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Food in My Community: A Case Study of Palo Alto County




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IOWA STATE UNIVERSITY
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Introduction

In this community food assessment of Palo Alto County, we examine how people access their food supply, how they solve the problems of food availability and quality, and their nutritional status. Household food access and insecurity problems are not simply the result of individual characteristics but are also related to the food environment where people live. We offer a snapshot in time of community food resources and the food choices, diets, and health of county residents. Our data are obtained from a random sample mail survey of 393 Palo Alto residents and a market basket survey of food prices in four local grocery stores (See Appendix A for research methodologies). In this report we first discuss why the food environment matters, then we offer a summary of our findings. Lastly, we challenge community leaders to look closely at their food systems and find ways to assure greater access to healthy foods for all households.

Why Does the Food Supply Matter?

The consumer food supply is important because food is transformed through human diets into health. "Dietary factors are associated with 4 of the 10 leading causes of death: coronary heart disease, some types of cancer, stroke, and Type 2 diabetes mellitus" and estimated to cost over \$200 billion in lost productivity and medical charges (USDHHS 1998:2-3). There is convincing evidence that mortality is lowest in populations with the healthiest diets (Lino et al. 1998). Eighteen percent of Americans have poor diets and another seventy percent have diets that need improvement (Lino et al. 1998). Frazao (2000) notes that many people do not consume the recommended number of food guide pyramid servings of fruits, vegetable, grains, meat, or dairy. Consumption patterns are affected not only by personal food preferences but also by the food environment that offers certain kinds and qualities of food. Neighborhoods that have no or few food stores often do not carry a large

selection of fruits and vegetables and other food products. Some researchers have found that small and medium grocery stores are more likely to have higher prices and lower selection and quality of foods than larger supermarkets (Morris et al. 1992). Limited access to supermarkets, decreased availability of fresh foods, and higher costs of food increase the risk of food insecurity and poor diets (Olson et al. 1997).

In Iowa, many rural areas have lost population and are facing economic challenges. As a result grocery stores, along with other retail businesses, have closed or are struggling to survive. As the food environment changes, low-income households and elderly are at risk of losing easy access to affordable food supplies. This loss in turn affects their daily diets and health. In some places, the community has mobilized to solve food supply problems by creating and supporting food assistance programs, emergency food sites, farmer markets by local producers, community and personal gardens, economic incentives for private food stores, and better systems of transportation. While Iowa has some of the lowest food insecurity rates in the United States, areas with higher than average poverty rates are likely to have some of the highest rates of food insecurity and poor diets.

Continuing Survey of Food Intakes by Individuals

In a previous analysis of the national data set of Continuing Survey of Food Intakes by Individuals (CSFII) 1994-96, the relationships among food assistance programs, dietary quality and food sufficiency, and older Americans (Wooden, 2001) were examined. Study findings revealed that women who reported infrequent trips to the grocery store, getting most of their food from a single grocery store, and poorer perceived health status, were at the highest risk of food insufficiency. Persons who obtained food from multiple food sources (multiple grocery stores, family, friends, restaurants, congregate meal site, or Meals on Wheels) had higher

dietary quality scores and lower food insufficiency rates. Older men and women who received food stamps, and older men who participated in meals on wheels and congregate meal programs were at higher risk for food insufficiency.

Market Basket Survey of Urban and Rural Grocery Store Food Prices

Eleven rural grocery stores in four Iowa counties (Palo Alto, Floyd, Decatur, and Monroe) and four urban grocery stores in two low-income

neighborhoods in Des Moines and Davenport were surveyed Summer 2002 and Fall 2003 using the USDA Thrift Plan food list of items.^a We find that, when rural and urban average food prices in these 15 stores are compared, the rural grocery stores on average had higher priced food items (Table 1). The total average price of food for these same items in Palo Alto grocery stores were slightly higher than the 11 rural grocery store total and the 4 store urban sample.

Vegetables that were more expensive in Palo

^a See www.extension.iastate.edu/hunger/foodprice.htm for a complete list of food items included in this survey.

Table 1. Food Price Comparisons: Palo Alto County, Iowa

<u>Food Item (price/lb)</u>	<u>Palo Alto County¹</u>	<u>Iowa Urban Average²</u>	<u>Iowa Rural Average³</u>	<u>U.S.⁴</u>
Flour, white, all purpose, enriched	0.22	0.29	0.23	0.32
Rice, white, long-grain, enriched	0.60	0.60	0.48	0.46
Spaghetti enriched (any variety)	0.98	0.86	0.92	0.87
Bread, white, enriched	0.69	0.57	0.64	0.99
Beef, ground, lean	1.86	1.78	2.04	2.02
Chicken, fryer, cut-up or whole	0.99	0.86	1.02	1.02
Eggs, grade A, large	1.19	0.61	0.99	1.26
Butter	1.51	1.69	1.72	2.86
Apples, any variety (bagged or loose)	0.73	0.71	0.68	1.02
Bananas	0.44	0.66	0.49	0.49
Oranges, any variety (bagged or loose)	0.95	0.66	0.85	0.85
Potatoes (any variety)	0.19	0.38	0.39	0.44
Lettuce, Leaf (green or red)	0.95	0.99	1.13	0.90
Tomatoes (any variety)	1.32	1.06	1.19	1.44
Broccoli, bunch	1.48	0.80	1.26	1.30
Orange juice, concentrate	1.52	0.96	1.49	1.90
Sugar, white, granulated	0.40	0.33	0.32	0.41
Margarine, stick	0.94	0.37	0.64	1.00
Peanut butter, smooth	<u>1.46</u>	<u>1.12</u>	<u>1.59</u>	<u>1.89</u>
Total	18.42	15.30	18.07	21.44

¹ Average price of foods in 4 grocery stores in Palo Alto County. Surveys were conducted in October and November 2003.

² Urban Average is the average grocery price in 4 grocery stores in two low income neighborhoods in Des Moines and Davenport Cities (Summer 2002).

³ Rural average is the average of food prices representing 11 rural grocery stores in Floyd (Fall 2003), Palo Alto (Fall 2003), Decatur and Monroe (Summer 2002) counties.

⁴ Food Prices are U.S city average on September 2003. Source: "Family Economics and Nutrition Review," 2003. 15(1):101.

Palo Alto are tomatoes and broccoli. Fruits that were higher priced in Palo Alto are oranges and orange juice. The prices for ground beef, chicken, potatoes, and lettuce were less in Palo Alto grocery stores compared to the rural average. Palo Alto grocery stores as well as the Iowa rural and urban stores sampled had on average lower food prices than the U.S. city average reported by the United States Department of Agriculture (USDA) in September 2003.

Palo Alto County, Iowa

Palo Alto County, located in Northwest Iowa had 10,147 people in 2000 (Table 2). The county experienced a 4.9 percent decline in population from 1990 to 2000. Although the manufacturing sector is growing, agriculture is the dominant economic base. More than 21 percent of the population is 65 years old or over, higher than the state average of 14.9 percent. In 1999 Palo

Table 2. Demographic and Social Description of Palo Alto County

<u>Characteristic</u>	<u>Number</u>	<u>Percent</u>
Total Population (2000)	10,147	
Median Age (years)	40	
65 and over (Iowa 14.9%)	2,163	21.3
Under 18 years (Iowa 25.1%)	2,611	24.0
Race/Ethnicity (alone and combination)		
White	10,007	98.6
Black/African American	9	0.1
Asian	31	0.3
Hispanic/Latino/a	77	0.8
Native American Indian	19	0.2
Number of Households	4,119	
Female head with children under 18 years	154	
*Householder living alone	357	
Average family size	2.37	
Poverty		
Poverty rate 1999 (State of Iowa 9.1%)	1,033	10.6
Families in poverty with children under 5 years 1999 (State of Iowa 13.4 percent)	85	14.6
Per Capita Income 2000 (State of Iowa \$26,431)	23,460	
Food Stamps (2002)		
Average monthly recipients	224	2.3
School Lunches (eligible for) Free/Reduced price (2002)	501	29.3

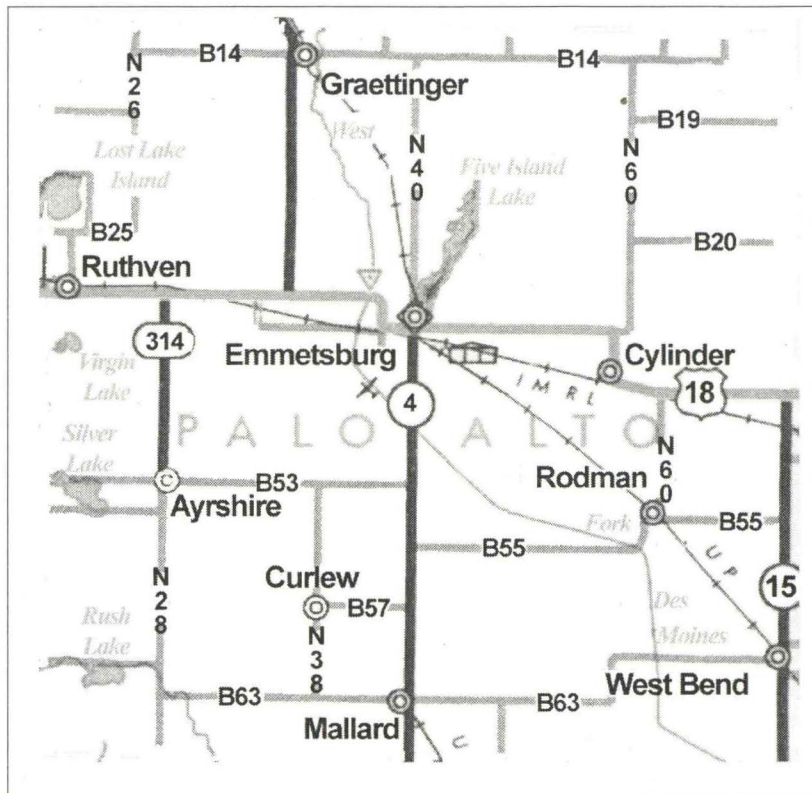
* Male householder family, wife not present
 Female householder family, husband not present

<http://www.seta.iastate.edu>

<http://quickfacts.census.gov/qfd/states/19/19147.html> retrieved 10-29-03

Poverty and Food Needs Profile

http://www.extension.iastate.edu/hunger/counties/pdf/PFNP_PaloAlto.pdf



Map 1. Palo Alto County

Alto County had a poverty rate of 10.6 percent, higher than the 9.1 percent state rate. The county poverty rate for persons 65 or older was 9.1 percent, well above the state average of 7.6 percent. Per capita income was \$23,460 in 2000 with 224 people receiving food stamps monthly. Almost 30 percent of the children in Palo Alto County are eligible for free or reduced price school lunches.

There are 9 small, incorporated towns within Palo Alto County (Map 1). One town, Emmetsburg, (population 3958) the county seat, has two grocery stores. Two other towns, Graettinger and West Bend also have a local grocery store. These medium-sized stores serve in-town and rural open-country residents providing food and other household supplies.

Food in My Community Survey

A random sample survey was mailed to 740 Palo Alto County residents in Spring 2004. Over 64 percent of county residents returned the surveys

yielding 393 completed surveys. Figures 1 through 56 summarize the main findings of the Palo Alto Food in My Community random sample mail survey.

Almost 28 percent of our random sample (Figure 1) are 70 years old and over. Other age groups are more evenly represented. More than one-third of the survey respondents are 65 years of age or older. Thus survey responses reported are biased towards older rural residents in Palo Alto County.

Over 91 percent have a high school education or higher (Figure 2); 8.6 percent have less than high school education. Almost 24 percent are college graduates. Seventeen percent have annual incomes less than \$14,999 (Figure 3). Federal poverty line (100%) for a household of four was \$16,700 in 1999. Most of the respondents live in a small rural town (65.5 percent); about 17 percent live in rural open country but are not living on a farm (Figure 4). Almost 18 percent

