential and commercial development; there is no substantial industry in the area. Some of the neighborhoods within NCE have been part of a recent revitalization program. Various ethnic restaurants and grocery stores are located throughout the community.

## Medicine Hat/Redcliff

MHR is located in the southeast corner of Alberta. Medicine Hat is a municipality with a population 61,097 people (City of Medicine Hat 2009). The major economic sources are agriculture, manufacturing, and oil and gas industries. The Town of Redcliff, with a population of 5,096 (Statistics Canada 2006), borders Medicine Hat and shares a large number of resources and services with the larger municipality. The MHR region is known as the greenhouse capital of the prairies; it has the area with the highest concentration of greenhouses in the Prairie Provinces. Produce includes flowers, cucumbers (18 million a year), peppers, tomatoes and tree seedlings. The competitive price of natural gas in the area and plentiful sunshine, have allowed the greenhouse industry to blossom. The Red-Hat Cooperative Ltd. grades, packages and markets vegetables throughout most of Canada, thus this community is integrally connected with the GFS (Medicine Hat Community Profile 2011).

## **Participants**

Participants were recruited from each community using local newspapers, posters, community events, electronic distribution lists, and word-of-mouth. Recruitment resulted in a total of 35 participants. The vast majority of participants were women (74%); the challenge of having men participate in food-related studies has been reported by others (Ristovski-Slijepcevic, et al. 2008). Our sample encompassed a variety of age ranges, although the majority were between the ages of 35 and 64 (55%). Three participants were teenagers, while 6 were older adults, i.e., over 65 years of age. A variety of income brackets were represented in our sample, with a third in the lowest bracket, earning less than \$25,000 per year, while 17% earned more than \$100,000 per year. All interviews were conducted in May and June of 2009 by three trained

graduate-level research assistants. Ethical consent to conduct this study was obtained through the University of Alberta Health Review Ethics Board (Panel B).

## **Methods**

Participants' perceptions of healthy eating were elucidated through three methodological components (see Nykiforuk et al. 2011 for detailed methods description). The first component derived from the first (of two) interview(s) (i.e., before and after the photovoice activity) in which participants were individually asked the question: 'What does healthy eating mean to you?' This question was designed to elicit participants' perceptions and understandings of what healthy eating meant to them within the context of their salient physical and social environments. The initial semi-structured interview was voice recorded and transcribed into word documents. All transcripts were reviewed to identify the participant's direct responses to the question "What does healthy eating mean to you?" Each response was then copied into a separate word document arranged by site and individual participant. These responses were coded and thematically analyzed to identify common words, phrases and ideas expressed by the participants. Codes were then categorized into five themes: 1) food quality, such as 'fresh' and 'avoiding processed/junk food'; 2) eating fruits and vegetables; 3) food quantity, such as balance, variety, and moderation; 4) eating from local food/farmers' markets/gardens; and, 5) following the Canada Food Guide.

The second component involved photovoice, where each participant was provided with a digital camera and asked to take pictures around their community. Each participant was given the same photography mission: 'We would like you to focus on things in your community that make it easier or harder for you to be physically active<sup>1</sup> and eat healthy'. The intent was not to give a prescriptive list of images to photograph, but to give individuals the freedom to make their own connections with the physical and social features in their community that reflected their ability to practice a healthy lifestyle. There was no limit set on how many photographs participants could take, but they were informed that there would only be enough time for them to select and discuss approximately ten of their photos during the second interview. Participants were instructed to avoid taking pictures with people in them to comply with the study ethics protocol. Along with providing a copy of the photography mission, researchers reviewed and provided a handout of

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<sup>1</sup> This paper focused on the healthy eating component of the larger CHBE Project. The photographs and stories around the physical activity component were analyzed by the research team and was published in a separate paper (Belon et al. 2014).

the operating instructions for using the digital cameras with each participant to ensure ease and comfort of use. The photographs themselves were not visually analyzed. The purpose of using photovoice is not to analyze image quality or creativity (i.e., the content of the photograph, *per se*), but to use the photograph to elicit a story from the participant about why they took the photograph and what it means to them (Wang and Burris 1994; 1997). Alone, the photographs are meaningless in the sense that they are without-the-participant's meaning: they become subject to the interpretation of the viewer, rather than the composer. In this study, the photovoice activity was intended to facilitate a dialogue about the participants' perceptions of healthy eating in their community during the follow-up interview, so it was important not only to retain the participant's narrative associated with each photograph, but also to emphasize its importance during data analysis and interpretation (e.g., a photograph might not seem to visually portray the food environment, until the narrative explains the connection).

