CUISR:

Community – University Institute for Social Research

Access To Food In Saskatoon's Core Neighborhood

by Florence Woods

Building Healthy Sustainable Communities

Community-University Institute for Social Research

CUISR is a partnership between a set of community-based organizations (including Saskatoon District Health, the City of Saskatoon, Quint Development Corporation, the Saskatoon Regional Intersectoral Committee on Human Services) and a large number of faculty and graduate students from the University of Saskatchewan. CUISR's mission is "to serve as a focal point for community-based research and to integrate the various social research needs and experiential knowledge of the community-based organizations with the technical expertise available at the University. It promotes, undertakes, and critically evaluatea applied social research for community-based organizations, and serves as a data clearinghouse for applied and community-based social research. The overall goal of CUISR is to build the capacity of researchers, community-based organizations and citizenry to enhance community quality of life."

This mission is reflected in the following objectives: (1) to build capacity within CBOs to conduct their own applied social research and write grant proposals; (2) to serve as a conduit for the transfer of experientially-based knowledge from the community to the University classroom, and transfer technical expertise from the University to the community and CBOs; (3) to provide CBOs with assistance in the areas of survey sample design, estimation and data analysis, or, where necessary, to undertake survey research that is timely, accurate and reliable; (4) to serve as a central clearinghouse, or data warehouse, for community-based and applied social research findings; and (5) to allow members of the University and CBOs to access a broad range of data over a long time period.

As a starting point, CUISR has established three focused research modules in the areas of Community Health Determinants and Health Policy, Community Economic Development, and Quality of Life Indicators. The three-pronged research thrust underlying the proposed Institute is, in operational terms, highly integrated. The central questions in the three modules—community quality of life, health, and economy—are so interdependent that many of the projects and partners already span and work in more than one module. All of this research is focused on creating and maintaining healthy, sustainable communities.

Research is the driving force that cements the partnership between universities, CBOs, and government in acquiring, transferring, and applying knowledge in the form of policy and programs. Researchers within each of the modules examine these dimensions from their particular perspective, and the results are integrated at the level of the Institute, thus providing a rich, multi-faceted analysis of the common social and economic issues. The integrated results are then communicated to the Community and the University in a number of ways to ensure that research makes a difference in the development of services, implementation of policy, and lives of the people of Saskatoon and Saskatchewan.

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ABSTRACT

There is an assumption that a healthy diet is only a function of the foods chosen to eat, but access to those foods can be limited by where we live and available services. In Canada, the food retail system is dominated by a small number of large distributors. When one of these retailers moves out of a neighbourhood, residents may be limited in their ability to access food unless they own a vehicle or their city has adequate and affordable public transportation systems. The term *food desert* may be appropriate when residents not only have physical barriers to food but also have limited income. This study of 37 households in a central neighbourhood in Saskatoon in the summer of 2001 measured food buying attitudes and behaviours to determine the factors that affected their food-buying decisions.

Access to a vehicle was a key factor in determining food buying behaviour. For participants without a vehicle, food buying meant lack of choice in location and increased dependency on expensive or inconvenient modes of transportation. While able to access large supermarkets, lack of a vehicle appeared to affect the amount that they spent on food.

Almost two-thirds of participants mentioned money as a major difficulty in food buying. Some participants felt that it affected where and when they shopped, creating a cycle of feast and famine. Other bills often cut into the amount spent on food. Income affected vehicle ownership. As expected, those with a higher income were able to spend more on food per household and per capita. Lower income participants, however, spent a greater proportion of their food dollar at the larger stores rather than smaller outlets.

The most important store characteristics to participants were price and convenience. Those with a higher income stressed convenience slightly more, while those who earned less emphasized price slightly more. Some participants made a point to shop at a particular outlet for specific products. Others went to a store solely because of price. Almost one-third were willing to pay higher prices and travel further if a store had qualities deemed important.

Social aspects were important. Participants shared food at their dinner tables, and from their pantries and gardens. At times, food was a source of support or an act of friendship. Most participants used community programs involving food. Some were collective initiatives, while others were traditional hunger relief programs.

Participants' food expenditure values are similar when compared to national ex-

penditure data, but a wide range in expenditures reveals concerns about access and its effects on food buying. Participants might not have been able to buy adequate amounts of food, or food choices might have been compromised. There was an indication that a greater range of services and products would be used if they were available in the neighbourhood. This study reinforces the need to address access to services such as food procurement.

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An invitation to a gathering to present the research findings will be issued to participants and other interested community members in order to disseminate the information. The gathering's purpose is not to collect more data, but to allow participants a forum to come together with their neighbours to discuss food buying in the neighbourhood.

INTRODUCTION

While some may assume that a healthy diet is only a function of the foods we choose to eat, access to those foods depends on income, agricultural policy, civic planning, transportation systems, and food retailers' policies (Robinson et al, 2000; Whitehead, 1998). As these factors relate to income, status, and important determinants of health (Health Canada, 2001), food buying should therefore be considered in health education and promotion (Robinson et al, 2000). Individuals need access to appropriate food in sufficient quantity and variety to support growth, development, and, when needed, healing (SCNN, unpublished).

The nature of the Canadian food retail system is one of a small number of distributors that own or control most of the nation's supermarkets (Toronto Food Policy Council, 1996). This oligopolistic climate has shaped consumer food buying patterns. In Canada, almost 80% of all food dollars are spent in supermarkets (Agriculture and Agri-Food Canada, 1996). Britain's numbers are similar, with 70% of purchases made at the five largest chains (Robinson et al, 2000). In the 1980's and 1990's, the food industry used low food prices to gauge their success in the marketplace (Caraher, 2000). As a result North America has relatively low food prices. The average Canadian spends 14% of his or her disposable income on food consumed at home (Toronto Food Policy Council,

1996), while the average American spends only 11% (Food Marketing Institute, 2001). However, another trend in food retailing in the last part of the twentieth century was relocation of supermarkets from city neighborhoods to the suburbs.

There is little benefit in encouraging consumers to eat healthier if their neighbourhood does not have adequate food suppliers and stores do not offer healthy choices (Lang & Caraher, 1998). The term *food desert* has been used to describe an area where people experience physical and economic barriers to accessing healthy food (Reisig and Hobbiss, 2000; Whitehead, 1998). Transportation becomes a major issue for residents of a food desert, especially if income is a further barrier. Those residents who do not own a vehicle often spend more money, time, and energy getting food, but might have less access (Toronto Food Policy Council, 1996) especially if they use modes of transportation that limit their food choices and influence their shopping behaviour (e.g. walking, cycling, public transportation) (Caraher et al, 1998; Robinson et al, 2000). The Toronto Food Policy Council (1996) found that residents in neighbourhoods not serviced by a grocery store used the local food bank more often. Those without a vehicle may frequent convenience stores for staple food items, such as bread, milk, and fruit and vegetables (Ellaway & Macintyre, 2000), even though prices at these small stores are higher and variety more limited than at supermarkets (Kaufman and Lutz, 1997; Chung and Meyers, 1999; Alwitt and Donley, 1997). Caraher et al (1998) found that food prices matter most to those with lower incomes because they spend a greater proportion of their disposable income on food. Yet this is a paradoxical situation: low-income residents of food deserts have less access to stores with the lowest prices.

As living in a food desert might be a barrier to accessing food, it was important to seek the opinions of residents in a central neighbourhood in Saskatoon. This neighbourhood lacks a large grocery store and the impact of travelling to suburban areas of the city to access this type of outlet was a concern to residents. This study's purpose was to explore this neighbourhood's food buying patterns to determine the extent to which residents felt this was a significant issue. Specific research questions addressed whether neighbourhood residents experienced difficulties in arranging transportation to stores outside the neighbourhood and whether residents spent a greater proportion of their disposable income at higher priced convenience stores. It was also important to identify factors that affected food buying decisions and neighbourhood residents' ability to purchase adequate food.

Methods: Selection of Households

Three community based organizations—Quint Development Corporation, the Saskatoon Community Clinic and the Child Hunger & Education Program (CHEP)—along with the University of Saskatchewan partnered on this study. Study rationale, methodology

and contact documents were reviewed and approved by the Committee on Ethics in Behavioural Science Research at the University of Saskatchewan.

Participants were recruited from within geographic boundaries of an area of Saskatoon where several major grocery stores had vacated. Idylwyld Drive bordered the area to the east, Embassy Drive to the south, Avenue W to the west, and 23rd Street to the north. A variety of community-based organizations engaged in diverse work within this neighbourhood were approached to submit names of potential participants. This was an attempt to ensure that the sample was representative of the neighbourhood. None of the organizations or research partners had knowledge as to which participants were contacted. A total of eighty-one letters of introduction to the study were sent out (see **Appendix A**). Letters were followed up with phone calls, and appointments booked with those willing to participate. Information was collected from thirty-seven households over four weeks.