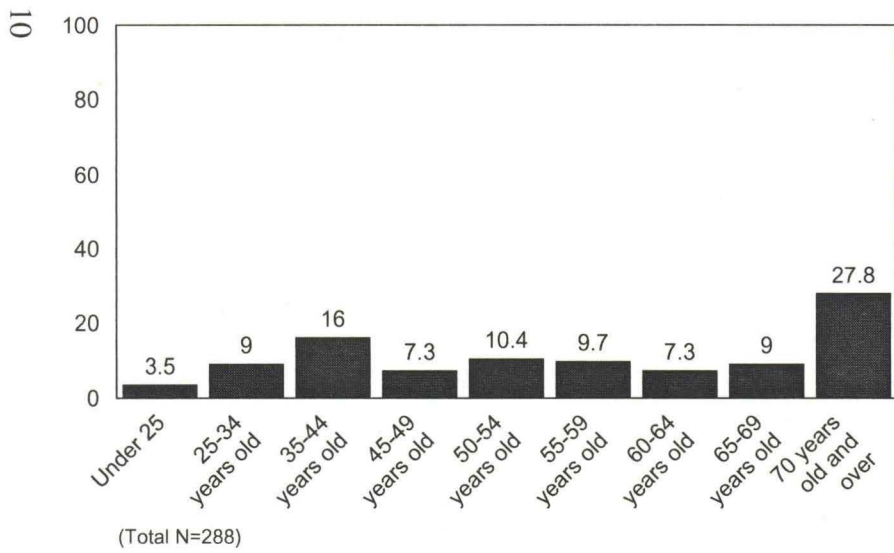


Figure 1. Age of respondents

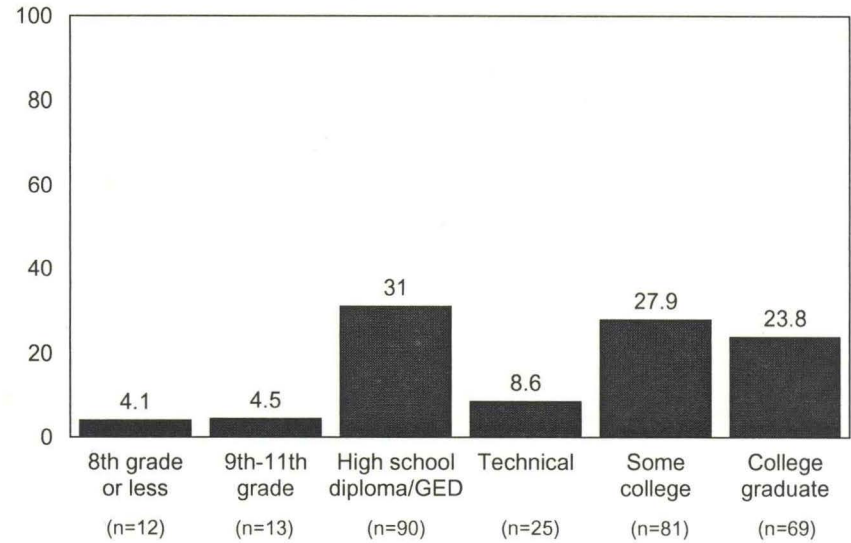


Figure 2. Education

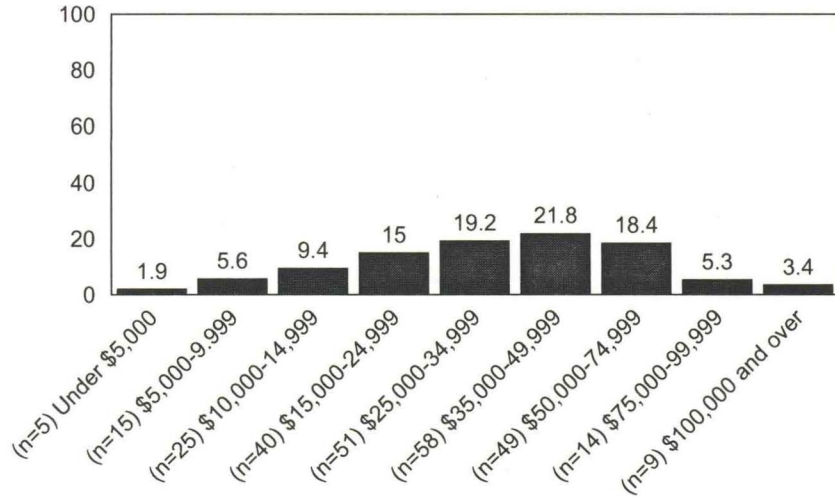


Figure 3. Expected annual income

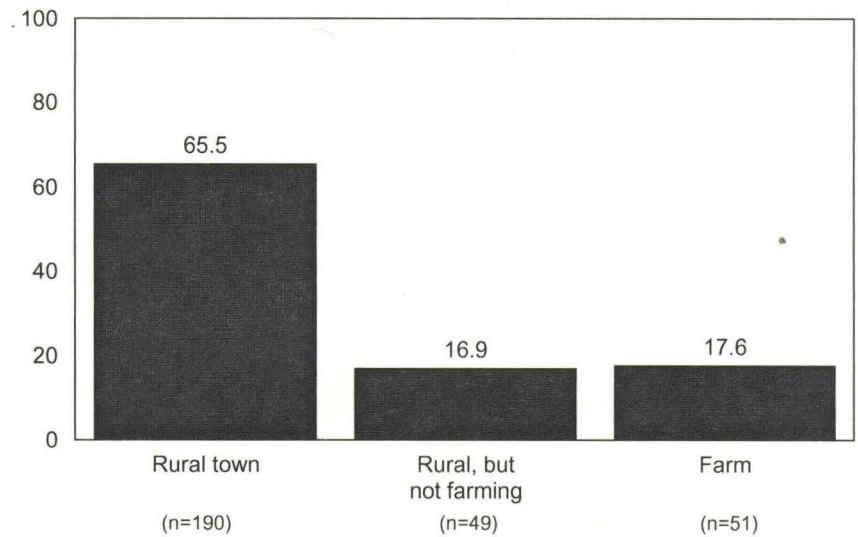


Figure 4. Where do you live?

Respondent Profile (Palo Alto County) 2004

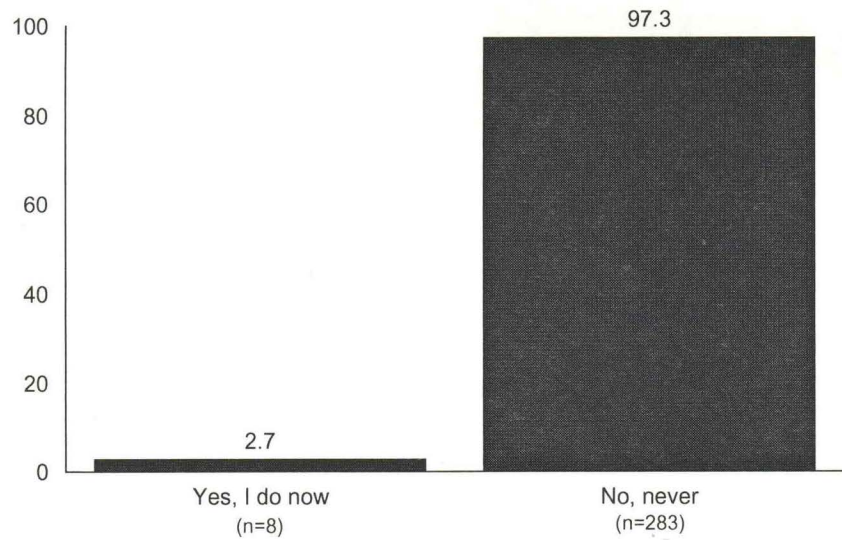


Figure 5. Have you ever received food stamps?

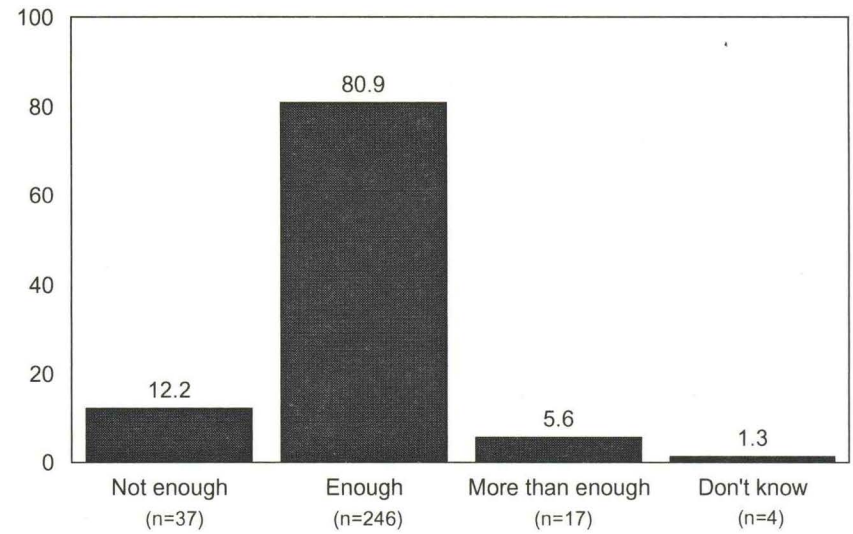


Figure 6. There are enough supermarkets and grocery stores where I live?

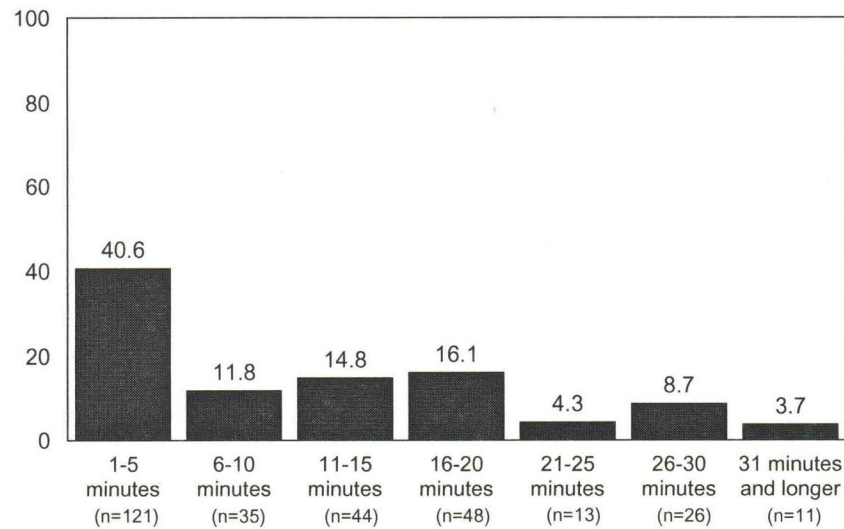


Figure 7. How many minutes are you from the grocery store where you most often shop?

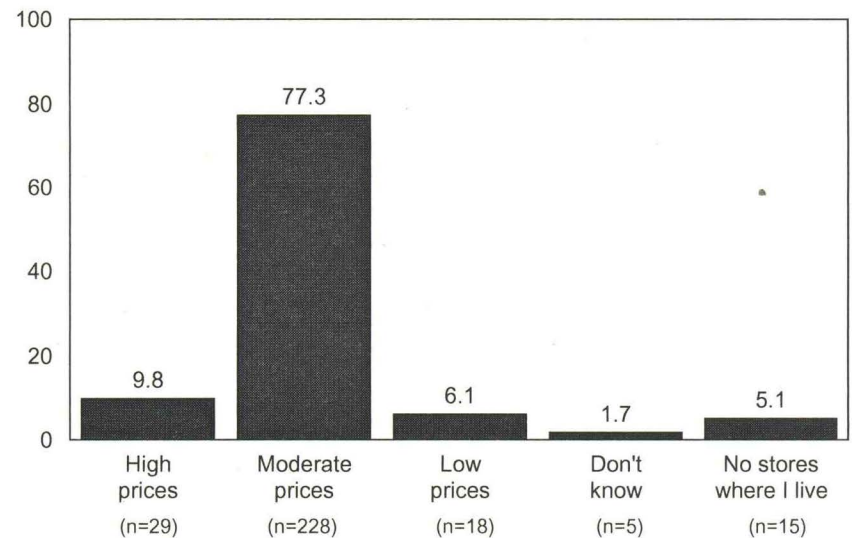


Figure 8. Supermarkets and grocery stores where I live offer a variety of foods for purchase

report living on a farm. Over 97 percent report never using food stamps (Figure 5).

Food Access Patterns

Participants were asked questions about the grocery stores in the area where they lived and how they accessed them. Twelve percent think there are not enough supermarkets and grocery stores where they live (Figure 6). Most (86.5 percent) think there are enough or more than enough. Almost 41 percent report traveling five minutes or less to reach the grocery store where they most often shop (Figure 7). Eighty-three percent are within 20 minutes of the store they shop most often. About 12 percent travel 26 minutes or longer to get to the grocery store they regularly use. More than three-quarters evaluate the prices of foods as “moderate” (Figure 8). Less than 10 percent thought prices were “high.” About 5 percent say there are no stores where they live.

Then respondents reported on their personal food shopping patterns. Over 50 percent shop two stores (Figure 9). However almost a quarter shop only one store. Twenty percent report shopping three stores. Supermarkets are named as the most frequently shopped store with more than 50 percent of respondents saying they shop them at least once a week (26.3 percent) but as often as 2-3 times a week (23 percent) or daily (2.3 percent) (Figure 10). Medium sized grocery stores (37.6 percent) and small grocery stores (20.2) (Figures 11 and 12 respectively) are also shopped at least once a week or more frequently.

Almost 26 percent say they usually shop out of county for groceries; and another 34.8 percent sometimes shop for groceries out of county (Figure 13). The most often mentioned out of county location to shop for groceries is the town of Spencer located to the west of Palo Alto County line about 13 miles. Other towns that are frequently mentioned include Algona in Kossuth County to the East, Estherville in Emmet County to the North, and Fort Dodge to the south. There

are no superstores, wholesale clubs or discount grocery stores within the county. However 17.1 percent report shopping a superstore weekly or more often (Figure 14). Wholesale clubs and discount grocery stores are shopped less frequently (Figures 15 and 16). While most people never use a specialty food store (67.5 percent), almost a quarter report shopping a specialty store several times a year and 10.7 percent shop monthly or more (Figure 17). Drug stores are also not frequent sources of food, but more than a third use them several times a year or more often (Figure 18). Convenience stores are used by most people to purchase some food with 36.8 percent shopping for food several times a year or monthly and 20.8 percent using the convenience store for food once a week or more frequently (Figure 19).

In rural areas where public transportation is not available access to a food store is sometimes limited by vehicle ownership and ability to drive. While most respondents indicate it is not difficult to get to a store to buy food, almost 4 percent report having difficulty (Figure 20). More than 94 percent have a personal vehicle that they use to get to the grocery store (Figure 21). Almost 3 percent depend on parent, relatives, friends or neighbors to get to the grocery store. When asked if friends, family or neighbors who didn't live with you would help with transportation to the store, more than 50 percent say they can always or often count on help with transportation (Figure 22). Less than 8 percent report having transportation problems in the last month that prevented them from obtaining food (Figure 23).

Giving and Getting Food

Two survey questions ask about respondents' giving and getting food patterns. Many report giving food to family (68 percent) and friends (60.7 percent) (Figure 24). Almost half give to neighbors (47.7 percent). About 37 percent give to food drives; 36.8 percent give to food banks or

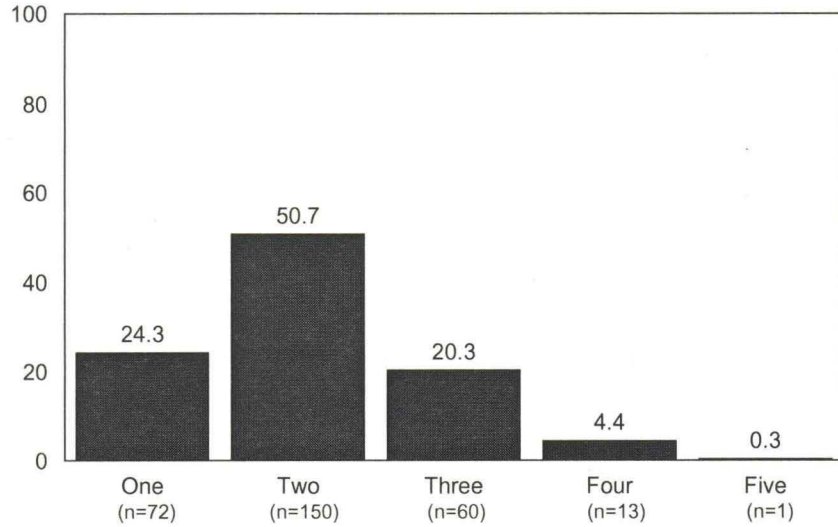


Figure 9. At how many stores do you regularly shop for food?