The third methodological component drew from the second individual interview where participants spoke about their photographs. In this interview, participants were asked to select and describe their most important photographs, then through sequential discussion, identifying to the researchers why they took each picture. Individuals were encouraged to tell a story about each photo, what it represented to them, and if the photo raised any issues for them. The photos were used to foster conversation and then to illustrate the narratives shared by the participants. All interviews were voice recorded, transcribed into word documents, and thematically coded using NVivo 8 software. The codes from the larger CHBE Project (Food-Community Resources, Food-Fast, Food-Home, Food-Quality, Food-Quantity, Food-Restaurants, Food-Shopping, and Healthfulness) were then used to run queries on all the second interview transcripts to obtain data for this paper. The results were copied into a new word document and separated by site and participant. These passages were reread to verify that they corresponded with the specific photograph that the participant had identified as important enough to speak about. Then, the photograph was attached to the relevant passage. The narratives from the second interview were inductively coded, and thematically analyzed. The themes that emerged from the second interviews were compared with those from the first interview. This allowed us to directly compare the kind and frequency of themes between the shorter, more idealized responses from the first interview with the longer, more descriptive responses provided in the second interview.

## **"What Does Healthy Eating Mean To You?"**

In this section, a sample of participants' responses to the question "What does healthy eating mean to you?" are explored. The first theme, food quality, is represented by the following quote: *"Well your fruits and vegetables, and stay off the junk food I would think. Drink your tomato juice or V8 or whatever that is healthy for you. Your salads, your fruit, fresh fruit. The worst thing is never eat fruit from a can, a lot of sugar in it."* The participant makes a clear value judgment on quality by using the phrase "the worst thing is never" as well as by referencing the terms fresh and avoiding junk food. The inclusion of the ubiquitous fruits and vegetables phrase in this quote illustrates how the thematic categories may overlap and are not mutually exclusive.

Another participant responded to the question with: *"Healthy eating, well trying to eat in moderation, fruit, vegetables."* This quote is a homogenous response using the popular terms fruits and vegetables, and moderation (Paquette 2005) which represents the second (eating fruits and vegetables and third (food quantity) thematic categories. The participant provided no further description of what constituted 'moderation' or any explanation of why they considered eating fruits and vegetables as healthy eating. This response, while typical, provides little social or cultural context to understanding the meaning of healthy eating for the participant or the researcher.

Responses could be short and direct such as the quote from this participant: *"Being able to grow a lot of my own food."* This is an example of the fourth thematic category, eating from local food/farmers' markets/gardens, where the participant makes an association between healthy eating and food that she has grown in her personal garden.

This quote *"Healthy eating is a very broad subject but my doctor tells me I am much more interested in that than most of his patients and it's, you know, the Canada Food Guide."* is an example of an "idealized" response based on the participant's perception of learned knowledge from hegemonic public sources such as a medical practitioner and a national food guide (Paquette 2005) and represents the fifth thematic category, following the Canada Food Guide.

A final quote *"Well I have been seeing a naturopath, homeopath, or herbalist for what would be about 15 years, so they teach you the right way"* reflects the participant's reliance on the perceived expertise and information from commercial sources (Nestle 2002). All of these responses to the initial question of "What does healthy eating mean to you?" provide little in-

depth information about the multiple factors existing within an individuals' and communities' physical and social environments that shape how people actually eat on a quotidian basis, and how they create meaningful healthy eating definitions and practices. Through the second phase, the photovoice component, we attempted to glean everyday meanings and practices.

### **Photovoice**

Examination of the participants' photographs and their associated stories provides further insight and depth to the multiple factors and cultural influences that shape how people construct and perceive healthy eating within their communities. A total of 106 photographs were selected by 30 participants to speak to in their second interview specifically with respect to healthy eating or food. There were five participants (at least one from each of the four communities) who did not select any healthy eating photos to speak to in their second interview.

All 106 photographs were initially identified by using the main thematic nodes from the NVivo coding of the original transcripts: Food-Shopping, Food-Community Resources, Food-Fast, Food-Home, Food-Restaurants, and Others (Nykiforuk et al. 2013). Then, the narratives and the accompanying photographs were re-coded using the five themes identified in the first interview to participant responses to the question "What does healthy eating mean to you?": 1) food quality, such as 'fresh' and 'avoiding processed/junk food'; 2) eating fruits and vegetables; 3) food quantity, such as balance, variety, and moderation; 4) eating from local food/farmers' markets/gardens; and, 5) following the Canada Food Guide. Thus, both text and photos were coded and incorporated in the analysis.

