A grounded theory to understand how low-income families meet their food and nutrition needs

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A grounded theory to understand how low-income families
meet their food and nutrition needs

by

Kimberly Ann Byrne Greder

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Human Development and Family Studies

Major Professor: Mary Jane Brotherson

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2000

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This is to certify that the doctoral dissertation of

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has met the dissertation requirements of Iowa State University

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ABSTRACT

The purpose of this study was to understand the process low-income families with young children experience as they strive to meet their food and nutrition needs. This study sought to answer the research question, "What helps, and what makes it difficult for low-income families to meet their food and nutrition needs?"

Growing inequities in income and wealth over the last twenty years brings attention to socioeconomic position as a key factor in the growing disparities in health today and in future years. Low-income people, and especially those who are ethnic or racial minorities, are at greater risk of food insecurity, hunger, malnutrition, chronic diseases, and mortality than are people who do not have low incomes, or who are not racial/ethnic minorities. Inadequate nutrition during pregnancy, as well as during childhood, can result in negative effects on children's growth and development (physically, socially, cognitively, and emotionally), and potential productivity as adults.

Focus groups, in-depth interviews and case study interviews were conducted in seven Iowa counties to gather data from 49 low-income women who had young children. Audiotapes were transcribed verbatim. Members of the research team read and re-read the raw transcripts to become familiar with the data and identify emerging themes. Through the process of open coding, five overarching categories and several subcategories were identified. Social support, a prevailing theme, was identified as the central phenomenon. Government policies, societal expectations, sense of control/personal empowerment, and past experiences also were identified as overarching categories. Through the process of axial coding,
relationships between these categories and social support were identified. Through the process of selective coding, the life experiences of low-income families were depicted as they strive to meet their food and nutrition needs. A visual model was developed that illustrates the grounded theory. Findings from this study have implications for the design and delivery of nutrition education and other programs serving low-income families, as well as for informing policy decisions directly affecting families.
CHAPTER 1. INTRODUCTION

Research Question

The research question, "What helps, and what makes it difficult for low-income families to meet their food and nutrition needs?" formed the framework for this investigation. The researcher wanted to gain a deeper understanding of the process low-income families with young children experience as they strive to meet their food and nutrition needs.

For the purposes of this study, low-income families with young children were defined as families who lived in households that were at or below 185% of the federal poverty level and who had children ten years of age or younger. This definition was used because families who live in households that are at or below 185% of the federal poverty level and who have children ten years of age or younger are eligibility criteria used in Iowa for participation in both the Expanded Food and Nutrition Education Program (EFNEP) and the Family Nutrition Program (FNP). In this study, low-income families were recruited through EFNEP and FNP. Meeting family food and nutrition needs was defined as being able to provide healthful, adequate, and safe food to family members, which was acceptable by family members. The United States Department of Agriculture (USDA) Food Guide Pyramid and Dietary Guidelines for Americans helped shape the meaning of these words.

Family members were defined as individuals (e.g., children, spouse, boyfriend) who may or may not be blood related or live consistently in the same household. However, the parent who was interviewed believed she had responsibility for meeting these family members' food and nutrition needs. This study specifically interviewed women since women
typically are viewed as being the primary parent responsible for meeting the food and nutrition needs of family members.

Using Strauss and Corbin's (1998) qualitative methods of grounded theory, the lead researcher and research team developed a grounded theory of how low-income families with young children meet their food and nutrition needs. Boss et al. (1993) stated that a theory is a set of ideas that emerge from a systematic process of formulating and organizing ideas to understand a particular phenomenon. Following the guidance of Strauss and Corbin (1998) and Guba (1981) and Lincoln (1995), the researchers developed a systematic process for designing and implementing the research study, as well as analyzing the data. During this process the researchers strove to maintain a balance of creativity, rigor, perspective, and above all sensitivity (Strauss & Corbin, 1998). Sensitivity is the researchers' perceptions of phenomena as experienced by the research participants and includes the ability to see and hear accurately what is reported as data (Rew, et al., 1993).

Rationale

Food, nutrition and health issues of families with young children living in poverty

Growing inequities in income and wealth over the last twenty years bring attention to socioeconomic position as a key factor in the growing disparities in health today and in future years. Despite the overall decline in mortality rates, there is a widening disparity in mortality by educational and income level, and education is a major determinant of earnings potential (USDHHS, 1998).
Who are the poor?

Poverty has been defined and used in research in many ways (McLoyd, 1998). For the purposes of this study poverty was defined according to the federal poverty guidelines that are based on household income and the size of the family unit. The federal poverty guidelines are a simplification of the federal poverty thresholds for use for administrative purposes, such as for determining financial eligibility for certain federal programs (USDHHS, 2000).

In 1999, the percentage of persons below the federal poverty level in the U.S. was 11.8% (32.3 million persons). African Americans (23.6%), Hispanics (22.8%), and Native Americans (25.9%) were approximately three times more likely than Caucasians (7.7%) to be poor. Asians and Pacific Islanders (10.7%) were also more likely than Caucasians to be poor (Dalaker & Proctor, 2000).

Most of the poor were headed by either a female or by someone without a high school diploma. Single-parent female heads of households (27.8%) were over five times more likely to be poor than households where there were married couples (4.8%). Children under the age of six years who lived with a female single parent experienced poverty at a rate of 50.3%, more than five times the rate of children less than six years of age in married-couple families (9%) (Dalaker & Proctor, 2000). Poor children and families have less access to social and financial resources resulting in greater likelihood of poorer health outcomes than children and families who are not poor (USDHHS-OPHS, 1998).

Children are the most likely age group in the United States to be poor. In 1999, the poverty rate for persons younger than 18 years of age was 16.9%, compared with 10% for persons 18-64 years of age, and 9.7% for persons age 65 and older. Of the total number of poor people in the U.S. in 1999, 12.1 million of them (37.5%) were children less than 18
years of age (Dalaker & Proctor, 2000). The U.S. has the highest incidence of child poverty of any industrialized nation (Rainwater & Smeeding, 1995).

**Food security, food insecurity, and hunger**

Despite the economic growth in the U.S., many American families still struggle to meet basic needs. Adequate, safe, nutritious food is a basic need that many Americans have difficulty accessing. Estimates indicate that 10.1% (31 million) Americans experienced food insecurity in 1999, and 3% (7.7 million) of these individuals experienced hunger due to resource constraints. Of the 31 million Americans who were food insecure, 12 million (39%) of them were children. Of the 7.7 million individuals who experienced hunger, 5 million were adults, and 2.7 million were children (Andrews et al., 2000). In Iowa, on average between 1996-1998, 7% of households were food insecure, and 2.5% of households experienced hunger (Nord et al., 1999).

In the early 1990’s, most of the individuals who reported food insecurity and hunger were poor: the rate of reported food insecurity was ten times as great among poor people than among non-poor people. In addition, participation in federal food assistance programs has not eradicated the problem of hunger for families; two in 10 families who participated in the Food Stamp Program reported that their children were sometimes hungry (Lewit & Kerrebrock, 1997).

In the U.S., the prevalence of food insecurity and hunger were greater among specific racial and ethnic minority groups than among Caucasians. African American and Hispanic households (21.2%, 20.8% respectively) experienced food insecurity three times more often than Caucasian households (7%) (Andrews et al., 2000). Schwenk (1997) found lower levels
of energy intake for African American and Hispanic children than for Caucasian children, which may partially be explained by a higher rate of poverty among African American and Hispanic children than among Caucasian children.

In the U.S., food insecurity and hunger were over three times more prevalent among female single-parent households with children (29.7%) than among married-couple households with children (9.6%). Low-income households with children (40.3%) were more vulnerable to food insecurity than were low-income households without children (26.1%). Low-income single parent female households with children (44.3%) were more food insecure, as compared to low-income married-couple households with children (36.5%) (Andrews et al., 2000).

Welfare reform policy over the last twenty-five years has shifted from focusing on income security to focusing on work and self-sufficiency (Olson & Pavetti, 1996). This shift has affected the ability of some low-income families to meet their food and nutrition needs. Movement into the workforce and obtaining low-wage jobs has resulted in some families having access to fewer resources (e.g. food stamps) to help them feed their family, than they did before they were employed, as well as less time for food preparation. In their study of 379 unskilled single-parent mothers, Edin and Lein (1997) found that 24% of wage-reliant mothers (n=165) had experienced a food shortage, and 8% had gone hungry. Many of the mothers reported that their worst food and hunger problems occurred when they first began to work. Earning income usually resulted in substantial reductions in their food stamp benefits.

Given the food insecurity and hunger data, as well as the previous information describing the poverty status of ethnic and racial minorities, single-parent female households,
and children. It is obvious that ethnicity, race, family structure, life-cycle issues, and
government policy play a strong role in the likelihood of food insecurity, hunger and poverty.
Food insecurity, hunger and poverty are all risk factors for malnutrition. Malnutrition has
detrimental effects including growth impairment and developmental delays in children,
increased rates of infectious diseases, and mortality.

Links between poverty, nutrition, and health

Mortality rates for both children and adults are directly related to poverty, as well as
to degree of income inequality. Mortality rates of poor people are two times as great as the
mortality rates of people who are not poor (USDHHS, 1990). In addition, the disparities in
health between poor people and people with higher incomes are evident in all dimensions of
health (USDHHS-OPHS, 1998).

The overall prevalence of being overweight for adults age 20 years and older in the
U.S. was 31% for males and 35% for females during the time period 1988-1991. Being
overweight is associated with increased risk for chronic diseases such as coronary heart
disease, hypertension, diabetes (Type II), and some cancers. For African Americans and
Hispanics the prevalence of overweight was much higher in females than in males. For all
racial/ethnic groups, prevalence of overweight was highest in females with low incomes
(USDHHS & USDA, 1995).

Racial and ethnic minorities are at greater risk of experiencing poorer health status
than Caucasian individuals as a result of less income, lower educational levels, less access to
health care, and genetic pre-dispositions. African American men, who traditionally eat higher
amounts of saturated fat than men in other race groups, suffer from coronary heart disease
twice the rate of Caucasian men. In addition, incidences of diabetes is greater among Native Americans, Hispanics, and African Americans, than among Caucasians (USDHHS-OPHS, 1998). Nader (1995) found that Mexican American children ages 4-7 years, displayed high risk behaviors for cardiovascular disease and diabetes. Mexican American children consumed a diet higher in fat, were less physically active, and had a higher percentage of body fat than Caucasian children.

Recently a report was released, The Healthy Eating Index (HEI) 1994-1996, which presented a summary of America’s overall diet quality. This report reveals that poor people, African Americans, and Hispanics have lower quality diets than higher income and other race groups (Lino et al., 1999). The report indicated, that as American’s incomes and educational levels increased, so did their HEI scores. Thus, healthier dietary habits were positively associated with higher levels of income and educational attainment. Higher educational attainment was associated with greater exposure to health related information, which can assist people in adopting health-promoting behaviors (USDHHS-OPHS, 1998).