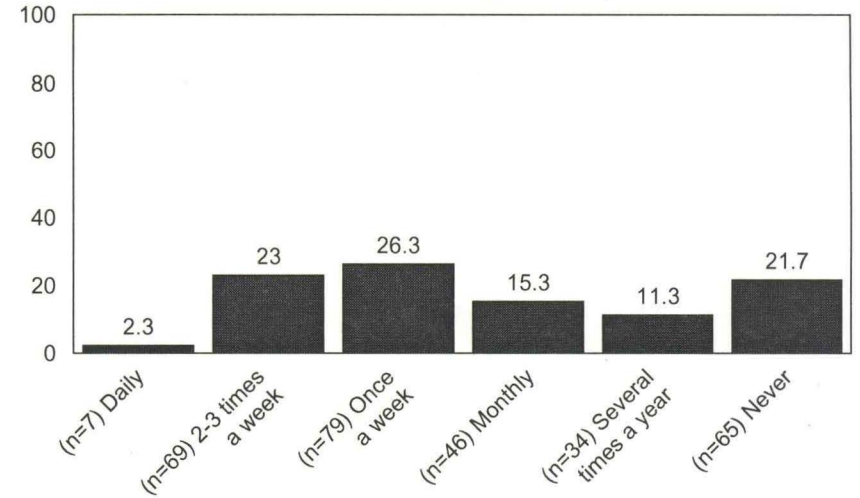


Figure 10. In the past 12 months, how often have you shopped for food in a *supermarket*?

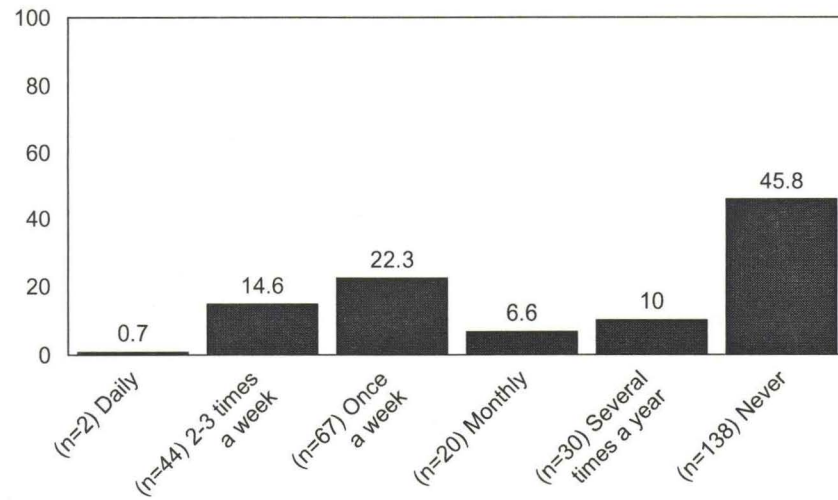


Figure 11. In the past 12 months, how often have you shopped for food in a *medium grocery store*?

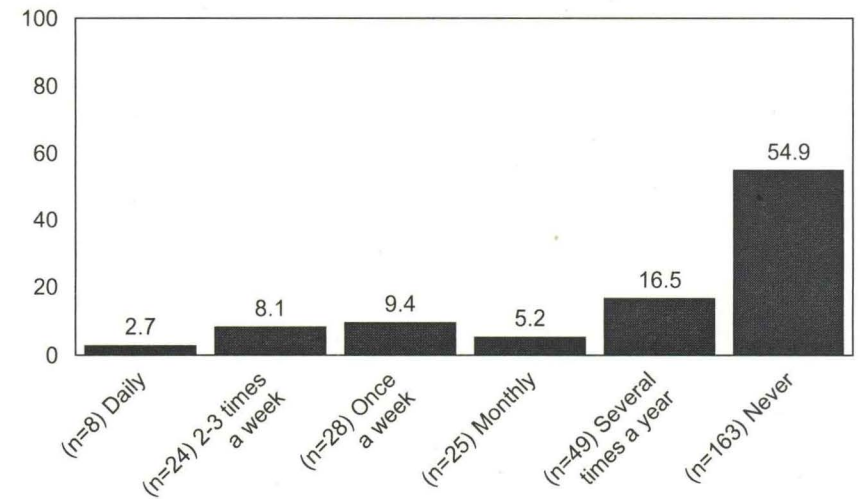


Figure 12. In the past 12 months, how often have you shopped for food in a *small grocery store*?

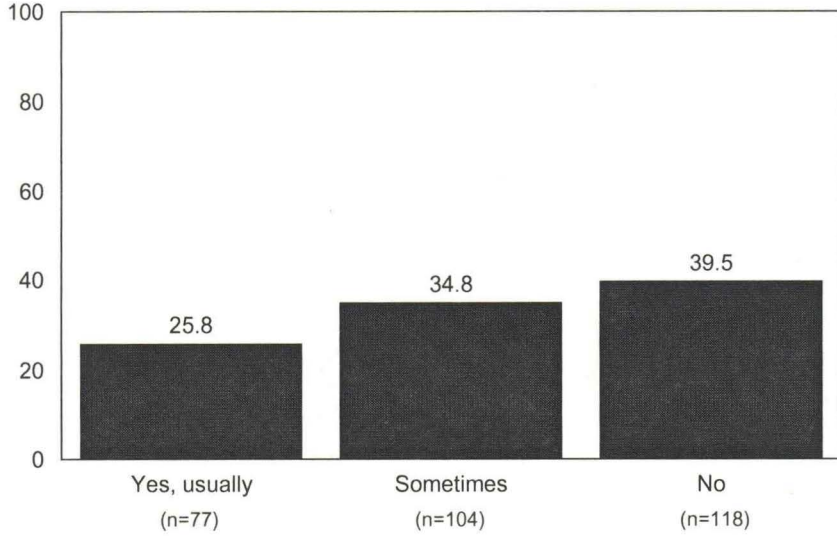


Figure 13. Do you usually shop for groceries out of your county?

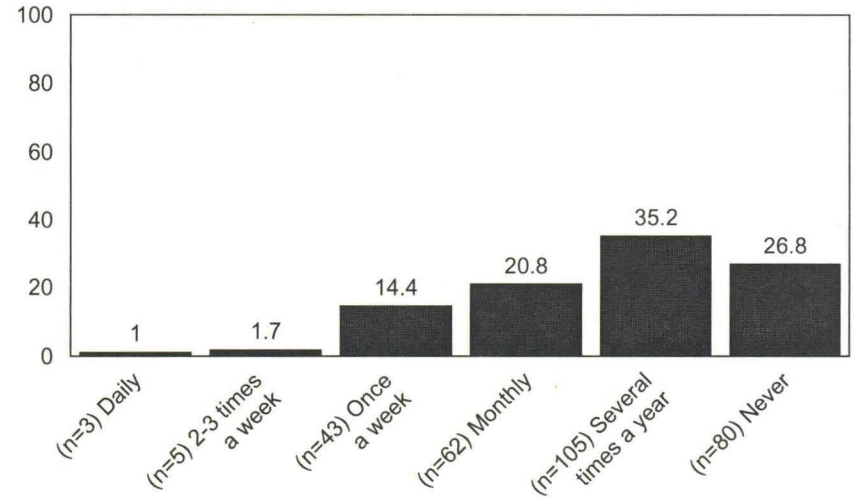


Figure 14. In the past 12 months, how often have you shopped for food in a *superstore* (Wal-Mart, K-Mart, Target)?

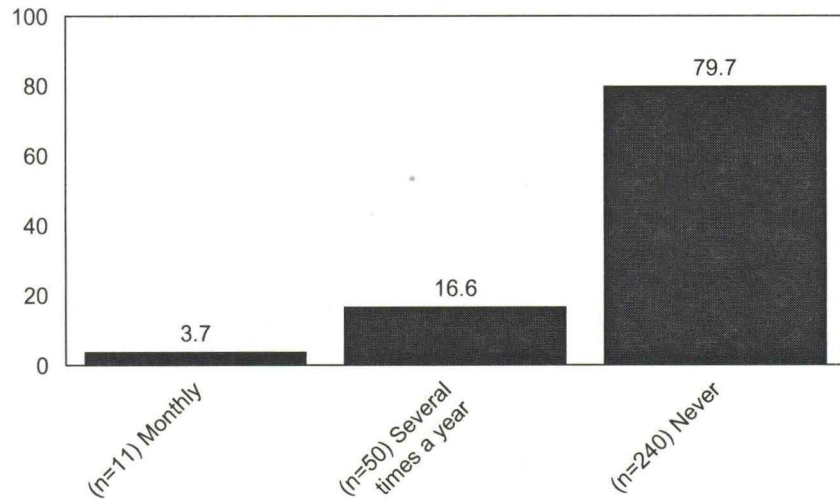


Figure 15. In the past 12 months, how often have you shopped for food in a *wholesale club*?

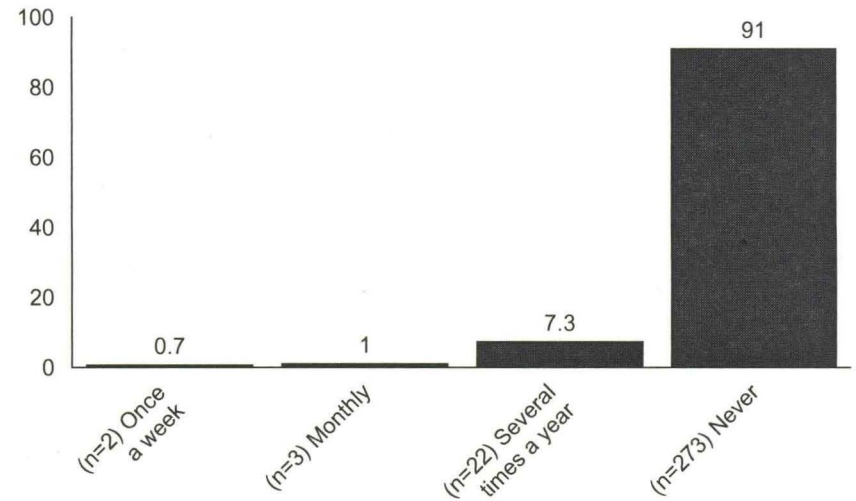


Figure 16. In the past 12 months, how often have you shopped for food in a *discount grocery* (Aldi's)?

Personal Shopping Patterns (Palo Alto County) 2004

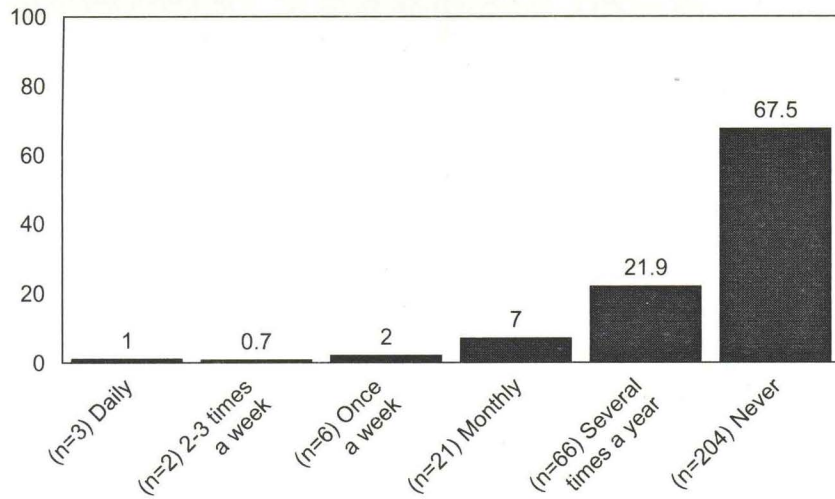


Figure 17. In the past 12 months, how often have you shopped for food in a *specialty food store* (meat market, health food, etc.)?

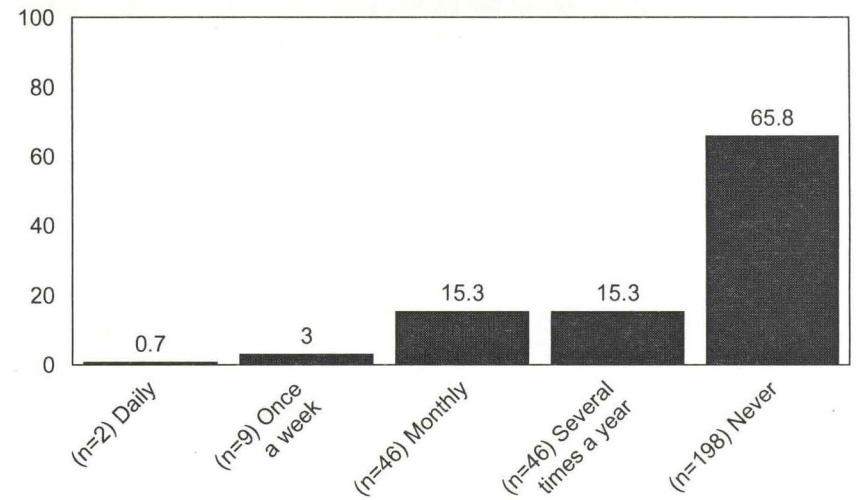


Figure 18. In the past 12 months, how often have you shopped for food in a *drug store*?

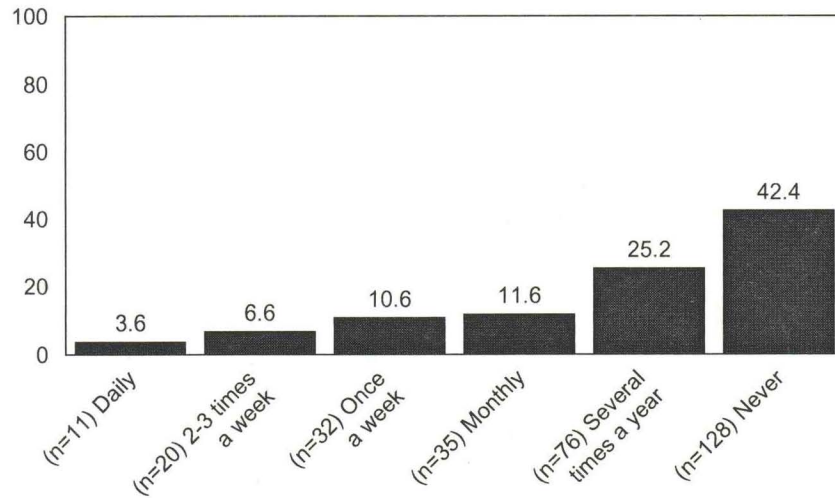


Figure 19. In the past 12 months, how often have you shopped for food in a *convenience store/gas station*?

