**Perceptions of Healthy Eating**  
State of Knowledge and Research Gaps

Marie-Claude Paquette, PhD

**ABSTRACT**

To effectively promote and support healthy eating among Canadians, there needs to be a better understanding of the factors that influence eating behaviours. Perceptions of healthy eating can be considered as one of the many factors influencing people’s eating habits. For this review, “perceptions of healthy eating” are defined as the public’s and health professionals’ meanings, understandings, views, attitudes and beliefs about healthy eating, eating for health, and healthy foods.

This article’s aim is to review and summarize the literature on the perceptions of healthy eating and to identify the current state of knowledge and key knowledge gaps. Databases, the worldwide web, selected journals and reference lists were searched for relevant papers from the last 20 years.

Reviewed articles suggest relative homogeneity in the perceptions of healthy eating despite the studies being conducted in different countries and involving different age groups, sexes and socio-economic status. Perceptions of healthy eating were generally based on food choice. Fruits and vegetables were consistently recognized as part of healthy eating. Characteristics of food such as naturalness, and fat, sugar and salt contents were also important in people’s perceptions of healthy eating. Concepts related to healthy eating, such as balance, variety and moderation, were often mentioned, but they were found to be polysemous, conveying multiple meanings.

The main gap identified in this review concerns the lack of knowledge available on perceptions of healthy eating. More data are needed on the perceptions of healthy eating in general, on the influence on perceptions of messages from diverse sources such as food companies, and, most important, on the role of perceptions of healthy eating as a determinant of food choice.

**MeSH terms:** Eating; perceptions; diet; attitude; food habits
LITERATURE SEARCH METHODS

Database and web searches, hand review of selected journals, and reference lists of papers were used to find information on the perception of healthy eating. Reference databases covering the topics of nutrition, medicine, sociology, psychology, aging, nursing, and education (MEDLINE, PubMed, Sociological Abstracts, ERIC, CAB abstracts, PsycINFO, AgeLine, FRANCIS, CINAHL) were searched for Canadian and international scientific literature from 1980 to 2004. Findings of key words were put under two broader terms, an “eating” term (key words: healthy eating, food choice, food habit, food, and food selection) and a “perceptions” term (key words: perception, lay conceptualization, conception, meaning, belief, attitude, interpretation, conceptualization, and meaning), which were intersected; resulting findings were reviewed on screen or printed.

Additional information sources were sought to complement the more traditional channels of the scientific literature, through e-mails sent to personal contacts and consultation of websites of professional associations and health-related organizations. Additional unpublished reports were obtained from the Office of Nutrition Policy and Promotion at Health Canada. While materials collected through these alternative sources are not typically peer-reviewed, they are an essential complement to the paucity of peer-reviewed articles on the topic of healthy eating perceptions.

All articles and reports were examined for inclusion in this review. The inclusion criteria included the following: 1) the objectives of the study were stated as exploring the perceptions of healthy eating, or findings and results explored aspects of healthy eating; and 2) studies were deemed methodologically sound. Methodological soundness was evaluated by examining internal validity, reliability and the objectivity of quantitative studies; and transferability, dependability, confirmability and credibility10 of qualitative studies. In the end, 38 studies were included in this review.

Since perceptions are likely influenced by culture, it was not assumed at the outset that perceptions of healthy eating in a population group of another country were similar to those of Canadians, or that perceptions across Canada are homogeneous. These differences limit the transferability of findings and point to the need to replicate studies from other regions or countries. However, international studies are included in this review because of the lack of Canadian data.

The public’s perceptions of healthy eating
In the review of the literature, fundamental elements of the perceptions of healthy eating were found to be 1) vegetables and fruits, 2) meat, 3) low levels of fat, salt and sugar, 4) quality aspects, such as fresh, unprocessed and homemade foods, and 5) concepts of balance, variety and moderation.

While the majority of studies found explored adults’ perceptions of healthy eating, studies that focused on specific age groups, such as persons over 65 year of age, children and adolescents, did not report major differences from adults’ perceptions. For that reason, studies from all age groups are included in this section, and differences in perceptions are highlighted in the text. Because of the small number of studies that focused on variations in perceptions according to socio-economic status (SES), results from these studies have also been included in this section.

