Cross-sectional analysis of a community-based cooperative grocery store intervention in Saskatoon, Canada

Larisa C. Lotoski, MSc,¹ Rachel Engler-Stringer, PhD,^{1,2} Nazeem Muhajarine, PhD^{1,2}

ABSTRACT

OBJECTIVES: The aim of this research is to examine the awareness and use of the Good Food Junction (GFJ), a not-for-profit full service cooperative grocery store in a former food desert in Saskatoon, Canada.

METHODS: Through door-to-door sampling, 365 residents in their neighbourhoods surrounding the GFJ grocery store were recruited. Quantitative surveys examined awareness, use and primary use of GFJ, mode of transportation to and from GFJ and primary grocery stores, other food program use and demographic data. Differences between those who had or had not shopped at GFJ were characterized using descriptive statistics and Pearson's chi-square test. Univariate and multivariate logistic regression models were developed to predict shopping at GFJ and the use of GFJ as a primary grocery store.

RESULTS: Of those surveyed, 69% had shopped at GFJ. A significant proportion of shoppers were Aboriginal, had an annual household income per person of less than \$20,000, and participated in other food-based programs and initiatives. Aboriginal people (OR = 2.0, $p = 0.03$) and users of neighbourhood-based fruit and vegetable markets (OR = 2.7, $p = 0.04$) were significantly more likely, but new immigrants to Canada (OR = 0.3, $p = 0.05$) were significantly less likely to have ever shopped at GFJ. Aboriginal respondents (OR = 2.6, $p = 0.04$) were significantly more likely to use GFJ as their primary grocery store.

CONCLUSION: Our results confirm both that GFJ is able to serve households where food insecurity is likely and, based on the prevalence of users, the importance and need for a full-service supermarket in Saskatoon's inner city.

KEY WORDS: Food supply; food deprivation; intervention studies

La traduction du résumé se trouve à la fin de l'article.

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Those living in disadvantaged neighbourhoods experience disparity in their nutrition environment,¹ often having access to fewer supermarkets,² which offer the most affordable³ and widest range of healthy foods.⁴ Between 1984 and 2004, the west side inner-city low-income or 'core' neighbourhoods of Saskatoon, Canada saw a major decline in the number of local grocery stores (from 12 to 5). By 2004, Saskatoon's lowest-income neighbourhoods contained no major chain grocery stores,⁵ forcing residents without car access to spend anywhere from 45–60 mins to reach a grocery store.⁶ Saskatoon's core has high concentrations of fast-food outlets and convenience stores,^{5,7} which often offer less healthful foods at relatively higher prices.⁸ In the recent past, Saskatoon's core neighbourhoods have experienced a combination of stores favouring the availability of low-nutrient but energy-dense foods and thus creating conditions that could threaten people's health.²

The core neighbourhoods of Saskatoon are defined by a high level of deprivation, are a place of residence for multiple marginalized populations, and prior to the fall of 2012, were characterized by a food desert.² In September 2012, a full-service not-for-profit cooperative grocery store, the Good Food Junction (GFJ), was opened in an effort to improve healthy food access in the area. The GFJ is a large-scale (4900 sq ft) full-service grocery store offering a full range of fresh, frozen and packaged foods. The GFJ is located in Station 20 West, which also houses a

community kitchen space, offices for community-based research, organizations and meetings, and health programming, and is located within walking distance of four low-income neighbourhoods. The GFJ functions using a community-led cooperative not-for-profit business model and provides competitive pricing. Lifetime memberships, costing \$5 CDN, provide members with partial ownership of GFJ and are available to all customers, however they are not a requirement to make purchases from the GFJ. The location, size, and business goals and model are a direct result of approximately seven years of community consultation, in-depth qualitative and quantitative research and market analysis carried out in the surrounding communities.⁷

Few studies exist examining the impact of nutrition environment interventions on deprived populations.⁹ An

Author Affiliations

1. Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan, Saskatoon, SK
2. Saskatchewan Population Health and Evaluation Research Unit, University of Saskatchewan, Saskatoon, SK