It was important to verify the visual image of each photograph with the participants' narrative as some photographs were not easily identifiable to an observer as representing healthy eating or food. The photograph of a library (*Photo 1*), coded as a Food-Community Resource in the community of Redcliff (MHR), illustrates the relevance of the participant's personal perspective in the construction of healthy eating within their community.

[Insert Photo 1 about here]

When the participant was asked why they took this photograph she responded:

I took this picture because I guess I learned the most about my community in that area, the Redcliff Library, of course offers information where you can go and take out books on healthy eating and exercise and physical activity. But I also learned that we have a Good Food Box in our community and it is distributed at the library, so it is pick up at the library once a month. The other thing I learned, and why I also took a picture at the Redcliff Library, is because we have a community garden at the Redcliff Library and I didn't know that either.

This example illustrates how photovoice, combining a participant's photograph with narrative, provides deeper and richer contexts to how individuals may perceive healthy eating within their community. The library, as a physical structure, is a repository of information, as this participant acknowledges, even for "*books on healthy eating*". However, this participant now also connects this building with a place where a local food delivery program, the "*Good Food Box*" is distributed and where a community garden exists. The library is a place where food is produced and obtained for members of this community. The photographic image, along with the more detailed information elicited by the photograph, now allowed the photo to be coded with the fourth theme: eating from local food/farmers' markets/gardens.

Comparisons between the first interview responses, where participants describe ideal notions of healthy eating, with the second interview, where participants used photographs to illustrate everyday realities, were not noticeably different when coding their accompanying stories. *Figure 1* shows that the patterns from using the same five categories that emerged in the first interview: 1) food quality, such as 'fresh' and 'avoiding processed/junk food'; 2) eating fruits and vegetables; 3) food quantity, such as balance, variety, and moderation; 4) eating from local food/farmers' markets/gardens; and, 5) following the Canada Food Guide, were similar with our data from the second interview, with one significant exception. As illustrated in *Figure 1*, there was a much greater focus on obtaining healthy foods from local sources with the 'local food/farmers' markets/gardens' category receiving more than four times the number of responses recorded from the first interview.

*[Insert Figure 1 about here]*

This increase might suggest that the photographs coded with the larger theme of Food-Community Food Resource and the corresponding narratives coded with the more specific 'local food/farmers' markets/gardens' themes may provide a more in-depth, multi-layered perspective to how participants construct their perception of healthy eating in their everyday lives within their communities. In discussing relationships between healthy eating and local foods, participant responses focused on means of acquiring healthy foods, that is, in what places healthy and local foods can be obtained. These responses can be further categorized according to the venues, specifically farmers' markets, gardens, greenhouses and U-pick farms. The significant increase in this category warranted further exploration, so for the purposes of this paper, the photographs and stories selected are illustrative of these categories. The following sections will address each of these categories in more detail.

### Farmers' Markets

Participants in SP and BV articulated that farmers' markets represented a place where healthy, wholesome, fresh, homegrown, and homemade food may be obtained. One participant described the homemade foods there as better and healthier than foods that could be found in the store, stating that there are stricter rules for farmers' markets than there are for the grocery stores. Her comments reflect the increased consumer awareness of food safety issues, such as Bovine Spongiform Encephalopathy (mad cow disease) and tainted meat recalls, associated with industrialized agriculture and livestock production that supplies GFS (McMichael 2000; Winter 2003; Feagan 2007). The local foods available at the farmers' market were often referred to as organic by participants: organic is a term often used by others to describe healthy foods (Falk et al. 2001). The local foods available at the farmers' market were described as seasonal and in great demand by the community's residents (i.e., as some vendors reportedly sold out fast). For example, at the time of the study, BV had two farmers' markets a week to accommodate consumer demand and the diversity of vendors.

*Photo 2* illustrates a vendor's table at one of the BV farmers' markets. The sign on the table identifies the vendor as a local Market Garden/U-Pick farm with the name of their operation and their phone number. The participant describes the photograph: *"This is from the farmers' market. She has fresh asparagus grown in her own garden. She does the U-pick, saskatoon's, strawberries, vegetables. I use to go out there and pick my strawberries for freezing*

*and stuff.*" The image is representative of two local places that the participant associates with healthy eating and where she has visited to obtain fresh food: the farmers' market and the U-pick farm. The image also elicited a comment from the participant of the home food practice of preserving and storage of food for later use.

