

# MOVING TO THE CITY FROM THE RESERVE: PERCEIVED CHANGES IN FOOD CHOICES

Jason Brown, PhD  
Faculty of Education  
University of Western Ontario<sup>1</sup>

Corinne Isaak, MSc  
Department of Human Nutritional Sciences  
University of Manitoba

Christine Lengyel, PhD, RD  
Department of Human Nutritional Sciences  
University of Manitoba

Rhona Hanning, PhD  
Department of Health Studies and Gerontology  
University of Waterloo

James Friel, PhD  
Department of Human Nutritional Sciences  
University of Manitoba

---

1. This research was financially supported by the Manitoba Institute of Child Health and the Faculty of Human Ecology Endowment Fund, University of Manitoba. Correspondence can be sent to J. Brown, Faculty of Education, University of Western Ontario, 1137 Western Road, London, ON, N6G 1G7, (voice) 519-661-2111 (ext. 88617), (fax) 519-661-3833, [jbrow97@uwo.ca](mailto:jbrow97@uwo.ca)

## ABSTRACT

### OBJECTIVES

The purpose of the pilot study was twofold: 1) to develop a community-university partnership, and 2) to explore the eating experiences and use of traditional foods of Aboriginal adults who had moved to an urban centre from a reserve community.

### METHODS

A total of 13 females and 3 males, ranging in age from 21–48 years, who had moved into Winnipeg, Manitoba from First Nations communities in Manitoba, Ontario, and Saskatchewan filled out detailed questionnaires, participated in 1 of 2 focus groups, and generated 72 different responses to the question: How has moving to the city affected your eating? Another meeting was held during which 11 participants returned to group together the responses into themes.

### RESULTS

The questionnaire data indicate that participants did not identify their diet, after moving to the city, as highly nutritious, but adequate. A significant change was reported in their consumption of traditional foods. The focus group data was analyzed using multidimensional scaling and cluster analysis, which resulted in seven distinct themes. These themes included: 1) changes related to access and use of fresh meat, 2) hunting and gathering activities, 3) presence of fast food, 4) the cultural value of sharing, 5) cooking facilities, 6) convenience of groceries, and 7) produce and dairy products.

### CONCLUSION

There were some differences between the experiences of those in our study and the available literature in terms of diversity of experience among Aboriginal peoples, perceived positive aspects of dietary and lifestyle changes, as well as cultural aspects of food use, such as sharing.

**Key Words:** Aboriginal, eating experiences, urban

Aboriginal peoples in Canada have suffered greatly from the imposition of the reserve system. It confined them to parcels of land too small to sustain their ways of life and made them trespassers on the lands they inhabited for centuries (Cooke and Belanger, 2006). Recent data indicate that this confinement is associated with a number of health-related problems, such as hypertension and diabetes, two conditions that are highly represented among Aboriginal peoples (Cass, 2004; Indian and Northern Affairs Canada, 2007). Many move away from their reserve, often to urban centres, in search of new opportunities (Norris and Clatworthy, 2003). While urban living presents its own challenges, very little has been written about the dietary changes experienced by those who move from reserve communities to urban centres (Gerber, 1984). A recent review of available literature on healthy eating patterns among Canadian Aboriginal peoples showed a need for additional information about the interaction of various determinants of healthy eating to add to research on food access and choice (Willows, 2005). In this study, we interviewed Aboriginal men and women who had moved from reserve communities, to learn about the impact of the relocation on their diet. The results of these interviews were compared to available literature on dietary change and differences between them suggest areas in need of additional research.

## CONCEPT MAPPING

Concept mapping is a quantitative method for qualitative data analysis. It was developed by Trochim (1989a) and has been used in a variety of human services and health-related areas: exploring the issues related to participation in structured youth programs (Borden et al., 2006), treatment adherence among medical patients (Kikkert et al., 2006), and coping strategies of individuals with diabetes (Detaille et al., 2006). Additionally, the method has been used to develop questionnaires and instruments to measure patient education (Osborne, Elseworth, and Whitfield, 2007), cultural competence (Davis, 2007), professional practice activities (Ridout and Mayers, 2006), and intellectual capital (Martínez-Torrez, 2006).