Data Collection

Data collection took place during the summer of 2001 using two distinct methods. First, participants saved all food and transportation receipts or recorded purchases weekly for four weeks. Second, a Food Buying Patterns questionnaire (see **Appendix E**) was conducted weekly for four weeks, usually in participants' homes. The questionnaire determined opinions, beliefs, and food buying patterns. There were a total of five visits to every participant, the first being an introductory meeting where demographic data was collected (see **Table 1**). Because data collection occurred over the summer season, accommodation was made for holiday plans and changes to routine. Participants could skip a week if they indicated that they would be away most of the week and that food would be supplied elsewhere. However, the week was included if a participant was only away a portion of the week and able to keep records of any food buying, or if a partici

Table 1. Demographic Characteristics of Participants

Characteristics (n=37)	Percentage (%)
Income of less than $30,000 annually	86.5
Income over $30,000 annually	13.5
Households with dependent children	70.2
Households with dependent children headed by a single parent	40.5
Owned a working vehicle	59.5
Number of single parent families without a vehicle	60.0
Health Issues that affected food buying	56.7
Aboriginal ancestry	32.4

Note: Appendix F contains greater detail on demographic data (e.g. Living Arrangement and Income, Number of Children, and Vehicle Ownership).

pant was away but had purchased most of their food supplies before departure. In order to include only food costs, and not confectionery or miscellaneous household items, any item to which both the Goods and Services (GST) and the Provincial Sales Tax (PST) had been added was excluded from food cost totals. (In Saskatchewan, food is only subject to GST). During each visit a small incentive was provided for participants, as well as a small honorarium at the completion of the four weeks. The same researcher performed all interviews to maintain consistency in recording.

The Food Buying Patterns questionnaire was developed in consultation with the research partners. Permission was obtained to model some questions on the Smaller World Communications survey developed for Food Share in Toronto. All research instruments were pre-tested and minor revisions made. Pre-test questionnaires were not included in the analyses. Questionnaire design allowed for open-ended answers with possible answers listed for coding purposes. Participant comments that further explained their answers or introduced a new idea were noted. In order to code the data consistently, working definitions were developed for terms such as large format store, service, quality, or convenience.

Data Analysis

Data were entered into a spreadsheet, while the Statistical Package for Social Sciences (SPSS) version 10.0 was used for analysis. Weekly data were entered, then averaged. Only mean values are given. Answers and comments not appropriate for coding were categorized into major themes before analysis. Two categories of income were set. Household income below $30,000 is referred to as *Lower* (or *Low*) *Income*. Household income above $30,000 is referred to as *Higher* (or *High*) *Income.*

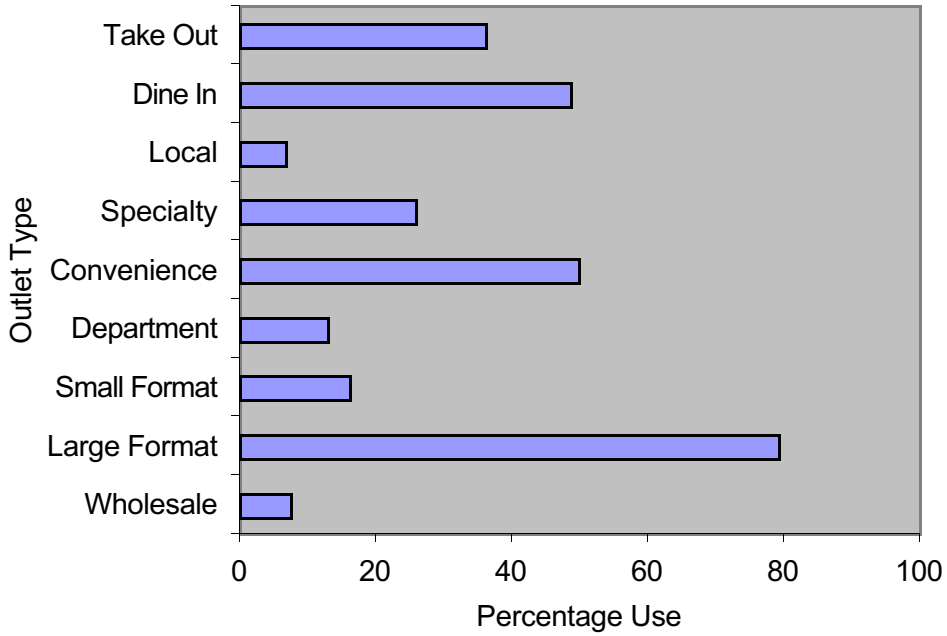
Demographic Profile

Eighty-six point five percent of participants were considered Low Income because they earned less than $30,000 annually. Over three-quarters of families with children within the cohort shared this low-income status. Single parent mothers headed 65% of these Lower Income families. There was an average of 2.4 children per family within the group. Participants with an income comparable to Saskatoon's average income—almost $49,000 (Neighbourhood Profiles, 1998)—made up less than 10% of the group. The Statistics Canada Low Income Cut-off (LICO) for a centre such as Saskatoon in November 2001 was $19,697 for 2 people (CCSD, 2001). The LICO for a family of four was $29, 653. The average household size in this group was 3.32 persons, slightly higher than Saskatoon's average of 2.5 persons (Neighbourhood Profiles, 1998). Vehicle ownership was reported by 59.5% of participants, although only 40% of single parent families owned a vehicle.

Almost 57% of participants indicated that they had health issues. For some (10.8%) this included mobility problems that affected their ability to buy food. Others (45.9%) had conditions such as allergies, diabetes, hypertension, or heart disease, and felt specific stores could provide health-related foods at a reduced cost. A small number of participants felt their drug regime or condition reduced their interest in eating.

This central neighbourhood is culturally rich. The cohort, however, did not reflect all these dimensions. Almost 46% of participants identified themselves as Canadian. The second largest grouping was Aboriginal[1] (32.4%) with the remainder having ancestors from various locations within Europe. There was an absence of participants with Asian ancestry, although the Chinese community made up as much as 12.3% of Riversdale according to the Saskatoon Neighbourhood Profile (1998).

Figure 1. Percentage Weekly Use of Outlet by Type



Note: The specific outlets used by participants were as follows:

- **Wholesale outlets included the Real Canadian Wholesale Club and Costco**
- **Large format store included Superstore, Safeway, Co-op and Extra Foods**
- **Small format was primarily Lew Brothers**
- **Department Stores included Wal-Mart, the Red Apple and the Dollar Store**
- **Convenience stores included Hewgill's, Baciks, Avenue H Confectionary, FasGas**
- **Local Specialty stores in the neighbourhood included Kalyna Meats, various bakeries, Star Eggs, Asian Grocers and delivered Bottled Water. Purchases were also made at the Great Canadian Bagel and Prairie Meats although not as frequently.**
- **Local Growers included the Strawberry Ranch, Highway Greenhouse and the Farmer's Market.**

Participants' Food Buying Patterns

Most participants (75.7%) shopped for some food items each week of the four week period. For a variety of reasons, nine (24.3%) participants did not. One participant only bought a small amount of food once during the four- week period and was categorized as a non-shopper when the data were averaged.

Participants used a variety of outlets with large format grocery stores receiving greatest patronage. A majority (79.1%) of food buying occurred at these larger format outlets. Additionally, 35 of 37 participants (94.6%) selected these outlets in two or more weeks during the reporting period. Caraher et al (1998) had similar findings with 98.6% of respondents shopping at supermarkets. Convenience store use followed with 48.7% average use, although 24 of 37 participants (64.9%) frequented these outlets in two or more of the reporting period. Small format and department stores were used to a lesser extent (16.0% and 12.8% respectively). Only two participants used wholesale grocery outlets regularly. Local growers did not receive widespread use. Seven participants made a point of visiting a large wholesale outlet or large format store once during the reporting period in order to stock up on food (see **Table 2**). An average of 48.6% participants went to a sit-down restaurant and 36.0% purchased take-out food each week indicating that restaurants contributed to meeting food needs.

Factors Affecting Food Buying

Owning a vehicle

Mode of transportation reflected vehicle ownership (59.5%) although those with vehicles also used alternate modes of transportation (see **Figure 2**). Vehicle owners were also walkers and cyclists. Those without vehicles did not have the same choice. They relied on these alternate modes of transportation. Warmer seasons allowed greater use of walking and biking, but this option may be reduced in colder winter months. The significance of public transit or taxi use only became apparent when all trips were considered, rather than as the mean.[2] Nine participants used a taxi at least once for a major shopping trip during the four-week reporting period. However, the high cost of taking a taxi dictated it be used prudently.

Store distance was a factor. The large wholesale outlets (Real Canadian Superstore and Costco) are located great distances from the core neighbourhood. Only two participants frequented wholesale outlets regularly, and both owned vehicles. Six other participants visited these outlets once during the reporting period. Four owned a vehicle and two received rides from others. Lack of vehicle ownership may not impede large format store use as almost 95% of participants frequented these outlets in two or more of the weeks of the reporting period (see **Table 2**). For those without a vehicle, access may be easier if they lived on the study area's periphery (e.g. near Extra Foods on 22nd Street and Avenue W, or 21st Street and 3rd Avenue). Otherwise, they relied on alternate

modes of transportation. Thirty participants used convenience stores one or more times during the reporting period. This included all fifteen non-vehicle owners and 68% of the vehicle owners. Many specialty shops (Kalyna Meats, bakeries, Star Eggs) are located in the neighbourhood, as well as Red Apple, a department store. Vehicle ownership did not seem to greatly influence use of specialty outlets, local growers, or department stores (see **Table 2**).