*[Insert Photo 2 about here]*

When the participant who took the photograph in *Photo 2* was asked if she thought interest in farmers' markets had grown over the years and why that might be, she replied, "*Definitely, I think so. I guess just the younger generation wanting to clean up the environment.*" The participant's comment suggests an association between healthy eating and a healthy environment: that by purchasing your produce at a farmers market you are buying healthier, local food and promoting a healthier, local environment (Feenstra 1997; 2002). This represents a moral or ethical element to the participant's decision-making process (Ristovski-Slijepcevic, et al. 2008) that goes beyond the simple consumption of a food product.

The participant who took the photograph in *Photo 2* provided a story that illustrates the perception that local food is both healthier and tastes better:

There is a total difference in the taste of anything that we can grow here compared to anything brought in. Just a little story, I had my grandson living with me last year, and his mother is very much into eating fruits and vegetables and stuff so he loves to eat raw carrots, and I was buying him a 5 pound bag of carrots every week, and they were gone. And then they ran out of the locally grown carrots and I bought ones from California and he wasn't eating them and I said what is the matter, and he said those things taste awful. But the local ones he was eating like candy.

This perception is supported by Feagan and colleagues' (2004) research that found that taste was one of the motivating factors for consumers to purchase local food at farmers' markets.

The stories that accompanied the farmers' market photographs from SP and BV also focused on themes of community, people, trust, and their importance as a social gathering place, as well as foods and a place that represented healthy eating. When asked if the farmers' market

would be easy to locate for a visitor to the community, one participant responded that “*All you have to do is stop and ask anybody*” (*Photo 3*). This comment illustrates the awareness the community has of the farmers’ market and the prominence it holds for community residents. *Photo 3* depicts a portable sandwich board sign placed alongside a road that conveys the event, a Farmers' Market, the date and time, Saturday, 11 - 2, and the “*New Location*” of Centennial Centre. The same participant continued to explain that some customers have dealt with the same vendors for years and that “*people trust these people.*” Word-of-mouth was mentioned as a key method of communicating these relationships. Building trust in local food relationships is imperative to empower the local residents in the decision making process of their healthy eating choices (Anderson and Cook 1999; Feenstra 2002).

*[Insert Photo 3 about here]*

Participants from SP and BV who spoke about the farmers’ market as a place to obtain local foods stated that the market has been a big part of their community for many years. It was described as a way of life for many of those people participating in it; vendors did not do it to get rich, but rather because they loved doing it. *Photo 4* is significant for illustrating the connection the participant makes to local food and healthy eating, but also suggests that supporting other food growers and the local farmers’ market is important to her sense of a healthy community (Feenstra 2002; Feagan, et al. 2004).

*[Insert Photo 4 about here]*

*Photo 4* illustrates a functioning food storage facility located on the participant's farm. The image captures a rare sight not commonly seen nor used by today's grocery shoppers: an “*old fashioned*” earthen root cellar. Before modern electric refrigeration, the earthen root cellar was an essential way to keep potatoes, carrots, turnips, beets, and other root vegetables fresh throughout the winter, and would have been a common sight across many rural Alberta communities. “*This time-tested storage method still makes sense today-whether you stock a root cellar with your own homegrown produce or the bounty from local farmers' market*” ([www.almanac.com](http://www.almanac.com)).

The sentiment of the above quote from *The Old Farmer's Almanac* is illustrated by the participant, a semi-retired farmer, who spoke of how she still uses the root cellar to store produce (potatoes, carrots, beets) grown in her own garden, as well she lets other community members use it to store their garden produce. She also describes allowing some farmers market vendors to store their products in her root cellar for free if they do not have their own storage facility. When the participant was asked if she thought her garden grown produce was healthier than produce bought at the grocery store she replied, "*Oh well, everything is organic for one thing. We don't use any chemicals whatsoever. We don't use fertilizer, we don't use any spray, nothing.*"

The photographs of farmers' markets in the NCE community were described by one participant as places she desired to visit to obtain healthy local food. Her photographs represented the newly organized community farmers' market, where the local food selection was described by the participant as "*disastrous*". Her reaction may reflect the newness of the market and the seasonal fact that May and June (i.e., when the study was conducted) were early for freshly grown local produce. No other NCE participants took photographs of the local farmers' market, although a few expressed interest in checking it out at a later date. A farmers' market is typically designed to be a focal point to bring residents together (Feenstra 2002; Feagan, et al. 2004), but these results suggest that it is not yet perceived as a place to obtain local, healthy food nor as a social activity in this community. If the study were repeated after the farmers' market has been in place for a few years the results may be quite different; there may be more photographs taken and stories discussed concerning the connection to local food at the farmers' market representing healthy eating.