In this method, study participants define the issues and determine how they fit together conceptually. The participants in this study responded to a particular question and grouped together the responses of all who participated. Each participant provided a grouping of the responses. The groupings were combined and analyzed statistically, resulting in a final set of concepts that organized the responses into themes. Responses and themes were pre-

sented on a concept map, which was a visual representation of the individual responses and their relationship to one another. The involvement of multiple participants in both the generation of responses and the thematic organization of those responses makes concept mapping a unique method of qualitative data analysis.

While the researchers, in consultation with others, developed the initial question asked of the participants, all responses, as well as the groupings to those responses, were participant-driven. In the end, participants identified the issues and determined to what extent they shared similarities with one another. Based on labels provided independently by participants during the grouping procedure, the researchers assigned labels to the concepts on the final map.

## METHOD

There were six steps in the concept mapping procedure (Trochim, 1989b). The first step was the provision of participant responses to a question posed by researchers. Second, redundant responses were removed from the analysis, and others were edited for clarity. Third, all responses were provided to each participant for the grouping exercise. Fourth, nonparametric statistical procedures were applied to the grouping data, and the researchers made a decision about the most appropriate number of concepts for the map. Fifth, the concepts were labeled. Sixth, the map was used for its intended purpose.

### GATHERING OF RESPONSES

The participants in this study were adult students enrolled in a culturally based adult education setting in the core area of Winnipeg, Manitoba. Students who had recently moved to the city from a reserve community were invited by school staff to attend one of two focus group sessions with members of the research team. The focus groups were conducted using qualitative interviewing procedures (Rubin and Rubin, 1995). At the beginning of each focus group session, potential participants were told about the study, what their involvement would include, informed that their responses would remain confidential and anonymous outside of the group, and that they could choose not to answer particular questions or withdraw completely from the study at any time. This study passed ethical review with the Assembly of Manitoba Chiefs as well as the University of Manitoba.

A total of 16 individuals attended the 2 focus groups (9 and 7 respectively) where each was approximately an hour in duration. All who attended

consented to participate. As part of a larger set of questions including what brought participants to the city and how moving has affected them, participants were asked: "How has moving to the city affected your eating?" In recognition of their time and expertise, each was provided with a small honorarium for participating in the focus group.

### GROUPING OF RESPONSES

After the focus groups were completed, participants who expressed interest in grouping together responses to the question were invited to a third group meeting. A total of 11 participants from the 2 focus groups returned to a single meeting. At that time, a full set of responses was provided to each participant. Each response was printed on a separate card and provided in random order. Each participant was asked to independently read through the responses on the cards and group them together in whatever way made sense to her or him (e.g., place similar statements together); and record their groupings on the provided form. Each participant was asked to group the responses into more than 1 and less than 72 (the total number of responses) piles.

### ANALYSIS OF GROUPING DATA

Two different statistical procedures were applied to the grouping data: multidimensional scaling and cluster analysis. The multidimensional scaling placed the responses on a map, and the cluster analysis put them into concepts representing the average groupings by participants. The first version of the Concept System (Trochim, 1987) was used to conduct the analyses and draw the concept map.

#### *Multidimensional scaling*

This analysis placed each response on a point map (Trochim, 1989b). Responses in close proximity to one another on the map were more often grouped together by participants, and those further away from each other were less often grouped together by participants. A bridging index (0-1) was calculated for each response, indicating the strength of the relationship between each response and all others on the map. In general, the closer the bridging index was to one for a particular response, the more often that response was grouped with responses in other regions of the map (those outside of its cluster). As the value approached zero, the response was more likely to be grouped with those responses situated in its area on the map (those inside of its cluster).