Figure 2. Mode of Transportation for Food Buying[3]

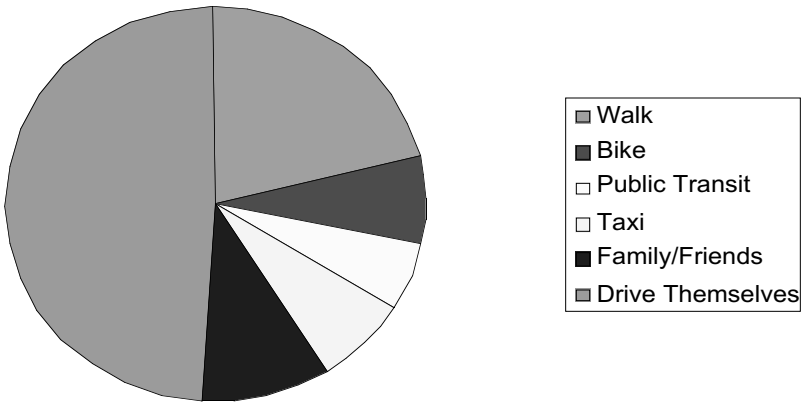


Table 2. Types of Outlet in Relation to Vehicle Ownership

Type of Outlet	Participants who selected this option once in the 4-week reporting period		Participants who selected this option 2 or more times once in the 4-week reporting period*	
	Vehicle (n=22)	No Vehicle (n=15)	Vehicle (n=22)	No Vehicle (n=15)
Wholesale	4	2	2	0
Large Format	0	1	22	13
Department	7	3	1	3
Small Format	6	5	4	1
Convenience	0	6	15	9
Specialty stores	7	4	6	5
Local Growers	2	0	2	1

Note: Participants were able to select more than one option.

***Frequency values represent the number of participants who selected the type of outlet two or more times during the four-week period in which the survey was administered. This was an attempt to determine usual behaviour.**

On average, vehicle owners spent more on food with an average weekly household expenditure of $83.01 at larger outlets (wholesale, large format, and department stores) and $21.44 at smaller outlets (small format, convenience, and specialty stores). This was more than 1.5 times the amount spent by those without a vehicle (see **Table 3**). On a per capita basis, food expenditures at larger outlets made by vehicle owners doubled that of non-vehicle owners. Vehicle owners' expenditures at smaller outlets represented 15% of their total food dollars per capita. While non-vehicle owners spent 30% less than vehicle owners, at these smaller outlets their expenditures represented 18% of their total food dollars.

Table 3. Food Expenditures Specific to Outlet Size in Relation to Vehicle

Type of Outlet	Food Expenditures ($)*			
	Vehicle (n=22)		No Vehicle (n=15)	
	Household	Per Capita**	Household	Per Capita
Larger Format***	83.01	34.38	47.10	16.69
Smaller Format****	21.44	8.55	13.44	5.99
Dining In/Take Out	30.95	12.55	18.41	10.42
Total	**135.40**	**55.48**	**78.95**	**33.10**

*** Values represent only food items. Craft items, toiletries, pet food and supplies, washing and cleaning supplies, books and the taxes that would be attached to these items were excluded. These exclusions could not be made when receipts were unavailable.**

**** Per capita values are from Gibson (1990) (0.2 for 0-3 yrs, 0.6 for 4-12 yrs and 1.0 for 13 yrs and up)**

***** Includes wholesale, large format and department stores.**

****** Includes small format, convenience, and specialty stores.**

Having a vehicle appeared to affect the distance people traveled to buy food. Three-quarters of all participants normally traveled 3.0 km or less to buy food, indicating local store use. This trip may have been for a litre of milk or a full week's groceries as the question did not request items purchased. Of the remaining participants who regularly traveled greater than 3.0 km, close to 90% of these owned vehicles (see **Table 4**).

Table 4. Distance of Outlet in Relation to Vehicle Ownership

Mean Distance to the closest store that was used	Number of Participants (n=37)	Vehicle (n=22)	No Vehicle (n=15)
Less than 0.5 km	5 (13.5%)	2	3
0.5 km to under 1.0 km	10 (27.0%)	6	4
1.0 to 3.0 km	13 (35.1%)	6	7
Greater than 3.0 km	9 (24.3%)	8	1
Total	37	22	15

When asked about the influence of a store's distance, the mean of participants' responses was 2.09 on a scale of 0 to 3, where 3 indicated large influence. This suggests that distance may influence participants' buying patterns. However, half of vehicle owners did not feel that store distance impacted their food buying decisions. The inverse is seen in those who did not own a vehicle. Most non-vehicle owners felt that distance greatly affected their food buying (see **Table 5**). Participants' comments were given in response to whether they had particular difficulties buying food (see **Table 6**). These comments reflected concerns about distance. For some vehicle owners, gas prices affected how far they were willing to travel (see **Table 6**). For those without a vehicle, carrying groceries home, weather conditions, the expense of a taxi, or the inconvenience of public transportation influenced their decisions. The actions and opinions of many participants mirrored each other. Those who regularly traveled distances greater than 3.0 km were vehicle owners, and a greater number of vehicle owners felt distance had a lesser effect on their food buying habits.

Table 5. Degree of Influence of Distance in Relation to Vehicle Ownership

Degree of Influence of Distance	Number of Participants (n=37)	Vehicle (n=22)	No Vehicle (n=15)
0 = No influence	2 (5.4%)	2	0
1 = Little influence	10 (27.0%)	9	1
2 = Some influence	7 (18.9%)	6	1
3 = Large influence	18 (48.7%)	5	13
Total	**37 (100%)**	**22**	**15**

Income

Income appeared to affect vehicle ownership, type of outlet used, and frequency of visits. Forty-four percent of those participants in the Lower Income group did not own a vehicle, compared to only 20% of those in the Higher Income group. Income is presumed to be a factor in vehicle ownership and, consequently, in easier access to food (see **Table 7**).

Income may have influenced the use of wholesale outlets, but overall use was very low. Of the food store options, these are at the greatest distance from the neighbourhood. Only a small proportion of those with lower incomes used these outlets regularly, while another six participants, all lower income, visited these outlets once during the four weeks (see **Table 8**). Almost all (35 of 37) participants shopped at the large format stores in at least two of the four weeks of reporting. Income may not have influenced the patronage of these outlets. One participant made a single trip to a large format store as her usual shopping behaviour was stocking up once a month. A slightly greater percentage of Lower Income participants used specialty shops compared to their

Higher Income counterparts (27% and 20%, respectively) but income did not impact use of department stores or small format outlets. As only Higher Income participants used local growers regularly, it may be that income impacts their patronage (see **Table 8**).

Table 6. Spontaneous Comments from the Participants on Transportation

Comments from participants on how transportation affects food buying	Number of Respondents
Transportation is an issue	19
Have a car so can shop when and where I want	11
Its hard to carry the groceries home on the bus, bike or walking	10
Its hard to walk because of the heat or my health	8
The cab is expensive, so is delivery at Extra Foods	6
Not dedicated to shopping trips; when on route	5
Travels with someone else or social outing	4
Gas prices are an issue	4
Want to bike or walk but store of choice is too far	3
I won't be able to walk or bike in the winter	3
Bus is not convenient	3
Wants to walk or bike	2
Own a vehicle but partner decides when and where to shop	2

Table 7. Income in Relation to Vehicle Ownership

Income	Vehicle (n=22)	No Vehicle (n=15)
Lower Income (n=32)	18	14
Higher Income (n=5)	4	1

Lower Income : median income level was $10,000-20,000.
Higher Income: median income level was $40,000-50,000.
Note: While concern is raised for families living with incomes of less than $20,000, the rationale for collapsing categories is that the three families within the category of $20,000 to $30,000 included those with children and fell below the LICO of $29,653 for a family of four. See Appendix F**,** Table 21 **for a further breakdown on income.**

The relationship of expenditures in larger format stores indicates that Higher Income participants spent approximately 1.4 times more per household than that of their Lower Income counterparts (see **Table 9**). Yet, Lower Income participants spent a greater proportion of their total food dollar at the large format store—62% compared to 53% spent by those in the Higher Income group.

Within the classification of smaller format stores, it was apparent that there were marked differences as to which type of smaller outlet was used. Ninety percent of specialty

shop patrons were Low Income and commented that prices at stores such as Kalyna Meats, Star Eggs and the bakeries were reasonable. Participants with incomes above $30,000 (80%) made greater regular use of convenience stores (see **Table 8**). These participants spent twice as much per household and per capita at the smaller outlets[14] than their Lower Income counterparts (see **Table 9**). Higher Income participants also spent a greater proportion of their total food dollars in this same group of smaller outlets than their Lower Income counterparts (20% and 16%, respectively) (see **Table 9**).

Table 8. Type of Outlet in Relation to Income

	Selected 2 or more times during the reporting period		
Type of Outlet	**Number of Participants (n=37)**	**Lower Income (n=32)**	**Higher Income (n=5)**
Wholesale	2 (5.4%)	1	1
Large Format	35 (94.6)	30	5
Small Format	5 (13.5%)	4	1
Department	4 (10.8%)	3	1
Convenience	24 (64.9)	20	4
Specialty	11 (29.7%)	10	1
Local Growers	3 (8.1%)	0	3

Lower Income : median income level was $10,000-20,000.
Higher Income: median income level was $40,000-50,000.
Note: See Note for Table 7.

Table 9. Food Expenditure Specific to Outlet Size in Relation to Income

Type of Outlet	**Food Expenditures ($ / week and (%))**				
	Number of Participants (n=37)	**Lower Income (n=32)***		**Higher Income (n=5)**	
		Household	**Per Capita**	**Household**	**Per Capita**
Larger Format**	36	71.24 (62)	23.07 (59)	99.88 (53)	35.64 (47)
Smaller Format***	34	18.49 (16)	6.41 (16)	38.56 (20)	14.91 (20)
Dining In/Take Out	37	24.90 (22)	9.58 (25)	50.06 (27)	25.45 (33)
Total		114.63 (100)	39.06 (100)	188.50 (100)	76.00 (100)

Lower Income : median income level was $10,000-20,000.
Higher Income: median income level was $40,000-50,000.
Note: See Note for Table 7.
*** Per capita values used were from Gibson (1990, p.29).**
**** Includes wholesale, large format and department store.**
***** Includes small format store, convenience store and specialty stores.**

Prepared food expenses, whether dining in or eating out, ranged from almost one-quarter of food expenditures per capita in Lower Income households to one-third for the Higher Income group. Higher Income households spent 2.7 times as much per person on dining out as their Lower Income counterparts. In exit interviews, some participants suggested that the hot summer, lack of time and personal choice were major reasons for dining out (see **Table 13**).