Not all studies included in the review were from Canada, but review of the literature strongly suggested that perceptions were relatively homogenous regardless of country, and thus it is appropriate to contrast the perceptions of healthy eating with Canadian dietary guidance. In general, the public’s perceptions of healthy eating seem to be heavily influenced by dietary guidance, which recommends vegetables and fruits,11,12 meat,11,12 limitations of fat and salt,11 variety11,12 and moderation.12 However, other elements that seem central to people’s perceptions of healthy eating are not found in current dietary guidance, such as the importance of freshness, unprocessed and homemade foods, limiting sugar intake and the concept of balance.

Vegetables and fruits
A good number of the studies involving children, adolescents and adults6,4,13-27 found that fruits and vegetables were most often mentioned by participants as healthy foods, as part of a healthy diet or as most important for healthy eating. Studies that included older respondents, persons over 65 years of age, did not find that the importance of vegetables and fruits to healthy eating varied according to age.13,28 In addition, the importance of vegetables and fruits does not seem to have changed much with time, as a few older studies, published 20 years ago, also reported that vegetables and fruits were perceived to be an essential part of a healthy diet.29,30

However, a few studies15,28,31 suggested that gender influenced the perception of vegetables and fruits. Women mentioned vegetables and fruits more often as part of a healthy diet,15 and these foods were perceived to be more suited to women.28,31 These findings support the notion of gender differences in attitudes to vegetables and fruits.4,32 In her book, Lupton4 suggests that light, sweet, soft-textured foods and foods that are easy to digest are associated with women, whereas meat and foods that are harder to digest are associated with men.

In addition, a Canadian study19 reported on the emergence of a fruit and vegetable morality: “the should syndrome”. In this study, some participants felt obligated to eat vegetables and fruits. The researchers attributed this attitude to current health messages that promote eating vegetables and fruits for their health value, and the status of vegetables as an essential part of an “ideal” diet.

Meat
In adults, meat was mentioned in the greatest number of studies after vegetables and fruits.8,15,17,18,34 It was also mentioned as part of healthy eating by children and adolescents.21,23,26 However, the role of meat in healthy eating is not clear. In most cases the perceptions of healthy eating included avoiding or limiting meat consumption.13,15 Indeed, a Canadian study reported that participants perceived healthy eating as trying to limit meat intake, specifically red meat, and replacing it with chicken or fish.18 On the other hand, some studies have reported that people perceive eating more meat as part of healthy eating.18,19,35 One of these studies18 reported the confusion surrounding the quantities of meat to eat, several partici-
pants believing that eating a lot of meat is important to healthy eating. Older and recent studies also support the notion that meat is an essential component of "traditional" meals. Finally, a few studies suggested that SES may influence perceptions regarding meat. In one study, red meat was more frequently mentioned as healthy by women of lower SES. Part of the inconsistency in perceptions of meat may be attributable to the term itself, which can encompass many varieties of meat and meat cuts.

Low levels of fat, salt and sugar
Fat, salt and sugar were the three most frequently mentioned components of food to be avoided for a diet to be perceived as healthy in all age groups. A telephone survey representative of the Canadian population reported that people avoided foods with cholesterol (60%), salt (56%) and sugar (48%) to make their diets healthier. Another Canadian study found that when asked what advice they would give on healthy eating, participants recommended avoiding fat and high-fat foods, sugar and fried foods. Similar findings were found in studies conducted in the UK and European Union (EU).

The latter also reported that women were more likely than men to mention eating less fat in their definition of healthy eating. However, the influence of SES on the perceptions of fat, salt and sugar is not clear. While the results of a UK study suggested that women of higher SES were more concerned than women of lower SES about eating low-fat foods, both social classes perceived sweet foods and fatty/fried foods to be unhealthy.

Studies also suggested a heightened awareness of fat, sugar and salt among older respondents. A Canadian telephone survey suggested that restricting fat, sugar and salt was more common in adults over age 55 than in younger age groups. Older adults' heightened apprehension of the fat, sugar and salt content of food, found in these studies, is understandable in light of the link with chronic diseases.