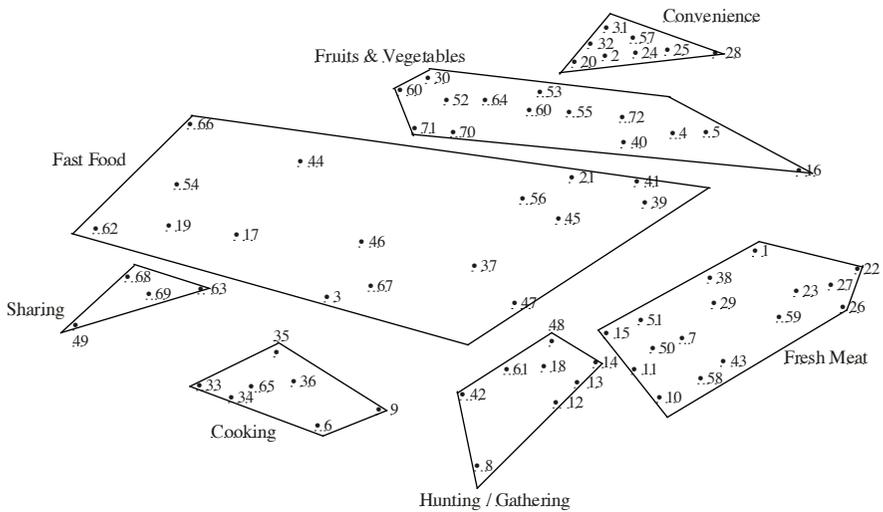
*Cluster analysis*

The conceptual domain was represented as a result of the second statistical analysis (Trochim, 1989b). Hierarchical cluster analysis (Anderberg, 1973; Everitt, 1980) was used to group the responses into clusters, or concepts. Initially, each response was treated as a cluster and at each step of the analysis two clusters were combined until all of the responses were in one cluster. The decision about the most appropriate number of concepts was made by the researchers based on the responses contributing most to the uniqueness of the cluster (measured by bridging indices) in the context of all of responses made.

The grouping data were analyzed using the Concept System (Trochim, 1987). Maps with different numbers of concepts were examined before arriving at a decision about the most appropriate number. The decision was based on a good fit between the responses and the concepts. It should be noted that in some cases, particular responses were found within clusters where they did not share similarity to the majority of responses in the cluster. Those clusters were labeled based on the majority of responses contained within. Concept solutions from nine to four were examined before concluding that the seven-concept solution (see Figure 1) fit the data best.

**Figure 1. Concept Map.**

How has moving to the city affected your eating?



## RESULTS

Two focus groups were conducted. After the second focus group, the researchers agreed that saturation of the data had occurred. Responses to the question during the second focus group added some novel data for the analysis, but the differences between the focus groups in general were modest. Therefore, in this study, redundancy occurred after two focus groups with a total of 16 participants. The majority of participants were female, and about half had more than a high school education (see Table 1). They ranged in age from 21–48, and had been living in the city for 1 to 60 months (see Table 2). The majority (70%) moved from First Nations reserve communities in northern Manitoba, and the remainder had moved from First Nations reserve communities in northern Ontario (20%) and northern Saskatchewan (10%). All were full-time students at the time of interview, and were funded through their bands or provincial social assistance for living expenses. Their tuition was covered through school/program funding. Participants lived within walking distance of the school or traveled by local transit buses. All but one was within the inner city. Participants lived in public housing complexes or rented apartments and duplexes; all shared accommodation. Some lived with their own children, other family, or roommates. There were no food services within the school, but at least 13 convenience stores and restaurants were located within walking distance.

**Table 1. Gender and Education (n=16)**

<i>Gender</i>	
Female	13
Male	3
<i>Education</i>	
Less than grade 10	2
Some high school	6
Completed high school	4
Some postsecondary	4

**Table 2. Age and Months in City (n=16)**

	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>S.D.</i>
Age	21	48	34.0	8.6
Months living in city	1	60	16.0	20.1

Researchers independently reviewed all responses to the focus group question and marked any they found to be unclear or redundant. Any responses deemed unclear by two of three reviewers were edited (e.g., “we just don’t get as much wild food – the kind you get from the land – now that we’re in the city” was edited to “less wild foods,” and redundant responses were removed leaving a total of 72 responses for the analysis. Of the 16 focus group participants, 11 agreed to participate in the grouping task. Their responses are shown in Table 3.