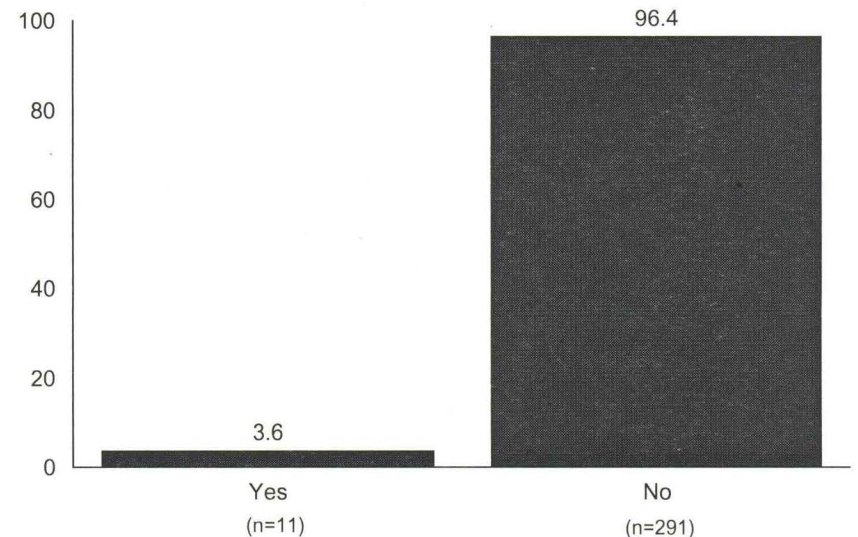


Figure 20. In general, is it difficult to get to a store to buy food?

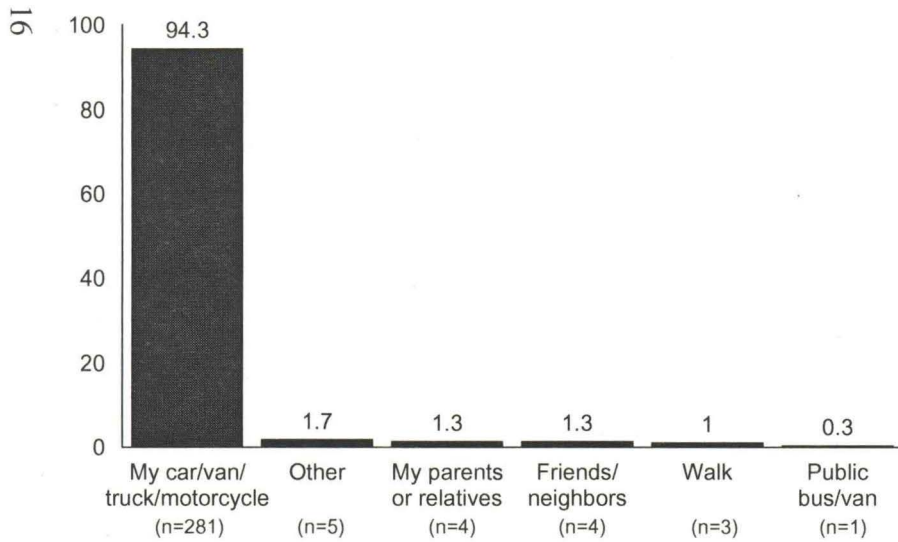


Figure 21. How do you usually get to the grocery store?

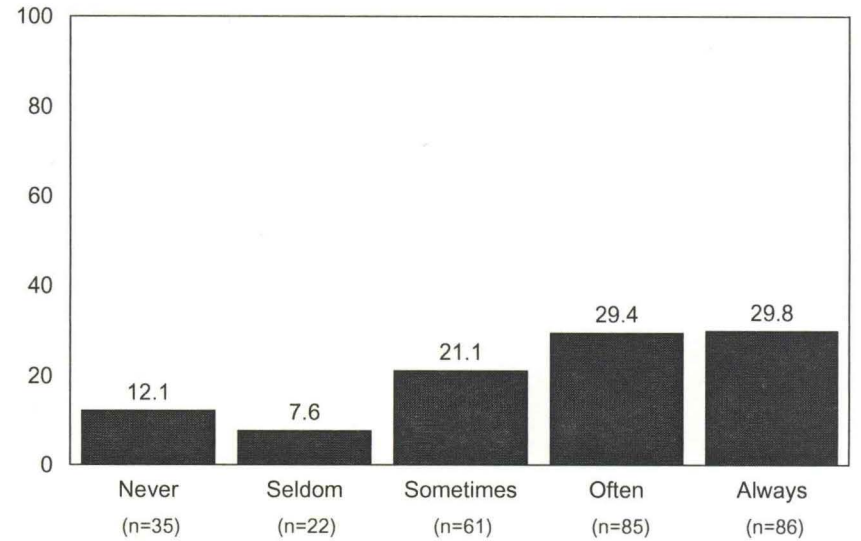


Figure 22. If you needed help with transportation, how often could you count on getting help from family, friends, or others who don't live with you?

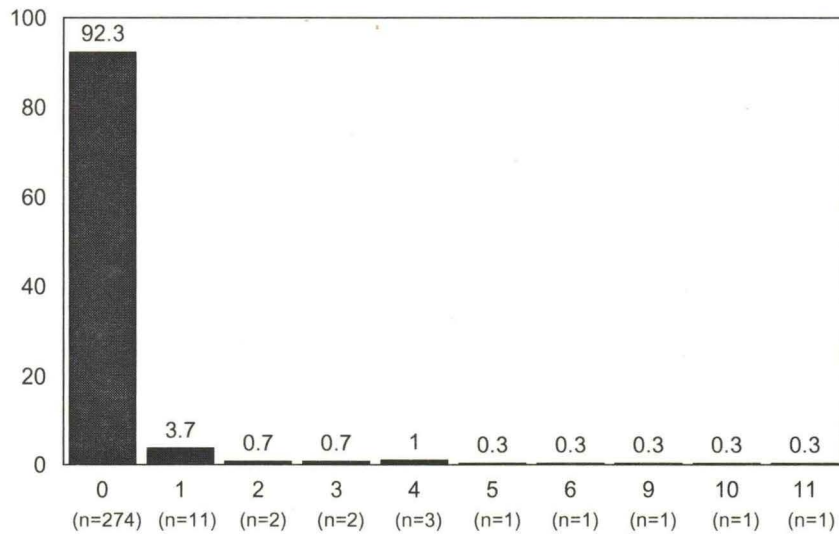


Figure 23. How many times in the past month have transportation problems kept you from going somewhere to obtain food?

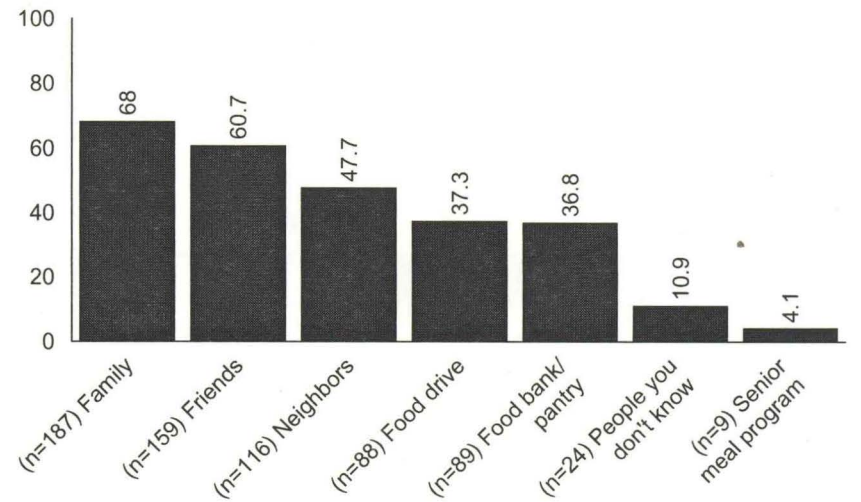


Figure 24. In the past 12 months, have you given food (garden produce, meat, fish, milk, etc.) to others in the community?

the food pantry; 10.9 percent give to people they don't know.

Most people obtain food from the grocery store (98 percent). Family and friends are important sources of food with over 57 percent eating meals with family and friends, 42.6 receiving food from family or friend's garden, 27.4 obtaining meat from family and friends farm, and 10.9 percent fish from family or friends pond or stream (Figure 25). About 41 percent go to the Farmers' Market. Forty-six percent report getting food from their personal garden. Almost 5 percent use the senior meal program and 3.6 percent use the food pantry.

Social Support

Three questions were asked to understand the social support that respondents think they have. Almost everyone reports that they have at least one or two people they can call on if they needed help (Figure 26). Most can identify three or more people (72.4 percent) that they could call on. About 43 percent say that in the last month friends or relatives helped them monthly or more often (Figure 27). Eighty-one percent say that if they couldn't shop or cook for themselves, there is another person that would do these tasks for them (Figure 28).

Healthy Eating

Almost 51 percent believe that the nutritional quality of their diet is excellent or very good (Figure 29). About 13 percent report a fair diet; less than 1 percent say the quality of their diet is poor. Most people are eating two or less servings of vegetables a day (Figure 30). The vegetables in the last year that were most likely to be eaten by everyone are potatoes (98.7 percent), corn (97.4 percent), tomatoes (97.2 percent), carrots (97 percent), lettuce (96.4 percent), green beans (95.4 percent), onions (94.1 percent), and peas (92.8 percent) (Figure 31). More than half of the respondents are eating two to five servings of fruit daily (Figure 32). Apples (96.1 percent),

bananas (96.1 percent), oranges (91.1 percent), and berries (90.1 percent) were eaten by most people over the last year (Figure 33).

Most respondents report wheat/whole grain (65.3 percent) versus white (34.7 percent) bread consumption (Figure 34). About 68 percent report eating 2 to 5 servings of dairy products daily (Figure 35). Most people (72.5 percent) eat two or more servings of meat/protein a day (Figure 36). Lastly, 9.8 percent drink daily three or more 12 oz. servings of sweetened drinks like soda, kool-aid, fruit drinks, and sports drinks (Figure 37). About 43 percent drink at least one serving of sweetened drinks a day or more.

Nutritional Supplements

Nutritional supplements are usually purchased at a superstore (43.2 percent), a drug store (30.2), or supermarket (29.9 percent) (Figure 38). Vitamins and minerals are the most frequent nutritional supplement purchased with 55.2 percent reporting using them daily (Figure 39). About a quarter of the respondents report using fiber dietary supplements daily (Figure 40). Daily herbs and botanicals use (16.4 percent) and daily protein or energy supplements (8.1) are less frequent sources of supplemental nutrition (Figures 41 and 42 respectively).

Health

Most respondents (52.3 percent) report excellent or very good health (Figure 43). However, 10 percent said they have fair health and 1.3 percent think their health is poor. Almost 17 percent report having problems with pain on a daily basis and another 6.8 percent have pain several days a week (Figure 44). High blood pressure (39.4 percent) is the most frequently mentioned doctor diagnosis (Figure 45). High blood cholesterol (28.8 percent) and diabetes (15.2 percent) are also common diagnoses. More than 60 percent of the respondents report taking one or more prescription drugs daily (Figure 46). Over half of the sample (62 percent) reported physical

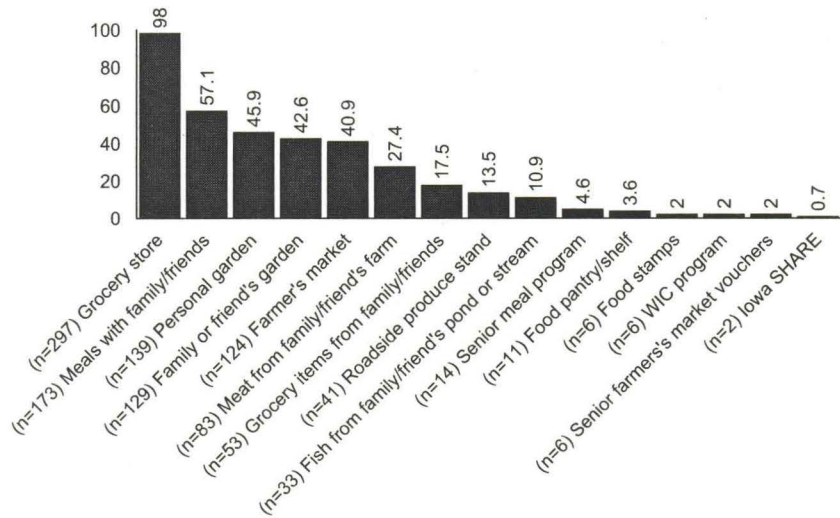


Figure 25. In the past 12 months, how have you acquired food?

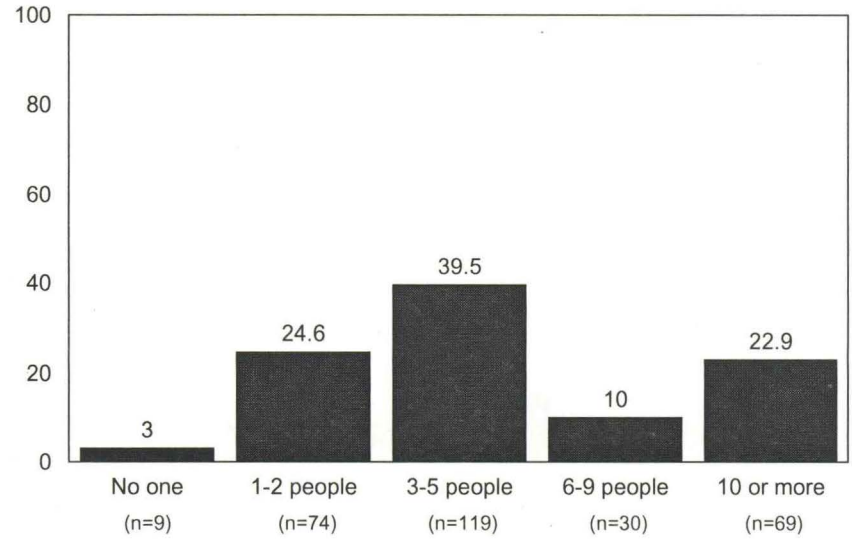


Figure 26. How many people could you call on if you needed help?