The HEI report also documented that individuals with less nutrition knowledge and awareness of the diet-disease relationship reported lower HEI scores than those with greater knowledge and awareness. Poor people are more likely to be less aware of diet-disease relationships and nutrition knowledge than people who are not poor (Bradbard et al., 1997; Morton & Guthrie, 1997). Income and education related differences in knowledge and time to pursue healthy behaviors, adequate housing, nutritious foods, safe communities to live in, and healthy surroundings to work in may influence the health and well being of Americans of varying socioeconomic status. Stress and strain that accompanies poverty imposes emotional
and psychological costs that are reflected in poorer health outcomes for poor people than for people who are not poor (USDHHS-OPHS, 1998).

**Diet and the leading causes of death**

As diseases of nutritional deficiencies (e.g., rickets, scurvy) in the U.S. have diminished, diseases that are related to dietary excesses and imbalances (overnutrition) have developed. Coronary heart disease, some cancers, diabetes (Type II), and stroke are diseases related to dietary excesses and imbalances, and are the leading causes of death in the U.S. These diseases account for half of all the deaths in the U.S. each year. It is estimated that healthier diets might prevent $71 billion per year in medical costs, lost productivity, and the value of premature deaths associated with these diseases. If Americans consumed less fat and sodium, consumed more fruits and vegetables, and exercised more, incidences of these leading diseases would dramatically decrease (Frazao, 1999).

**Effects of undernutrition during pregnancy and early childhood**

Research reveals that undernutrition (short term and long term) during pregnancy, as well as during any period of childhood, can result in negative effects on children's development, and potential productivity as adults. Undernourished women with inadequate weight gain in pregnancy are more likely to give birth to low birth weight (LBW) babies, who are at risk of suffering developmental delays (Center on Hunger, Poverty and Nutrition Policy, 1998), or in severe cases, mortality. Poor women are more likely to be with inadequate energy and nutrient intake during pregnancy than women who are not poor, and poor children are more likely to be undernourished than children who are not poor.
Undernutrition can result in growth stunting. Growth stunting is measured in preschool age children by looking at the height for age below the fifth percentile on a reference growth curve. Among poor children in the U.S., growth stunting occurs three percent more often (8%) than what is expected in a healthy population (5%) (USDHHS & USDA, 1986). Growth stunting can result in children not reaching their full growth potential cognitively, socially, and emotionally.

Major nutritional concerns of low-income families, which may lead to malnutrition, include diets that are low in energy, as well as limited in the following nutrients: protein, Vitamins A, B6, and C, calcium, iron, folic acid, magnesium, and zinc. In contrast to these nutrients that are commonly lacking in the diets of low-income children, nutrients that are commonly higher than recommended are fat, sugar and sodium (Kramer-LeBlanc et al., 1999). Overconsumption of these nutrients can lead to the four leading causes of death identified previously. Children who are not adequately nourished not only affect their own well being, but the well being of society as a whole.

Additional issues influencing nutrition and health

Poor families have several competing concerns that may present barriers to obtaining a healthy diet. Poverty can constrain the food budget and influence food choices and meal planning decisions. Price, taste, food safety, and how well food keeps are more important than nutritional quality when making food choices for many poor families (Morton & Guthrie, 1997).

Thus, decisions about household budgets can influence the economic well being, as well as the health status of families. Decisions to constrain the food budget without adequate
consideration of the impact on nutritional status may be counter productive by resulting in increased short- and long-term medical costs (Dinkins, 1997).

**Gaps in research**

Increased attention is being given to understanding the coping process low-income families use to meet their food and nutrition needs as it becomes clearer that understanding human behavior is essential to helping families become food secure, and obtain nutritionally adequate diets. Increased understanding of the coping process used by families is essential to understanding how to intervene to support families most effectively, and how to influence policy to support families to meet their food and nutrition needs adequately.

There are some theoretical models that help explain the coping process in general (McCubbin & Patterson, 1983); however, there is not a model that specifically helps to explain the coping process that low-income families use to meet their food and nutrition needs. Past research has primarily focused on the nutrition needs of low-income individuals, their nutrition knowledge and behaviors (Morton & Guthrie, 1997), and some of the strategies that individuals use to purchase food as a result of having a low income (Bradbard et al., 1997). Based on the results from a review of studies of nutrition education programs in the U.S. (Contento et al., 1995), a variety of recommendations for nutrition research were developed. One of these recommendations identified a need for more research on consumer benefits and barriers to healthier dietary habits. Research is needed to address the following questions: “What characterizes people who have been more successful in changing and maintaining healthy nutrition practices?” “What skills, attitudes, life events, environmental factors, and coping mechanisms have helped,” and “What are some barriers to success?”
Few studies have taken an ecological or family systems perspective to understand holistically the process that low-income families use to meet their food and nutrition needs. A holistic understanding of the process includes identifying and examining the interplay between micro and macro conditions families face, and the strategies they choose to meet their food and nutrition needs. Better understanding of the relationships between conditions families face (e.g., poverty, education, race/ethnicity, cultural differences, environment, social resources) and the strategies they choose can help answer some of the questions posed above, as well as develop new insights into lessening health disparities. In addition, existing knowledge can be applied to help families have positive health outcomes.

This research study attempted to take a holistic perspective in understanding the process low-income families use to meet their food and nutrition needs. Such an approach provided opportunities to understand the complexities of the process, and raise questions pertaining to program and policy issues.
CHAPTER 2. LITERATURE REVIEW

The purpose of this chapter is to review the existing literature focused on issues of families with young children in poverty as they strive to meet their food and nutrition needs. This review begins with defining poverty and its prevalence in families' lives. The review then looks at the food, nutrition and health issues facing poor families. The review will highlight government programs and policies are in place to safeguard the nutrition and health of low-income families. Literature addressing the role of social support in helping families meet their needs will be addressed, followed by relevant theoretical frameworks that help to understand human behavior. The theoretical frameworks selected help to provide insight into some of the issues encountered in the current research study. Frameworks that are reviewed include Family Systems Theory, Urie Bronfenbrenner's Ecological Model of Human Development, and McCubbin and Patterson's Double ABCX Model: Family Adaptation.

Relevant Literature

Poverty

Definition

Poverty is one of the primary social indicators that the U.S. uses to measure how well it is doing as a nation. Poverty has been defined and used in sociological and psychological research in three primary ways: (1) Absolute – having less than an objectively defined, absolute minimum required for basic needs (i.e., food, clothing, housing); (2) Relative – having less than others in society (e.g., lacking certain material objects that are common in society or being below the cutoff expressed as a proportion of median income for society);
and (3) Subjective – the feeling that one does not have enough to make it (Hagenaars & de Vos, 1988).

For the purposes of this research, absolute poverty is the most relevant of the three definitions of poverty because it usually is the primary construct in developmental, socialization, intervention, and policy studies that use a precise definition of poverty (McLoyd, 1998). The U.S. Census Bureau measures absolute poverty by using a set of money income thresholds that vary by family size and composition. If a family’s income is less than the threshold for a family of its size, then every individual in that family, as well as the family itself, is identified as poor. The poverty thresholds are updated annually to reflect inflation, and do not vary geographically. Poverty, as defined by the U.S. Census Bureau, counts money before taxes, and does not include non-cash benefits (e.g., food stamps, Medicaid, State Child Health Insurance Program, SCHIP, housing subsidies) or capital gains. According to the 2000 poverty thresholds, a family of four with an income below $17,050 is considered poor (USDHHS, 2000).

Concerns have been voiced regarding determining poverty through the measurement of absolute poverty. Because the official U.S. absolute poverty measure does not take into account non-cash benefits, capital gains, home ownership, or other assets families may have, it does not provide an accurate picture of the resources families have available to them. These resources can be important sources of consumption.

In their study of the relationship between poverty and living conditions, Federman et al. (1996), through an analysis of nine nationally representative surveys, created a comprehensive picture of the living conditions of poor and nonpoor families in the U.S. They found that the average poor person lived in a family whose income is approximately one-
sixth as much as the family income of the average nonpoor person ($8,501 versus $55,394). Twenty percent of the income of poor families came in the form of public assistance, as compared to two percent of the income of nonpoor families. In addition, 40% of the income of poor single parent families came in the form of public assistance and welfare. The family of the average nonpoor person paid $11,660 in Federal and State income and FICA taxes in 1993. The average poor person lived in a family who received $1,727 in public assistance and welfare and food stamp benefits valued at $1,392. Seventy-one percent of the expenditures of poor families was allocated to necessities: food, shelter, utilities, and clothing, as compared to forty-six percent of expenditures of nonpoor families. For single-parent families, 80% of their expenditures are for necessities.

Seventy-eight percent of the nonpoor lived in homes that their families owned, as compared to forty-one percent of the poor, and twenty-four percent of poor single-parent families. Ninety-seven percent of the nonpoor had access to a telephone, as compared to seventy-seven percent of the poor. Practically all nonpoor families owned a vehicle (97%), as compared to poor families (77%), and poor single-parent families (64%). Poor families were four times more likely as nonpoor families to have their utilities cut off. It is important to note that, although some poor families owned a car or home, it was likely that the home or car was older and of lower quality than those owned by nonpoor individuals. In addition, although a family’s income may have been raised and the family was no longer in poverty, the higher income did not remove the living conditions that were identified (Federman, et al., 1996).
Development of federal poverty thresholds

Between 1963 and 1964, Mollie Orshansky, an economist employed by the Social Security Administration, developed the poverty standard officially adopted by the federal government in 1969 during its War on Poverty. This standard, as mentioned above, is defined by cash income. Cash income of a family is defined as their income before taxes and does not include capital gains or losses, or transfer payments (e.g., food stamps, housing subsidies). The value of this cash income was compared with a threshold based on the estimated cost of food multiplied by three, adjusted to account for economies of scale for larger families and the various food needs of children who were under the age of eighteen, and of adults who were over the age of sixty-five. The USDA’s “Thrifty Food Plan” was used as the estimated cost of food based on the minimum income a family of four needed to purchase food in the United States. The multiplier of three was based on a study in 1955 that indicated that typically one-third of families’ after-tax dollars over a wide range of incomes were spent on food (Fisher, 1997; Haveman, 1987).