Qualities: Fresh, unprocessed and homemade foods
Other characteristics of food not associated with food composition, such as freshness, were influential on people's perceptions of healthy eating. In many studies, fresh foods and the freshness of food was considered in opposition to canned, frozen and processed foods. For the latter there was a perception that such foods were unhealthy or not as healthy as fresh foods.

Fresh foods may also be important to some older respondents. In a pan-EU study, 10% of seniors included natural foods and no processed foods in their description of healthy eating. Some studies described not only the importance of freshness but also the freshness of specific categories of foods, such as vegetables and fruits, and meat products.

Studies have also suggested that the way food is prepared influences perceptions of healthiness. A Canadian opinion survey found that meals considered to be the most healthy were home-cooked meals. In addition, studies in children and adolescents have suggested that the situation, location and context surrounding eating influence perceptions. Foods eaten at home were viewed as healthy compared with foods eaten outside the home or with friends. This distinction was not clearly reported in studies of adults’ perceptions.

Concepts of balance, variety and moderation
In all age groups, the concepts of balance, variety and moderation were often reported as part of the perceptions of healthy eating. A Canadian study showed that about half of the respondents spontaneously mentioned eating a balanced diet or a variety of foods as part of healthy eating. Balance was discussed in terms of eating more one day to balance eating less the next day and varying the emphasis on different food groups from day to day.

A Canadian study found balance to be a polysemous concept, expressing variety in meal composition, balancing healthy foods with less healthy ones, balancing a healthier diet with occasional lapses, and balancing enjoyment with nutritional or health concerns.

A UK study supports these findings and reports that participants had difficulty in explaining the meaning of the term balance. It was associated with notions of right and good, and was often contrasted with the concept of "excess". Confusion in the meaning of the term “balance” was also suggested in a study of children, in which one child described healthy eating as “to have a balanced diet such as pasta, chocolate and eggs.”

The concept of balance was often mentioned by study participants in combination with the concepts of variety and moderation. An Australian study reported that the concept of moderation was used as a response to confusion and inconsistencies perceived about healthy eating. By using the concept of moderation, people could justify any food choices. Confusion and polysemy were also reported in a lay journal article in which both lay people and health professionals "struggle with the definition of a 'moderate' diet" and question the usefulness of the concept. Some health professionals were also quite critical of the term, believing that it contributed to weakening dietary recommendations.

Moderation was also mentioned in a qualitative study of British seniors. These respondents believed it was important to eat with moderation to avoid weight gain but also to avoid overindulgence as a moral value. Finally, a study of women suggested that middle-class women placed greater importance on balance and moderation in their perceptions of healthy foods than working-class women.

The studies reviewed in this section reveal the numerous meanings associated with the terms “balance” and “moderation”. Findings also suggest that while there exists wide diversity of meanings for the term “balance”, nutrition messages and health professionals may not be aware of or take into account this diversity of meanings; rather, they tend to assume a more specific, single definition.

Overlap in perceptions of healthy eating and of weight loss dieting
A few studies included in this review have suggested that overlap between perceptions of healthy eating and perceptions of dieting for weight loss exists. A qualitative study in the UK suggested that participants consciously used concepts of moderation and healthy eating to conceal and make more socially acceptable their weight loss attempts. In their study of older adults, McKie et al. also reported that participants’ conceptualization of healthy eating included concerns about...
weight gain that emerged under the theme of moderation. One study of children reported that for some the concepts of thinness and fatness were spontaneously associated with concepts of healthy eating. Finally, a study conducted with boys and girls also reported that dieting for weight loss was described as healthful eating behaviours, such as “eating more salads or fruits or vegetables”, “I think it has more to do with healthy eating.”

The consequences of the overlap between healthy eating and weight loss dieting are not known. While some authors propose that these findings suggest we need not be so concerned about dieting for weight loss in adolescents, as it may actually reflect healthy eating behaviour, others caution that healthy eating messages could reinforce unhealthy eating practices and excessive weight preoccupation. More research needs to be conducted on the origins and effects of the overlap between people’s perceptions of healthy eating and dieting for weight loss.