Table 10. Distance of Outlet in Relation to Income

Mean Distance to the closest store that was used	Number of Participants (n=37)	Lower Income (n=32)	Higher Income (n=5)
Less than 0.5 km	5 (13.5%)	3	2
0.5 km to under 1.0 km	10 (27.0%)	9	1
1.0 to 3.0 km	13 (35.1%)	13	0
Greater than 3.0 km	9 (24.3%)	7	2

Approximately 75% of all participants traveled 3.0 km or less to buy food (see **Table 10**). Of the remaining 25% who traveled more than 3.0 km, a greater proportion were Lower Income, although only 20% of the Lower Income participants are in this category. When asked whether store distance influenced food buying decisions, 80% of those with Higher Incomes agreed that distance affected where they shopped, compared to 57% of Lower Income participants (see **Table 11**). Spontaneous comments revealed issues that participants brought to the discussion (see **Table 12**).

Table 11. Degree of Influence of Distance in Relation to Income

Degree of Influence of Distance	Number of Participants (n=37)	Lower Income (n=32)	Higher Income (n=5)
No influence	2 (5.4%)	1	1
Little influence	10 (27.0%)	10	0
Some influence	7 (18.9%)	6	1
Large influence	18 (48.7%)	15	3

Lower Income : median income level was $10,000-20,000.
Higher Income: median income level was $40,000-50,000.
Note: See Note for Table 7.

The issue of money was brought up by two-thirds of participants independent of a specific question regarding food buying and income. This is not surprising as three-quarters of the group made less than $20,000 annually. Access to food was limited when participants had to wait to buy food or use food dollars on other bills. There was

also a perception that grocery store prices increased at the middle and end of the month (when participants received support and / or employment cheques) and that neighbourhood stores offered food of a lower quality (see **Table 12**).

Table 12. Spontaneous Comments on Money Issues

Additional comments from the participants surrounding money issues	Number of respondents
Limited funds is an issue around food buying	23
Shopping is limited until the cheque comes*	11
Food money is limited because of other bills and high rent	10
*Lack of funds affects where I shop***	9
Stores increase prices on cheque day	5
Felt neighbourhood income levels affected food quality	4

*** The Child Tax Credit was the most frequently mentioned for food. The end of the month cheque was often dedicated to rent.**

**** Lack of funds refers to use of taxi or delivery service, paying others to drive, or going to a larger outlet.**

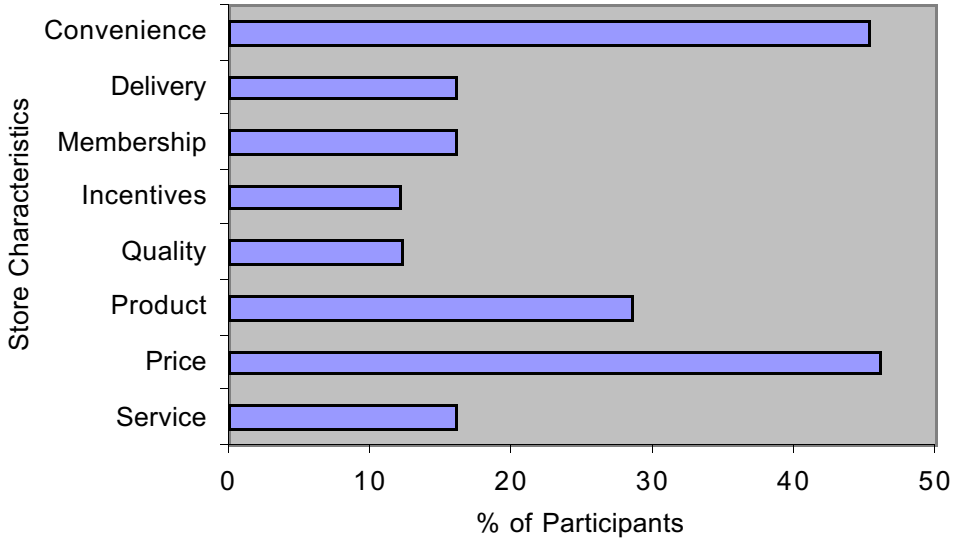
Store characteristics influencing food buying patterns

There are a variety of characteristics that participants felt were important when they decided where to spend their food dollars. Price, variety, and quality were often primary reasons, but, increasingly, busy lifestyles made convenience a growing concern. Almost half of the participants chose price and convenience (46% and 45%, respectively) as a reason for shopping at a particular outlet (see **Figure 3**). Convenience, however, has a subjective quality and can include considerations such as distance traveled to purchase food, access by public transit, and range of goods available. Some participants wanted food as well as hardware, toiletries, medicine, or clothing available in order to have one-stop shopping. Others wanted a store close by in order to shop every day. The perceived benefit of local convenience stores was, at times, prefaced with frustration at higher prices and inability to shop elsewhere because of other factors, such as transportation or lack of funds to make the trip worthwhile. Some participants went to the closest store whether it was for staple items or treats. Almost 30% of participants usually went to a particular store for specific products (e.g. meat or produce). Service, incentives, membership, and delivery were mentioned by fewer numbers of participants.

There was a perception that consumers in this neighbourhood did not have access to the same quality of products or service as others in different areas of the city. Specific comments noted outdated products, freezer burnt meat, and merchants who did not treat patrons respectfully (see **Table 13**). Regardless of income, participants shared similar likes and dislikes regarding attributes of a food store, although those making under $30,000 were more concerned about price than those making above $30,000 (78% and

60%, respectively). Convenience scored somewhat higher with Higher Income groups (100% and 80%, respectively). Only Lower Income participants indicated that service or delivery was important to them.

Figure 3. Factors Affecting Participants' Specific Store Choice, by Percentage



Note: Delivery includes milk, grocery, or restaurant-delivered food.

Table 13. Spontaneous Comments on Outlet Choice

Participant comments on why they chose a particular store	Number of respondents
*Will shop at a specific store that has the qualities they want, even though the price is higher**	10
Shops for good prices without having to buy in bulk (lack of storage or can't use)	10
Goes to a particular store to satisfy a craving for a particular food item	8
Eating out more or just snacking because of the heat	8
Likes to support neighbourhood stores	7
Goes to the store that regularly has the best price for the specific products they use or follows the sales	7
Eats out because of lack of time or by choice	6
Can't shop where they would like to (location, price, etc)	5
Goes to a particular store to buy products related to health	4

*** Examples include cleanliness, good service, quality products, and community-mindedness.**

Social Factors That Influence Food Buying

Food buying, preparing, serving, and sharing were social acts. For many participants shopping is a social outing whether they drove others to a store, received a ride from someone else, or walked to a store to visit with those who work there or with other patrons. Shopping was a reason to get out of the house and socialize.

Buying, preparing and serving food for others influenced food buying. Most participants (89.2%) had guests to their home for one or more meals during the four week reporting period. Of these participants, only 36.3% felt guests changed their buying habits. The two most common changes were a need to buy more food and extra trips to the store. The extent of change to buying habits was dependent on number of guests and length of their stay. One participant had a daylong birthday party for her son with forty guests. She felt her food costs during the four-week reporting period were much higher than normal.

Twenty-six of the 37 participants indicated that family members ate meals at homes of extended families or friends. Again, the impact of this was dependent on the number of family members and number of meals. This sharing of food extended beyond meals as many participants shared grocery items and produce from their garden (see **Table 14**). Food sharing helped build community, whether it was borrowing from family or friends until more money came in or giving or receiving bounty from a garden. A little over half of participants benefited from food sharing. Some participants relied on this exchange in order to meet their food needs. Others used it as a means of giving thanks or as a gift (see **Table 14**).

Table 14. Social Factors Affecting Buying Patterns

	Had guests	Ate at the homes of others	Sharing of food items or garden produce*
Number of participants (n=37)	33 (89.2%)	26 (70.3%)	20 (54.1%)

*** Value derived from comments made during survey administration.**

Since data collection took place over the summer, 13 participants had changes in food consumption because of children's attendance at a residential camp, usually five days in duration (see **Table 15**).

Thirty of 37 participants received support from community programs at least once during the reporting period (see **Table 15**). For some, participation in meal/snack programs may be one or more times each week, but for others it took place every day. Comments were made about how lunch at a park, at White Buffalo, or the Friendship

Inn made food dollars stretch further. Many calendars were marked with the next referral date for the Food Bank in order to pick up some staple food items. Frequency was dependent on program criteria and personal desire. The most commonly used programs were food hampers, meal/snack programs, and collective initiatives.

Table 15. Participation in Community Programs

Number of Participants involved (n= 30)				
Food Hampers	**Kids Camp**	**Collective Initiatives**	**Meals/ Snacks**	**Health Initiatives**
14	13	12	9	1

Note: Specific definitions for community programs are as follows:

- **Food hamper programs include the Food Bank, Hands On Ministries, St. Mary's Church, Victory Church and the Salvation Army.**
- **Kids Camp includes residential camps such as Blackstrap.**
- **Collective Initiatives include Child Hunger and Education Program's Good Food Box, community gardens, collective kitchens, buying groups, and church potlucks.**
- **Meals/Snacks include programs at the Friendship Inn, White Buffalo Youth Lodge, Salvation Army and lunch/snack programs in the parks provided by CHEP.**
- **Health Initiatives include programs provided by Westside Community Clinic.**

The summer season was a factor in using community programs as many collective kitchens had taken a break, school programs were not running, and some participants were not attending health programs. The summer season influenced those who participated in community gardening.