From the time that the poverty thresholds were set until the present, the only adjustment in the thresholds has been to increase them annually according to the increase in the Consumer Price Index (CPI). Thus, the purchasing power of the thresholds has remained the same. Critics state that the poverty thresholds should be increased in “real terms”, because real income has risen extensively in the U.S. during the last 35 years and the U.S. measurement of poverty has remained constant in real terms. In addition, critics state that a primary flaw in the current way that poverty is measured is that it uses pre-tax income as a measure of available resources ascertain if a family is poor. Because the poverty measure only includes pre-tax income, then it does not take into account changes in income tax. Thus,
substantial changes in social security, other payroll taxes, and state and federal taxes over the past 35 years are not considered in the poverty measure. In addition, income gained through the Earned Income Tax Credit (EITC), as well as in-kind transfers such as food stamps and housing subsidies are not taken into account in determining the thresholds. As a result, programs that are considered "chief poverty fighting" programs in the U.S. are disregarded by the poverty measure. Therefore, the current poverty measure is not informative and cannot be utilized adequately to evaluate the effectiveness of the federal initiatives designed to assist low-income families (Citro & Michael, 1995).

In 1992, a Panel on Poverty and Family Assistance was appointed to study the official U.S. poverty measure. The panel argued that Orshansky's poverty measure had weaknesses both in the implementation of the threshold concept and in the definition of family resources. Social and economic conditions in the U.S. have changed dramatically since Orshansky's development of the thresholds. As a result, Orshansky's measure does not adequately reflect variances in poverty across population groups and across time (Fisher, 1999).

Another criticism of the current poverty measure used in the U.S. is that it does not take into account regional differences in poverty. Using data from the March 1995 Current Population Survey, Triest (1997) found that poverty rates vary considerably across regions of the country, and reasons for these variations need to be understood in order to design appropriate Federal antipoverty policies. The West South Central, New York, and California are above the national poverty rate, whereas New England, the North Central regions, the Middle Atlantic region (not including New York), the South Atlantic region, the Mountain region, and the Pacific region (not including California) are consistently below the national poverty rate. In all regions of the country, high rates of poverty were associated with families
in which the head of the household did not have a high school diploma, families headed by a single woman with at least one child under the age of six years, and families that were headed by an African American or Hispanic individual. Thus, much of the variation in poverty rates across regions can be explained by variation in the potential earnings of families relative to the federal poverty thresholds.

**Who are the poor?**

Over 32 million people are poor in America, and are too diverse to be described along one dimension. Thus, it is important to illustrate how poverty rates vary by selected characteristics (Dalaker & Proctor, 2000). Characteristics highlighted in this review include race, age, family structure and geographic region.

In 1999, the percentage of persons below the federal poverty level in the U.S. was 11.8% (32.3 million persons). African Americans (23.6%), Hispanics (22.8%), and Native Americans (25.9%) were approximately three times more likely than Caucasians (7.7%) to be poor. Asians (10.7%) were also more likely than Caucasians to be poor (Dalaker & Proctor, 2000). In 1999, the U.S. Bureau of the Census released estimates of poverty in counties across the nation as of 1995. In 1995, Iowa experienced a poverty rate of 9.8% (Goudy et al., 1999).

Today, children are the most likely age group to be poor in the United States. However, that has not always been the case. The elderly were the highest age group to be poor in the United States during the 1950's and 1960's. The expansion of federal programs such as Social Security and Medicare helped to move many elderly individuals out of poverty.
In 1999, the poverty rate for persons younger than 18 years of age was 16.9%. Compared with 10% for persons 18-64 years of age, and 9.7% for persons age 65 and older. Of the total number of poor people in the U.S. in 1999, 12.1 million of them were children (37.5%) (Dalaker & Proctor, 2000). Of all the industrialized nations, the U.S. has the highest incidence of child poverty (Rainwater & Smeeding, 1995). In addition, children living with single mothers are more likely than children living in married-coupled families to be poor and have less access to social and financial resources resulting in greater likelihood of poorer health outcomes. In Iowa, in 1995, 13.7% of youth 17 years of age and younger were in poverty. Of all Iowans in poverty in 1995, one-third were 17 years of age and younger (Goudy et al., 1999).

Through a set of life tables built from 25 waves of longitudinal data, Rank and Hirsch (1999) estimated the proportion of children in the United States who will experience poverty at some point in their childhood. The estimations suggest that between the ages of one and seventeen years, 34% of American children will spend at least one year below the federal poverty level. 40% of children in this age group will experience poverty at 125% of the federal poverty level, and 18% of this age group will experience extreme poverty (below 50% of the federal poverty level). Ruggles (1990) states that approximately half of those who are poor in one year will remain poor for years to come.

Rank and Hirsch (1999) found that race, family structure and parental education have profound impacts on the likelihood of experiencing poverty. Between the ages of one and seventeen, 69% of African American children, 81% of children in non-married households, and 63% of children whose head of household has less than 12 years of education will experience some form of poverty.
Most poor families are headed by either a female or by someone without a high school diploma (Dalaker & Proctor, 2000; Triest, 1997). Single-parent female heads of households are over five times more likely to be poor than households where there are married couples (27.8% and 4.8%, respectively). Children under the age of six years who lived with a female single parent experienced poverty at a rate of 50.3%, more than five times the rate of children less than six years of age in married-couple families (9%) (Dalaker & Proctor, 2000). Lack of financial assistance from absent fathers places many female single-parent families in poverty, and makes it difficult to move out of poverty (Danziger & Danziger, 1995).

Educational attainment varies across regions in the U.S., and is strongly associated with a reduced probability of being poor. In 1994, regions of the country that had the highest rates of heads of households who did not have a high school diploma were California (49.3), West South Central (49.0), East South Central (43.1), and New York State (41.4). The national average rate of heads of households without a high school diploma was 40.3 in 1994 (Triest, 1997).

In 1999, the Midwest region had the lowest poverty rate in the country (9.8%), followed by the Northeast (10.9%), West (12.6%), and the South (13.1%). In Iowa, the poverty rate for the 3-year average, 1997-1999, was substantially lower than the U.S. rate in 1999 (8.7% and 11.8%, respectively). New Mexico (20.8%), District of Columbia (19.7%), and Louisiana (18.2%) experienced the highest poverty rates based on this 3-year average, and Maryland (7.6%), Utah (7.9%), and Indiana (8.3%) experienced the lowest poverty rates in the country (U.S. Census Bureau, 1999). A potential reason why regions vary in poverty rates is because different proportions of their populations have low earnings capacity (Triest,
1997). It is also important to note that the federal poverty thresholds do not take into account regional variations in costs of living (Fisher, 1999), thus, the "true" effect of being in poverty may vary in different parts of the country.

Poverty is more prevalent in central cities and in nonmetropolitan areas than it is in metropolitan areas outside of central cities. Although the poverty rate has dropped in central cities (16.4% in 1999 from 18.5% in 1998), it remains higher than the rate for metropolitan areas outside of central cities (8.3%) and nonmetropolitan areas (14.3%) (Dalaker & Proctor, 2000).

Food, nutrition, and health issues facing poor families

Food security, food insecurity, and hunger

Although severe forms of hunger are uncommon in the U.S. today, millions of American families still struggle as a result of insufficient resources to obtain food. Millions of Americans have been identified as being food-insecure or having experienced hunger. Food insecurity and hunger are closely linked with poverty (Nord et al., 1999; Andrews et al., 2000). Food insecurity is six times more prevalent and hunger eight times more prevalent in households with annual income below 185% of the federal poverty guidelines as compared to households with annual income greater than 185% of the federal poverty guidelines. However, it is important to note that several factors may affect a household's food security (e.g., divorce, loss of employment). A small proportion of households experience food insecurity even though their annual income is above 185% of the federal poverty level (Andrews et al., 2000).
Food security (Anderson, 1990) has been defined as. “Access by all people at all times to enough food for an active, healthy life and includes at a minimum: (1) the ready availability of nutritionally adequate and safe foods, and (2) the assured ability to acquire acceptable foods in socially acceptable ways (e.g., without resorting to emergency food supplies, scavenging, stealing, and other coping strategies)” (p. 1575). Food insecurity has been defined as. “Whenever the availability of nutritionally adequate and safe foods or the ability to acquire acceptable foods in socially acceptable ways is limited or uncertain” (p. 1576). “Hunger in its meaning of the uneasy or painful sensation caused by a lack of food, is in this definition a potential, although not necessary, consequence of food insecurity” (p. 1576). Anderson (1990) also suggested that “malnutrition is also a potential, although not necessary, consequence of food insecurity” (p. 1576).

To help address the issue of food insecurity and hunger in the U.S., in 1992, the Food Security Measurement Project (a federal interagency working group) was developed to recommend a standardized mechanism and instrument for defining and obtaining data on the prevalence of food insecurity in the U.S., as well as at state and local levels. Using earlier research and working in close collaboration with private-sector experts and the U.S. Census Bureau, a food security coresurvey was developed. Because food security is complex, multidimensional, and varies through a continuum of successive stages, a variety of indicators are needed to capture the various combinations of food conditions, experiences, and behaviors that, as a group, depict each stage. An 18-item “core module” set of indicators was developed to provide this information, thus identifying the extent and severity of food insecurity and hunger (Bickel et al., 2000).
The 18 questions (which make up the set of indicators) pertain to behaviors and experiences known to characterize households that are having difficulty meeting basic food needs. Generally, these experiences and behaviors occur in an ordered sequence as food insecurity becomes more severe in the household. As household resources become constrained, adults in households typically first worry about having enough food. They then try to stretch their resources and juggle necessities. As food insecurity becomes more severe, adults typically decrease the quality and variety of food they provide to household members. They then typically eat less often and eat smaller amounts of food, and eventually provide food less often and in smaller amounts, to children in the household. The 18 questions refer to the previous 12 months and include a qualifying phrase reminding individuals to report only those occurrences that resulted from inadequate financial resources. The following are three examples of questions included in the set of indicators: [light end of the scale] “We worried whether our food would run out before we got money to buy more.” Was that often, sometimes or never true for you in the last 12 months? [middle of the scale] “In the last 12 months did you or other adults in the household ever cut the size of your meals or skip meals because there wasn’t enough money for food?” [severe end of the scale] “In the last 12 months did you or other adults in the household ever not eat for a whole day because there wasn’t enough money for food?” (Nord et al., 1999).

The U.S. Census Bureau, as a Supplement to the Current Population Survey (CPS) of April 1995, fielded this set of indicators. The CPS is a representative national survey of approximately 50,000 households conducted monthly by the U.S. Census Bureau. Between 1995-1998 modifications were made to the questionnaire to reduce respondent burden and improve quality; however, the content of the “core module” remained constant. The Food
Security Supplement has been repeated annually since 1995, and USDA plans to administer the Supplement on a regular annual basis alternating between September and April (Andrews et al., 2000).

Data collected in the Food Security Supplements to the Current Population Survey (CPS) for years 1995-1999, indicate that 10.1% (31 million) Americans experienced food insecurity in 1999, and 3% (7.7 million) of these individuals experienced hunger due to resource constraints. Of the 31 million Americans who were food-insecure, 12 million (39%) of them were children. Of the 7.7 million individuals who experienced hunger, 5 million were adults, and 2.7 million were children. Although the number of food-insecure households fell by 12% between 1995 and 1999, households with incomes between 50% and 130% of the federal poverty level showed a higher rate of food insecurity in 1999 than in 1995 (Andrews et al., 2000). Thus, although the population in the U.S. in general experienced a decrease in food insecurity between 1995-1999, poor households (those between 50% and 130% of the federal poverty level) experienced an increase in food insecurity.