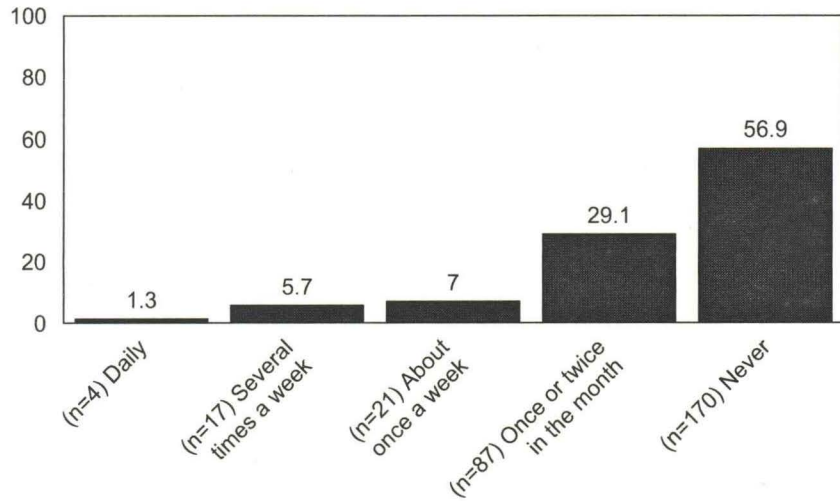


Figure 27. How often during the last month did friends or relatives (not including partner) help you?

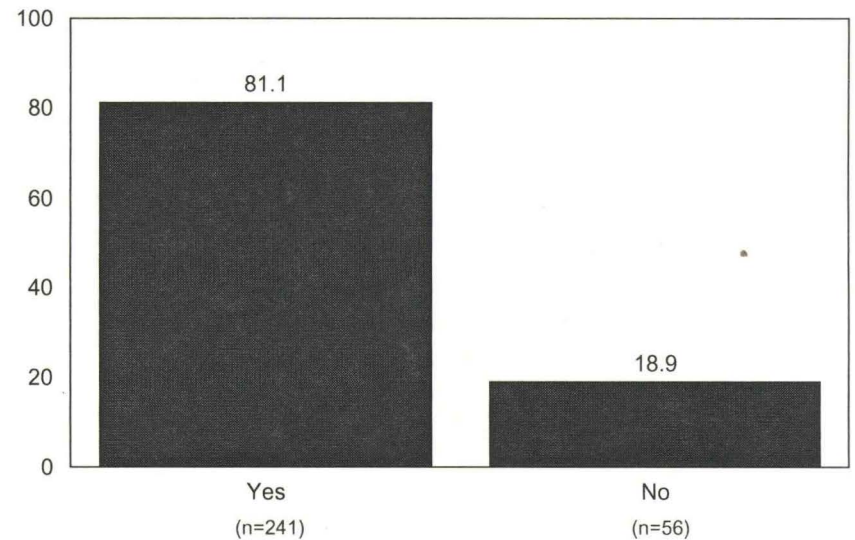


Figure 28. If you were unable to shop or cook for yourself, is there someone who would do these tasks for you?

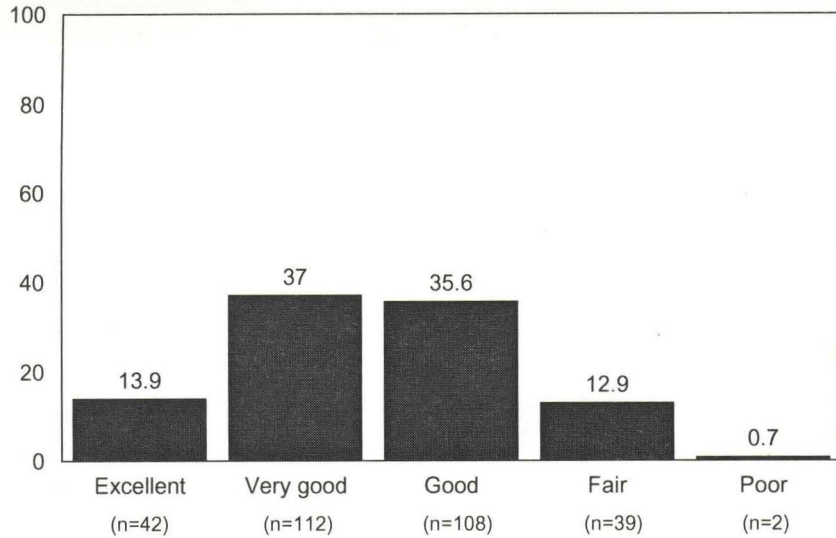


Figure 29. How would you rate the nutritional quality of your diet?

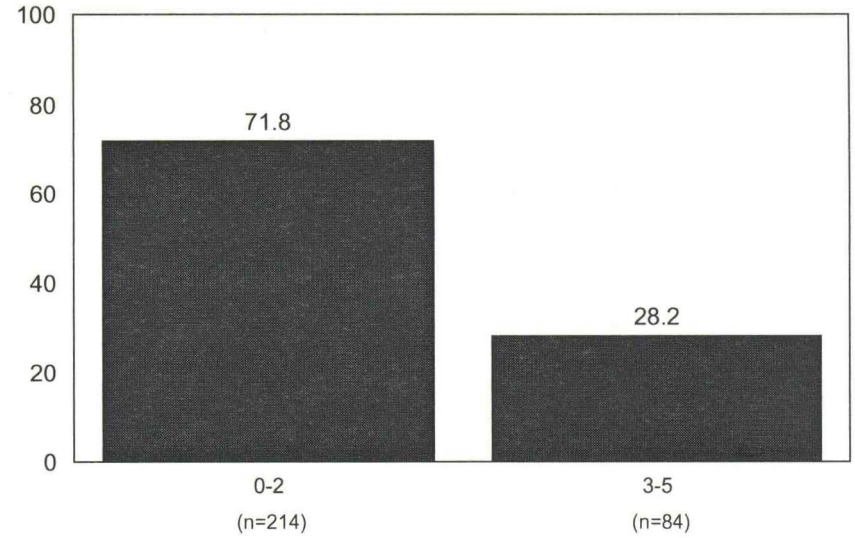


Figure 30. Number of vegetable servings as suggested by food guide pyramid eaten daily

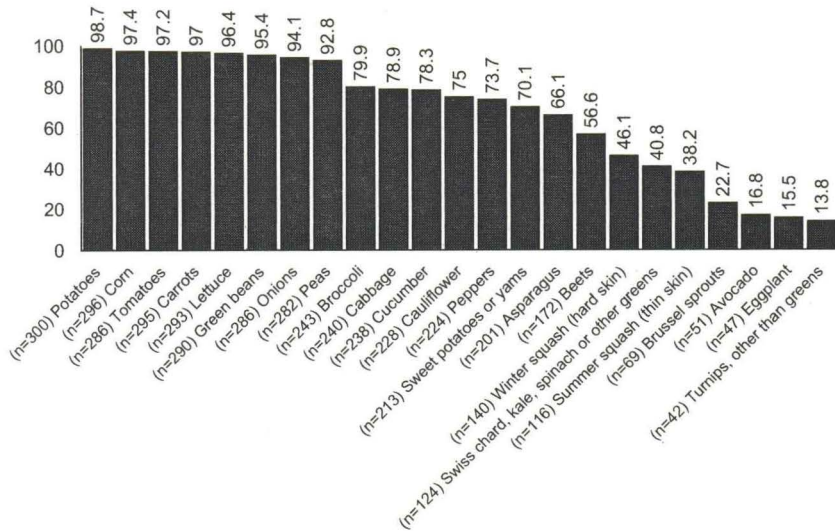


Figure 31. During the past 12 months, have you eaten any of the following vegetables in any form?

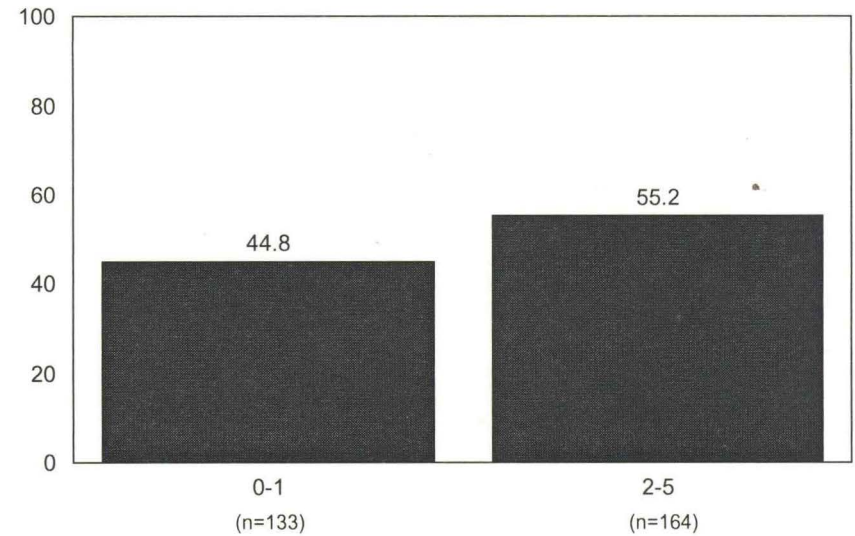


Figure 32. Number of fruit servings as suggested by food guide pyramid eaten daily

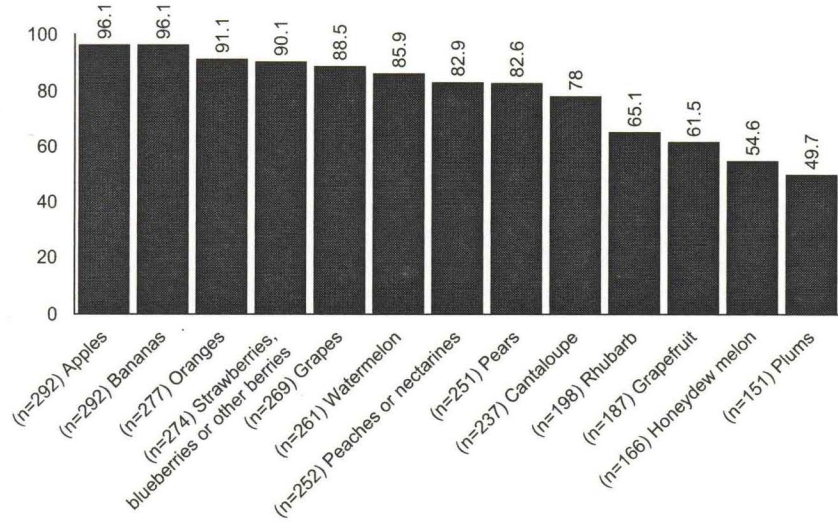


Figure 33. In the past 12 months, have you eaten any of the following fruit in any form?

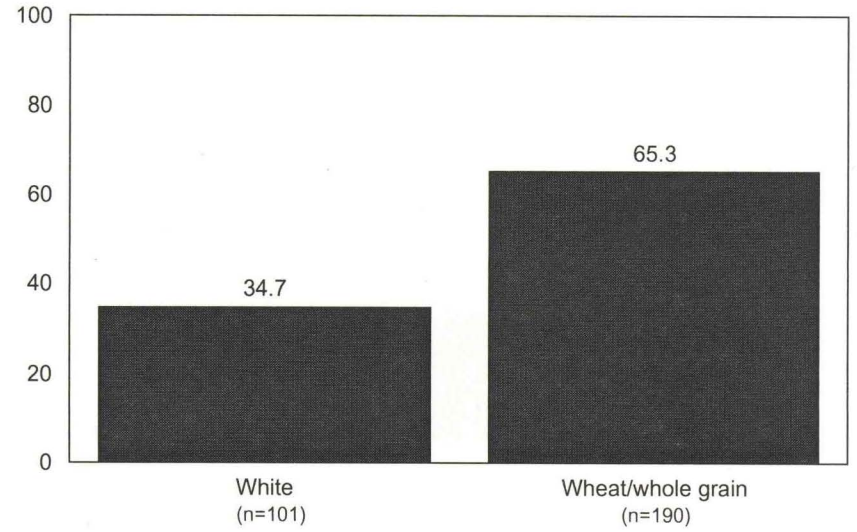


Figure 34. When you eat bread, is it usually?

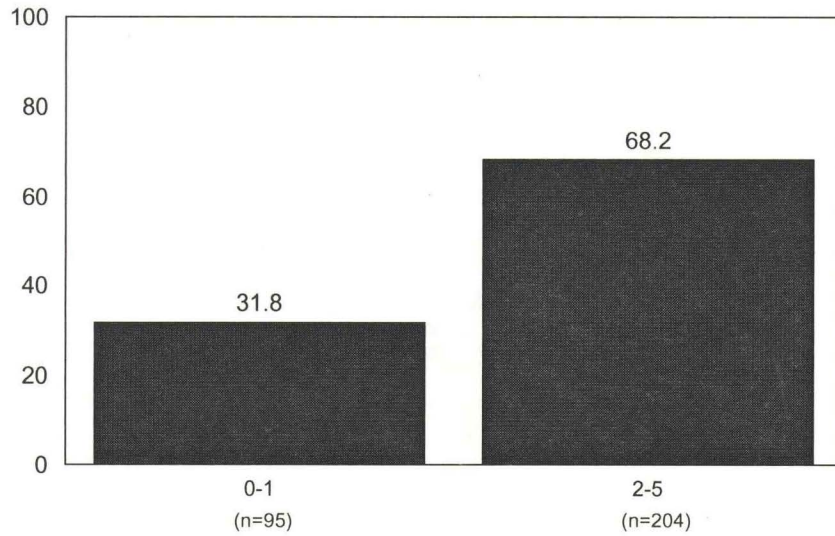


Figure 35. Number of dairy servings as suggested by food guide pyramid eaten daily

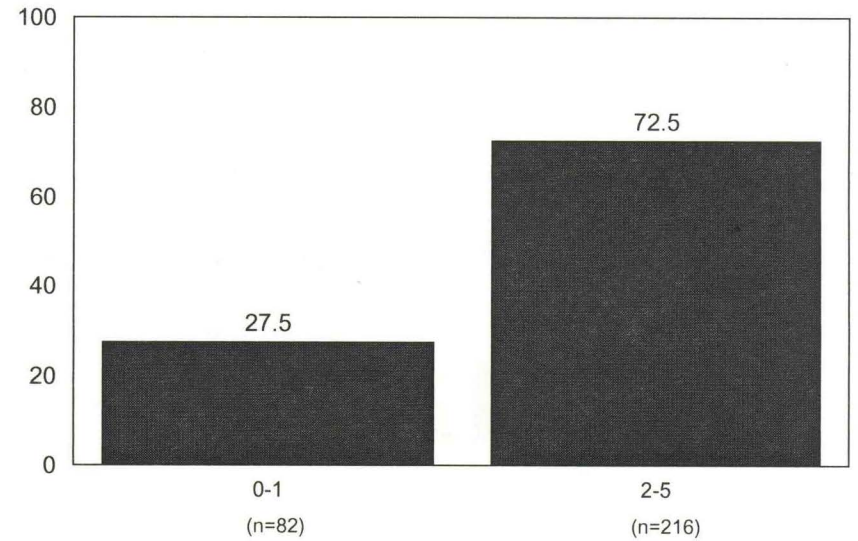


Figure 36. Number of protein servings as suggested by food guide pyramid eaten daily