The public’s perceptions of healthy eating are most often conceptualized through food choice; fruits, vegetables and meat were the most mentioned. Food characteristics and components were also important elements in people’s perceptions of healthy eating. The concepts of balance, variety and moderation were often part of respondents’ perceptions of healthy eating. However, few studies examined the meaning of these terms for respondents, and most did not describe the researcher’s interpretations and coding scheme for recognizing these notions in participants’ narratives. When coding schemes were reported, meanings were numerous rather than uniform.

The public’s perceptions of healthy eating seem to be heavily influenced by dietary guidance, which is relatively similar across the countries of studies discussed in this review, which also recommends vegetables and fruits, meat, limitations of fat and salt, variety and moderation. However, other elements that seem central to people’s perceptions of healthy eating, such as the importance of freshness, unprocessed and home-made foods, limiting sugar intake and the concept of balance, are not found in current dietary guidance.

Other important elements of dietary guidance, such as the grain products and milk products groups, were not included in people’s perceptions of healthy eating to any major extent. A few studies reported that carbohydrate-rich foods such as breads, grains, pastas, pulses and potatoes were part of healthy eating definitions. Canadian data also suggested that the grain products group is rarely mentioned. The milk products group is even more rarely mentioned as part of healthy eating. Except in one study, in which adolescents rarely mentioned dairy products, studies focussing on children and adolescents found that milk was more often included in their definition of healthy eating than it was in adults’ definitions. In adults, milk products were mentioned most often within the context of decreasing fat intake by consuming low-fat dairy products.

In addition, most studies did not assess more precise aspects of perceptions, such as quantities, serving sizes and portion sizes. While people perceive vegetables and fruits to be important to healthy eating, they may not know how much they need to eat to be healthy. Such notions themselves could be the subject of multiple meanings and interpretations, and should constitute future research avenues. More research also needs to be initiated into how people put their definitions of moderation, variety and balance into effect in their lives.

Health professionals’ perceptions of healthy eating

Only one study was found that briefly discussed health professionals’ perceptions of healthy eating, conducted in London, UK. This review has identified many gaps in knowledge. Overall, three aspects of perceptions need to be further investigated: most importantly, the influence of the perceptions of healthy eating on food choice and eating behaviour; how messages from information sources (e.g., media, health professionals, food industry) shape perceptions of healthy eating, and the need for research on perceptions themselves.

Indeed, while the link between perceptions and behaviour can be inferred, it is not clearly supported in the literature. This aspect of perceptions could be studied within the context of research into the different factors that influence food choice or as an exploration of the two-way relation between perceptions and behaviour. Such studies are central to asserting that the perceptions of healthy eating are truly a determinant of healthy eating.

The process by which information sources shape people’s perceptions of healthy eating by contributing meaning to nutritional messages also needs to be better understood. Such research is essential information to direct the development and wording of future dietary guidance and health promotion efforts for healthy eating. These findings could also potentially contribute to developing regulations aimed at controlling food advertising and claims, as well as critical appraisal techniques of media literacy.

Perceptions of healthy eating themselves also need to be further explored. Indeed, no study was found that specifically explored health professionals’ perceptions of healthy eating. Research is first needed on dietitians’ perceptions of healthy eating, as they are considered the nutrition experts and are often called upon to inform and educate about healthy eating. Variations in the perceptions of healthy eating also need to be investigated in other health professionals, such as physicians, nurses and public health professionals.

In order to better tailor interventions, to make them more salient and successful for
specific groups, research on perceptions should explore variations in perceptions by individual or group characteristics, such as gender, age, SES, cultural heritage and geographic area of residence. These research initiatives would also provide much needed Canadian data.

Finally, more detailed research is needed on the perceptions of healthy eating such as quantities and serving sizes of food and food groups, on the meat group and its part in healthy eating, on largely ignored groups such as grain and dairy products, and on the way people’s perceptions determine their daily food choices.

REFERENCES