The Food Security Supplements to the CPS indicate that children are the most vulnerable population in the U.S. to experience food insecurity and hunger. Overall, households with children experienced food insecurity twice as often as households without children (14.8% versus 7.4%). Among households with children, married-couple families showed a lower food insecurity rate (9.6%), as compared to households headed by single mothers (29.7%). Low-income households with children were more likely to experience food insecurity than were low-income households without children (40.3% versus 26.1%),
respectively). Forty-two percent of children in low-income households lived in food-insecure households.

The Community Childhood Hunger Identification Project (CCHIP) also was developed to measure the extent of hunger in communities. CCHIP conducted a series of studies in twenty-one communities throughout the U.S. in 1996. CCHIP identified families and children as “hungry,” “at risk for hunger,” or “not hungry” based on the responses of parents to eight standardized questions about child and family experiences of food insecurity due to constrained resources. A recent summary report from CCHIP revealed that an estimated 8% of children under the age of twelve in the U.S. are hungry, and an additional 21% of children are at-risk for hunger. Among poor children, more than two-thirds have had at least one experience of food insecurity or hunger in the past year. CCHIP data also revealed that children who are classified as hungry are more likely to have mood and attention problems, and are more likely to be absent from school than children who are not classified as hungry (Wehler, 1996).

Andrews et al. (2000) found that the food insecurity rate varied substantially among households of different races. African American households had the highest food insecurity rate (21.2%), followed by Hispanic households (20.8%), and Caucasian households (7%). Food insecurity was more prevalent for households located in central cities (13.8%) and non-metro areas (10.1%), than for households in suburbs and other metropolitan areas around central cities (7.7%). The food insecurity rate was highest in the South (11.1%) and West (11.8%) regions of the country, and lowest in the Midwest (8.3%) and Northeast (8.3%) regions of the country.
In an earlier study that used data from the CPS Food Security Supplements of September 1996, April 1997, and August 1998, Nord et al. (1999) found that 7% of Iowa households were food-insecure between 1996-1998, as compared to the national average (9.7%). Two and one-half percent of Iowa households during this time period were food-insecure with hunger, as compared to the national average (3.5%). Iowa’s poverty rate during the time period, 1995-1997, was a little more than 10%, as compared to the national average, 13.6%.

In July 1997, the Iowa WIC Program conducted a survey of WIC participants to identify the extent of food security among WIC participants prior to the implementation of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA). PRWORA specified that legal immigrants would stop receiving food stamp benefits after September 1997, and that families receiving welfare benefits would lose their benefits if they failed to meet the work requirements of PRWORA. However, women, infants, and children can participate in WIC regardless of their immigrant status or work considerations.

Because many WIC families rely on Family Investment Program (FIP) and food stamp benefits, the Iowa WIC Program wanted to use the results of this survey as baseline data and plan to conduct a follow-up survey in 2001. The 1997 survey included 10 Radimer/Cornell hunger and food security items as used by Kendall and Olson (1996), as well as demographic and program participation information. Ten percent of individuals participating in the Iowa WIC program during June 1997, were selected to participate in the study (n=6,613). During July 1997, the survey was distributed to the selected individuals at WIC clinics, and mailed to individuals who were selected to participate, but who did not
attend a WIC clinic in July. Fifty-one percent (n=3,383) of the selected individuals returned the surveys.

If an individual responded positively ("sometimes true" or "often true") to any of the ten questions, she was classified as food-insecure. Food-insecure individuals were classified at one of the following levels: household level, individual level, and child level. Forty-eight percent of the individuals responded negatively to all ten items, and therefore were not classified as food-insecure. Of the 52% of individuals who were classified as food-insecure, 30% were classified as food-insecure at the household level, 17% were classified as food-insecure at the individual level, and 5.5% were classified as food-insecure at the child level.

Results revealed that families who had more children participating in WIC reported being more food-secure than households who had fewer children participating in WIC. Families who had children over five years of age were more likely to have concerns at the child level than families who did not have children over five years of age. Seventy-eight percent of the individuals indicated that someone in the household was employed. Thus, despite participation in food assistance programs and employment, more than half of the individuals surveyed reported being food-insecure (Iowa Department of Public Health, Bureau of Nutrition & WIC, 1997). Lewit and Kerrebrock (1997) also found that even participation in federal food assistance programs did not always prevent hunger. They found that 20% of families with children who participated in the Food Stamp Program reported that their children sometimes went hungry.

In the U.S. in 1999, food insecurity and hunger were more prevalent among female single parent households with children (29.7%) than among married-couple households with children (9.6%). Low-income households with children (40.3%) were more vulnerable to
food insecurity than were low-income households without children (26.1%). Low-income female single parent households with children (44.3%) were food-insecure, as compared to low-income married-couple households with children (36.5%) (Andrews et al., 2000).

**Additional determinants of food security.** McGrath Morris et al. (1992) and Olson et al. (1997) conducted studies to assess contributing factors of food security. McGrath Morris et al. (1992) studied the determinants of food security in rural America. They examined the following: (1) the rural/urban supermarket availability; (2) food item availability; and (3) the actual costs of the USDA Thrifty Food Plan (TFP) marketbasket relative to food stamp allotments in persistently poor rural America. To examine supermarket density [the number of supermarkets per square mile], they reviewed marketing and government data. Food availability and TFP costs were surveyed using a three-stage stratified random sample of continuously poor rural counties. The stratified sample design was used to capture the wide range of differences in the number of supermarkets and small to medium sized stores among poor rural counties.

In June and July 1989, two surveyors traveled to the identified 33 poor counties in 12 states throughout the U.S. to conduct surveys in 51 supermarkets and 82 small to medium sized grocery stores. The surveyors priced a TFP marketbasket of 77 nutritious, low-cost foods in 31 categories at each store, and completed an observation form indicating the number of different fresh fruits, vegetables and meat in stock, as well as their quality. The surveyors used a questionnaire to interview store managers about their food sources, food pricing, credit policies, customers, and business trends.
Findings revealed that rural poor households have fewer store choices and travel greater distances to supermarkets than urban households do. Urban America has eight times as many supermarkets per county and ten times as many supermarkets per square mile than rural America. USDA valued the weekly cost of the TFP for a household of four at $75 in 1989. The average weekly cost of the TFP in small- to medium-sized grocery stores surveyed was $102 in 1989, 36% more than the maximum food stamp benefit for such households ($75). In supermarkets the weekly TFP cost was $81.8% higher than the maximum weekly food stamp benefit. Supermarkets surveyed had a wide range of fresh fruits, vegetables, and meats available, as compared to small to medium sized grocery stores. Twenty-three percent of the small to medium sized grocery stores did not stock any fresh vegetables. 33% did not stock any fresh fruits, and 30% did not stock any fresh meat. Not only did the small to medium sized grocery stores stock fewer fresh foods than the supermarkets, but the fresh foods they did stock were often of lower quality. Limited access to more competitively-priced, high-volume supermarkets resulted in greater dependency upon small- to medium-sized grocery stores. This reliance on the smaller stores reduced rural Americans’ already limited purchasing power, and restricted their access to fresh foods containing the nutrients often lacking in their diets (i.e., vitamins A and C, iron).

Olson et al. (1997) drew upon the work of Campbell (1991) and others to: (1) identify the social, demographic, and economic traits of households that contribute to food insecurity; (2) identify the food acquisition characteristics of households that contribute to food insecurity; and (3) analyze the interrelationships between these two sets of factors, as well as the use of coping strategies by food-insecure households. One hundred and ninety-three women living in a rural county in upstate New York were selected from a stratified sample to
participate in two face-to-face interviews during the time period January – July 1993. Selection criteria included women who were between the ages of 20 and 40 years, who had less than 16 years of education, and who had children living at home. During the first interview, a questionnaire was administered and an inventory of household food supplies was conducted. The questionnaire obtained information on socioeconomic and demographic traits, methods of obtaining food, food assistance program participation, household expenditures, and the Radimer/Cornell hunger and food insecurity items. A second interview was conducted three weeks later in which the household food inventory was repeated.

Overall, findings from the Olson et al. (1997) study indicated that the following factors contributed to food insecurity in the rural county where the interviews were conducted: lack of savings, low educational level, low income, unexpected expenses, having to add $50 or more to food stamps to feed the household, and lower levels of food expenditures. Olson et al. (1997) also found that food-insecure households were more likely than food-secure households to receive food stamps; however, their annual dollar expenditures for food were less than those of food-secure households. Thus, even though some households received food stamps, they remained food-insecure. Findings also revealed that food-insecure households made significantly more frequent use of the following strategies than food-secure households to acquire food at low cost: belonging to a food buying club, vegetable gardening, hunting and fishing, and receiving eggs, milk, and meat from friends or relatives free or as in-kind pay for agricultural work. In addition, food-insecure households were also significantly more likely to have used surplus or commodity foods than food-secure households. Women in single-parent households, or in households with more people, were more likely to be food-insecure than households with married
couples, or households with fewer people. Women with more years of education had significantly larger food inventories than women with fewer years of education. Women who spent more on food, had vegetable gardens, or received free milk, eggs, or meat, had larger household food inventories than those without these traits (Olson et al., 1997).

**Welfare reform policy and food security.** Welfare reform policy over the last twenty-five years has shifted from focusing on income security to focusing on work and self-sufficiency (Olson & Pavetti, 1996). This shift has affected the ability of some low-income families to meet their food and nutrition needs. Movement into the workforce and obtaining low-wage jobs has resulted in some families having access to fewer resources (e.g., food stamps) to help them feed their family, than they did before they were employed, as well as less time for food preparation. In their study of 379 unskilled single-parent mothers, Edin and Lein (1997) found that 24% of wage-reliant mothers (n=165) had experienced a food shortage, and 8% had gone hungry. Many of the mothers reported that their worst food and hunger problems occurred when they first began to work. Earning income usually resulted in substantial reductions in their food stamp benefits.

In 1967, the Work Incentive Program incorporated the concept that single mothers who did not have responsibility for caring for preschool-age children should be expected to work. The Family Support Act of 1988 (FSA) required states to have a larger proportion of the AFDC caseload in employment or education and training activities through the Job Opportunities and Basic Skills (JOBS) training program (Olson & Pavetti, 1996). The most recent welfare reform legislation, the Personal Responsibility and Work Opportunity
Reconciliation Act of 1996 (PRWORA) ended federal entitlement to welfare services. Individuals are now required to work in exchange for time-limited assistance.