**Table 3. Cluster Items and Bridging Values for Concept Map**

<i>Cluster and Statement</i>	<i>Bridging Index</i>
<i>Cluster #1 – Fresh Meat</i>	<i>0.29</i>
11. can't get moose and deer	0.08
10. can't eat fish everyday	0.14
15. can't pick berries	0.15
51. meat not as fresh	0.16
29. have to work harder to get traditional food from home	0.18
50. less wild foods	0.20
38. I eat less deer meat, moose meat, and fish	0.22
7. can't sell wild meat in the city	0.22
43. I never have wild meat anymore	0.29
58. need to get caribou meat from home	0.32
59. nobody gives you meat around here	0.37
1. I eat a lot less meat	0.40
27. friend has to bring deer meat from out of town	0.40
23. every once or twice a week I eat traditional foods	0.45
22. every month I eat moose meat	0.50
26. family members bring rabbit to me now	0.51
<i>Cluster #2 – Hunting/Gathering</i>	<i>0.21</i>
14. can't pick and exchange berries with Elders to make pies	0.10
13. can't make a living fishing	0.13
12. can't hunt and share with neighbours	0.16
18. don't have access to traditional foods much	0.17
48. less physical effort to get food	0.18
61. only time we get good fish is when someone brings it from the reserve	0.23
8. can't afford wild rice anymore	0.31
42. I make bannock once a week	0.37
<i>Cluster #3 – Fast Food</i>	<i>0.43</i>
21. eat more junk food out here	0.12
45. I'm buying more fast food for my kids	0.15
47. I'm not eating well where I'm staying	0.17
37. I eat a lot of take out	0.18
56. more take out	0.18
41. I get to eat cheese and fruit	0.19
39. I gained 75 pounds	0.27
46. I'm getting sick of fast foods	0.30
3. blueberries, raspberries, and cranberries are expensive	0.40
67. still get a lot of wild food from back home	0.40
17. don't feel so good eating fast food	0.56
44. I quit smoking	0.63
19. don't have to rely on anybody	0.70

66. sometimes I eat fast food but there's so much grease	0.76
54. more fast-paced in city and so don't take time to cook	0.91
62. people back home share	0.98
<i>Cluster #4 — Sharing</i>	<i>0.80</i>
63. prices are just crazy	0.62
68. there's no sharing in the city	0.78
69. traditional food is hard to get	0.82
49. less sharing of food	1.00
<i>Cluster #5 — Cooking</i>	<i>0.39</i>
36. I don't want to cook	0.31
6. can't cook like you want to cook	0.34
9. can't cook for myself because live with others	0.34
34. I don't cook at all	0.39
35. I don't eat a lot of the traditional foods	0.42
33. I don't cook as much as I used to	0.44
65. sister mostly does the cooking	0.51
<i>Cluster #6 — Convenience</i>	<i>0.03</i>
57. more vegetables than we had	0.00
25. everything's cheaper	0.02
32. I can pick my own time to go shopping	0.03
28. get to shop more	0.03
31. I can just get up and walk to the store	0.03
24. everything is more convenient	0.04
20. easier to go grocery shopping	0.05
2. stores more accessible	0.06
<i>Cluster #7 — Fruits and Vegetables</i>	<i>0.19</i>
55. more fruits and vegetables	0.06
4. can buy fresh bread	0.07
40. I get more veggies and fruits and dairy products	0.07
5. can buy fresh milk any time	0.09
53. more choices	0.09
64. prices are lower	0.13
70. vegetables are cheaper	0.15
52. milk is cheaper	0.19
72. you can go eat whenever you want	0.24
30. I can afford salads now	0.27
71. you can get more things when you go shopping	0.32
60. not buying so much in bulk	0.36
16. convenience stores	0.45

Numbers in the left column are identifiers for the statement as appearing in Figure 1.

## CLUSTER 1 — FRESH MEAT

In this cluster, responses centred on changes to eating related to meat in the diet. Living in the city meant, “I eat a lot less meat” in general, and that “I eat less deer meat, moose meat, and fish” or that “I never have wild meat anymore.” Participants indicated that in the city, “meat [was] not as fresh” and that they “can't get moose and deer” locally. They “need to get caribou meat from home” so “have to work harder to get traditional food from home” because “nobody gives you meat around here” and you “can't

sell wild meat in the city.” So, a “friend has to bring deer meat from out of town” and “family members bring rabbit to me now.” This meant a change in diet because there were “less wild foods” in general and you “can’t eat fish everyday.” For example, you “can’t pick berries” as easily in the city. Despite these challenges, “every once or twice a week I eat traditional foods” and “every month I eat moose meat.”

## CLUSTER 2 — HUNTING/GATHERING

Responses in this cluster related to the changes that living in the city meant to one’s ability to hunt or gather food in their surroundings. Participants indicated that there was “less physical effort to get food” required of them, but that they “can’t make a living fishing” and “can’t hunt and share with neighbours.” This meant that they “don’t have access to traditional foods much,” “can’t pick and exchange berries with Elders to make pies,” and “can’t afford wild rice anymore.” The “only time we get good fish is when someone brings it from the reserve.” However, “I make bannock once a week.”