Other Issues Around Food Buying

The most obvious issues that made food buying difficult were transportation and income. But the participants shared other issues that affected their food buying. Some participants had difficulty shopping with their children. Some waited for the opportunity to go alone, whereas others picked up things on the way home from work. Others had no option but to take their children. This barrier's impact was increased for participants who did not have access to a vehicle.

Many participants mentioned the construction project on 22nd Street by Confederation Mall as a major deterrent to food buying. For some, it changed where they bought their groceries. It was inconvenient for those participants who owned a vehicle, those who used a cab (because it increased the fare), as well as those who biked or walked.

Some participants had lifestyles that allowed little time for shopping, which became a chore squeezed into a busy schedule. There were also times when other issues unrelated to food buying had priority.

A Garden as a Food Source

Over 40% of participants gardened on varying plot sizes. Of these 26 participants, 11 believed it saved them food dollars. These participants often spent time preserving produce for winter. This perception of saved money was directly related to garden production status (i.e. once a garden began producing, perception of saved money increased).

Table 16. Gardening as a Factor in Meeting Food Needs

	Those who gardened	Those who believed it saved money (n= 16)
Number of participants (n=37)	16 (43.2%)	11 (68.8%)

Food Buying Receipts

Receipts collected by participants facilitated examining their food-buying behaviour in relation to factors that affected food buying. Range of income and ability to shop where and when a participant wished was reflected in the large standard deviation in the mean value spent each week (see **Tables 17** and **18**).[4] Receipt values represent only food (e.g. toothpaste, toilet paper, laundry and cleaning supplies, craft items, hardware, or photo finishing were not included).

Table 17. Food Expenditures Per Household[5]

Values from receipts collected weekly (n=37)	Mean ± SD ($)	Range ($)
Average spent in large format stores	66.56±51.87	00-176.25
Average spent in small format stores	18.19±16.22	00-61.75
Average amount spent dining in/taking out	25.86±21.95	.50–81.43
Average Food Expenditures	**110.61±72.89**	**8.41-263.98**
Average amount spent including non-food items	133.13±85.16	12.44-304.08
Amount spent on transportation to buy food	5.31±4.98	.00-21.11

Note: Values used for estimates at restaurants are $5.00 for breakfast, $6.00 for lunch, and $8.00 for supper. For those with vehicles $0.30/km was assigned to account for costs associated with owning a vehicle. Only amounts used for grocery buying are attached to those owning vehicles. Bus passes are $47/month for adults and $150.00/yr for seniors. The actual amount for cab fare is included in the values.

Most participants were spending the majority of their food dollars at larger foodstores (60% for households; 56% for individuals). Restaurant use followed with households and individuals spending 23% and 27% of their food dollars, respectively. Smaller outlets represented 16% of the total food dollars for participants.

On average, non-food items added over $20 to average weekly food costs. Transportation costs were the most difficult to monitor and appropriately attach a cost for those who did not pay a specific amount to go to the store and return home. Food was often obtained en route, going from or to other places.

Table 18. Food Expenditure per Capita

Values from receipts collected weekly (n=37)	Mean ± SD ($)	Range ($)
Average spent in large format stores	24.06±14.23	00-58.33
Average spent in small format stores	7.57±6.11	00 - 23.60
Average amount spent dining in/taking out	11.69±14.48	.17-81.43
Average Food Expenditures	**43.32±24.73**	**4.20-119.50**

Participants' Exit Comments

During the exit interview, participants were asked if there were further comments that they wanted to make. This included what could make shopping easier for them or what they wanted to see changed or developed. The comments in **Table 19** are not direct quotes. Instead, the researcher tried to capture the essence of what the participant was saying. There are instances where participants echoed each other's words.

Discussion

Demographics

All participants shared the same geographic location and had common concerns in regards to buying food. The study area does not have a large retail store chain. Instead, a number of small confectioneries, a small grocer, several bakeries, ethnic grocers, a delicatessen, meat shops, and two drugstores were available. However, lack of variety and availability in small stores may impede residents' ability to meet their food needs (Chung & Myers, 1999). Poor access to shops may contribute to under-nutrition due to supply and distribution inadequacy (Robinson et al, 2000). We found that those participants without access to a vehicle may experience limited access to food, either from lack of choice of location or dependency on modes of transportation not always convenient or useful for grocery shopping.

Others are concerned that seniors, refugees, Aboriginal peoples, those with dis-

abilities or illness, pregnant women, and the homeless have reduced access to quality retail food (Toronto Food Policy Council, 2000). One-third of our participants were Aboriginal. However, new Canadians or other ethnic groups were absent from this study.

Table 19. Participant Exit Comments

I like to shop at the Co-op because of membership and dividends, but I want some input into what the store stocks. A community co-op with reasonable prices, locally grown food without pesticides and close enough to walk.
I don't want a store that sells outdated products, where stuff is not fresh or is freezer burnt.
I would like a regular grocery store with reasonable prices, but in smaller amounts for people who do not have storage. I like to market everyday.
I'm pretty contented buying groceries in the summer but I will miss the walk in the winter.
I want a small store like Lew Bros that is affiliated with IGA or Extra Foods not a big store like Superstore or Costco. I want clean, fresh produce with realistic sales and an owner who is community-minded, like Gregg's in Montgomery.
I want a shop that has a better selection for vegetarians and uses the principles of shareholder's equity. Maybe there could be a clinic attached or a place for education.
I would like one-stop shopping (hardware, drugs, some clothes) within walking distance so I could shop more often and be less dependent on the drug store.
I don't like Costco because of the bulk buying.
I want a store that doesn't put the prices up on cheque day. I don't even want to shop on family allowance day. Everyone is frustrated that day.
I would like a mini-Superstore, a little hardware, rent videos, a bank machine, groceries and drugs.
The farmer's market is expensive but could we work with greenhouses and gardens in the inner city? Could we hire community gardeners and could people apprentice in horticulture as a trade?
Transportation is as much an issue for free food as it is for groceries.
The neighbourhood needs more than a store. It should be a training centre and have the community in mind. Could we work with the idea of need vs. want?
Government should be around the table to discuss shopping and to help people to get better prices

Close to 60% of participants indicated health concerns, a value close to that reported for low income Canadians in general (Provincial Ministers of Health, 1994). Over half of the participants identified a health issue related to food-buying, such as the need to travel further for health-related food products. This suggests that local shops should be encouraged to stock such items and that health educators should assist partici-

pants in developing strategies for health-related problems.

Shopping patterns

Most participants were able to shop for some food items each week. The outlet used most often was the supermarket in spite of no large neighbourhood retail stores. The impact of the distance to these large format stores was less for those participants who owned a vehicle. Only 10% of participants felt, for various reasons such as price and transportation, that they could not shop at the outlet of their choice, although 78% of participants commented that they experienced difficulties in buying food. Distance to wholesale shops appeared to limit their regular use, although some participants made a point to visit these outlets occasionally to stock up.

Food Buying Patterns of Participants

The large format store's allure was often tied to price and range of food items available. Large format stores have a larger client base, allowing them to take advantage of economies in procurement and lesser margins to realize a profit. This allows them to lower their prices. The outlet's physical size means that they can provide greater variety and have the option of supplying lower priced store label or generic brands (Kaufman and Lutz, 1997). The remaining smaller retailers often cannot compete with suburban food stores' lower prices because of higher land costs, rental rates, insurance, and taxes (Kaufman and Lutz, 1997). It was the higher prices in these smaller outlets that concerned the research partners.

Convenience stores were used by almost 50% of participants, with the number increasing to two-thirds when more regular use is considered (participants who used the outlet in two or more of the weeks of the reporting period). The risk is that higher prices will unfairly disadvantage those who must shop within the neighbourhood. Use of specialty stores (stores that have a limited range of products), department stores, small format stores, and local grocers did not have widespread use.

Participants also ate in restaurants and purchased take-out food. This may have affected the amount spent at other outlets. Restaurant type may depend on household size and income. Of the participants who did not eat out, most were Lower Income. Higher Income participants tended to spend more on dining. Some participants mentioned that, during summer's extreme heat, they did not want to cook, nor were members of their family as hungry. A meal in an air-conditioned restaurant or food ordered in was seen as a viable alternative. Also, the relaxed summer schedule meant that visits were received from family and friends, and short trips out of town were taken. Eating out seemed to go hand in hand with this. Some participants (15%) indicated that they did not have enough time to cook. One participant ate out because her refrigerator was inoperable for most of the study. Another participant found it cheaper to go to a lunch buffet when money was tight than to buy all the groceries she would need for her family.

This resulted in the proportion of participants who ate out being 14% higher than findings in the United States (Food Marketing Institute, 2001) for eating out at least once a week, while the number who purchased take-out or fast food (1-3 visits per month) exceeded American values by only 3%.

TRANSPORTATION

Owning a vehicle may affect food buying. It symbolizes independence for some vehicle owners because it limits the effect of distance as a deterrent to food buying. Over half of vehicle owners felt that they could shop where and when they wanted. A greater number of those who shopped at wholesale outlets owned vehicles. Almost 90% of those who consistently traveled farther than 3.0 kilometers to shop owned a vehicle. Others have shown that vehicle owners have increased ability to make dedicated shopping trips to large format stores and to buy in bulk (Robinson et al, 2000).