As a result of the stringent work requirements of PRWORA, some individuals seek and maintain employment on their own. Others are ready to work but are unable to find employment to match their skill level. These individuals may need additional training, education, or work experience to compete in the labor market. However, some individuals need a large amount of assistance to successfully make the transition from welfare to work. Families receiving welfare, like other families, face circumstances which make employment difficult. Access to and the costs of transportation and childcare are barriers that prevent some welfare recipients from working. In addition, personal (e.g., learning disabilities) and family challenges (e.g., health issues) may affect the transition from welfare to work (Olson & Pavetti, 1996).

PRWORA strengthens previous child support provisions and requires all states to have a process in place for voluntary paternity acknowledgement and to establish paternity for 90% of all births to unmarried women. These policies provide opportunity to increase families' economic resources, as well as paternal involvement in children's lives (Zaslow et al., 1998). Increased economic resources can help families become more food secure. Thus, PRWORA has put in place requirements that may help some families become more food secure, and some families become more food insecure.

Opportunities for reducing food insecurity. In 1997, the Domestic Subgroup of the U.S. Interagency Working Group on Food Security was formed to identify issues and possible actions for the United States to take to reduce food insecurity and hunger. Actions
identified involved government, private businesses and organizations, and consumers at all levels (local, state, federal) working together.

Kramer-LeBlanc and McMurry (1998) outlined the seven issues that were identified and suggested actions that were proposed by the subgroup. The first issue identified was economic security. To work towards economic security actions need to be taken to: assist low-income individuals in finding and keeping jobs, as well as create and expand jobs; build a solid foundation for learning and enhance access to education; and conduct research to improve household and community economic security, especially among vulnerable groups (e.g., children, the poor). The group did not specifically identify child support recovery as an action step to work towards economic security. However, income from child support plays a valuable role in helping single parents provide for their families, as well as move them out of poverty.

Food access was the second issue identified. To improve access to food, it is vital that an adequate food security safety net is put in place. In addition, state and local groups need to work together to address community food system needs, food insecurity and hunger. Communities also need to look at opportunities for food gleaning. The third issue identified was awareness of hunger and food insecurity. Efforts need to take place to promote awareness of domestic food insecurity and hunger, as well as the link between domestic and international agriculture, hunger, food security, and poverty.

Nutrition education and food security education were identified as the fourth priority issue. Government and private entities need to cooperate to promote sound nutritional guidance, strengthen emphasis on nutrition and resource management in food assistance
programs, promote the benefits of breastfeeding, and increase awareness of the role of agriculture and gardening in the food system.

The fifth issue identified was sustainable food systems and environment. This issue focused on ensuring the ability of farmers to continue producing food indefinitely and to contribute to sustainable food security. Actions to address this issue included developing flexible, environmentally sensitive agriculture policies, farmland protection policies, and policies to mitigate global warming and climate change. Actions also included development of local food systems, and a national program to build sustainable fisheries and sustain health costs. Food and water safety was the sixth issue identified. Actions associated with this issue include implementing a “food safety from farm to table” initiative, the Food Quality Protection Act of 1996, the Safe Drinking Water Act Amendments of 1996, and promoting integrated pest management and food safety education.

The final, and seventh issue identified, was monitoring food security and the nutritional status of Americans. To do this, the subcommittee suggested that measures of food security need to be refined, changes in nutritional status and food security in the era of welfare to work need to be monitored, information provided to the public and policy makers needs to be improved, and research to improve the monitoring of food security and nutritional status needs to continue.

Given the food insecurity, hunger, and poverty data described previously, there appears to be strong link between ethnicity, race, geographic location, family structure, and life cycle issues, and the likelihood of food insecurity, hunger and poverty. Thus, it appears evident that food insecurity, hunger and poverty are interrelated, and are risk factors for malnutrition. Malnutrition has many detrimental effects including growth stunting which can
lead to developmental delays, increased incidence of infectious diseases (Korenman et al., 1995), and potentially mortality.

**Effects of malnutrition during pregnancy and early childhood**

Research reveals that malnutrition during pregnancy, as well as during any period of childhood (short term and long term) can result in negative effects on growth and development in children (Kleinman et al., 1998; Murphy et al., 1998a), as well as their productivity as adults. Adequate nutrition, coupled with a positive environment, helps children reach their full potential.

Undernourished women with inadequate weight gain in pregnancy are more likely to give birth to low birth weight (LBW) babies, who are at greater risk for long-term disabilities (e.g., cerebral palsy, autism, mental retardation, vision and hearing impairments), developmental delays, morbidity, and mortality than normal birth weight babies (USDHHS-OPHS, 1998). Poor women are at greater risk for undernutrition and for delivering LBW babies than are women who are not poor. Poor women are also less likely to receive early prenatal care (e.g., during the first trimester) than women who are not poor (Center on Hunger, Poverty & Nutrition Policy, 1998; Federman et al., 1996).

Several of the risk factors for LBW and infant mortality disproportionately affect racial and ethnic minorities, and young mothers. In 1995, the overall LBW rate for the U.S. was 7.3. Rates of LBW Caucasian infants have increased from 5.7% of births in 1990 to 6.2% in 1995. Although the LBW rate of African Americans has declined since 1990, it remains over twice the rate of Caucasian infants in 1995 (13%). African Americans are also more likely to have other risk factors associated with LBW such as young maternal age, less
education, high birth order, and inadequate prenatal care. Other racial and ethnic minorities experienced a LBW rate similar to, or below that of Caucasian infants in 1995. Native Americans had a LBW in 1995 of 5.6. Asians had a rate of 6.9, and Hispanics had a rate of 6.3. Babies born to mothers under the age of 15 years experienced the highest LBW rate (13.5), as compared to babies born to mothers age 15-19 years (9.3), mothers age 20-24 (7.3), mothers age 25-29 (6.4), mothers 30-34 (6.7), and mothers age 35 and older (8.3) (USDHHS-OPHS. 1998).

Infant mortality, an important indicator of a nation’s health, and a worldwide measure of health status and social well being, is reported as the number of deaths to infants under one year of age for every 1,000 live births. As of 1993, the U.S. infant mortality rate ranked 25th among industrialized nations. Several racial and ethnic minority groups (e.g., African Americans, Native Americans, Native Hawaiians, Puerto Ricans) experience higher rates of infant mortality than do Caucasians. The overall U.S. infant mortality rate was 7.6 per 1,000 live births in 1995. In 1995, African Americans experienced an infant mortality rate (14.6) over twice that of Caucasians (6.3). Native Americans experienced an infant mortality rate of 9.0. Asians experienced a rate of 5.3, and Hispanics experienced a rate of 6.3 in 1995 (USDHHS-OPHS. 1998). In Iowa, the overall infant mortality rate in 1998 was 6.5 (Goudy et al., 1999).

Overall in 1995, 81.3% of all pregnant women in the U.S. began prenatal care in the first trimester of pregnancy. Early prenatal care can help to prevent poor birth outcomes through identifying women who are at high risk and by providing counseling to mitigate risks such as use of tobacco, alcohol, and other drugs. In 1995, the percentages for specific ethnic and racial groups receiving early prenatal care are as follows: Caucasians (83.6%); Asians
Pregnant teens are less likely to receive early prenatal care than pregnant women. In 1995, the percentages of teens and women in various age groups who received early prenatal care are as follows: under 15 years (46.3%); 15-19 years (64.5%); 20-24 years (74.1%); 25-29 years (83.5%); 30-34 years (86.3%); and 35 years and over (84.5%) (USDHHS-OPHS, 1998).

Poor children and children of specific ethnic and racial minorities are more likely to experience malnutrition and negative health outcomes than are children who are not poor, or who are Caucasian. Lack of access to adequate health care, social resources, and inadequate nutrition, as well as genetic pre-disposition are some of the reasons that help to explain these disparities. When children do not receive adequate nourishment not only is their physical, cognitive, and social well being affected, but the well being of society as a whole is affected (Center on Hunger, Poverty & Nutrition Policy, 1998).

Major nutritional concerns of low-income families that can result in malnutrition include diets that are low in energy, as well as in the following nutrients: protein, Vitamins A and C, calcium, iron, folic acid, zinc, vitamin B6 and magnesium. In contrast to these nutrients that are commonly lacking in the diets of low-income children, nutrients that are commonly higher than recommended are fat, sugar and sodium (Kramer-LeBlanc et al, 1999). Overconsumption of fat, sugar and sodium can contribute to the four leading causes of death in adulthood: coronary heart disease, some cancers, diabetes (Type II), and stroke.

Miller and Korenman (1994) found that incidence of growth stunting (having low height for age) and wasting (having low weight for height) were more prevalent among children who lived in long-term poverty (i.e., lived in poverty three years in a row), as
compared to children who lived in short-term poverty (i.e., lived in poverty less than three years in a row). Growth stunting, an indicator of overall health and development in infants and children, and wasting are associated with inadequate nutrition and health care, as well as the susceptibility to infectious and chronic diseases. Growth stunting also is associated with inadequate maternal weight gain during pregnancy. Growth stunting can negatively affect children's development, especially cognitive development, and wasting can lead to developmental impairments as well, and potentially death.

Inadequate nourishment causes a child's body to conserve energy first by limiting social activity and cognitive development (e.g., a child becomes apathetic, and does not want to play and learn), and then by limiting the energy needed for growth. Prolonged or repeated episodes of inadequate nutrition during childhood can result in growth stunting (Lewitt & Kerrebrock, 1997), as well as lower scores on tests of cognitive development (Korenman et al., 1995). Brown and Pollitt (1996) revealed that improvement in a child's diet after two years of age can restore near-normal mental development in the child, and that inadequate nutrition after two years of age can be just as detrimental for the child as it was before he was two years of age.

Growth stunting is defined as height below the fifth percentile on a referenced height-for-age growth curve (USDDH & USDA, 1986). Thus, 5% of healthy children are expected to be below the 5th percentile of height for age due to normal biological variation. A prevalence of more than 5% below the 5th percentile suggests that full growth potential is not being reached. Overall, eight percent of low-income children in the U.S. experience growth stunting (3% more than what is expected in a healthy population). However, while progress has been made to reduce growth stunting among low-income Hispanic and Asian children
less than one year of age in 1995 to 7% and 9%, respectively. Low-income African American children less than one year of age experience growth stunting at a rate of 15%. Low-income Caucasian children less than one year of age experienced a growth stunting rate of 10% in 1995, while Native American children of the same age group experienced a growth stunting rate of 9% (USDHHS-OPHS. 1998).