Photographs of healthy eating from MHR represented a year-round farmers' market-style operation where local produce was available, but heavily supported by imported fruits and vegetables. This emphasizes the importance of understanding that the phrase 'fruits and vegetables' when associated with healthy eating (Worobey et al. 2010) may not always refer to locally grown foods.

Farmers' markets were photographed and discussed by participants in all four communities. In the context of the SP and BV communities, the stories revolved more around people and community, suggesting that closeness, and the face to face relationships associated with obtaining food from local sources, contributes to perceptions of healthfulness for the

individual and the community. This illustrates, as Trubek (2008) suggests, that place is also about the people, customs, and practices. In a recent study of farmer and consumer attitudes at farmers' markets, Asebø and colleagues (2007) found that producers considered how their food was produced to be more important than where it was produced. Vendors wanted to describe to customers how they grew their products and to establish a relationship with them.

In contrast to farmers' markets, the frequency of personal gardens used to represent healthy eating and local foods in NCE may reflect the larger, more socially diverse environment of larger communities, but it does not negate the perception that inner city residents do perceive local food as healthier food. The role of gardens in providing healthy and local food is explored next.

## Gardens

The predominance of personal gardens representing healthy eating and local foods in NCE suggests they may play a different role than the community stories from SP, BV, and MHR. Participants spoke of gardening as a way to obtain healthy vegetables that were free of the chemicals and fertilizers that store bought produce may be exposed to, often using the label organic to describe their own produce. They equated homegrown with healthy eating, and expressed pleasure in being able to grow their own vegetables and know where their food came from. One participant mentioned that eating food from her garden was a way to reduce shopping costs (Milburn and Vail 2010).

*[Insert Photo 5 about here]*

*Photo 5* illustrates a newly planted garden in the backyard of the participant's home in NCE. The participant provides some context to why she took this picture in her description of her photograph:

This is a picture of the garden that my husband and I worked on. We are just trying to grow as many of our own vegetables in the summer as we can, but it is also just kind of a nice activity for us to do. We have tomatoes and peppers and squash and spinach, and yes my husband is really good about doing the research about when to plant certain things.

The participant who took the photograph in *Photo 5* illustrates the importance of accessing fresh vegetables that she associates with healthy eating in the following passage:

I like eating organic as much as I can, so it is nice that growing our food we know where it is coming from; so that feels good too. I think it is good for you physically that you are eating well, but I just feel it is really good for your spirit too, to get outside and be doing those things.

The participant associates a broader health benefit than just the physical component of eating produce from her own garden, by suggesting that it is good for your spiritual health as well as your physical health. The participant also made reference to the planting and growing of a garden as a shared activity between her husband and herself that adds to the significance of having their own garden. It is not just the access to the food and shared activity, but also the connection to the food production that is illustrated here.

Other participants emphasized rain water collection and composting as part of their gardening experience, illustrating the growing awareness of environmental concerns for promoting a healthy community as well as healthy eating (Feenstra 1997). Seasonality was illustrated, as summer and fall were mentioned as times when people enjoyed eating fresh produce direct from their gardens. Participants discussed the process of gardening as a learning activity, experimenting with different things. One participant described how she liked to grow “*weird things*” for the kids, such as strange colored and shaped vegetables that they were not used to.

The personal gardens were described by NCE participants as hobbies or as sources of exercise for the participants, combining healthy eating with healthy activity. Participants characterized their personal gardens as something that they could control themselves, and as a way to connect with community, e.g., through some sharing of produce amongst nearby neighbors. Further, the aesthetic appeal of gardening emerged as a few participants spoke of how they liked to walk around the neighborhood to look at other peoples’ gardens, but more in the context of viewing their flowers and not their vegetables. This is supported by studies that illustrate the importance of gardens as a way to beautify neighborhoods and create a sense of community amongst its residents (Ohmer et al. 2009; Milburn and Vail 2010).