Correspondence: Larisa Lotoski, Department of Community Health & Epidemiology, Health Science Building, 107 Wiggins Road, University of Saskatchewan, Saskatoon, SK S7N 5E5, Tel: ☎306-966-2250, E-mail: larisa.lotoski@usask.ca

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educational and environmental nutrition intervention promoting healthful diets demonstrated a significant increase in healthy food acquisition.⁹ A new chain grocery store in Flint, MI became the primary grocer of those who were most food insecure,¹⁰ but the opening of a large-scale supermarket in Philadelphia, PA resulted in no significant improvement in BMI, fruit and vegetable (FV) intake or perceived access to food, even though over half of the study's respondents adopted the grocery store for at least some of their shopping.¹¹

To date, there are only limited published reports examining the impact of a full-service grocery store food intervention aimed at addressing nutritional health inequalities in a community-based not-for-profit setting.^{10,11} The aim of this research, therefore, is to examine the awareness and use of GFJ about one year after its opening. Specifically, we hypothesized that residents of core neighbourhoods surrounding GFJ would demonstrate awareness of, and further, would report ever use and primary use of GFJ.

METHODS

Recruitment

A total of 1,459 households were identified from City of Saskatoon sources as being within a 750 m road network buffer of the GFJ grocery store. Non-residential, inaccessible, unsafe, vacant and non-existent household properties ($n = 271$) and individuals who participated in a previous study ($n = 47$) were excluded from further recruitment. The remaining 1,141 households were approached between July and November 2013 using door-to-door sampling. Sampling occurred on both weekdays and weekends during daytime and evening hours. If participants were not immediately available to participate in the study, alternative appointments were made to allow for their inclusion. Non-responding households were informed of the study using printed door hangers and were approached by surveyors a maximum of 3 times, with each visit being at an alternative time and day. One hundred and eighty residents refused to participate and 596 households were approached 3 times with no response. The final sample included all consenting participants ($n = 365$) who were the household primary food shoppers (representing 32% of 'eligible' households).

Data collection

Quantitative surveys were administered in English by trained interviewers in participants' homes. Participants were asked if they were aware of the GFJ (nominal dependent variable, NDV), if they had ever shopped at GFJ (NDV) or use it as their primary grocery store (NDV), and if not, what their primary grocery store was (name and location; NDV). Mode of transportation to and from the GFJ and/or the household's primary grocery store were further questioned (your car, got a ride, bus, bike, walk, cab, other; nominal independent variable, NIV). Demographic information collected included age (categorical independent variable, CIV), sex (NIV), immigrant status (newcomer to Canada, less than 5 years in Canada; NIV), Aboriginal status (Status and non-Status First Nations, Métis or Inuit; NIV), marital status (Partnered: married or living common law, or Non-partnered: divorced, separated, widowed, single – never married; NIV),

highest educational attainment (NIV), income (CIV) and occupation (NIV).

CHEP Good Food Inc. (CHEP) (formerly Child Hunger Education Program) is a Saskatoon-based non-profit organization aimed at improving access to healthy food. CHEP programs, which are available within the four neighbourhoods surveyed, include the CHEP Good Food Box (an alternative food distribution service), CHEP Community Markets (wholesale-priced community-based fresh FV markets), Collective Kitchens (small-group bulk meal preparation), Seniors' Markets (fresh FV markets held in seniors' complexes), and community gardens. Participants were asked whether they participated in these and other food-based programs and initiatives (yes or no for each nominal independent variable). Ethics approval for this study was obtained from the University of Saskatchewan's Research Ethics Board.

Data analysis

The study population was characterized and stratified by those who had ever shopped at GFJ. The 2006 Census of Population¹² and 2011 National Household Survey¹³ were used for comparison between the survey, representative neighbourhoods and the remainder of the city of Saskatoon populations. Pearson's chi-square test was used to examine whether those who had ever shopped at GFJ were significantly different from never-shoppers when stratified by the independent variables described below.

