

# Perceived Food Environment

## MEASURING TOOL

### KNOWLEDGE TRANSLATION

JULY 2023

This document is part of the [Toolbox for Carrying Out a Food Access Diagnostic and Evaluating the Effects of a Food Cooperative](#), developed as part of the EffICAS study conducted by the Institut national de santé publique du Québec. One of the main goals of this toolkit is to help stakeholders draw up a diagnostic portrait—a snapshot at a given point in time—of people’s access to food and to assess the effects of a food cooperative on individuals and communities.

More specifically, perceived food environment measuring tool assesses perceived access to healthy and fast food-type foods, and tracks its evolution over time.

Our perception of our living environment can differ from reality. It is useful, therefore, to look at people’s perceptions of their food environment, in order to understand perceived barriers to food access, and how these are changing. The perceived food environment complements the mapping of food deserts, both of which qualify access to healthy food in different ways.

## DEFINITION AND SOURCE

The food environment represents “All the conditions under which a person or group of people has access to food, chooses it, and consumes it”(translated from Dufour Bouchard *et al.*, 2010). This concept thus refers to the quantity, variety, quality, geographical accessibility, and price of food available close to one’s living environment (Glanz, 2009).

The French version of the tool used to measure perception of the food environment in the EffICAS study was developed and validated by Carbonneau’s Québec team (Carbonneau *et al.*, 2017). Please note that Carbonneau’s team indicates that the English version of this measurement tool available in their article and reproduced in the document has not been validated.

## QUESTIONNAIRE

The English version of the questionnaire developed by Carbonneau and colleagues is as follows:

- An introduction that defines what we mean by “healthy food”;
- General instruction;
- Nine (9) questions for which a single range of responses is used.

## Introduction

These questions are designed to find out what you think about the accessibility and availability of healthy food in your area. Healthy foods are those included in *Canada's Food Guide*: vegetables and fruit, whole grains (breads, cereals), proteins (meats, milk, yogurt, legumes), and water.

## Instructions

Please indicate your level of agreement or disagreement with the following statements. Check the box that best corresponds to your choice. Some questions may seem repetitive. However, it is important to answer all questions.

## Questions<sup>1</sup>

1. I consider that the quantity of healthy foods offered by my main food retailer is sufficient .
2. I consider that the variety of healthy foods offered by my main food retailer is sufficient.
3. I consider that the quality of healthy foods offered by my main food retailer is acceptable.
4. I consider that the cost of healthy foods offered by my main food retailer is affordable.
5. I consider that I have easy access to a food retailer with a good variety of foods near my home.
6. I consider the information in the media about food and nutrition positively influences my diet.
7. I consider that fast-food restaurants are easily accessible from my home.
8. I consider that fast-food restaurants are easily accessible from my workplace.
9. I consider that I have easy access to junk foods at work.

## Answer choices and associated values

(single-response Likert scale)

1. Strongly disagree
2. Somewhat disagree
3. Neither agree nor disagree
4. Somewhat agree
5. Strongly agree

Note: To facilitate the reader's task, we suggest emphasizing key words that distinguish questions that seem similar.

---

<sup>1</sup> Only the questions contributing to the calculation of the perception score were asked in the EfficAS study. To find out more about the other questions, see Table 1 in Carbonneau's article (Carbonneau et al., 2017)

## PROCESSING AND ANALYSIS

Responses to the nine questions are separated into two groups to form two measures of perception, the first relating to healthy foods (i.e., nutritious foods) and the second to unhealthy foods (i.e., of low nutritional value).

**For healthy food:** Using the Likert scale value associated with each of the answers to questions 1 to 6 (i.e., a value between 1 and 5), calculate an average.

**For unhealthy food:** Using the value associated with each of the answers obtained in questions 7 to 9, calculate an average.

Note 1: Please note that for paper questionnaire it is possible that a respondent may have not answered certain questions, it is recommended to ensure a minimum number of answers by calculating averages. In the context of the EffICAS project, a minimum of five out of six responses was deemed sufficient for the calculation of the healthy food measure, and a minimum of two out of three responses was used for the unhealthy food measure.