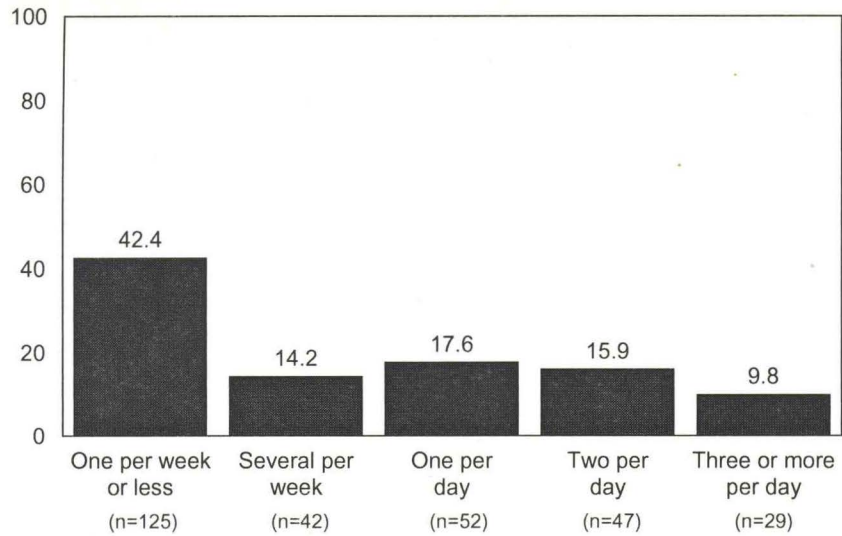


Figure 37. Number of sweetened drinks consumed

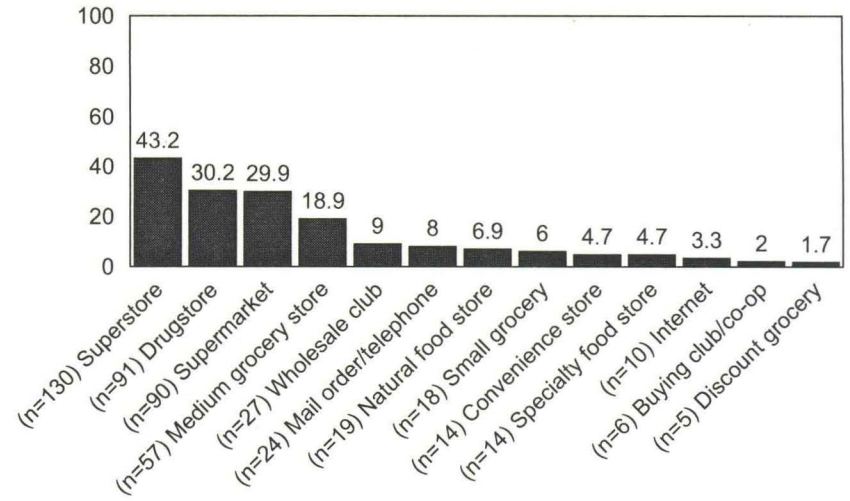


Figure 38. In the past 12 months, where have you purchased nutritional supplements?

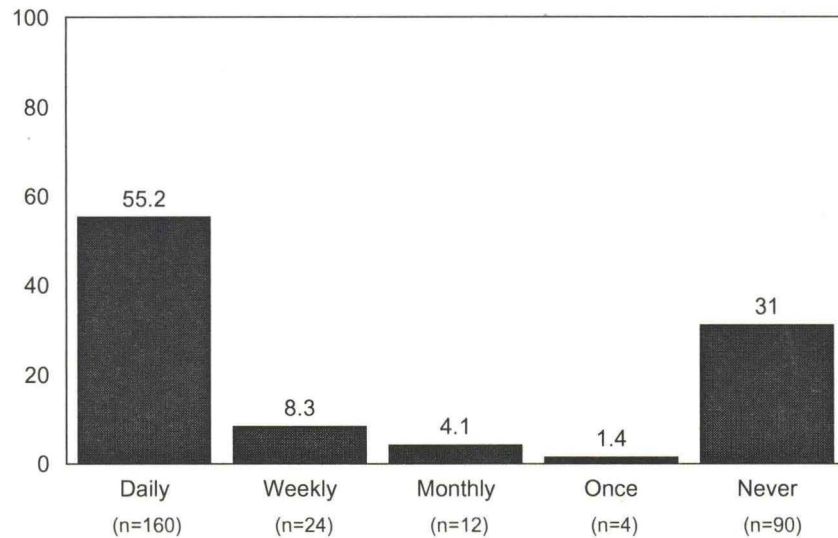


Figure 39. During the past 12 months, how often have you used the following dietary supplements (vitamins/minerals)?

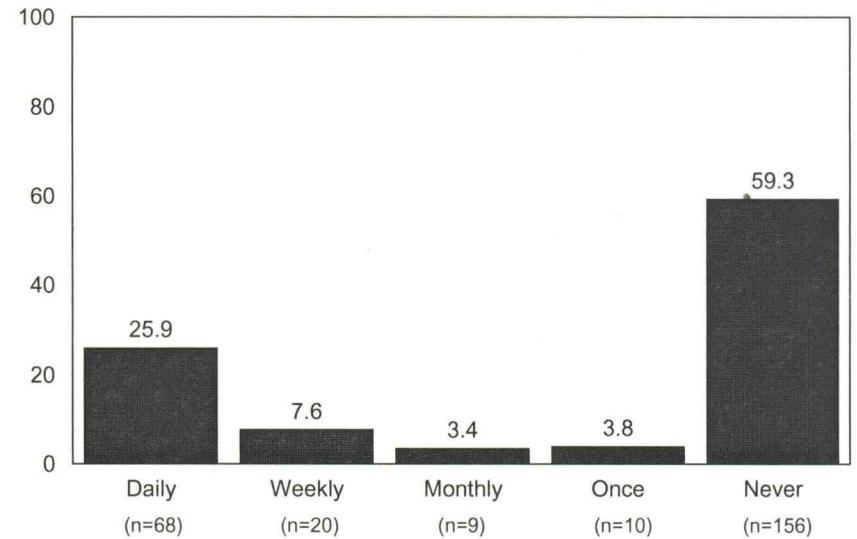


Figure 40. During the past 12 months, how often have you used the following dietary supplements (fiber)?

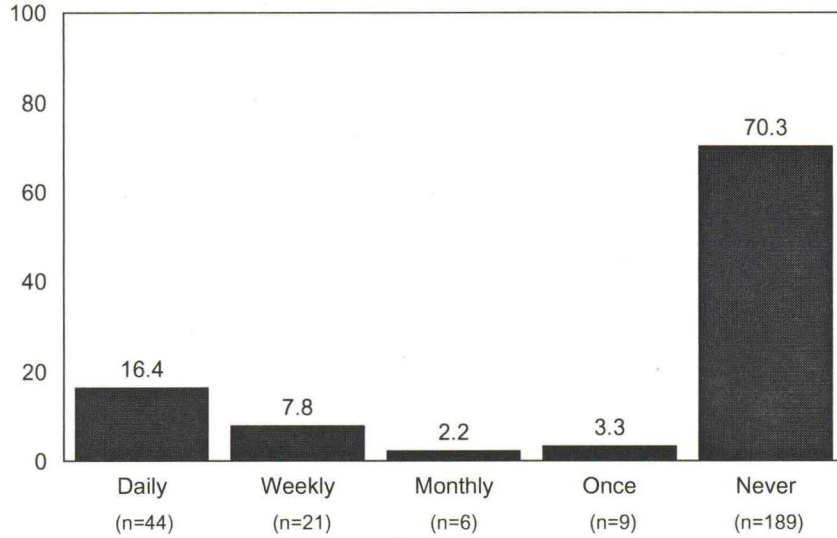


Figure 41. During the past 12 months, how often have you used the following dietary supplements (herbs/botanicals)?

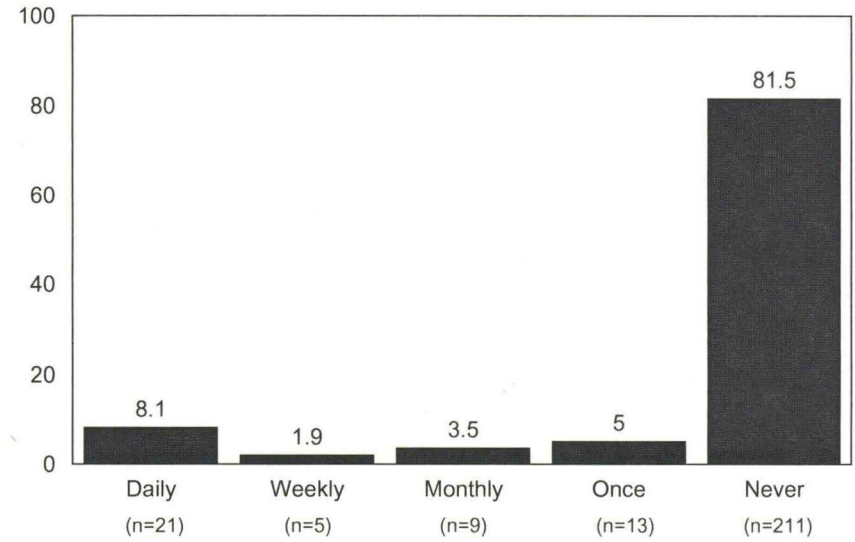


Figure 42. During the past 12 months, how often have you used the following dietary supplements (protein/energy)?

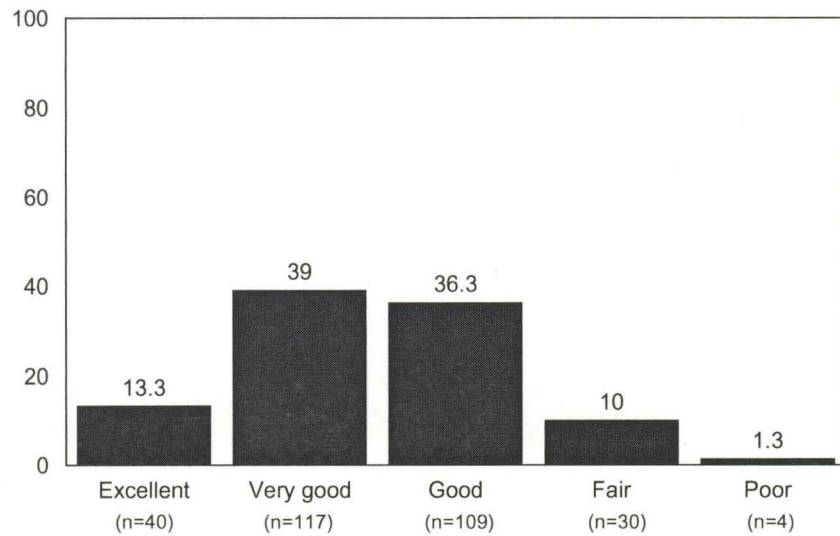


Figure 43. Would you say your health in general is:

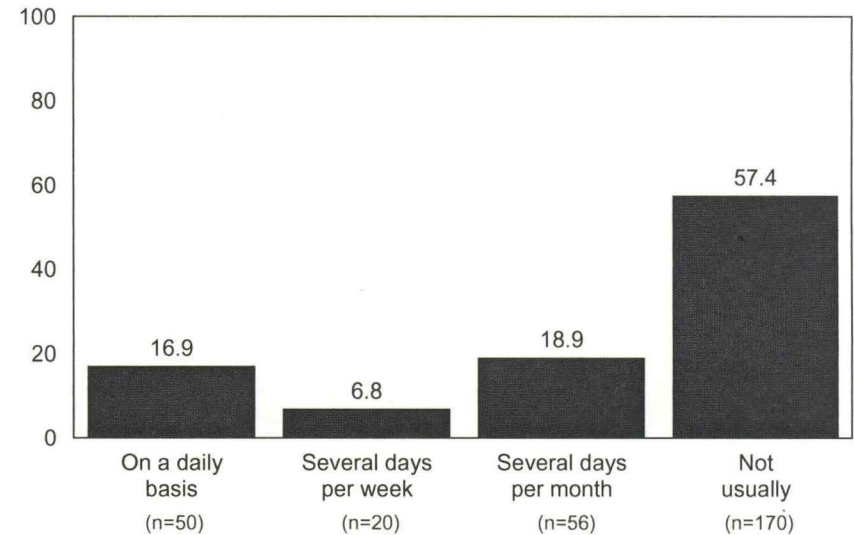


Figure 44. During the last 3 months, have you had problems with pain:

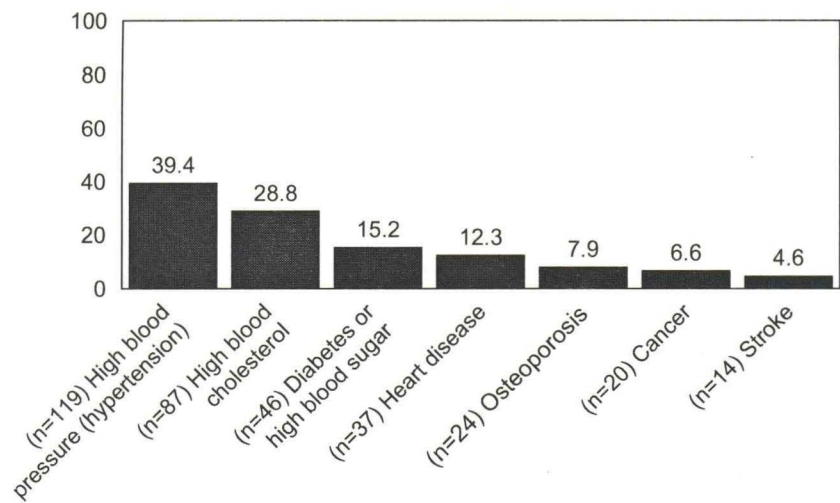


Figure 45. Has a doctor ever told you have/had:

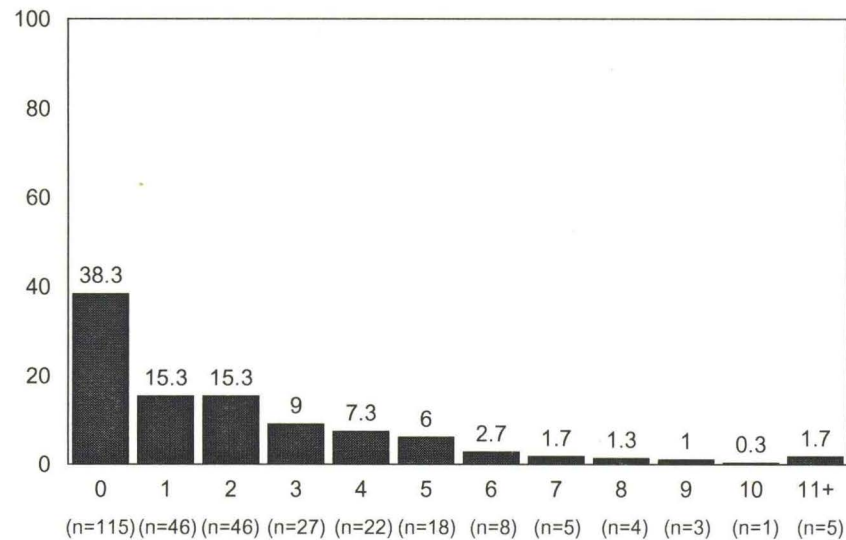


Figure 46. How many different prescription drugs do you normally take on a daily basis?