Independent variables were individually examined in models predicting ever use and primary use of the GFJ with univariate logistic regression. Based on the logistic regression model-building strategies from Hosmer and Lemeshow, independent variables found to have a $p < 0.20$ were tested in a multivariate logistic regression model.¹⁴ In the multivariate model-building strategy, variables were excluded if they did not significantly contribute to the prediction of ever use or primary use of the GFJ ($p < 0.05$). Following establishment of the models' main effects, independent variables were tested for collinearity, interactions and confounding (>10% change in the main effect's OR).

All data analyses were performed using SPSS (version 22, IBM, Armonk, NY). A statistical significance of 5% ($p < 0.05$) was used for all analyses.

RESULTS

Within the geographic boundary surveyed, 32% of households participated in the study (365 of 1,141). Among the 365 respondents, 20 were not aware of GFJ's existence (5%). Of the 345 individuals who were aware of GFJ, 251 had shopped there at least once (69%). The majority of household primary shopper respondents were female (65%). The survey group was older (median age of 45 years) than the populations in the representative neighbourhoods (King George, Pleasant Hill, Riversdale and Westmount) and the remainder of Saskatoon, and had a higher proportion of senior citizens. Both the representative neighbourhoods and the survey population had a higher proportion of Aboriginal people (Status and non-Status First Nations or Métis) and households with an annual income of less than \$30,000, in comparison to the remainder of the city of Saskatoon (Table 1).

Table 1. Study population characteristics, Good Food Junction study, Saskatoon, SK

	Surveyed group		Neighbourhoods surveyed	Saskatoon (excluding surveyed neighbourhoods)	
Total population (n)*	365		10,585	256,430	
Age, years (median (min, max))†	45 (18–85)		33 (less than 1 year – 97)	36 (less than 1 year – 100+ years)	
	(%)	(%)	Range, by neighbourhood (%Min–%Max)	(%)	Range, by neighbourhood (%Min–%Max)
Sex (Female)†	65	49	(46–50)	52	(6–70)
Aboriginal identity*	38	34	(23–43)	9	(0–28)
Senior citizens (65+ years)†	16	10	(9–11)	13	(0–82)
Annual household income†					
<\$10,000	12	17	(6–26)	5	(0–46)
\$10,000 to <\$20,000	26	21	(11–26)	12	(0–42)
\$20,000 to <\$30,000	10	19	(16–23)	14	(0–29)
≥\$30,000	27	43	(31–60)	68	(0–98)
Doesn't know or declined to answer	25	–	–	–	–

* 2011 National Household Survey, Statistics Canada.

† 2006 Census, Statistics Canada.

Of those who had ever shopped at GFJ, a significant proportion identified as Aboriginal and not being new immigrants. Members of the general population (non-Aboriginal, non-senior citizens and individuals who have lived in Canada at least 5 years) were significantly less likely to have ever shopped at GFJ. Of those who identified as Aboriginal, 82% shopped at GFJ at least once (vs. 66% of non-Aboriginals, Pearson's chi-square $p = 0.001$). Annual household income was significantly different between GFJ shoppers and non-shoppers, with the majority of households using GFJ having an income of less than \$20,000 per year (Table 2).

A significant proportion of GFJ users also used at least one food-based program. Of those surveyed, users of the CHEP Community Markets (50 of 56), CHEP Good Food Box (26 of 29), Seniors' Markets (4 of 4), and Collective Kitchens (17 of 17) were significantly more likely to have shopped at GFJ compared to those who did not use these programs. Aboriginal respondents were significantly more likely to utilize other food services, such as charitable food programs (e.g., food banks and soup kitchens), CHEP Community Markets and Seniors' Markets in comparison to non-Aboriginals (data not shown). Users of charitable food programs or the Saskatoon Farmers' Market or those who obtained food directly from producers, hunters or gatherers were not significantly more likely to have shopped at GFJ (Table 2).