Participants without a vehicle, however, were not deterred from using large format stores located outside their neighbourhood, but food buying was not always convenient. They were dependent on family and friends, and when and where they shopped was a point of negotiation. Some participants felt indebted to those who drove them, even though they reimbursed the person for gas and their time. When uncertainty surrounded trips to large format stores, some participants bought as much as their pocketbooks would allow because the ride was available. Taxis were used prudently because of their high cost, while public transit may have required a greater number of trips to the store because of the difficulty of bringing groceries home. The extent to which a participant could buy bulk was dependent on storage facilities in their homes. Approximately one-quarter of participants felt that they did not have adequate storage in their homes. Difficulty in bringing groceries home may be apparent in the proportion of their total food dollars that non-vehicle owners spent at smaller outlets (18% rather than the 15% spent by vehicle owners) yet, in dollar amount, they spent less per capita at smaller outlets. This, however, is likely interrelated with income.

Transportation cost's impact was dependent on mode of transportation. The range was wide, beginning at no cost for cyclists or walkers to a high of over $20.00 a week for taxi users. Transportation costs reduced the amount that these participants could spend on food items. It was for this reason that some participants limited their visits to the large format store until they could justify the extra transportation costs by an extensive food-buying trip. Any savings experienced by walkers and cyclists in the summer may be balanced by possible increased costs in the winter season.

A large majority of participants who did not own a vehicle felt that the distance they had to travel greatly influenced their food buying decisions. It is through the comments of these participants that the impact of civic planning, transportation systems, and food retailers' policies became apparent. When retailers move to the suburbs or a

city's outskirts, they leave those core neighbourhoods without the same level of choice in food buying, especially if residents do not own a vehicle. Alternate modes of transportation may be inconvenient or have high prices attached to them. With careful city planning, all residents could enjoy access to grocery stores or alternate food sources through reasonably priced transit (e.g. by taxi or chartered buses specifically for shopping). Further, the attraction of food store capital to neighbourhoods without a store would be beneficial.

INCOME

While the percentage of disposable income spent on food has been declining in North America and Britain (Food Marketing Institute, 2001; Robinson et al, 2000) those with the lowest income may still spend more of their disposable income on food. Income may not only limit the dollar amount spent on food but also impact other physical and social factors around access to healthy food. Income may affect vehicle ownership, type of outlet used, or frequency of visits. The Food Marketing Institute (2001) indicates that an American with an income of less than $35,000 spends an average of $76 per week at the supermarket, while their more affluent counterparts spend an average of $103 (a 1:1.35 relationship). These trends were reflected in our data. Overall, those with a Higher Income spent over 1.4 times the amount buying food than that by Lower Income groups. Range of purchases from all outlets was $114.63 to $188.50, with the widest disparity found in per person expenditures in restaurants (2.6 times higher for those earning over $30,000). This gap between households in per week food expenditures indicates that an inequity may exist in access to food based on income.

Our food expenditure data similarly agreed with Kaufman and Lutz (1997) and the Food Marketing Institute (2001) who found that Lower Income households spent less per person for food. Kaufman and Lutz attributed this to different allocation of funds between food groups and to purchasing lower priced alternatives. They also shared the concern that smaller stores, which can run an average of 10% higher in price, are a problem in many core neighbourhoods. (This reality of circumstance may support a trend seen in Lower Income groups, wherein food items are selected for the calories they supply rather than for their healthful benefits (Caraher et al, 1998)). Within this group, Lower Income participants spent two-thirds of their food dollars at larger food stores compared to the slightly more than half spent by those earning greater incomes. Higher Income participants spent a greater percentage of their food dollar at smaller outlets, including local growers and specialty stores. It may be that an increased income allowed participants greater choice and, when less constrained by cost, were able to select quick and convenient stores (Caraher et al, 1998).

Almost two-thirds of participants mentioned money as a major difficulty around food buying. As over three-quarters of participants were Lower Income, this was not surprising. Low Income participants were affected in a number of ways. Almost one-

quarter of participants felt money determined where they shopped. For thirty percent, a cheque cycle determined when, how often, and where they shopped. It perpetuated a feast and famine cycle. When money came in, groceries were stockpiled, but some families still experienced total loss of access to food before the next cheque arrived. Some were unable to buy food items or relied on a few staple items from the local convenience store, a food hamper, or friends' generosity. Additionally, five participants mentioned that store prices were increased to coincide with support cheques' arrival. This increased the frustration of those who felt tied to this "cheque cycle." High rent and utilities costs may be an additional cut into the amount that one-quarter of participants would spend on food. Yet, income status may not have impacted how participants felt about the distance to larger stores as much as vehicle ownership did, although over 90% of those without a vehicle were Low Income.

Some Low Income participants made use of bakeries and meat shops located along 20th Street. Patrons felt that these outlets offered value and reasonable prices, as well as location convenience. This would indicate that greater services and products would be used if available in the neighbourhood. On the other hand, only those with incomes above $30,000 used local growers. This may indicate a need for an awareness campaign by local growers or local councils in core neighbourhoods to promote the merits of buying locally for the economy, health, and building community.

Store Characteristics Influencing Food Buying

When asked why participants chose a particular outlet, almost 50% felt both price and convenience were most important. Those with Higher Incomes stressed convenience slightly more, while those with Lower Income stressed price. Almost 20% of those who chose price made a point to shop at stores with the best price or a sale on specific products they needed. Close to 30% mentioned that they would pay higher prices and travel further if the store had other qualities they deemed important. These qualities varied, but suggestions included a bright, clean environment with good service, quality products, and organics or foods grown without pesticides. Some respondents mentioned that they needed a store that could supply most of the products they needed in one trip. This included food as well as some hardware, toiletries, and medicine, but an extensive variety of each product was not necessary. Participants also placed importance on being treated with respect. Along these lines, four participants believed that the food quality was compromised because of residents' income level.

Social Factors

There was a social aspect to food buying. This was seen in the number who shared the shopping experience with someone else or found that small trips to a bakery or nearby store allowed them to visit with others and maintain contact with the neighbourhood. Almost one-fifth of participants wanted to support local stores because they shared the

same community. This sentiment came from both those with and without a vehicle. Thus, stores in this neighbourhood have the potential to offer more than just decreased distance.

Sharing food was common among the participants. Ninety percent had guests for meals and 70% ate at others' homes over the course of the reporting period. Food items and produce went between neighbours, friends, and family. It became a source of support or an act of friendship for half of this group. One participant mentioned that having company over for a weekend reduced her food supply leaving less for the week ahead. There was, however, no resentment in her voice, only acknowledgement.

Many families adjusted their buying habits to accommodate children or adolescents in the neighbourhood who joined their table. Monetary limitations of some low income families did not limit generosity but caused frustration. One participant said that all they could afford for teenagers and their friends was a lot of hamburger, but not much juice or milk, no produce, and little variety. For those 40% of participants who grew a garden, only two-thirds believed it would save them money, yet produce was freely shared and appreciated by many participants. Planting, growing, and harvesting a garden may have spiritual and therapeutic merit, but it is the ability of the garden to feed a family independent of shopping that was of interest here.

Community Programs

The importance of community programs involving food was understood through the frequency of their use. Over 80% of the participants were involved in at least one food-related program (e.g. children's camp, Food Bank, Good Food Box, and meal/snack programs for children in city parks and families at local friendship centers). Some of these programs were collective initiatives that allowed patrons a choice of involvement as partners in the project. Anyone of any income bracket was welcome to join.

For some families, lunch at the Friendship Inn or White Buffalo Youth Lodge stretched their food dollars through lean times. The Friendship Inn and White Buffalo Youth Lodge were also meeting places. Some participants had marked calendars with the next referral date for the Food Bank. Waiting for referral dates, having to qualify, and food quality and variety made the Food Bank less desirable. For those with limited transportation, it was hard to justify taxi costs when quantity and quality were uncertain. This meant that those who owned vehicles had advantage over their neighbours who had to find alternate modes of transportation.

The culture of sharing and community involvement provides an important means to engage residents of this core neighbourhood in all stages of a dialogue of looking for solutions. Community forums such as the proposed gathering to present the findings of this study may allow the community's voices to be heard. Robinson et al (2000) found that 86% of their respondents had never been asked what they wanted in terms of shop-

ping facilities. Additionally, nearly 60% of Robinson's respondents felt that local councils should consider residents' views in regards to shopping in their neighbourhood. In Saskatoon, a process of community consultation began when this study was initiated.

Where Food Dollars Are Spent

Most participants shopped at larger outlets for most of their food items. Larger outlets received the greatest proportion (60%) of household food dollars. This was followed by expenditures at restaurants and smaller outlets (23% and 16%, respectively). There is a trend among American consumers to cope with increased time pressures by shortening meal preparation time through increased use of convenience and takeout foods, in addition to eating out (Food Marketing Institute, 2001). American values indicate that 67% of consumers are eating a main meal out of the home at least once a week. Our values indicate that restaurants were used and played a significant role in meeting participants' food needs. The core neighbourhood has a wide representation of restaurants and takeout food outlets that allow participants relatively easy access to pre-prepared food. As indicated previously, the summer season and heat may have skewed these restaurant values.