**Detrimental effects of hunger.** Murphy et al. (1998a) supported findings from the 1996 CCHIP study that indicated that hunger is correlated with psychosocial problems in children. Murphy et al. (1992a) used data from a collaborative study of a free school breakfast program in Philadelphia and Baltimore Public Schools. Low-income students (a range of children in kindergarten through 8th grade) and their parents completed a battery of psychosocial, academic and food security/hunger measures before the start of a free school breakfast program in their school district, and then again four months later after the program was implemented. Two hundred and four parents and children completed the initial surveys. To save time and money, the study design called for half of the initial respondents to complete a second set of surveys. Ninety-six parents and children were available to participate in the second set of surveys. In the Baltimore subsample teachers were asked to complete a standardized questionnaire about the children’s psychosocial functioning. Results indicated that approximately one-third of the low-income children had significant problems in psychosocial functioning. Children who were coded as “hungry” were more likely to have behavior and attention problems, and be absent or tardy from school than children who were not coded as “hungry.”
Kleinman et al. (1998) studied 328 parents and children between the ages of six and twelve years living in Pittsburgh and the surrounding Allegheny County. In this study, parents were asked to complete a Pediatric Symptom Checklist (a brief parent-report questionnaire that assesses children's emotional and behavioral symptoms), and to respond to eight standard food insecurity questions asked in the CCHIP survey. Findings revealed that children who were identified as "hungry" were significantly more likely to have psychosocial dysfunctions (e.g., fighting, blaming, stealing, aggression, attention problems, irritability, depression, hyperactivity) than children identified as "at risk for hunger" or "not hungry." Findings also revealed that aggression and anxiety had the strongest degree of association with experiences of hunger, as compared to the other psychosocial dysfunctions.

**Links between poverty, nutrition, and health.** Poor nutritional status is a major factor that contributes to preventable diseases, premature death, and to economic costs to the nation. Preventable diseases and premature death due to inadequate nutrition are directly related to poverty (USDHHS-OPHS, 1998). Mortality rates of poor people are two times as great as the mortality rates of people who are not poor (USDHHS, 1990). Income and education related differences in knowledge and time to pursue healthy practices, adequate housing, nutritious foods, safe communities to reside in, and healthy surroundings to work in influences the health and well being of people in various socioeconomic situations. The stress and strain of poverty imposes psychological and emotional costs to families that are reflected in poorer health outcomes (USDHHS-OPHS, 1998).

Disparities in health between poor people and people with higher incomes are evident in all dimensions of health (USDHHS-OPHS, 1998). The risk of heart disease is 25% higher
for persons with low income than for the overall population, and the incidence of cancer and occurrence of hypertension and obesity vary inversely with socioeconomic status (Kramer-LeBlanc & McMurry, 1998). In the late 1980’s, poor children were three times more likely to be iron deficient, as compared to children who were not poor. Iron deficiency can lead to cognitive impairment in infancy and is also a strong predictor of cognitive and behavioral problems later in life. Studies have shown that iron-deficiency anemia at a critical period of brain growth may produce irreversible abnormalities in a child’s development. Iron-deficiency anemia has been associated with short-term memory loss and poor exercise performance (Oski, 1993; Sherman, 1997).

Racial and ethnic minorities are at greater risk of experiencing poorer health status than Caucasian individuals as a result of less income, lower educational levels, less access to health care, dietary habits, and in some cases genetic predispositions to certain diseases. Schaefer (1999) stated that Hispanic families who have recently moved to the U.S. often do not have health insurance. The lack of health insurance is due to low wage work or part-time employment that does not provide health insurance, as well as being ineligible to qualify for health insurance through the State Children’s Health Insurance Program (SCHIP). In Iowa, SCHIP is referred to as Healthy and Well Kids in Iowa (HAWK-I). Fletcher et al. (1999) found that many of the 35 low-income families in Iowa they interviewed did not have access to adequate health insurance due to low wage jobs or jobs that did not provide health insurance. Lack of health insurance places families at risk of serious health issues.

Stem et al. (1995) and Knapp et al. (1988) found that Hispanics consume more meat, and use less lowfat and nonfat milk as compared to Caucasians. Frequent and large consumption of saturated fat is associated with cardiovascular disease, obesity, and diabetes.
In addition, Hispanic parents are more likely to purchase foods high in sugar in response to their children’s requests, as compared to Caucasian parents (Dewey et al., 1984). Foods high in sugar promote dental caries and potentially obesity. Nader et al. (1995) in their study of 351 Mexican American and Caucasian children between the ages of four and seven found that Mexican American children had greater skin fold measurements indicating increased subcutaneous fat stores than Caucasian children. In addition, Mexican American children typically consumed more calories from fat as a result of foods selected, as well as food preparation practices, as compared to Caucasian children.

A recently released report, The Healthy Eating Index (HEI) 1994-1996, reveals that racial and ethnic minorities, as well as individuals with lower educational levels have poorer dietary habits leading to poorer health outcomes. The USDA HEI was developed to assess the overall quality of an individual’s diet. The overall quality is defined as the degree of adherence to USDA nutritional guidance (e.g., Food Guide Pyramid, Dietary Guidelines for Americans). The HEI consists of ten equally weighted components that mirror how well individual diets conform to both the Dietary Guidelines for Americans and the Food Guide Pyramid recommendations. In the recent HEI report, poor people, African Americans, and Hispanics have lower quality diets than higher income and other race groups (Lino et al., 1999). The report indicated that as American’s incomes and educational levels increased, so did their HEI scores. Thus, healthier dietary habits were positively associated with higher levels of income and educational attainment. One reason for this may be that individuals with higher levels of education may have more exposure to health related information that assists them in adopting health promoting behaviors than individuals with lower levels of education (USDHHS-OPHS, 1998).
The HEI report documented that individuals with less nutrition knowledge and awareness of the diet-disease relationship reported lower HEI scores than those with greater knowledge and awareness. Morton and Guthrie (1997) and Bradbard et al. (1997) found that poor people and people with lower educational levels tend to be less aware of diet-disease relationships than people who are not poor, or who have higher educational levels. Thus, lack of knowledge and lack of awareness of diet-disease relationships are two factors that have been shown to be related to why poor people have poorer dietary practices than people who are not poor.

**Diet and the leading causes of death**

Even though there are 10 million people in the U.S. who are food-insecure, the major problem in the U.S. regarding nutrition is overweight and obesity. As diseases of nutritional deficiencies in the U.S. have diminished (e.g., rickets, scurvy), diseases that are related to dietary excesses and imbalances (overnutrition) have developed. Four of the diseases, which account for half of all the deaths in the U.S. each year, include coronary heart disease, some cancers, diabetes (Type II), and stroke. It is estimated that healthier diets might prevent $71 billion per year in medical costs, lost productivity, and the value of premature deaths associated with these diseases (Frazao, 1999).

Consumption of saturated fats (a modifiable risk factor) can increase blood cholesterol levels in some people (Frazao, 1999). African American men, who traditionally eat higher amounts of saturated fat than men in other race groups, suffer from coronary heart disease two times the rate of Caucasian men (USDHHS-OPHS, 1998). Boushey et al. (1995) conducted a meta-analysis of 27 studies relating homocysteine (an amino acid) to
arteriosclerotic vascular disease (e.g., coronary artery disease, peripheral vascular disease). and folic acid effects on tHcy (the sum of homocysteine and its various forms). Results revealed that increased intake of antioxidants and folic acid (a vitamin found in vegetables, fruits, and dried beans) can reduce coronary heart disease.

Research suggests that one-third of all deaths due to cancer are related to diet (USDHHS-OPHS, 1998). Block et al. (1992) reviewed 200 studies that examined the relationship between fruit and vegetable intake and cancers of the lung, breast, colon, cervix, esophagus, oral cavity, stomach, bladder, pancreas, and ovary. They found a statistically significant protective effect of fruits and vegetable consumption in 128 of 156 dietary studies. They also found that people with low fruit and vegetable intake experienced about twice the risk of cancer as compared to people with high fruit and vegetable intake.

*Healthy People* is a national prevention initiative that identifies opportunities to improve the health of Americans. Since 1979, the United States Department of Health and Human Services has used health promotion and disease prevention objectives to improve the health of Americans. Every ten years a revised and new set of health promotion and disease prevention objectives are identified and guide *Healthy people*. In *Healthy people 2010*, obesity is defined as a body mass index (BMI) equal to or greater than 30.0. A BMI of 30 in most cases indicates that an individual is approximately 30 pounds overweight. Data from the time period 1988-1994 reveals that one out of five Americans (22%) were obese. An objective of Healthy People 2010 is to reduce the prevalence of obesity to less than 15% for people ages 20 years and older (USDHHS-OPHS, 1998).

Obesity and lack of physical activity account for more than 300,000 premature deaths each year in the U.S. The Centers for Disease Control and Prevention (CDC) recently
announced that the prevalence of obesity in the U.S. presents a major health threat to millions of Americans. The CDC, in collaboration with state health agencies, collects self-reported data pertaining to Americans' health through the Behavioral Risk Factor Surveillance System (BRFSS), a standardized telephone survey. Nearly 150,000 people in all states across the nation completed the BRFSS survey in 1999. Between 1991 and 1999, obesity among adults increased 60% nationally. Subgroups who had the largest increases in obesity between 1998-1999 were individuals 30-39 years of age (10% increase) and individuals with some college education (10%). The subgroup of individuals with a high school education increased 6% between 1998–1999. Prevalence of diabetes in the 1990’s increased 70% for the subgroup of individuals 30-39 years of age. Among racial/ethnic populations, Caucasians experienced the largest increase in prevalence of obesity (7%) between 1998–1999 (CDC. 2000a).

Obesity is a risk factor for diabetes. The only intervention known to be effective in Type II diabetes is maintenance of desirable body weight and exercise. Causes of obesity and overweight are multifaceted, reflecting inherited, metabolic, behavioral, environmental, cultural and socioeconomic conditions. Overweight and obesity are particularly prevalent in minority populations, especially among minority females. Poverty is associated with overweight in females (USDHHS-OPHS, 1998). Approximately 800,000 new cases of diabetes are diagnosed annually. Diabetes is the seventh leading cause of death in the U.S., and a primary contributor to heart disease, stroke, blindness, high blood pressure, kidney disease, and amputations. Diabetes among adults increased rapidly during the 1990’s among all U.S. geographical regions, demographic groups, and nearly all states in the U.S. Dramatic increases in diabetes were noted among Hispanics (38%), Caucasians (29%), and African Americans (26%). Given the rapid increase in the prevalence of obesity in the U.S., it is
projected that there will be additional major increases in diabetes in future years (CDC.
2000b).

The incidence of diabetes is greater among Native Americans, Hispanics, and African
Americans than among Caucasians (USDHHS-OPHS. 1998). Diets high in saturated fats,
low prevalence of physical activity, limited access to health information (Nader et al., 1995),
and genetic predisposition especially among Native Americans and Hispanics are factors
leading to this disparity. Native Americans suffer from diabetes three times the national
average rate, while African Americans suffer from diabetes 70% more than Caucasians, and
Hispanics suffer from diabetes two times the rate of Caucasians (USDHHS-OPHS. 1998).
Both African Americans and Hispanics tend to consume diets higher in fat (Nader et al.,
1995; Schwenk. 1997) than Caucasians. African American children in particular tend to
consume diets higher in total fat, saturated fat, cholesterol and sodium than Caucasian and
Hispanic children (Schwenk. 1997).