To better understand respondents' use of the GFJ, binary univariate and multivariate logistic regression was performed on all variables in the creation of a model predicting ever use of the GFJ. In the final multivariate logistic regression model, Aboriginals and users of the CHEP Community Markets were significantly more likely to have used GFJ in comparison to non-Aboriginals and non-market users (OR = 2.0, $p = 0.03$ and OR = 2.7, $p = 0.04$ respectively). New immigrants to Canada were significantly less likely to have ever used the GFJ (OR = 0.3, $p = 0.05$). Annual household income per person and highest level of educational attainment were confounders of CHEP Community Market use and new immigrants to Canada respectively in the multivariate logistic regression model (Table 3).

To better understand respondents' primary use of the GFJ, binary univariate and multivariate logistic regression was performed on all variables in the creation of a model predicting primary use of the GFJ. From the surrounding community

sampled, 30 households (or 8.2% of those surveyed) chose GFJ as their primary grocery store. In the final multivariate logistic regression model, Aboriginal people were significantly more likely to choose GFJ as their primary grocery store (OR = 2.6, $p = 0.04$). Use of charitable food services, use of CHEP Community Markets, marital status and active transport to or from GFJ were confounders of Aboriginal status in the final multivariate logistic regression model (Table 4).

To better understand mode of transportation both to and from GFJ and other primary grocery stores of choice, prevalence of active, inactive, private and public forms of transportation were quantified. Travel to and from the GFJ was by foot in 75% and 73% of shoppers respectively. Of those who chose GFJ as their primary grocery store, 80% walked to and from the store (Table 5). Of those who chose other grocers as their primary store, over half relied on the use of personal vehicles and 11% used taxicabs, both costly modes of transportation.

CONCLUSION

In this paper, we have characterized differences in the awareness and use of a cooperative not-for-profit grocery store, established in a previous food desert, about one year after its opening. Awareness of and the early uptake of a not-for-profit grocery store (a population-level health intervention) are key prerequisites for establishing this ambitious intervention and eventually meeting its health goals. Local residents surveyed were highly aware of the presence of the GFJ, with the majority having shopped there at least once. Substantially fewer residents chose GFJ as their primary grocery store. Users of GFJ had a significantly lower annual household income and were more likely to use local community-based food programs and services in comparison to non-users.

The level of GFJ awareness among those surveyed was unexpectedly high, with only 5% being unaware of its presence one year after establishment. In comparison to a healthy corner store intervention, where awareness after 6 months of establishment was only 30.6%,¹⁵ the majority of local residents were both aware of and users of the GFJ.

In both our models predicting any use and primary use of the GFJ, Aboriginal people were significantly more likely to use GFJ.

Table 2. Correlates associated with those who have shopped at the Good Food Junction at least once