While food dollars spent at smaller outlet stores represented the least of the options, there is still a concern for those participants who do not have easy access to transportation to larger stores or have limited budgets. The weekly food expenditures of a family of four (2 adults both aged 35 years, one son aged 13 years, and one daughter aged 7 years)[6] equaled $113.87, combining larger and smaller outlets. This is less than the $137.56 total put forth in *The Cost of Eating in BC* (Canadian Association of Food Banks, BC Branch et al, 2001). Our value represents the actual amount that the participants spent, while the British Columbia value is how much a British Columbian may need to spend in order to purchase a healthy food basket. Both values represent only food items. This suggests that our participants were not able to spend enough to purchase adequate amounts of food or that food choices may be compromised in food buying patterns. Data on food choices was not part of this research.

Our reported average food expenditures for a family of 3.32 persons ($110.61) was lower than recent findings in London, Ontario (see **Table 20**). Piche and Garcia (2001) found that the average expenses for food per week for a household with three members (e.g. two adults and one child) at a supermarket was approximately $103 (range $90-$118). However, $11 was for nonfood items (no range reported). According to Statistics Canada (1996) the Saskatoon average for weekly food expenditures per household (average of 2.61 persons) was $96.21, with $67.43 purchased from stores and $28.78 from restaurants. These values were prorated in **Table 20**. Our average food expenditure value of $110.61 per household was similar to the adjusted Saskatoon estimates. The lower amount spent at stores compared to the five-year old value from London, Ontario may indicate poor access to food. There may be further cause for concern as the wide range of expenditures indicates unequal access to food buying. The

outliers represent those who may have little money to spend on food, and those with a need to buy in bulk.

Table 20. Weekly Expenditure on Food for a Household of Three Persons

	Access to Food Study	Piche & Garcia (2001)*	Statistics Canada**	Agriculture Canada***
Food Purchased from Stores	$84.75	$92	$77.54	$83.76
Restaurant (take out or dine in)	$25.86	Not given	$33.10	$33.12
Total Food Expenditure	$110.61	N/A	$110.64	$116.87****

*** London, Ontario study conducted in 1996.**
**** Saskatoon, for 1996; prorated to 3 persons from 2.6 (i.e., x 1.15).**
***** Canada, 1996**
****** Per person amounts x 3. The report uses $100 as the weekly expenditure per household.**
N/A = not applicable

Access

The question of access is whether food should be brought to people or people to food (Robinson et al, 2000; Caraher et al, 1998). Participants shared some of the barriers to access, thus providing direction to solving this issue. There is a strong community link within this neighbourhood that can be built by forming partnerships between commercial interests and local government (Robinson et al, 2000). Others could be involved, such as growers who could make local products more readily available, thus providing fresher and higher quality foods to residents. Community-led approaches, however, run the risk of overburdening the community (Robinson et al, 2000).

There is a growing trend to suggest that it is a wise business decision to return supermarkets and other stores to core neighbourhoods of cities. Customer service and convenience top the list of attributes that shoppers want in a store. As this study indicates, core neighbourhood participants would not substitute quality for lower prices. We can learn from numerous success stories of the return to the inner city by merchants, such as Shaw's Supermarket in New Haven, Connecticut (Beinart, 1998), Rite Aid Corp in depressed areas in American cities such as Los Angeles (Barron, 1998) or Lowell's Little Acre in Lowell, Massachusetts (Lewis, 1997). Their advice includes bringing civic government planners, business people and community activists together to discuss the merits of retailing in the inner city, and spending time to understand the locale and the patrons to ensure that appropriate products are supplied.

Limitations

This study had certain inherent limitations. The small number in the sample group makes it difficult to extrapolate findings beyond the group. The time frame was a major obstacle. The sixteen-week job placement and time needed for ethical review restricted the time available to search the literature in order to develop the survey instruments. The relaxed summer schedule reduced the number of interested participants because of the extended commitment required, vacation plans, and a change to families' eating and buying patterns. The summer was unusually hot and dry, greatly affecting eating habits and gardens. Also, some produce was purchased in bulk to be preserved for the winter—therefore money was spent months before the food would be eaten. For other families, wild meat and garden produce reduced their food bills over a comparable period in another season. Collection of transportation receipts was cumbersome and much of the money spent on fuel was not food-related, making it difficult to assign a dollar amount to a particular shopping trip.

Further Research

The existing data can be used to explore some issues further. Some unanswered questions from this study include, how do factors such as access to transportation, distance to a large format store, or income status affect participation in community programs? Or, how does health status affect food-buying decisions and the amount spent on food? This latter question may provide an opportunity to build shopping profiles for individuals who share particular characteristics in order to target groups that may benefit from health promoting shopping strategies.

Another survey tool could be developed to look at food choices and whether limited access to food-buying affects these choices. Additionally, by using participatory research methods some issues could be investigated, such as whether increased food costs coincide with the arrival of employment and/or support cheques. This would increase the level of involvement in the research of the participants. As always, it is important to include opinions and strategies from both residents and organizations who work with the neighbourhood in any recommendations for the future. A future community gathering is planned for this reason.

Conclusion

The core neighbourhood of Saskatoon may be a food desert for some residents depending on their access to transportation, income, preferences of where, when and what characteristics they expect from a food store, as well as their social support system. Participants without a vehicle may experience limited access to food either from lack of choice in location or increased dependency on more expensive or inconvenient modes

of transportation. Participants who felt most affected by distance to supermarkets were those without a vehicle. The gap in food expenditures appeared to be based not only on income but also vehicle ownership, although the broad range in food expenditures between participants also raises concern. It may indicate that some of our participants were unable to purchase adequate amounts of food, or that food choices were compromised in their food buying patterns. While supermarkets enjoyed the patronage of most of participants, many used smaller food outlets whether they owned a vehicle and in spite of their income level. Participants without a vehicle spent a slightly higher proportion of their food dollars at smaller outlets, but it was those with earnings above $30,000 annually who spent a greater proportion of their food dollars on a per capita basis at these same outlets. There is an indication that greater services and products would be used if available in the neighbourhood. This may be achieved through the involvement of the residents themselves, careful city planning in attracting capital to the neighbourhood, and recognition that a reliable food store or alternate food source may be an amenity that every neighbourhood should be entitled to as a basic prerequisite to health (Toronto Food Policy Council, 2000).

NOTES

1 These include Inuit, Metis, and First Nations peoples.
2 Comments from participants suggest that averaging taxi use may not show the true picture. Due to the high cost of a taxi, a large grocery trip often occurs only once a month for those participants without a vehicle.
3 Multiple responses were received for mode of transportation. Therefore, combined percentages may total more than 100%.
4 Values represent the mean of all participants. The mean was obtained from the average of the amount spent by each participant in each week of the reporting period.
5 Exclusions included craft items, toiletries, pet food and supplies, washing and cleaning supplies, books, and the taxes attached to these items. When receipts were not available, these exclusions could not be made.
6 Per capita values are based on 0.2 for 0-3 years, 0.6 for 4-12 years and 1.0 for ages 13 and up.

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Appendix A. Letter of Introduction

Access to Food in Saskatoon's Core Neighborhood Community Study
Room 212, 230 Avenue R South
Saskatoon, SK S7M 0Z9
Ph. (306) 655-4733 Fax (306) 655-5512

Date

Dear XXXXXXXX

Do you have difficulty getting to the grocery store? How far do you travel? How do you get there? How often do you go? When the larger grocery stores moved out of the neighbourhood it might have changed the way you shopped for your family. Did it make it easier and save you money or is shopping even more of a chore?

Please allow me to introduce myself. My name is Flo Woods and I am a nutrition student from the University of Saskatchewan. I have a strong interest in the way families shop for their food and in the life of the community.

I am writing to ask you to participate in our study. Three community groups in the neighbourhood, Quint Development Corporation, the Saskatoon Community Clinic and the Child Hunger & Education Program, have asked me to gather your stories to help them understand the issues that you face when you shop for food.

I am contacting you because you live in the neighbourhood that would be most affected when the stores closed. I selected your name from a list given to me by several community groups in Saskatoon. If you agree to be in the study here is what would be expected of you:

1) You will be asked to keep all your receipts when you buy food for one month. This includes the food you buy at the grocery store, when you eat out or order in. It also includes the small purchases at the gas station or corner store. You will also be asked to save the receipts or record how much you spent on transportation when purchasing food. I will come and collect these receipts weekly.

2) You will also be asked to fill out a short questionnaire each time I visit. It will take about 15 minutes the first time and 5 minutes to update the information during the later visits.

** If you are willing to participate, I will make it as easy as possible for you. I can also be reached by phone at 655-4733 if you have any questions.

You do NOT have to prepare in any way to participate. You will be able to shop where and how you usually do. I just ask you to be yourself and share your experiences with me. Also, it is your choice to be involved; you can leave the study at any time if is not right for you. By participating, you may gain a better understanding of where your food dollar is spent and ways to make it easier and less expensive to feed your family. At the end of the study you will receive a small gift to thank you for your participation. Also, if you choose to accept it, a packet of Saskatoon community food initiatives will be made available to you at the end of the study and you will receive an invitation to a community gathering where the research findings will be presented.

Some of the information I am asking is quite personal. I want to assure you your privacy is protected in several ways. Your name will not appear on any documents. If there are any details that could reveal your identity they will not be included in research reports. None of the research partners will know who is in the study and anything you say will be kept strictly confidential. Access to the receipts and the questionnaires would only be available to the assigned researcher.

If you would like to be a part of this study, please contact me at 655-4733 at any time. If I am not in please leave a message and I will return your call as soon as possible to answer any questions you might have.

If this is not a good time or you would rather not participate, I thank you for considering it. If you are interested I would be happy to send you an invitation to the community gathering or information on food initiatives in Saskatoon.

I am looking forward to meeting with you!

