

## Investigating the workplace food environment, diet, and body mass index

Manon Fantino<sup>1</sup>, Catherine Paquet<sup>2</sup>, Daiva E. Nielsen<sup>1</sup>

<sup>1</sup>School of Human Nutrition, McGill University, Sainte-Anne-de-Bellevue Quebec, Canada

<sup>2</sup>Faculté des Sciences de l'administration, Laval University, Quebec, QC, Canada.

**Introduction:** The retail food environment is acknowledged to play a role in public health, but most research has evaluated the residential environment omitting other areas where people spend significant time, such as the workplace.

This research aimed to assess associations between the retail food environment surrounding the workplace and outcomes related to diet quality and body mass index (BMI).

**Methods:** Data were analyzed (n=995) from the Quebec CARTaGENE cohort containing detailed information on participant sociodemographics, workplace, lifestyle, and health. Dietary data, collected by food frequency questionnaire (FFQ), were available for a subset of participants (n=477). Workplace locations were linked to the Canadian Food Environment Dataset (Can-Fed) by dissemination area to assess three retail food environment measures around the workplace (1-km buffer): the modified retail food environment index (mRFEI), restaurant mix (Rmix), and density of fast-food outlets (FFO). Ordinal variables were available for each measure, coded as the healthiest to least healthy exposure (1, 2, 3, and 4), respectively. Outcome measures were diet quality (measured by the Canadian Healthy Eating Index, HEI-C) and BMI as continuous variables. Multivariable linear regression models were conducted to examine associations between the food environment measures and outcomes, adjusted for sociodemographic, lifestyle, and workplace-related covariates.

**Results:** On average, participants were 52.0±6.4 (standard deviation) years old (52% female) with a BMI of 27.3±5.0 kg/m<sup>2</sup> and HEI-C 60.8±9.8. Most were employed full-time (91%) in business/management/finance-related occupations (43%). Compared to the least healthy exposure (category 4), mRFEI and FFO category 2 were associated with a higher BMI (mRFEI beta±standard error: 1.43±0.54, p=0.008; FFO: 1.20±0.53, p=0.031), and FFO category 1 displayed a trend for a higher BMI (9.89±0.51, p=0.055) and HEI-C score (2.70±1.47, p=0.066). No access (category 0) for FFO was also associated with a significantly higher BMI value (1.32±0.50, p=0.009). No associations were observed for Rmix.

Among a cohort of Quebec adults, certain workplace food environment exposures were associated with BMI. Additional sensitivity analyses will be conducted to further assess the observed patterns. [This research is supported by the Fonds de recherche du Québec – Société et culture (FRQSC) and the Institut sur la nutrition et les aliments fonctionnels (INAF).]