In contrast to the personal gardens described above, the community garden photographs came from the smaller, rural communities of SP and BV. This appears counterintuitive to the history and development of community gardens as an ‘urban’ phenomenon designed to reintroduce gardening and nature to larger cityscapes (Lawson 2005; Milburn and Vail 2010). One SP participant offered the observation that many people are building larger houses and do not have space for their own gardens, conversely more people live in apartments and condos and have small yards, but still like to garden and so there is a continued need and desire for gardening. Her comments reflect those usually associated with the larger cityscapes and suggest that even the smaller, rural communities, with agricultural and gardening backgrounds, are dealing with issues of ‘urbanization’. It also suggests that SP and BV view community gardens as an important component of sustainable community development (Ohmer et al. 2009) and as a way to help residents connect with the land and the food that comes from it (Trubek 2008; Milburn and Vail 2010). Community gardens may foster the direct engagement of people with the soil, plants, and the ‘fruits’ of their labor, while promoting social interaction and community involvement.

Another photograph (not shown) discussed by a participant from BV was the front gate to the community garden where people can rent small plots and plant their own garden:

I have heard of community gardens, but I have never actually seen one, ever. So I thought that this was really neat, and I am betting a lot of people don’t know about it.

When asked what she thought would be the best way to promote the community garden to the residents, the participant replied:

I don’t know, like maybe putting something on a website, like there is a website called Infomo and it is sort of like the trading post of the area, it is an online classified, so that would be a good place to put it. In the paper, radio, just word of mouth is probably the best way, actually.

These passages illustrate awareness and accessibility issues related to healthy eating and local food promotion, while emphasizing the personal relationship between food and body, by suggesting “word of mouth” as the best way to promote the local community

garden. The greenhouse and U-pick/farm images discussed in the next section provide a contrast to the farmers' market and garden photographs in how participants perceive healthy and local food in different places.

### Greenhouses & U-pick/farms

The photographs of greenhouses and a U-pick/farm represent what Hinrichs (2000) refers to as economic marketness and instrumentalism within the perceived social embeddedness of local foods. They are more indicative of commercial businesses owned and operated by companies or individuals for the purpose of economic exchange and motivated by profit. The greenhouses of MHR were clearly identified as markers of physical place, prominent on the local landscape and representative outside the community of a successful commercial produce exporter. MHR participants discussed these as a source of local pride for the community.

Yet the greenhouses in MHR were also spoken of as a place for residents to obtain locally produced, inexpensive, and healthy food (*Photo 6*). The process of purchasing produce at a greenhouse described by one of the participants illustrates how the degree of social embeddedness may vary between communities (Hinrichs 2000; 2003). She described her experience as seeing very few people and therefore devoid of any social interaction. Consumers helped themselves, picking desired foods, and then paying at an unsupervised cash box. This suggests an element of trust, a vital component of local food system interactions between producer and consumer (Feenstra 1997; 2002). However, again the participant's story also reflects a different viewpoint, "... *it is an extra bonus for them if they sell a little on the side; it is like cash in their pocket.*" This suggests that the greenhouse is not dependent on these types of consumer transactions and that they invest very little into this format of selling food, consequently diminishing the perceived social embeddedness associated with greenhouse-grown healthy and local food to the community.

*[Insert Photo 6 about here]*

One local venue in SP, Bob's<sup>2</sup> Market Gardening presents a different slant on the commercial enterprise. There really is a 'Bob' and his individual identity and the identity of his

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<sup>2</sup> Name was changed to retain data integrity.

carrots was reported as a strong marker of place for the respondents in SP. *Photo 7* represents a venue, Bob's Market Gardening, located in a real place, St. Paul, Alberta. But the photograph also represents a food product, a bag of carrots, which is promoted as "*Home Grown*" prominently on the front of the bag. Many participants spoke of Bob's carrots as a source of local pride for community members, as well as a source of healthy eating and local food. One participant described how the local high school students were aware of the provenance of Bob's carrots and even associated a superior taste to them. This supports Gottlieb and colleagues' (2008) research that suggests when farm fresh produce is provided directly into a school's food options and supported with education, the students are more likely to choose them as a healthy eating option.

*[Insert Photo 7 about here]*

### **Strengths and Limitations**

Reflexivity, the acknowledgement that the researcher is part of the social world they are researching (Robben and Sluka 2007) is an important component of this study. Participants in the four communities were not interviewed by the same researcher. Although rigorous training was undertaken prior to initiating field research, and an interview guide was followed, each researcher (n=3) brought different perspectives and different life experiences to the interview and may have pursued slightly different areas of interest, while still adhering to the semi-structured interview guide. For example, one may have been more interested in the 'physical activity' component compared to another who may have been interested in the 'healthy eating' questions.