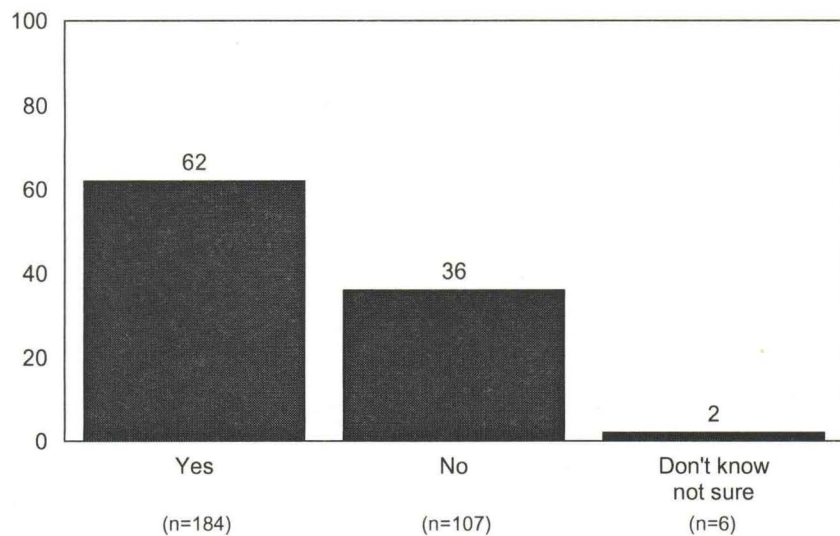


Figure 47. During the past week, other than your regular job or daily activities, did you participate in any physical activities or exercise such as walking, gardening, golfing, jogging, or use of exercise equipment?

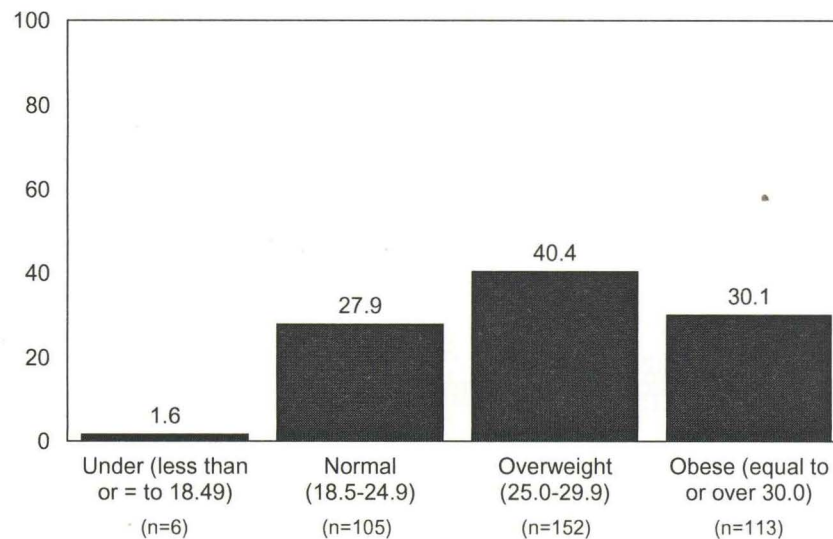


Figure 48. Body Mass Index (BMI)

Table 3. Food Insecurity in Palo Alto County (n=391)

	Percent
1. The food that I/we bought just didn't last, and I/we didn't have money to get more (often true, sometimes true)	11.3
2. I/we couldn't afford to eat balanced meals. (often true, sometimes true)	9.8
3. In the last 12 months did you and/or other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food? (yes)	5.4
4. If yes, how often did this happen? (Almost every month, some months but not every month = 1)	4.7
5. If yes, in the last 12 months, did you ever eat less than you felt you should have because there wasn't enough money to buy food? (yes)	3.9
6. If yes, in the last 12 months, were you ever hungry but didn't eat because you couldn't afford enough food? (Yes)	2.6
USDA food insecurity index (0-6) ^a	
Percent food secure ("yes" to 0-1 items)	91.5
Percent food insecure ("yes" to 2-6 items)	8.6
Percent food insecure with hunger ("yes" to 5-6 items)	2.6

activities beyond their regular job or daily activities (Figure 47). A body mass index (BMI) was computed for each person using their self-reported height and weight.¹ Over 70 percent had BMI rates that placed them in overweight (40.4 percent) or obese (30.1 percent) categories (Figure 48). Estimates for the State of Iowa based on the Behavioral Risk Factor Surveillance System (BRFSS 2002) are 38.3 percent overweight and 22.9 obese.

Food Insecurity

The USDA six-item food security assessment (see Appendix B) was used to determine the degree of food insecurity this sample is experiencing. Over 11 percent reported that the food they bought just didn't last and they didn't have money to get more (Table 3). About 10 percent said they couldn't afford to eat balanced meals. A little more than 5 percent said in the last 12 months they or other adults in their household

cut the size of meals or skipped meals because there wasn't enough money for food. Of those that cut meal sizes or skipped meals, 4.7 percent report they did this almost every month or some months. In the last 12 months, 3.9 percent report eating less than they felt they should because there wasn't enough money to buy food. And 2.6 percent reported being hungry but not eating because they couldn't afford enough food.

The 2001 average rate of food insecurity in Iowa was 7.6 percent and 2.2 percent were food insecure with hunger (Nord, Andrews, and Carlson 2001). U.S. 2001 food insecurity rates were 10.4 percent and 3.1 percent food insecure with hunger. Our random sample of Palo Alto

¹ Body Mass Index (BMI) is computed from height and weight data (weight in kilograms divided by height in meters squared). A BMI equal to or greater than 25 but less than 30 is considered overweight; BMI equal to or greater than 30 is considered obese.

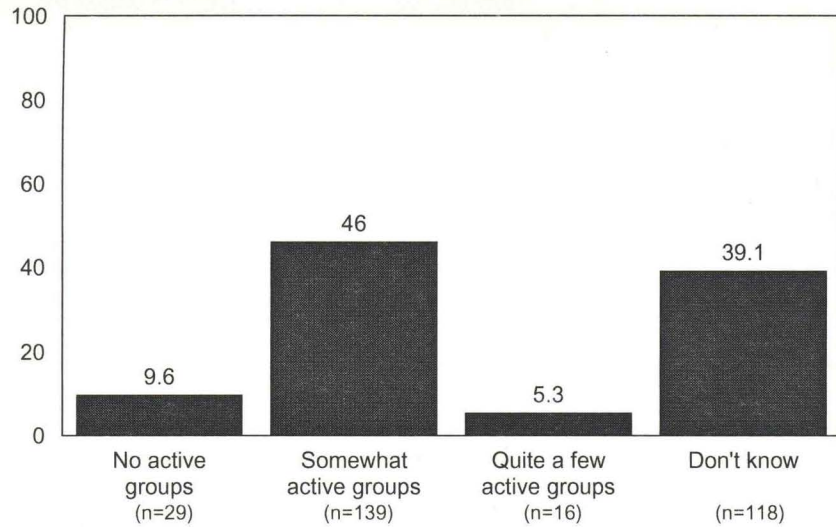


Figure 49. My community has a number of active groups that work at solving food problems for community members

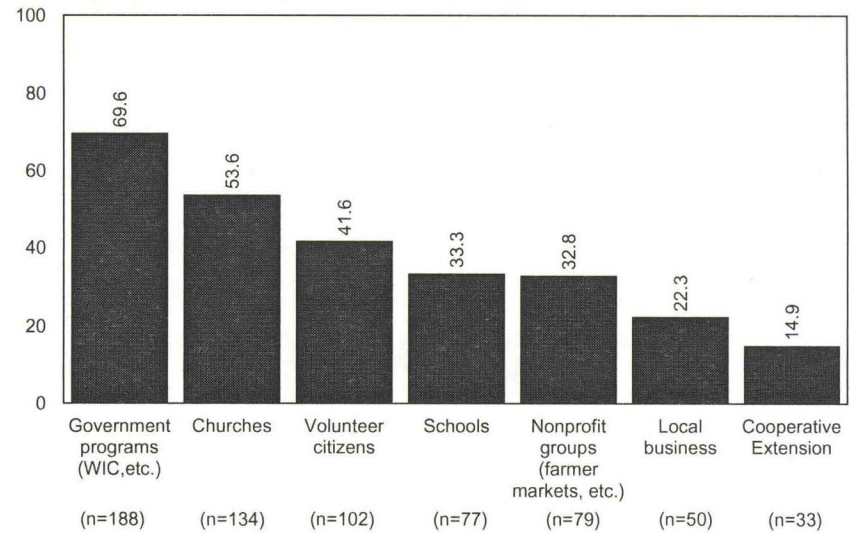


Figure 50. Where does the leadership for solving food problems in your community/neighborhood come from?

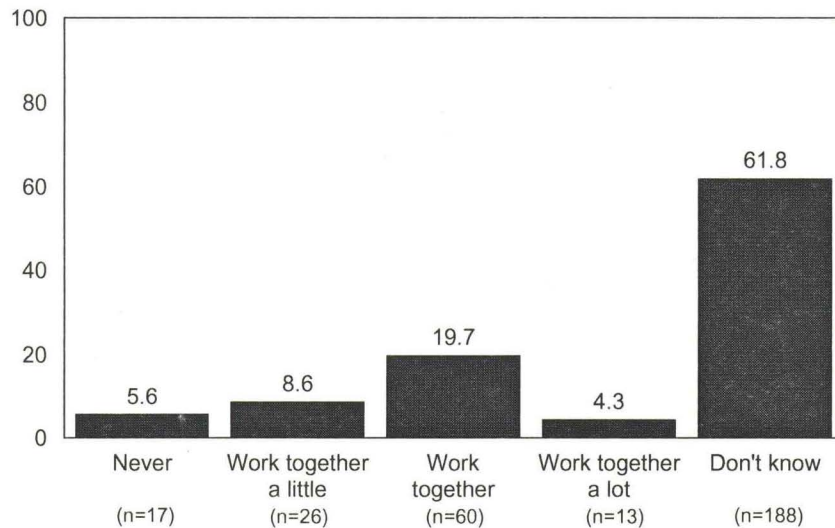


Figure 51. Government food programs like Food Stamps and WIC work together with churches and nonprofit organizations to coordinate efforts to meet food needs of people

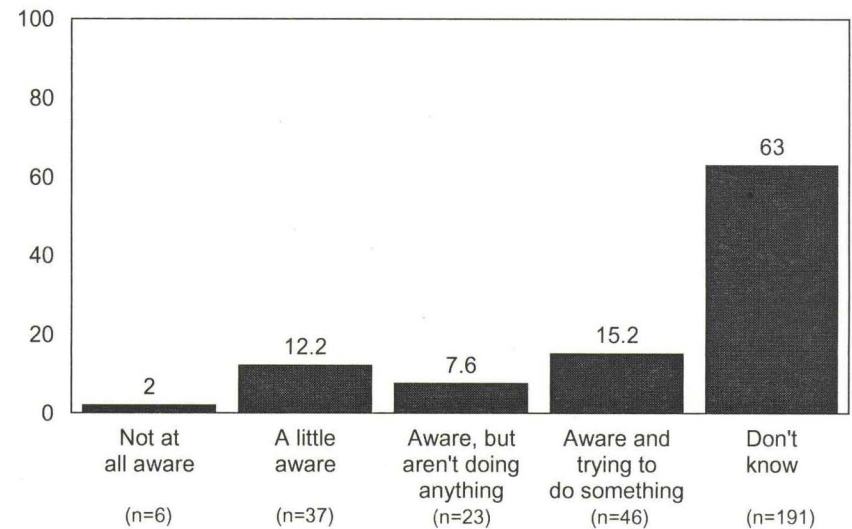


Figure 52. Elected officials are aware of food access and affordability problems in your community/neighborhood

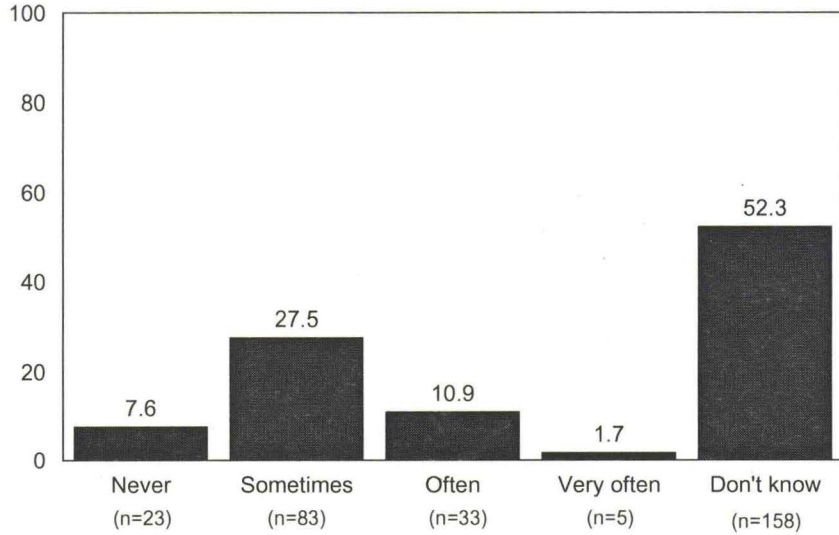


Figure 53. Local farmers, food manufacturers and distributors donate foods through food banks, food pantries, and other groups in our community