## CLUSTER 3 — FAST FOOD

Responses contained in this cluster referred to the availability and effects of greater availability of fast food in the city than on the reserve. Participants reported that they “eat more junk food out here” and that they have “more take out.” While “people back home share” food, they noted that they “don’t have to rely on anybody” for it in the city. They said “I’m buying more fast food for my kids,” and “I eat a lot of take out” myself. Participants indicated that “sometimes I eat fast food but there’s so much grease” and “I’m getting sick of fast foods.” Participants reported that they “don’t feel so good eating fast food,” and that “I gained 75 pounds” but that life is “more fast-paced in city and so don’t take time to cook” and “blueberries, raspberries, and cranberries are expensive” here. Some positive changes were noted as well, including the indication that they “still get a lot of wild food from back home,” and in the city “I get to eat cheese and fruit.” There was one response in this cluster that had an ambiguous meaning in relation to the others (“I quit smoking”). The bridging index for the statement was moderate but not extremely high, indicating that statistically, it fit in the cluster. Conceptually, the response might refer to the health benefits related to smoking cessation, or the reallocation of modest income to cover new food expenses. Although tobacco is a medicine, like all medicines it is subject to abuse. Therefore, smoking can be seen in either a positive or negative light from a cultural perspective.

#### CLUSTER 4 — SHARING

In this cluster, responses focused on changes to diet related to the lack of sharing in the city. Because “prices are just crazy” there is “less sharing of food.” It was noted that “traditional food is hard to get” even when it is in the neighbourhood because “there’s no sharing in the city.”

#### CLUSTER 5 — COOKING

Responses in this cluster emphasized changes to cooking patterns as a result of moving to the city from reserve communities. Participants reported that “I don’t cook as much as I used to” or that “I don’t cook at all” because of shared accommodations, where “[my] sister mostly does the cooking,” and you “can’t cook like you want to cook” or “[I] can’t cook for myself because I live with others.” It was also reported, “I don’t want to cook.” The response that “I don’t eat a lot of the traditional foods” may be in need of some additional interpretation. It should be noted that traditional food refers not only to types of food, but the way that food is prepared.

#### CLUSTER 6 — CONVENIENCE

In this cluster, participants talked about the convenience of food in the city relative to the reserve communities they moved from. Participants noted that “everything is more convenient,” the “stores more accessible” in that “I can pick my own time to go shopping” and “I can just get up and walk to the store.” These made it “easier to go grocery shopping” and you “get to shop more.” In the stores “everything’s cheaper” and there are “more vegetables than we had” at home.

#### CLUSTER 7 — FRUITS AND VEGETABLES

Responses in this cluster focused on access to fresh produce and dairy products in the city. Participants indicated that in general “prices are lower” and there are “more choices” so “you can get more things when you go shopping” and, as a result are “not buying so much in bulk.” Compared to their home communities, the “vegetables are cheaper” and “milk is cheaper” in the city. Participants indicated that because there are “more fruits and vegetables” available in “convenience stores,” “I get more veggies and fruits and dairy products” in my diet. It was noted that “you can go eat whenever you want” to shop, that you “can buy fresh bread” and “can buy fresh milk any time.” Participants indicated “I can afford salads now.”

## DISCUSSION

The available literature on changes to eating patterns for Indigenous peoples contains multiple references to the magnitude of health problems (Young et al., 2000), loss of traditional food systems (Hackett, 2005; Kuhnlein and Receveur, 1996; Kuhnlein et al., 2004), as well as various causes (Dean, Mundy, and Moffatt, 1992; Moffatt, 1995; Neufeld and Marchessault, 2006) and consequences (Harris et al., 1997; Receveur, Boulay, and Kuhnlein, 1997). However, we could find no articles that utilized participatory approaches. An advantage of the method employed in the present study is that it involved participants as coresearchers; they interpreted the results and determined the themes that emerged from the data. There were three major differences between the available literature and the responses of the participants in the present study.