Florence Woods	Karen Archibald
Nutrition Student	CHEP

Appendix B. Consent Form

The purpose of this study is to collect information regarding the shopping patterns of residents of the assigned core neighbourhood in order to identify issues that affect their buying decisions and their ability to buy adequate food for their families.

By participating in the study, the possible benefits to you may be a better understanding of where your food dollar is spent. This will allow you to make informed decisions about where you shop and possibly ways to make it easier and less expensive to feed your family. If you choose to accept it, a packet of information on Saskatoon community food initiatives will be made available to you. You will also receive an invitation to a community gathering where the research findings will be presented.

The benefits to us, the research team, will be a greater understanding of the issues that families face in making food choices. For example, we are concerned about the impact that the withdrawal of local neighbourhood stores has had on community members since it may be difficult to arrange transportation to the newer "super" stores. The information we gain will be used to write a research article and a report for the principal funding agency and research partners. The gathering may provide a forum for community members to explore possible resolutions to the issues that are identified.

There are no foreseeable risks to you by participating in this study. To protect your privacy individual names will NOT be used in any way, except to characterize participants as members of the community. None of the research partners will know who is in the study and anything you say will be kept **confidential.** All information will be kept by the student researcher during the study and stored under lock-and-key for five years when the study is over.

Your participation in this study is entirely voluntary and you may withdraw from the study at any time, for any reason. The decision not to participate or to withdraw from the study will not affect your relationship with any of the research partners.

You will be asked to:

1) Keep all your receipts when you buy food for one month. This includes the food you buy at the grocery store, when you eat out or order in. It also includes the small purchases at the gas station or corner store. You will also be asked to save the receipts or record how much you spent on transportation when purchasing food. I will come and collect these receipts weekly.

2) Fill out a short questionnaire each time I visit. It will take about 15 minutes the first time and 5 minutes to update the information during

the later visits.

The researchers are listed below and may be contacted if you have any questions about the research project.

Florence Woods 655-4733	Karen Archibald 655-4635	Dr. Susan Whiting 966-5837
Nutrition Student	CHEP	University of Saskatchewan

To assure our participants that the protection of their rights is important to us, the research partners, ethical approval was sought from the Committee on Ethics in Behavioural Science Research. This approval was received on the 8th of June, 2001. If you have any questions regarding your rights you are encouraged to contact the Office of Research Services at the University of Saskatchewan. The phone number is (306) 966-4053.

The study and the contents of this consent have been explained to me and I have received a copy of this consent. I agree to participate in the study as outlined. I understand that I have the right to withdraw from the study at any time.

_____	_____
Participant	Researcher
_____	_____
Print Name	Print Name
_____	_____
Date	Date

Appendix C. Contact Information

This was a reminder that the participant has been told that this information will be kept separate from the other data, that there will not be any way to tie this information with the answers they give further on in the survey, and that the participant will be given a participant number.

Contact Name: _____ Code number _____

Address: _____

_____

Phone: _____

Appendix D. Demographic Data

Code number _____

(These questions will only be asked during the initial meeting. Their purpose is to ensure that the sampling population is representative of the neighbourhood and give us an indication of how demographics may affect buying patterns).

1. In general, do any members of your family require special diets? (*Open-ended, do not read list only mention a couple of examples if necessary; main purpose of list is for coding*)

a. Yes, (*please explain*) _____
   i. Allergies
   ii. Diabetes
   iii. Heart Disease
   iv. Cancer
   v. Celiac disease
   vi. Crohn's or Colitis
   vii. Metabolic disorder (PKU, MSUD)
   viii. Other _____
b. No

2. How many people live with you? _____

3. What best describes your living arrangements?
   a. Single, living alone
   b. Single, living with a roommate (s)
   c. Single parent family How many children?
   d. Couple, no children
   e. Couple with children How many children?
   f. Living with parents/family
   g. Other *(please explain*) _____

4. What are the ages of the members of your family?

   Child
   a. 1 year
   b. 2-3 years
   c. 4-6 years

Boy	Girl
d. 7- 9 years	h. 7-9 years
e. 10-12 years	i. 10-12 years
f. 13-15 years	j. 13-15 years
g. 16-18 years	k. 16-18 years

Man	Women
l. 19-24 years	p. 19-24 years
m. 25-49 years	q. 25-49 years
n. 50-74 years	r. 50-74 years
o. 75+ years	s. 75+ years
	t. Pregnant or Lactating

5. What best describes your household income?
   a. Under $10,000
   b. $10,000 to under $20,000
   c. $20,000 to under $30,000
   d. $30,000 to under $40,000
   e. $40,000 to under $50,000
   f. $50,000 to under $60,000
   g. $60,000 or more
   h. Don't know/Refused to answer

6. To which ethnic or cultural group does your family belong? (please list as many as you think is necessary) (interviewer could give some examples such as Canadian, French, English, Cree, Chinese, Italian, German etc.)

On behalf of the member agencies and myself I would like to thank you for participating in this survey.

Appendix E. Food Buying Patterns Questionnaire.

Code number: _____

Week number: _____

The student researcher will administer this survey weekly, in person or over the telephone whichever is more convenient for the participants. *(Reminders for the interviewer are found in Italics)*

Food Buying Patterns:

(Explain to the participant about why the study is being done. "Before beginning to ask questions regarding your usual buying patterns I should tell you a little more about why your answers are important. The main purpose of this study is to identify issues that may affect where and how you decide to shop and meet the food needs of your family.")

1. Tell me several of the places you bought your food this past week?
(*Open-ended, do not read list only mention a couple of examples if necessary; main purpose of list is for coding*)

a. Public wholesale outlets (e.g. Real Canadian Wholesale Club, Costco)
b. Large format stores (e.g. Superstore, Safeway, Co-op)
c. Small format stores (e.g. Shop-Easy, Lucky Dollar)
d. Department stores (e.g. Wal-Mart, Zellers)
e. Convenience stores (e.g. Mac's, 7-11, Shoppers Drug Mart)
f. Small specialty stores (e.g. Steep Hill, Mom's Bulk Foods, Nutter's)
g. Dine in (e.g. restaurants, fast food outlets)
h. Take out (e.g. grocery store outlets, gas bars, pizza, fast food, restaurant)
i. Don't know

2. What are some the reasons you go to these outlets? (*Open-ended, do not read list only mention a couple of examples if necessary; main purpose of list is for coding*)

a. Friendly, efficient service
b. Generally lower prices
c. Has the products your family wants
d. Has the name brands you trust
e. Has high quality produce
f. Provide coupons for free merchandise or lower prices
g. Air miles

h. Loyalty card
i. Delivery service
j. Convenience
k. No particular reason

3. How do you usually get to the store?

a. Walk
b. Ride a bike
c. Public transit/bus
d. Taxi
e. Drive myself
f. Go with a friend or family member
g. I have difficulty getting to the store
h. Other _____ (*please explain*)

4. Approximately, how far from your home is the nearest store where you buy food?

a. Less than a block
b. _____ blocks
c. don't know

5. How much does the distance to the store influence where you shop?

a. Large influence
b. Some influence
c. Little influence
d. No influence

6. How often would you like to do food shopping?

a. Once a month
b. Twice a month
c. Once a week
d. Twice a week
e. Daily
f. No preference

7. Is there anything in particular that makes it difficult for you to get to the store as often as you would like? *(Please explain)*

8. Did you have guests for meals this week?

a. Yes How many? _____ How often? _____
b. No *(skip question 9)*

9. Did it change what you bought this week? *(Please explain)* (*Open-ended, do not read list only mention a couple of examples if necessary; main purpose of list is for coding*)

a. Bought a greater amount of food
b. Made extra trips to the store
c. Used more expensive ingredients
d. Used different ingredients for a new recipe
e. Went to a different store for fresher produce or specialty items
f. Other _____

10. Did you have any meals at friends/family this week?
a. Yes How many members of your family? _____ How often? _____
b. No

11. Have you or any members of your family participated in any community programs?
(*Open-ended, do not read list only mention a couple of examples if necessary; main purpose of list is for coding*)

a. Saskatoon Food Bank
b. Friendship Inn
c. Church lunch programs
d. Egadz supper program
e. School meal program (breakfast or lunch)
f. Salvation Army food programs
g. Good Food Box
h. Community Kitchens
i. Community Gardens
j. Cooperative Buying Groups
k. Public Health or nutrition counseling programs
l. Other _____

12. Do you garden or have access to garden produce over the summer?
a. Yes Is it meant to reduce your food costs?
b. No

Appendix F. Demographic Tables

Table 21. Living Arrangements and Income

	Income (n=37)				
Living Arrangement	**Under $10,000**	**$10,000 to under $20,000**	**$20,000 to under $30,000**	**$30,000 to under $40,000**	**Over $40,000**
Single, living alone	2	3	0	1	0
Couple, no children	2	2	0	0	1
Single parent family	5	8	1	0	1
Couple, with children	3	4	2	1	1
Total	12 (32.4%)	17 (46.0%)	3 (8.1%)	2 (5.4%)	3 (8.1%)

Table 22. Living Arrangments and Number of Children

Living Arrangement	Percent (No.) of Participants	Number of families with 1 child	2 children	≥ 3 children	Mean
Single parent family	40.5 (15)	3	7	5	2.16
Couple, with children	29.7 (11)	4	1	6	2.71
Total	70.2 (26)	7	8	11	2.44

Table 23. Living Arrangements and Vehicle Ownership

	Vehicle Ownership (n=37)	
Living Arrangement	**Do not own a vehicle (n=15) 40.5%**	**Own a vehicle (n=22) 59.5%**
Single, living alone	3	3
Couple, no children	1	4
Single parent family	9	6
Couple, with children	2	9

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