Note 2: If the questionnaire is to be used with retired or non-working people, consideration should be given to removing questions about the workplace from the questionnaire, or to taking this into account when subsequently processing the data.

The average (also called "score") will be a number between 1 and 5.

## INTERPRETATION

To reflect a higher quality, more health-promoting food environment, the perception score for healthy foods should be high, and for unhealthy foods (fast food and junk food) it should be low.

For example, a score of 4 out of 5 for healthy food means that respondents have a perception of the food environment that tends towards the positive. Whereas a score of 4 out of 5 for the measure of fast food and junk food means that the environment facilitates these choices and therefore favours the consumption of foods of low nutritional value.

The work surrounding this measure of perception of the food environment does not offer a reference threshold above which perception could be qualified as good or excellent. In this context, it is preferable to use this metric to compare a measurement taken before the intervention with one taken after, in order to determine whether a change has occurred as a result of the intervention. An increase or decrease in the score will inform us of the direction of change in respondents' perceptions between two data collection periods.

## REFERENCES:

- Carbonneau, E., Robitaille, J., Lamarche, B., Corneau, L., & Lemieux, S. (2017). Development and validation of the Perceived Food Environment Questionnaire in a French-Canadian population. *Public Health Nutrition, 20*(11), 1914–1920. <https://doi.org/10.1017/S1368980017000581>
- Dufour Bouchard, A.-A., Farah, R., Gagnon, H., Lachance, B., Lesage, D., Mongeau, L., & Pageau, M. (2010). *Vision de la saine alimentation-Pour la création d'environnements favorables à la santé.*
- Glanz, K. (2009). Measuring food environments: a historical perspective. *American Journal of Preventive Medicine, 36*(4 Suppl), S93-98. <https://doi.org/10.1016/j.amepre.2009.01.010>

---

# Perceived Food Environment Measuring Tool

---

## **AUTHORS**

Gabrielle Durette, P.Dt., M.Sc., Scientific Advisor and  
Coordinator of the EFFICAS Research Project  
Marianne Dubé, Professional Research Assistant  
Direction du développement des individus et  
des communautés, INSPQ

## **UNDER THE COORDINATION OF**

Caroline Delisle, M.A. CCCPE, CHRP, Unit Head  
Direction du développement des individus et  
des communautés

## **COLLABORATORS**

Sabrina Rey, Consultant  
Chantal de Montigny, Consultant – local food systems  
Vivre en ville

Mylène Gill, Network Development Advisor  
ICI COOP Fédération des coopératives d'alimentation  
du Québec

Éric Robitaille, Ph.D., Expert Scientific Advisor and Principal  
Investigator of the EFFICAS Research Project  
Marie-Claude Paquette, Ph.D., P.Dt., M.Sc., Expert Scientific  
Advisor and Project Co-Investigator  
Direction du développement des individus et  
des communautés, INSPQ

Olivier Arbour, Research Technician  
Patrick Morency, M.D., Ph.D.  
Direction du développement des individus et  
des communautés, INSPQ

Caroline Tessier, Scientific Advisor  
Direction de la valorisation scientifique et qualité, INSPQ

## **TRANSLATED BY**

Isaiah Ceccarelli

## **LAYOUT**

Sarah Mei Lapierre, Administrative Officer  
Direction du développement des individus et  
des communautés

*This document is available in its entirety in electronic format  
(PDF) on the Institut national de santé publique du Québec  
website at: <http://www.inspq.qc.ca>.*

*Duplication for the purpose of private study or research is  
permitted under Section 29 of the Copyright Act. Any other use  
must be authorized by the Gouvernement du Québec, which  
holds the exclusive intellectual property rights to this  
document. This authorization can be obtained by making a  
request to the central clearinghouse of the Service de la gestion  
des droits d'auteur at Les Publications du Québec using an  
online form accessible at the following address:  
<http://www.droitauteur.gouv.qc.ca/autorisation.php>, or by  
writing an email to: [droit.auteur@cspq.gouv.qc.ca](mailto:droit.auteur@cspq.gouv.qc.ca).*

*The data contained in the document may be cited, provided  
that the source is credited.*

© Gouvernement du Québec (2023)