First, in this study, participants reported considerable diversity in their reactions to the changes they experienced in relation to diet and eating patterns. It should not be assumed, therefore, that Aboriginal peoples have consistent food-related experiences before or after a major family relocation. The effects of moving, living in a different community, and the impact on eating experiences are difficult to disentangle (Wetter et al., 2001). However, it is this very interaction that is important to document. It is also suggested that circumstances under which relocation takes place be considered in future research.

Second, while there were many negative changes to diet and eating patterns reported, such as loss of opportunities to grow one's own food, hunt locally for game, and the availability and low price of fast foods, many participants reported that their reserve conditions were so poverty-stricken that access to fresh milk at a local convenience store was a positive change (two liters of milk can cost as much as \$8 in some reserve communities compared to \$2.50 in the city). It must be noted that the land base upon which many reserve communities are located is unsuitable for local growing and that unwanted changes to the environment have depleted local wildlife stocks so much (Mackenzie, Lockridge, and Keith, 2005) that the city, with all of its problems, is seen as a positive alternative in terms of access.

Third, participants in our study talked about their cultural experiences related to the sharing of food and the lack of sharing they noticed after moving to the city. This is a slightly different finding than was noted by Sinclair (1997) who indicated that, for Aboriginal women in the city of Winnipeg,

the cultural norm of “obligation” to immediate relatives and close friends led to considerable financial pressure as a result of sharing the food they had. Informal networks for sharing are clearly related to food use and dietary patterns and may be reflected in changes to health status over time.

## CONCLUSION

Participants in the present study described their eating experiences after moving to a city from reserve communities. They described changes related to access and use of fresh meat, hunting and gathering activities, presence of fast food, cultural value of sharing, cooking facilities, convenience of groceries, availability of produce and dairy products. There were some differences between the experiences of those in our study and the available literature in terms of diversity of experience among Aboriginal peoples, perceived positive aspects of dietary and lifestyle changes, and cultural aspects of food use such as sharing.

Our finding that participants experienced less sharing after their move to the city is important. Participants’ experiences of culture in the city were different than what they were accustomed to in their reserve communities. Although our data cannot support a causal connection between less traditional and more convenience foods, the two do co-occur in this sample. Since sharing may be considered a major vehicle through which traditional foods continue to be used by Aboriginal peoples moving into an urban setting, support for those practices should be promoted. It is recommended, therefore, that opportunities for newly arriving city residents to establish and maintain access (e.g., food co-ops, community gardens, and collective kitchens) be enhanced, and their impact studied in future research.

## REFERENCES

- Anderberg, M. (1973). *Cluster Analysis for Applications*. New York: Academic Press.
- Borden, L., Perkins, D., Villarruel, F., Carleton-Hug, A., Stone, M., and Keith, J. (2006). Challenges and opportunities to Latino youth development. *Hispanic Journal of Behavioral Sciences*, 28, 187–208.
- Cass, A. (2004). Health outcomes in Aboriginal populations. *Canadian Medical Association Journal*, 171(6), 597–598.
- Cooke, M. and Belanger, D. (2006). Migration theories and First Nations mobility: Towards a systems perspective. *Canadian Review of Sociology and Anthropology*, 43(2), 141–164.