A perplexing question that arose through the examination of the data was why participants took so few photographs that represented healthy eating in a study that focused only on physical activity and healthy eating; i.e., we would have expected that approximately half of the photographs would represent physical activity and the other half representations of healthy eating. Recall that, in this analysis, we only included photographs that participants selected for discussion; out of the 457 photographs participants selected for discussion (in total), only 106 (23%) of them centered on healthy eating. One possibility for the relatively low numbers of healthy eating photographs is that because we eat every day, food and what we assume is healthy eating, becomes a quotidian or taken for granted process for the individual. Another possibility is

that healthy eating was less of a priority for our participants, who may have had a greater concern about or interest in the availability and accessibility of physical activity infrastructure (Belon et al. 2014). Alternatively, participants may have implicitly believed that healthy eating is about individual choices, not about what is or is not available in their environment, and so may not have thought about depicting how environmental forces may shape their eating.

As previously reported, five out of the 35 study participants took no photographs of any kind that represented healthy eating to them. When asked, typical responses as to why the participants did not take any photographs representing healthy eating included “*I don’t eat out*”; “*I forgot the camera when visiting these locations*”; “*I didn’t take any food [photos] because we don’t have [healthy] food here.*” Participants’ attempts at articulating why they did not take any of these pictures may be interpreted as quotidian indifference, but that in itself may reflect the reported growing disconnect people have about their food and where it is produced (Feagan 2007; Trubek 2008) and its potential relationship to healthy eating (Allen, et al. 2003; Winter 2003; Feagan, et al. 2004; Gottlieb, et al. 2008).

The use of various terms and definitions associated with healthy eating and local foods is a constant language problem for participants whether they are consumers, producers, or researchers, and none more so than the term ‘local’ itself. Hinrichs (2003) suggests that ‘local’ “*often serves as a talisman*” (p.33) to represent different things to different people at different times. We suggest that ‘local’ represents more than a physical location of circumscribed boundaries, it also includes the people and the processes involved in producing, distributing and consuming local food. This may be particularly salient for the communities in our study that experience a long winter.

The choice of our operational definition for ‘healthy eating’ may cause some concern to many readers. It is not our contention that all food obtained from the stated locations represents ‘healthy food’ nor do we dismiss the notion that ‘healthy food’ alone represents ‘healthy eating’. Certainly there are many variables that contribute to the broad spectrum of what constitutes ‘healthy eating’ such as eating practices, quantity of food, nutritional composition, and when, where and even who it is shared with. We did not discuss these eating practices in this paper. What is important for our study were the narratives participants gave to the question and their associations to the pictures they took (or did not take) to represent ‘healthy eating’ in their communities.

Therein lays the strength of our study. Together, participants' responses, their photographs, and their stories provide a more nuanced analysis of the culture of food, and the larger cultural assumptions that we enact every day around the kinds of food that are implicated in healthy eating. A visual examination of the photography in *Photo 1* without the participant's narrative would not have allowed the researcher to code the photograph with the specific theme of "eating from local food/farmers' markets/gardens." This reinforces the importance of employing the photovoice methodology for topics necessitating depth of exploration, and of analyzing each participant's photos and stories simultaneously.

We suggest that because participants were not asked specifically about local foods, their associations of local foods with their perceptions of healthy eating strengthens the connection between the two and adds credibility to our findings. As Nykiforuk and colleagues (2011) report, this is one of the benefits of employing the photovoice technique in community based research, and as Feenstra (2002) suggests 'local' stories do have the potential to shape public food policy and that local decision-makers want to hear them.

### **Roots/Routes to Moving Forward**

Our findings support recent research that suggests perceptions of healthy eating need to be understood within social and cultural contexts. Distinctive to our findings is the idea that 'local foods' was an important part of participants' definitions of healthy eating, and consequently may serve as a positive message in the promotion and support of healthy eating campaigns within these communities.

The photovoice method, i.e., participants taking their own photographs and selecting which ones to discuss, enabled participants to engage in the process of constructing meanings around their perceptions of healthy eating on a deeper level. Conventional healthy eating terms, such as moderation, quality, and references to the Canada Food Guide from the first interview, gave way to nuanced stories about local emplaced relationships between food, people, and places in the second interview. Pride in where food was produced, whether in backyards or local farms, and the healthfulness of those foods, were revealed as part of the discourse of healthy eating in participants' everyday lives.