Variable	Description	Total (n)	Have shopped at GFJ?		Chi-squared <i>p</i> -value
			No (n (%))	Yes (n (%))	
Total population		345	94 (27%)	251 (73%)	0.231
Age, years	18–24	27	9 (3%)	18 (5%)	
	25–39	99	33 (10%)	66 (19%)	
	40–64	169	38 (11%)	131 (38%)	
	65+	50	14 (4%)	36 (10%)	
Sex	Female	221	61 (18%)	160 (46%)	0.843
	Male	124	33 (10%)	91 (26%)	
Aboriginal	Non-Aboriginal	207	70 (20%)	137 (40%)	0.001
	Status and non-Status First Nations, Métis, Inuit	135	24 (7%)	111 (32%)	
New immigrant	No	325	84 (24%)	241 (70%)	0.019
	Yes	20	10 (3%)	10 (3%)	
Senior citizen	No (<65 years)	287	81 (23%)	206 (60%)	0.365
	Yes (65+ years)	58	13 (4%)	45 (13%)	
General population	No	209	47 (14%)	162 (47%)	0.014
	Yes	136	47 (14%)	89 (26%)	
Marital status	Non-partnered (single, separated, widowed, divorced)	218	56 (16%)	162 (47%)	0.394
	Partnered (married or living common law)	127	38 (11%)	89 (26%)	
Highest level of educational attainment	Less than high school	101	24 (7%)	77 (22%)	0.685
	Completed high school and/or some college	108	31 (9%)	77 (22%)	
	Completed college and/or some university	87	27 (8%)	60 (17%)	
	Completed university	48	12 (3%)	36 (10%)	
Annual household income per person	<\$10 000	104	18 (5%)	86 (25%)	0.045
	\$10 000 to <\$20,000	85	22 (6%)	63 (18%)	
	\$20,000 to <\$30,000	30	8 (2%)	22 (6%)	
	≥\$30,000	42	16 (5%)	26 (8%)	
	Doesn't know	56	21 (6%)	35 (10%)	
	Declined to answer	29	9 (3%)	20 (6%)	
Occupation	Unemployed	60	16 (5%)	44 (13%)	0.39
	Caregiver/homemaker	68	15 (4%)	53 (15%)	
	Employed	126	42 (12%)	84 (24%)	
	Student	33	8 (2%)	25 (7%)	
	Retired	58	13 (4%)	45 (13%)	
	Community garden	20	4 (1%)	16 (5%)	
Use of other food-based programs (stratified)	CHEP* Good Food Boxes	29	3 (1%)	26 (8%)	0.449
	Charitable food services	155	35 (10%)	120 (35%)	0.033
	Direct attainment of food from producers or hunters/gatherers	94	29 (8%)	65 (19%)	0.079
	Farmers' Market	124	32 (9%)	92 (27%)	0.357
	Collective Kitchens	17	0 (0%)	17 (5%)	0.653
	CHEP Community Market	56	6 (2%)	50 (14%)	0.01
	Seniors' Market	4	0 (0%)	4 (1%)	0.002
	Other programs	9	0 (0%)	9 (3%)	0.218
					0.063

*CHEP = (formerly) Child Hunger Education Project.

A 2011 Statistics Canada report indicated that 29% of urban-dwelling Aboriginal people experienced household food insecurity, and this subset population had poorer levels of health.¹⁶ The GFJ offers a variety of food options which comprise some of the foods included in a traditional Aboriginal diet in the Prairies (e.g., wild rice, neck bones, and Northern whitefish).

Marginalized populations, including Aboriginal people, are often targets of health-promoting programs and services, but it is these populations that are often the hardest to reach. The GFJ intervention provides a counter-example of this commonly held pattern. Our results also provide unanticipated insight into the use of community-based food initiatives among Aboriginal people. The marked differences in use of other community-based food programs located within the surveyed neighbourhoods and the GFJ in Aboriginal people may indicate greater awareness of community-based initiatives among core neighbourhood Aboriginal residents.

In a similar grocery store intervention based in Philadelphia, PA, 26.7% and 51.4% of respondents respectively adopted the supermarket as their primary grocery store or used it for any

shopping.¹¹ While a greater proportion of our study population used GFJ for any shopping, substantially fewer used it as their primary store, an adoption rate similar to one found in a Flint, MI grocery store intervention study (10%).¹⁰

Food environment, most commonly described through supply-based access, describes location and accessibility of food outlets, food price, promotion and placement of food, the food settings in workplaces and schools, and marketing and media promoting food choices.¹⁷ What is rarely explored are the complex food practices low-income people develop to meet their nutritional needs. Here we briefly explored the notion of accessing food through alternative sources and found only selective sources to be associated with GFJ use. Users of at least one food-based program were significantly more likely to have shopped at GFJ. This confirms that residents surveyed seek out alternative sources of food to supplement their diet. An in-depth understanding of how individuals utilize these food sources has not been developed and requires further investigation.

The furthest distance of households surveyed from GFJ roughly equates to a 10-min walking distance, and the majority of users chose an active form of transportation to and/or from the GFJ.