Incidences of stroke have declined since 1950 due partially to early detection and
treatment of hypertension. Hypertension is also a risk factor for coronary heart disease and
renal disease (USDHHS. 1993a). Overweight, lack of physical activity, and high sodium and
alcohol intakes are associated with hypertension (USDHHS. 1993b). Appel et al. (1997)
conducted a clinical trial involving 459 adults to assess the effects of dietary intake on blood
pressure. For three weeks the respondents were fed a “control” diet low in fruits, vegetables,
and dairy products, and with a fat content common in the average American diet.
Respondents were then randomly assigned for eight weeks to receive either a “control” diet-
a diet rich in fruits and vegetables, or a “combination” diet- a diet rich in fruits and
vegetables. and low-fat dairy products with reduced saturated and total fat. Sodium
consumption and body fat were maintained at constant levels. Results revealed that the "combination" diet reduced systolic and diastolic blood pressure 5.5 and 3.0 mm Hg more, respectively, than the "control" diet. However, the "control" diet also reduced blood pressure, but to a lesser extent. Among the participants with hypertension, the "combination" diet reduced systolic and diastolic blood pressure by 11.4 and 5.5 mm Hg more, respectively, than the "control" diet. Thus, Appel et al. (1997) found that a diet rich in fruits and vegetables, and low-fat dairy foods with reduced saturated and total fat can dramatically lower blood pressure as effectively as some medications.

**Environmental issues affecting children's cognitive development and health**

Inadequate nutrition alone does not necessarily cause cognitive impairment. However, malnutrition coupled with poverty is more likely to result in cognitive delays. Cognitive delays associated with malnutrition result from complex interactions between a negative environment and undernutrition (Center on Hunger, Poverty and Nutrition Policy, 1998).

Poverty and homelessness exacerbate the biological risks (e.g., pregnancy, infancy, adolescence) for iron deficiency. An analysis of the second National Health and Nutrition Examination Survey (NHANES II) data indicated that the prevalence of iron deficiency anemia among low-income children was almost twice that of other children (Guthrie & Schwenk, 1996). In addition, Rose et al. (1995) found low-income preschool-age children had lower iron intakes than preschool-age children who are not low-income.

Iron deficiency is the most prevalent nutrient deficiency in the U.S. (Guthrie & Schwenk, 1996). A person's need for iron is dependent upon his/her age and physiological
state. During periods of rapid growth, such as during pregnancy, infancy, and adolescence, the need for iron is high. There also is a high need for iron during a woman's childbearing years. During these times the body's reserves of iron cannot meet its physiological needs. Thus, iron fortified foods and supplements are often recommended.

Iron deficiency can lead to detrimental effects on the health and development of infants and children. Iron deficiency during pregnancy is associated with limited fetal growth, premature infants, and more frequent neonatal death. Iron deficiency in infants and children can impair cognitive development and function (e.g., negatively influence memory and attention span) leading to long term consequences (Guthrie & Schwenk, 1996; Center on Hunger, Poverty and Nutrition Policy, 1998).

Public policy and education efforts have been developed to decrease iron deficiency among vulnerable populations. Some of these efforts are described below. The Dietary Guidelines for Americans includes information on the need for iron, and good food sources for iron. The "Nutrition Facts" on labels of packaged foods require information on iron content. The food supply has been improved by enrichment of grains with iron. One of WIC's major goals is to reduce anemia among low-income populations. WIC food packages contain foods high in iron, and nutrition education provided by WIC specifically focuses on iron. In addition, USDA has mandated that iron-rich foods be included in school meals, as well as in meals served to adults and children through the CACFP and the Nutrition Program for the Elderly (Guthrie & Schwenk, 1996).

Iron deficiency anemia causes lead to be absorbed into the blood system more quickly than when anemia is not present, and can result in lead poisoning. Lead poisoning can lead to learning disabilities, behavioral problems, and growth stunting. At very high levels of lead
poisoning, seizures, coma, and possibly death can occur (CDC-NCEH. 1997; USDHUD. 2000).

Poor children are more likely to be iron deficient than are children who are not poor, and to live in houses that were built before 1978, the year lead-based paint was banned nationwide for consumer use (HUD. 2000). Almost 900,000 children in the U.S. ages 1-5 years have elevated blood lead levels, and more than 20% of African American children living in housing built before 1946 have elevated blood lead levels (CDC-NCEH. 1997). The major sources of lead exposure include deteriorated paint in housing built before 1978, and dust and soil that are contaminated with lead from old paint and from past emissions of leaded gasoline (CDC, 2000). Lead enters the body by breathing or swallowing lead dust, or by eating soil or paint chips with lead in them (HUD. 2000). Children between the ages of one and three years largely learn about their environment through "hand to mouth" activity. Thus, children in this age group who are exposed to lead through paint chips, dust, and soil are more likely to consume lead than are older children (CDC. 2000).

**Family food decisions**

Bradford et al. (1997) used a combination of quantitative and qualitative data to understand further food choices among low-income families. By analyzing data from several national food consumption surveys, and two state surveys, they found that few low-income households use foods that provide a healthful diet and spend less than the Thrifty Food Plan amount. Lower-income women (at or below 130% of the federal poverty level), and those with lower educational levels were less well informed about diet and health relationships than higher-income and higher-educated women. In addition, attitudes toward and awareness
of diet and health relationships were not major factors influencing whether or not a household purchased a lower-cost or higher-cost diet.

Bradbard et al. (1997) conducted focus groups in 28 large cities in the U.S. Findings revealed that food stamp recipients were careful food shoppers and had preferred and economically sound methods of shopping. Frequency of shopping varied among ethnic groups (Caucasians and Hispanics shopped more frequently than African Americans). Employed women shopped more frequently than women who were not employed. Price was a very important factor in food purchasing decisions, and individuals used many strategies to reduce food costs (e.g., coupons, shopped at large chain stores, purchased items in bulk, purchased generic products). In addition, individuals were willing to purchase less expensive food with less favorable texture and flavor to ensure that no one in their household would be hungry.

"On food stamp day the food prices go up" and "It seems like they put out all the sales when nobody ain't got no stamps left" are two quotes from Bradbard et al. (1997) that revealed people’s frustration in trying to stretch their food dollars to provide nutritious foods for their families. Individuals said the best prices are available in the middle of the month, when many people are not able to take advantage of the prices. Even though they were more expensive, convenience foods were purchased because of their ease of preparation and taste appeal to family members, especially among individuals who were employed.

Bradbard et al. (1997) also found family members did not routinely eat together, but ate in different locations of the house or at different times. Most family members were expected to prepare food for themselves at breakfast and lunch. Children’s food preferences were important when making food decisions as indicated by respondents reporting
purchasing more expensive items to please a child. When children liked the food choices they were more likely to express appreciation, satisfaction and caring toward their parents. Married Hispanic individuals reported that their husbands and children dictated their food choices.

Bradbard et al. (1997) also found that ethnic and cultural traditions were strong factors in food selection and meal preparation, especially among Hispanics and African Americans. “When you plan a meal you start with the meat. I never had a meal without meat while I was growing up” expressed the belief that meat was integral to the respondent’s life. Meat was associated with pleasant mealtime memories, affluence, traditions and feeding families the “right” way.

Many participants in the Bradbard et al. (1997) study reported that they were aware of guidelines for healthy eating, but did not know how healthy their own diet was. Participants wanted to try new ways to feed their families healthier meals; however, they believed these changes would be difficult. Even though they believed healthy eating costs more money, they were open to receiving information on how to plan low-cost meals that would appeal to family members, and how to use information on the nutrition labels to make food choices.

Lutz et al. (1995) reported that households with limited financial resources spend less per person for most food categories and consume less than does the general population. Although low-income households spend less on food than other households do, they spend a higher proportion of their total income for food. Thus, low-income families face difficult choices in providing nutritious meals for their families. Using data collected by the Market Research Corporation of America Information Services (MRCA), Dinkins (1997) examined the relationship between primary food preparers who used a strict food budget, and those
who did not, and other measures they used to cut food costs, their nutritional concerns for
their family, and their meal planning considerations and practices. MIRCA conducts a
continual sampling program using a multistage stratified random design to identify
individuals to participate in its National Consumer Panel. Households are selected based on
demographic criteria matched to the U.S. Census. The sample Dinkins used consisted of
individuals completed both the Household Information form (e.g., individual, household, and
geographic traits) and Psychographic Questionnaire (e.g., food selection and preparation
practices). Dinkins found limited household income could constrain the food budget and
influence food choices and meal planning decisions. In addition, decisions about household
budgets could influence the economic well being, as well as the health status of families.
Decisions to constrain the food budget without adequate consideration of its impact on
dietary status may be counter productive resulting in increased costs in short- and long-term
medical costs.

Dinkins (1997) also found that food preparers who followed a strict food budget were
significantly less likely to use four different means to cut food expenditures (e.g., make a
complete list before shopping, stock up when store brands were on sale, comparison shop and
use coupons). Potential explanations for these findings include: strict food budgets may
require consumers to limit their purchases to required items that allow little variation, thus
eliminating the need for a shopping list; stocking up on sale items and comparing prices
among food stores produce immediate costs for the consumer that he/she may not feel is
worth the long-term savings; and coupons, which are normally found in newspapers and
magazines, may not be available to some families. Food preparers who reported using a strict
food budget were significantly more likely than those who reported not using a strict food budget to be concerned whether the meals they served were nutritious. They believed that they made every effort to ensure their family ate nutritious foods, and they prepared each meal to be nutritionally balanced. In addition, most households who follow a strict food budget do so in order to ensure that their income will go farther in covering all their living expenses. Dinkins suggested that additional research is needed to identify which factors influence consumers' use of various cost-saving methods. Focus group interviews may be helpful in identifying food shopping practices and attitudes toward common budgeting recommendations among low-income food preparers.

**Government programs and policies designed to safeguard the nutrition and health of low-income families**

Forty billion dollars are dedicated annually through fourteen government food assistance programs to combat food insecurity and help one out of six Americans (Kramer-LeBlanc & McMurry, 1998). An additional $160 million annually is spent on nutrition education targeting low-income families through the Expanded Food and Nutrition Education Program (EFNEP), the Family Nutrition Program (FNP), and state nutrition education networks (Virginia Cooperative Extension, 1999; USDA-FNS, 2000). These programs provide low-income families with foods, additional means to purchase foods, and nutrition education. Below is an overview of selected food assistance and nutrition education programs, and highlights of their proven successes in nutrition and health.
**Food Stamp Program**

The Food Stamp Program (FSP) is America’s first line of defense against hunger. The FSP helps low-income Americans who are at 130% of the federal poverty level, or below, purchase food to improve their diets. More than half of all food stamp participants are children, and nearly 4 out of 5 participants are children, the elderly and women (Center on Hunger, Poverty and Nutrition Policy, 1998). In 1969, when the FSP began, approximately $2.5 million dollars were spent nationwide on food stamp benefits for families. Thirty years later, in FY 1999, the FSP spent approximately $17.65 billion to provide benefits to approximately 7.7 million U.S. households, and 18.2 million individuals. The average amount of a monthly food stamp benefit in the U.S. in FY 1999 was $72 per person. In Iowa, in FY 1999, approximately 128,790 persons in 54,254 households on a monthly average participated in the FSP. The average monthly benefit per person in Iowa in FY 1999 was $66.89 (USDA-FNS, 2000a).