- Davis, T.S. (2007). Mapping patterns of perceptions: A community-based approach to cultural competence assessment. *Research on Social Work Practice, 17*(3), 358–79.
- Dean, H.J., Mundy, R.L., and Moffatt, M. (1992). Non-insulin-dependent diabetes mellitus in Indian children in Manitoba. *Canadian Medical Association Journal, 147*, 52–57.
- Detaille, S.I., Haafkens, J.A., Hoekstra, J.B., and van Dijk, F.J.H. (2006). What employees with diabetes mellitus need to cope at work: Views of employees and health professionals. *Patient Education and Counselling, 64*(1–3), 183–90.
- Everitt, B. (1980). *Cluster Analysis*. 2nd ed. New York: Halsted Press.
- Gerber, L.M. (1984). Community characteristics of out-migration from Canadian Indian reserves: Path analysis. *The Canadian Review of Sociology and Anthropology, 21*(2), 145–165.
- Hackett, P. (2005). From past to present: Understanding First Nations health patterns in a historical context. *Canadian Journal of Public Health, 96*(Suppl.1), S17–S21.
- Harris, S.B., Gittelsohn, J., Hanley, A., Barnie, A., Wolever, T.M.S., Gao, J., Logan, A., and Zinman, B. (1997). The prevalence of NIDDM and associated risk factors in Native Canadians. *Diabetes Care, 20*, 185–187.
- Indian and Northern Affairs Canada. (2007). *Survey of First Nations People Living On-reserve, 2002*. Ottawa: Indian and Northern Affairs Canada.
- Kikkert, M.J., Schene, A.H., Koeter, M.W.J., Robson, D., Born, A., Helm, H., Nose, M., Goss, C., Thornicroft, G., and Gray, R.J. (2006). Medication adherence in schizophrenia: Exploring patients', carers' and professionals' views. *Schizophrenia Bulletin, 32*(4), 786–94.
- Kuhnlein, H.V., Receveur, O., Soueida, R., and Egeland, G.M. (2004). Arctic Indigenous peoples experience the nutrition transition with changing dietary patterns and obesity. *Journal of Nutrition, 134*, 1447–1453.
- Kuhnlein, H.V. and Receveur, O. (1996). Dietary change and traditional food systems of indigenous peoples. *Annual Review of Nutrition, 16*, 417–42.
- Mackenzie C., Lockridge, A., and Keith, M. (2005). Declining sex ratio in a First Nation community. *Environmental Perspectives, 113*, 1295–1298.
- Martínez-Torres, M.R. (2006). A procedure to design a structural and measurement model of intellectual capital: An exploratory study. *Information and Management, 43*(5), 617–26.

- Moffat, M.E.K. (1995). Current status of nutritional deficiencies in Canadian Aboriginal people. *Canadian Journal of Physiology and Pharmacology*, 73, 754–758.
- Neufeld, H.T. and Marchessault, G. (2006). Perceptions of 2 generations of Aboriginal women on causes of diabetes during pregnancy. *Canadian Journal of Diabetes*, 30(2), 161–168.
- Norris, M.J. and Clatworthy, S. (2003). Aboriginal mobility and migration within urban Canada: Outcomes, factors and implications. In D. Newhouse and E. Peters (Eds.), *Not Strangers in These Parts: Urban Aboriginal Peoples*. Ottawa: Policy Research Initiative Canada.
- Osborne, R.H., Elsworth, G.R., and Whitfield, K. (2007). The health education impact questionnaire (heiQ): An outcomes and evaluation measure for patient education and self-management interventions for people with chronic conditions. *Patient Education and Counselling*, 66(2), 192–201.
- Receveur, O., Boulay, M., and Kuhnlein, H.V. (1997). Decreasing traditional food use affects diet quality for adult Dene/Métis in 16 communities of the Canadian Northwest Territories. *Journal of Nutrition*, 127(11), 2179–2186.
- Ridout A. and Mayers, C. (2006). Evaluation of the implementation of the single assessment process and its impact on occupational therapy practice. *British Journal of Occupational Therapy*, 69(6).
- Rubin H. and I. Rubin. (1995). *Qualitative Interviewing: The Art of Hearing Data*. Thousand Oaks, CA: Sage.
- Sinclair, M. (1997). *Barriers to food procurement: The experience of urban Aboriginal women in Winnipeg*. Master's Thesis. University of Manitoba.
- Trochim, W.M. (1987). *The Concept System*. Ithasca, N.Y.: Trochim Publishing.
- Trochim, W.M. (1989a). An introduction to concept mapping for planning and evaluation. *Evaluation and Program Planning*, 12,1–16.
- Trochim, W.M. (1989b). Concept mapping: Soft science or hard art? *Evaluation and Program Planning*, 12, 87–110.
- Wetter, A., Goldberg, J., King, A., Sigman-Grant, M., Baer, R., Crayton, E., Devine, C., Drownowski, A., Dunn, A., Johnson, G., Pronk, N., Saelens, B., Snyder, D., Novelli, P., Walsh, K., and Warland, R. (2001). How and why do individuals make food and activity choices? *Nutrition Review*, 59(3 pt 2), S11–S20.
- Willows, N.D. (2005). Determinates of healthy eating in Aboriginal peoples in Canada: The current state of knowledge and research gaps. *Canadian Journal of Public Health*, 96, S32–S36.

Young T.K., Reading, J., Elias, B., and O'Neil, J.D. (2000). Type 2 diabetes mellitus in Canada's first nations: Status of an epidemic in progress. *Canadian Medical Association Journal*, 163, 561–566.