Table 3. Univariate and multivariate logistic regression models showing factors associated with those who have shopped at least once at the Good Food Junction

Variable	OR	p-value	95% CI	Adjusted OR	p-value	95% CI
Age, years						
18–24 (reference)	1	1	(0.4, 2.5)			
25–39	1.7	0.224	(0.7, 4.2)			
40–64	1.3	0.626	(0.5, 3.5)			
65+	1.1	0.843	(0.6, 1.7)			
Sex (reference: female)						
Aboriginal	2.4	0.001	(1.0, 4.0)	2.0	0.031	(1.1, 3.8)
New immigrant	0.3	0.023	(0.1, 0.9)	0.3	0.045	(0.1, 0.98)
Senior citizen (65+ years)	1.4	0.366	(0.7, 2.7)			
General population	0.5	0.014	(0.3, 0.9)			
Declined to answer	0.4	0.486	(0.0, 6.0)			
Marital status (reference: partnered)						
1.2	0.395	(0.8, 2.0)				
Highest level of educational attainment						
Less than high school (reference)						
Completed high school and/or some college	0.8	0.418	(0.4, 1.4)	0.8	0.579	(0.4, 1.6)
Completed college and/or some university	0.7	0.265	(0.4, 1.3)	0.9	0.768	(0.4, 1.8)
Completed university	0.9	0.869	(0.4, 2.1)	1.6	0.315	(0.6, 4.0)
Annual household income per person						
<\$10,000 (reference)	0.6	0.153	(0.3, 1.2)	0.7	0.386	(0.3, 1.5)
\$10,000 to <\$20,000	0.6	0.257	(0.2, 1.5)	0.8	0.63	(0.3, 2.1)
\$20,000 to <\$30,000	0.3	0.007	(0.1, 0.7)	0.4	0.052	(0.2, 1.0)
≥\$30,000	0.4	0.005	(0.2, 0.7)	0.4	0.010	(0.2, 0.8)
Doesn't know	0.5	0.109	(0.2, 1.2)	0.5	0.216	(0.2, 1.4)
Declined to answer						
Occupation						
Unemployed (reference)						
Caregiver/homemaker	1.3	0.544	(0.6, 2.9)			
Employed	0.7	0.36	(0.4, 1.4)			
Student	1.1	0.798	(0.4, 3.0)			
Retired	1.3	0.592	(0.5, 2.9)			
Participates in community gardens	1.5	0.452	(0.5, 4.7)			
Purchases CHEP Good Food Box	3.5	0.044	(1.0, 11.9)			
Uses charitable food services	1.5	0.08	(1.0, 2.5)			
Purchases food at CHEP community market	3.6	0.004	(1.5, 8.8)	2.7	0.035	(1.1, 7.0)
Obtains food from producers and/or hunters/gatherers	0.8	0.358	(0.5, 1.3)			
Purchases food at the Farmers' Market	1.1	0.653	(0.7, 1.8)			

Transportation is the most common barrier to accessing healthy food among seniors.¹⁸ In the Flint, MI grocery store intervention, barriers to food security were diminished with a high proportion of car ownership, but those who were most food insecure shopped at the closest grocery store available.¹⁰ With increased age and disease onset, individuals often lack vehicle ownership and are more likely to be malnourished.^{19,20} In a qualitative study examining food insecurity in elderly women, all eight participants had some level of restricted mobility and relied on family members for access to grocery stores,²¹ yet 60% of seniors surveyed who reported shopping at GFJ reached the store using active transport, indicating the importance of its proximity to core neighbourhood residents. Restricted mobility and reliance on others for transportation may explain why 22% of seniors surveyed chose other grocers as their primary food source.

In our model predicting shopping at GFJ, new immigrants to Canada were significantly less likely to shop there. Households of new immigrants to Canada have a higher prevalence of food insecurity than non-immigrants and non-recent immigrant households²² and can experience food insecurity through limited access to foods to which they are accustomed.²³ New Chinese immigrants and Chinese immigrants living with lower household incomes show a significantly higher preference for Chinese supermarkets, but ability to indulge this preference is dependent on accessibility.²⁴ Chinese, Filipino and Southeast Asian people comprise 71% of the minority population residing within the four neighbourhoods sampled.¹² Within a 1400 m radius of GFJ, at least three specialty food stores exist, offering

Chinese, East Asian, and Middle Eastern foods. As it has been shown that immigrants tend to maintain the traditional diets of their country of origin,²⁵ new immigrants may choose other more culturally appropriate markets over GFJ.