Public perceptions that local foods are healthier foods are well documented in the literature on local food systems (e.g., Allen, et al. 2003; Winter 2003; Feagan, et al. 2004;

Gottlieb, et al. 2008). Data from our study supports that association, as the local food/farmers' markets/gardens was the only thematic category to significantly increase in participant responses from the first to the second interview, when participants, as inspired by their photos, evocatively spoke of their emplaced food beliefs and practices. While we recognize that the concept of local foods as a component of healthy eating may not be salient for all participants in our or other communities, the findings suggest further research ought to investigate this possibility.

Our study adds to the collective knowledge about 'healthy eating' by uncovering the how socio-cultural and emplaced perceptions of healthy eating shape people's perceptions of food and healthy eating. This new knowledge is especially critical when considering (Canadian) society's growing interest in both 'local food' and 'healthy eating'. Our study findings suggest that perceptions of healthy eating can be fostered by promoting local foods available within a community and that these perceptions will reflect different meanings in different places. Availability of healthy eating and local food combined with education highlights the importance for community leaders and decision makers to increase the awareness of these foods in their communities. This would certainly be the case for new arrivals to any of the four communities who would simply respond to questions concerning local food availability with "*I wasn't aware of it.*"

Further research on how place intersects with beliefs and practices would contribute to an understanding of the role local foods have in shaping regional and federal policy and regulations (such as "Made in Canada" or "Made in U.S.A" as economic employment programs) that contribute to a social consciousness around perceptions of healthy eating.

Relatively little data on Canadian healthy eating practices and perceptions exist in the literature, thus our study also contributes by focusing on four communities in Alberta, Canada. It is hoped that this paper, as part of the larger CHBE Project, will inform community stakeholders and decision makers about possible relationships between healthy eating and local foods that can be built upon in future health promotion activities. The personal photographs and narratives of the participants in this study were an effective method to collect qualitative data that reflected the awareness, knowledge, and concerns of community residents and thus acknowledged local knowledge and expertise. The use of photovoice as a technique to elicit more detailed and nuanced stories from participants may be an effective way to help capture abstract concepts, such as healthy eating, that are part of consumer's everyday lived experiences. This was illustrated in

the greater salience of local foods among participants' health eating beliefs and practices that emerged from the second interviews. Furthermore, images and their associated stories may be more informative to researchers, health professionals, and policy-makers. It is clear from our study that 'healthy eating' and 'healthy food' are only components to promoting an overall healthy lifestyle. However, promoting 'local' food may be an effective way to address issues of healthy lifestyle and should be included in the discourse on 'healthy eating'.

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## Photos



**Photo 1** Redcliff Library, MHR

“The other thing I learned, and why I also took a picture at the Redcliff Library, is because we have a community garden at the Redcliff Library and I didn’t know that either.”



**Photo 2** Fresh asparagus at the Bonnyville Farmers’ Market, BV

"This is from the farmers' market. She has fresh asparagus grown in her own garden. She does the U-pick, saskatoons, strawberries, vegetables. I used to go out there and pick my strawberries for freezing and stuff."



**Photo 3** Farmers' market sandwich board sign, BV

"That it where the farmers' market is in there, they didn't have much left when I got there, it sells out real fast."



**Photo 4** Root cellar on participant's farm, SP

"This is a root cellar that we dug into the hill at my house. We have had it for 20 years. People need a place to store their vegetables to bring to the farmers' market. We have farmers and people that use our root cellar for storage and there is no storage fee. They don't have their own storage."



**Photo 5** Personal garden, NCE

"This is a picture of the garden that my husband and I worked on. We are just trying to grow as many of our own vegetables in the summer that we can, but it is also just kind of a nice activity for us to do. We have tomatoes and peppers and squash and spinach, and, yes, my husband is really good about doing the research about when to plant certain things."



**Photo 6** Greenhouse, MHR

"There is a lot of greenhouses in this area, and from probably March until about November of the year you can buy fresh produce there at a very, very reasonable price, direct from the growers, and they sell beautiful cucumbers. They sell peppers, they sell tomatoes, and they are absolutely beautiful, beautiful fresh veggies. So we like to do that too, to have a healthy diet."



**Photo 7** Bob's carrots, SP

"I took this picture because Bob's Market Gardening is a local company, it is actually a fellow who has this gardening farm who is close to town and he is well known for his carrots that he produces and they are extremely popular in town."

## Figures

**Figure 1.** Change in Proportion of Themes between Interviews