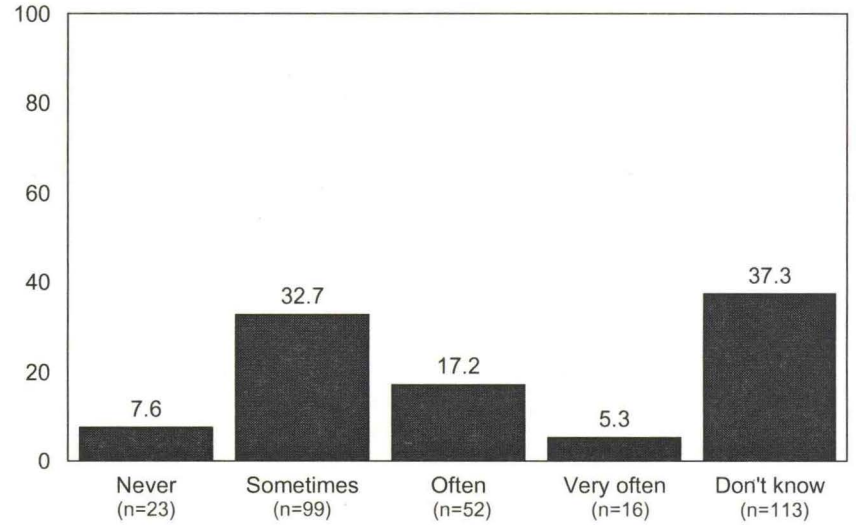


Figure 54. Churches in our community offer meals, food pantries, and emergency food supplies

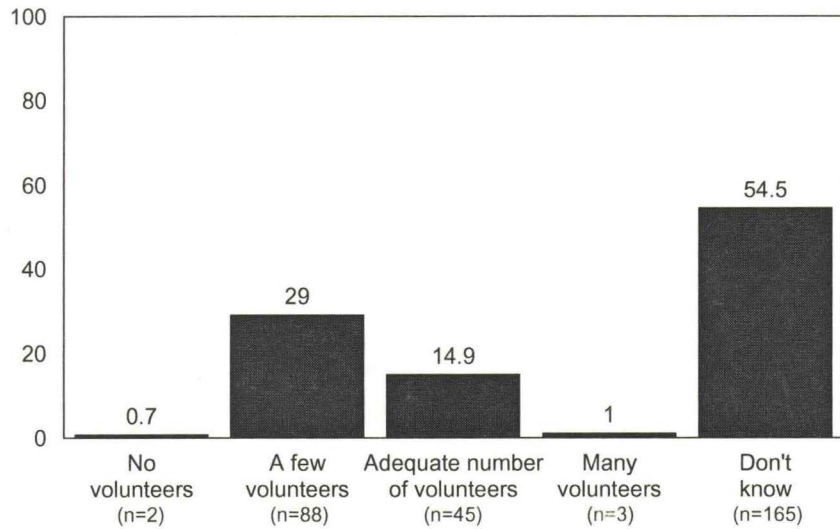


Figure 55. Group meal sites and food pantries/shelves usually have an active and large number of volunteers

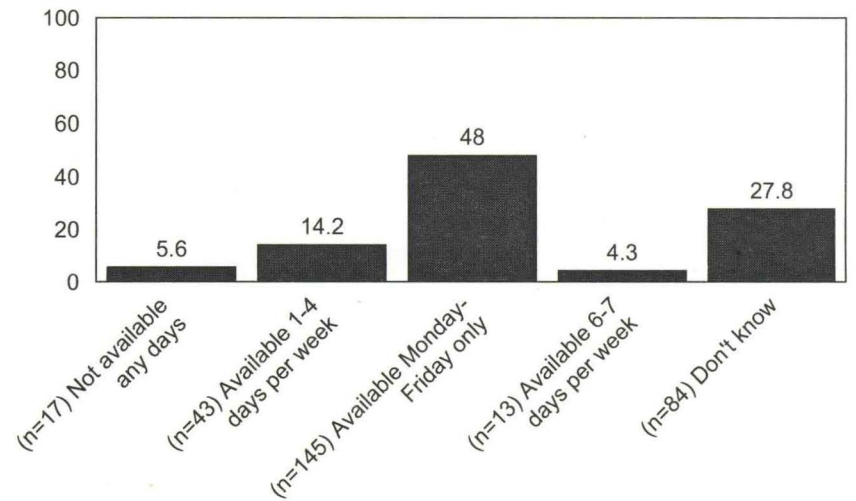


Figure 56. There are group meal sites and home-delivered meals available for elderly persons where I live

report 8.6 percent to be insecure and 2.6 percent reporting food insecurity with hunger.

Civic Structure: Food Problem Solving Capacities

Survey respondents were asked eight questions about their community and activities that focused on food related issues. About 10 percent report no active groups working at solving community food problems (Figure 49). Over 39 percent say they don't know. The government is recognized by most people (69.6 percent) as the leading institution for solving community food problems (Figure 50). Churches (53.6 percent) are also frequently identified as providing leadership for solving food problems. Volunteer citizens (41.6 percent), schools (33.3 percent), and nonprofit groups (32.8 percent) are also mentioned as important sources of leadership. Almost 15 percent report that ISU Cooperative Extension is an important leader in helping solve food problems.

Most people (61.8 percent) in the sample don't know if government food programs like Food Stamps and Women Infants & Children (WIC) work together with churches and nonprofit groups to coordinate efforts to meet the food needs of people (Figure 51). A similar percent (63 percent) don't know if their elected officials are aware of food problems or actively trying to do something about them (Figure 52). Over half don't know if local farmers, food manufacturers and distributors are donating foods through food banks, food pantries and other community groups (Figure 53). About 22 percent think that

churches often or very often offer meals, food pantries and emergency food supplies to those in need in the community (Figure 54). A third don't know if churches offer food or not. More than half don't know if volunteers are adequate to meet food pantry and group meal site needs (Figure 55). About 30 percent note that group meal sites and food pantries usually have no or few volunteers. Almost 28 percent of the sample don't know if group meal sites or home delivered meals for elderly are available in the community (Figure 56). Forty-eight percent think that these food services are available to elderly weekly Monday through Friday.

Conclusion

In this report we have attempted to summarize our main findings about how people access their food environment, their diet patterns, food insecurity status, and related health and well-being. In addition our findings reveal some of the civic structure of the community within the county and perceptions of efforts to solve local food problems. We have not attempted to explain why we think we found what we did.

The next steps are up to the reader. Community leaders should meet and talk about these findings. Which are contradictory to their own knowledge and experiences. Which confirm what is already known. And which might indicate emerging trends that should be acknowledged? More importantly, are there one or two findings that the community should act on? If so what are they and what should be done?

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Appendix A:

Impacts of the food environment on the dietary choices, intake, and health of rural elderly who live in Iowa food deserts.

Criteria for Selecting Study Site Counties

Iowa has 99 counties, two of which were selected for the survey based on four criteria: limited number of grocery stores, income, percent 65 years of age or older, and geography/urban influence. The first criterion was the selection of counties with four or less grocery stores. According to 2001 County Business patterns¹, 37 counties in Iowa meet this criterion. For the second criterion, per capita income and poverty in each county were examined. The research team planned to survey a rural county with per capita income above state average. The state average for per capita income² was \$19,647, in 1999. There was only one county of the 37 which met the criteria (Guthrie County) which had above state average per capita income and a poverty rate below state average. Therefore, it was decided to modify the second criteria to survey counties with below state average per capita income and above state average poverty rate. One of the major foci of the survey was to study the shopping patterns of the elderly population (65+). Thus the third criterion required the selected county to have an elderly population greater than the state average of 14.9 percent (1999). The last criteria was based on geographical location and urban influence. County adjacency to major highways or metropolitan areas was conceptualized as an indicator of better access to shopping facilities. Therefore, the fourth criterion used the 1993 urban influence code³ to select rural counties that did not have strong urban influence. Urban influence codes 7-9, those counties without metropolitan influence, were used to further narrow the universe of Iowa counties. Code 7 refers to those nonmetro counties that are not adjacent to metro area with a city of at least 10,000 residents. Counties with code 8 are those that are nonmetro and not adjacent to metro area with a town of 2,500 – 9,999 residents (ERS). Code 9 counties are nonmetro, not adjacent to

metro areas and do not have towns with more than 2500 people.

In conjunction with the geographical criteria, two counties were eliminated because they were recently used for a similar Food in Your Community survey. Furthermore, these two counties were located in southern Iowa (Decatur and Monroe). So the research team restricted selection to northern Iowa rural counties. In addition the team also avoided choosing counties on the border to reduce future bias caused by influences of adjacent states.

When the four criteria were applied, two counties met all the conditions: Floyd County and Palo Alto County. Floyd County is situated in northeast of Iowa. There are three grocery stores and 11 convenience stores in the county. The per capita income of Floyd County was \$17,091 in 1999. About 19 percent of the county population were over 65 and 9 percent of the population were below poverty. The urban influence code for the county is 8, which means there are no metropolitan cities around the county. Palo Alto lies in northwest Iowa. Four grocery stores and nine convenience stores provide the normal food system infrastructure. The per capita income of the county was \$17,733 in 1999. The elderly population accounts for more than 21 percent of the total population. A little more than 10 percent of the population was below poverty. The urban influence code for Palo Alto is also an 8.

Reference:

1. Sources of county business pattern: <http://censtats.census.gov/cbpnaic/cbpnaic.shtml>
2. Sources of per capita income, elderly population rate, and poverty rate: <http://www.seta.iastate.edu/population/publications/county/SF3/> and <http://www.seta.iastate.edu/population/publications/county/SF1/>
3. Sources of urban influence code: <http://www.ers.usda.gov/briefing/rural/data/codes>

Appendix B

USDA Food Security Six-Item Scale

Short Form of the 12-month Food Security Scale – Information

November 9, 1999

BACKGROUND: If respondent burden permits, the full 18-item scale is the recommended measure of food security, food insecurity, and hunger. However, for surveys that cannot implement that measure, this “Short Form” six-item scale provides a reasonably reliable substitute. It has been shown to have reasonably high specificity and sensitivity and minimal bias with respect to the 18-item measure. *It does not, however, measure the more severe levels of food insecurity at which child hunger is generally observed, and cannot, therefore, identify households where child hunger is likely.*

ITEM NUMBERS: Item numbers in parentheses correspond to the numbers in the April 1995 CPS Food Security Supplement and the reports by Hamilton et al. about that survey.

TRANSITION/LEADER: If the placement of these items in your survey makes the transition/introductory sentence unnecessary, add the word “Now” to the beginning of question 1: “Now I’m going to read you....”

FILL INSTRUCTIONS: Select the appropriate fill form parenthetical choices depending on the number of persons and number of adults in the household.

SCALING INSTRUCTIONS:

Items 1 and 2 are scored as affirmative if response is (1) Often true or (2) Sometimes true. They are scored as negative if response is (3) Never true.

Items 3, 5, and 6 are scored as affirmative if response is (1) Yes and negative if response is (2) No.

Item 4 is scored as affirmative if response is (1) Almost every month or (2) Some months but not every month. It is scored as negative if response is (3) Only 1 or 2 months or (X) Question not asked because of negative or missing response to question 3.

Households affirming zero or one item are classified as food secure. Households affirming 2, 3, or 4 items are classified as food insecure with no hunger evident. Households affirming 5 or 6 items are classified as food insecure with hunger evident.

One way in which to handle missing values (Don’t know or Refused) is as follows: If more than three items are missing, score the household as missing. Score other D and R responses as negatives. For another approach to scoring households with missing items see <http://www.econ.ag.gov/briefing/foodsecurity/core0699.pdf>

Number of affirmatives	Score
1	2.86
2	4.19
3	5.27
4	6.30
5	7.54
6 (evaluated at 5.5)	8.48

For an interval-level measure, use the following scores, based on the Rasch model:

- No interval-level score is defined for households affirming no items. (They are food secure, but how much their food security differs from households that affirmed one item is not known.)

PREPARED BY: Mark Nord and Margaret Andrews (Economic Research Service), in consultation with Gary Bickel (Food and Nutrition Service), based on research by Stephen J. Blumberg (National Center for Health Statistics), Karil Bialostosky (National Center for Health Statistics), William L. Hamilton (Abt Associates), and Ronette R. Briefel (National Center for Health Statistics).

Short Form of the 12-month Food Security Scale - Questionnaire

These next questions are about the food eaten in your household in the last 12 months and whether you were able to afford the food you need.

- 1 (54). I'm going to read you two statements that people have made about their food situation. Please tell me whether the statement was OFTEN, SOMETIMES, or NEVER true for (you/you or the other members of your household) in the last 12 months.

The first statement is, "The food that (I/we) bought just didn't last, and (I/we) didn't have money to get more." Was that often, sometimes, or never true for (you/your household) in the last 12 months?

- (1) Often true
- (2) Sometimes true
- (3) Never true
- (D, R)

-
- 2 (55). "(I/we) couldn't afford to eat balanced meals." Was that often, sometimes, or never true for (you/your household) in the last 12 months?

- (1) Often true
- (2) Sometimes true
- (3) Never true
- (D,R)

-
- 3 (24). In the last 12 months, since (date 12 months ago) did (you/you or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food?

- (1) Yes
- (2) No (GO TO 5)
- (D,R) (GO TO 5)

-
- 4 (25). [Ask only if #3=YES] How often did this happen--almost every month, some months but not every month, or in only 1 or 2 months?

- (1) Almost every month
- (2) Some months but not every month
- (3) Only 1 or 2 months
- (D,R)
- (X) Question not asked because of negative or missing response to question 3.

-
- 5 (32). In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money to buy food?

- (1) Yes
- (2) No
- (D,R)

-
- 6 (35). In the last 12 months, were you ever hungry but didn't eat because you couldn't afford enough food?

- (1) Yes
- (2) No
- (D,R)

...and justice for all

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