Individuals living within a lower socio-economic position (SEP) are significantly more likely to perceive nearby supermarkets as being within a walkable distance than those living within a higher SEP.²⁶ The survey was collected during summer and fall months, which bring moderate temperatures, and in 2013, minimal snow cover. The survey period, buffer distance, and overall lower socio-economic status of the neighbourhood residents may explain the large proportion of those who chose an active form of transportation to and from GFJ, and the reliance on vehicles for access to other primary grocery stores.

The length of time participants have lived in the sampled neighbourhood was not captured during this study. Individuals living in neighbourhoods for less than two years are significantly more likely to demonstrate a mismatch between perceived and objective measures of their neighbourhood built environment,²⁷ yet a year after its opening, only 5.5% of those surveyed were unaware of GFJ's existence. In three similar studies, previous response rates ranged from a low 7%¹⁰ and 21.5%¹¹ using phone surveys, to a high 62% using door-to-door sampling.²⁸ This study's response rate of 32% fell within this range, resulting in a sample representative of the neighbourhoods surveyed. As expected given the survey neighbourhoods' demographic makeup, our sample had good representation of Aboriginals, newcomers and senior citizens.

Table 4. Univariate and multivariate logistic regression models showing factors associated with those who choose the Good Food Junction as their primary grocery store

Variable	OR	p-value	95% CI	Adjusted OR	p-value	95% CI
Age, years						
18–24 (reference)						
25–39	1.1	0.909	(0.22, 5.0)			
40–64	1.4	0.667	(0.30, 6.4)			
65+	0.8	0.811	(0.13, 5.1)			
Sex (reference: female)						
Aboriginal	0.9	0.755	(0.40, 2.0)	2.6	0.042	(1.0, 6.7)
New immigrant	3.4	0.002	(1.6, 7.6)			
Senior citizen (65+ years)	1.9	0.311	(0.54, 7.1)			
General population	0.7	0.595	(0.25, 2.2)			
Marital status (reference: partnered)	0.2	0.002	(0.05, 0.51)	0.4	0.036	(0.18, 0.95)
Highest level of educational attainment						
Less than high school (reference)						
Completed high school and/or some college	0.6	0.244	(0.30, 1.4)			
Completed college and/or some university	0.4	0.074	(0.15, 1.1)			
Completed university	0.6	0.289	(0.23, 1.6)			
Annual household income per person						
<\$10,000 (reference)	0.6	0.42	(0.19, 2.0)			
\$10,000 to <\$20,000	0.7	0.503	(0.29, 1.9)			
\$20,000 to <\$30,000	0.2	0.18	(0.03, 1.9)			
≥\$30,000	0.6	0.375	(0.15, 2.0)			
Doesn't know	0.5	0.3	(0.17, 1.7)			
Occupation						
Unemployed (reference)						
Caregiver/homemaker	1.0	0.986	(0.34, 2.97)			
Employed	0.4	0.148	(0.15, 1.33)			
Student	0.5	0.39	(0.10, 2.50)			
Retired	0.9	0.819	(0.28, 2.78)			
Participates in community gardens	1.9	0.313	(0.54, 7.1)			
Purchases CHEP Good Food Box	2.4	0.097	(0.85, 6.9)			
Uses charitable food services	2.3	0.038	(1.1, 4.9)	1.3	0.581	(0.51, 3.3)
Purchases food at CHEP community market	2.9	0.01	(1.3, 6.7)	1.9	0.153	(0.79, 4.7)
Obtains food from producers and/or hunters/gatherers	1	0.941	(0.42, 2.3)			
Purchases food at the Farmers' Market	0.9	0.755	(0.4, 2.0)			
Participates in Collective Kitchens	2.4	0.192	(0.65, 8.8)			
Active travel to GFJ	1.3	0.594	(0.50, 3.3)	1.1	0.863	(0.41, 2.9)

Table 5. Transportation mode to and from the Good Food Junction and primary grocery stores

		Other store travel n (%)	Any travel to GFJ n (%)	Travel to GFJ as a primary store
Mode of transportation to primary grocery store	Personal car	184 (54%)	44 (18%)	4 (13%)
	Got a ride	46 (13%)	7 (3%)	1 (3%)
	Bus	46 (13%)	6 (2%)	1 (3%)
	Bike	8 (2%)	6 (2%)	0 (0%)
	Walk	44 (13%)	185 (74%)	24 (80%)
	Cab	10 (3%)	2 (1%)	0 (0%)
	Other	5 (1%)	1 (0%)	0 (0%)
	Total	343	251	30
Mode of transportation from GFJ	Personal car	184 (54%)	44 (18%)	4 (13%)
	Got a ride	47 (14%)	8 (3%)	1 (3%)
	Bus	23 (7%)	5 (2%)	1 (3%)
	Bike	8 (2%)	6 (2%)	0 (0%)
	Walk	39 (11%)	184 (73%)	24 (80%)
	Cab	37 (11%)	3 (1%)	0 (0%)
	Other	5 (1%)	1 (0%)	0 (0%)
	Total	343	251	30

The GFJ supermarket was constructed to provide Saskatoon's core neighbourhood residents with access to healthy food in a previous food desert. Further research is required to determine whether the presence of a not-for-profit supermarket in the core neighbourhoods can improve diet quality and eventually long-term health outcomes. Our results confirm that the GFJ in its early stages of establishment is able to serve households where food insecurity is likely, and affirm the importance and need for a full-service supermarket in Saskatoon's inner city.

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RÉSUMÉ

OBJECTIFS : Le but de cette étude est d'examiner dans quelle mesure Good Food Junction (GFJ), une épicerie coopérative à gamme complète de services et à but non lucratif située dans un ancien désert alimentaire de Saskatoon, au Canada, est connue et utilisée.

MÉTHODE : Par échantillonnage de porte en porte, nous avons recruté 365 résidents des quartiers entourant l'épicerie GFJ. Nos sondages quantitatifs ont porté sur la connaissance, la fréquentation et la fréquentation principale de GFJ, le moyen de transport à destination et en provenance de GFJ et des épiceries principales, le recours à d'autres programmes d'alimentation et le profil démographique. Les différences entre les résidents fréquentant ou ne fréquentant pas GFJ ont été caractérisées à l'aide de statistiques descriptives et du test du khi-carré de Pearson. Des modèles de régression logistique univariés et multivariés ont été créés pour prédire la fréquentation de GFJ et la fréquentation de GFJ comme épicerie principale.

RÉSULTATS : Des résidents sondés, 69 % fréquentaient GFJ. Une proportion significative d'acheteurs étaient Autochtones, avaient un revenu annuel du ménage inférieur à 20 000 \$ par personne et participaient à d'autres programmes et initiatives alimentaires. Les Autochtones (RC = 2,0, $p = 0,03$) et les utilisateurs des marchés de fruits et légumes de quartier (RC = 2,7, $p = 0,04$) étaient de manière significative plus susceptibles (mais les nouveaux immigrants au Canada [RC = 0,3, $p = 0,05$] significativement moins susceptibles) d'avoir déjà fréquenté GFJ. Les répondants autochtones (RC = 2,6, $p = 0,04$) avaient de manière significative plus de chances d'utiliser GFJ comme épicerie principale.

CONCLUSIONS : Nos résultats confirment à la fois que GFJ est capable de servir les ménages susceptibles de souffrir d'insécurité alimentaire et, d'après la prévalence des utilisateurs, qu'un supermarché à gamme complète de services est important et nécessaire dans les quartiers déshérités du centre-ville de Saskatoon.

MOTS CLÉS : approvisionnement en nourriture; privation alimentaire; études d'intervention