An experimental Food Stamp Program was created in 1939 to increase the purchasing power of people who were living under conditions of economic hardship. In 1961, the modern Food Stamp Program began and was permanently authorized in 1964. Benefit levels are based on USDA’s Thrifty Food Plan, which contains calculations for the lowest cost of a minimally nutritious diet for a family. Eighty cents is the average benefit per person per meal (Center on Hunger, Poverty & Nutrition Policy, 1998).

The Food Stamp Program is an entitlement program, available only to persons with U.S. residency status. Any household meeting the eligibility requirements is entitled to receive food stamps. In 1971, Congress established uniform standards of eligibility, and by 1974, all states were required to offer food stamps to low-income households in all counties.
Food stamps are a vital source of food for both working and nonworking poor families. Many households who receive food stamps use the program to supplement earnings from jobs that do not pay well. Food stamps also serve as an emergency measure during periods of temporary unemployment (Center on Hunger, Poverty & Nutrition Policy, 1996).

Food stamp benefits are adjusted for a household’s total income, including cash welfare assistance. In their study of low-income female single-parent families, Edin and Lein (1997) found that food stamp benefits were somewhat higher in states where AFDC (currently referred to as TANF) benefits were lower. Based on the 1993 federal poverty guidelines, Edin and Lein (1997) estimated that a full-time single-parent with two children who earned $5 an hour (or $800 a month) would be eligible for $130 a month in food stamps. For each additional dollar per hour that the parent would earn, her food stamp benefits would be reduced by $40 per month. Thus, if she earned $6 an hour, she would be eligible for $90 a month in food stamp benefits, and if she earned $7 an hour she would be eligible for $50 a month in food stamp benefits. However, when she earned $9 an hour, she was no longer eligible for food stamp benefits. Based on these calculations, for every additional dollar earned in a month, food stamp benefits were reduced by twenty-five cents. If a mother had large childcare or rent costs, then she would be eligible for a larger food stamp benefit amount. However, if she had $1,000 or more in assets (not including her home and car), her family was ineligible for food stamp benefits. Automobiles could not exceed $1,500 in value in order to be eligible for food stamp benefits. In order to meet eligibility requirements, many low-income women who owned cars worth $1,500 or more reported that they would ask a family member to hold the title of the car in their name. Women who resided with their mothers to
reduce housing costs reported asking their mothers to sign affidavits stating that their daughter paid rent and kept her expenditures separate.

Analyzing consumption data from the 1989–1991 CSFII (Continuing Survey of Food Individual Intakes) and USDA’s Healthy Eating Index (HEI). Basiotis et al. (1998) reported that the FSP contributed significantly to maintaining and improving the nutritional well-being of low-income households, considering both quantity and quality of diet components. Basiotis et al. (1998) found that the value of food stamps received has a substantial and statistically significant effect on overall diet quality. For each additional food stamp dollar received, the aggregate household HEI score increased by an estimated .22 points. Given that the average weekly food stamp value is $34.22, the aggregate household HEI increased 7.5 points on average. HEI scores range from 0 to 100.

A recently released USDA report reveals that, during the time period 1994-1997, food stamp participation declined nationally from 71% to 62% of those individuals eligible to receive food stamps. Food stamp participation rates fell in every region of the country and in all but five states. In September 1997, the percentage of eligible people who participated in the FSP in Iowa was 65%. The report states that the decline in food stamp participation is due partially from the robust U.S. economy, as well as changes resulting from PRWORA, the 1996 Welfare Reform Law. The food stamp participation rate has decreased three times faster than the poverty rate, thus implying that there may be many people eligible for food stamps who are not receiving them. These individuals may be living with inadequate food and nutrition (Schirm, 2000). Fletcher et al. (1999) reported that participation in the Food Stamp Program declined between 1993-1997 in the seven Iowa communities where they conducted interviews with low-income families, and the use of food pantries has dramatically
increased. Thus, food pantries are helping to fulfill the need for food where food stamps are unavailable or inadequate.

Some individuals who used to qualify for food stamps prior to PRWORA no longer qualify. There are time limits for food stamps for able-bodied adults ages 18-50 years who have no dependents. These individuals are only eligible for food stamps for up to three months within a three-year period over a lifetime. Only a few categories of legally-admitted immigrants are entitled to receive food stamps. In addition, prior to PRWORA, parents and their children (who were also parents) could be counted as two households even though they lived in the same residence. PRWORA requires that parents and their children under the age of 22 (even if the children are parents) be counted as one household (Iowa Department of Human Services, 2000). Thus, the amount of food stamps that individuals are eligible to receive when counted as one household is less than the amount of food stamps that the individuals would have been eligible to receive prior to PRWORA. This change in policy of how households are counted, as well as changes in policy regarding food stamp benefit eligibility for legal immigrants and able-bodied adults without dependents, raises concerns about the potential, negative effects on diet quality for these groups (Basiotis et al., 1998).

The Special Supplemental Food Program for Women, Infants, and Children (WIC)

The WIC Program is targeted to pregnant and post-partum women (including breastfeeding women), infants, and children up to five years of age who are at or below 185% of the federal poverty level. WIC is not an entitlement program. Each state receives an annual appropriation from Congress to deliver WIC services to families. Given that there are more families who are eligible to receive WIC than there are funds to deliver services, all
families who are eligible to participate in WIC do not receive services. Congress authorized the WIC Program and envisioned it as a preventative program whose goal was to provide food, nutrition education and improved access to health care to low-income families to reduce nutrition-related health problems during pregnancy and critical periods of a child's growth and development (Center on Hunger, Poverty & Nutrition Policy, 1996). In 1974, the WIC program began. In 1975, WIC served approximately 344,000 at-risk women, infants and children with $83 million in funding. It was estimated that 3% of eligible women participated in WIC in 1975. By 1980, the percentage of eligible women participating rose to 40%, and to more than 50% in the 1990's. Twenty-five years later, in 1999, WIC provided food assistance to over 7.4 million individuals monthly with a budget of $3.9 billion (National Association of WIC Directors, 1998). Today, approximately 45% of all infants and 25% of all pregnant women in the U.S. participate in WIC (Kennedy, 1997). During FY 2000, $35.6 million in federal and formula rebate dollars assisted the Iowa WIC in serving 61,200 women, infants, and children (Iowa Department of Public Health, Bureau of Nutrition & WIC, 2000).

Recipients of WIC must have household incomes below 185% of the federal poverty level and demonstrate nutritional risk based on criteria such as anemia, inadequate diet or abnormal weight. The majority of people receiving WIC benefits belong to working families (Center on Hunger, Poverty and Nutrition Policy, 1996). WIC has gained the reputation as a premier public health nutrition program because of its cost-effective, scientifically documented health successes. Studies have shown that pregnant women who participate in WIC have longer pregnancies leading to fewer fetal and infant deaths; seek prenatal care earlier; and consume more iron, protein, calcium and vitamin C. WIC prenatal care benefits
reduce the rate of very low birth weight infants by 44%. On average, WIC reduces Medicaid costs between $12,000 and $15,000 per infant for every low birth-weight prevented. In addition, four- and five-year-olds whose mothers participated in WIC during pregnancy have achieved higher vocabulary test scores than children whose mothers were eligible and did not participate (National Association of WIC Directors, 1998). In 1990, a USDA study showed that WIC spending on pregnant women was related to Medicaid cost savings for newborns and their mothers during the first 60 days after birth. For every $1 spent on the prenatal component of WIC, $3 was saved in Medicaid (Center on Hunger, Poverty & Nutrition Policy, 1998).

Basiotis et al. (1998) also found that participation in the WIC program by one or more household members contributed significantly to maintaining and improving the nutritional well being of low-income households. WIC participation contributed a strong positive effect on aggregate household diet quality measures: 23.45 points were added to the aggregate household HEI score as a result of WIC participation. Yip and Binkin (1987) found in their study of children enrolled in public health programs (predominantly WIC) in six states that the prevalence of anemia declined steadily from 7.8% in 1975, to 2.9% in 1985. The prevalence of anemia declined significantly among children seen at pre-enrollment screening visits, as well as among children seen at follow-up visits. These findings suggest that there was general improvement in childhood iron nutritional status in the U.S., as well as a positive impact of public health programs (i.e., WIC).
National School Breakfast and School Lunch Programs

In FY 1999, the USDA spent $1.3 million in the National School Breakfast Program (SBP) and $5.3 million in the National School Lunch Program (SLP). In 1999, the SBP served on average 7.3 million breakfasts per day (85.4% of them being free and reduced priced meals), and the SLP served on average 26.9 million lunches per day (57.6% of them being free and reduced priced meals). In Iowa in FY 1999, through these programs 381,877 lunches and 57,721 breakfasts were served (USDA-FNS. 2000a). Between 1998-1999, in Iowa, 27.2% of students enrolled in school received either free or reduced-priced meals (Goudy, et al., 1999).

The SBP and the SLP were established by Congress (1966 and 1946, respectively) under the Child Nutrition Act. The federal government provides funds to public and non-profit schools and residential child care institutions to offer breakfast and lunch to children. Children from households at 130% of the federal poverty level receive free meals, and children from households between 130% and 185% of the federal poverty level receive meals at a reduced cost. Because all schools are not required to participate in the SBP, many students do not receive its benefits. Approximately one-third of the nation’s schools participate in the SBP (Center on Hunger, Poverty and Nutrition Policy, Tufts University. 1998). Recently, a bill was passed in Iowa (Code of Iowa 283A) that states all schools are required to provide students access to a school breakfast program (Iowa Department of Education. 2000).

The SLP provides one-third to one-half of the daily nutritional intake for many low-income children and has shown positive effects related to nutritional intake (Center on Hunger, Poverty and Nutrition Policy, 1998). Participation in the SBP has also been shown to
be related to higher standardized achievement test scores, reduced absence and tardiness rates (Meyers et al., 1989; Murphy et al., 1998), as well as reduced hyperactivity (Murphy et al., 1998).

Meyers et al. (1989) tested the hypothesis that participation in the SBP by low-income children is associated with improvements in standardized achievement test scores and in absence and tardiness rates. Children in grades 3-6 in the Lawrence Public School System in Massachusetts were studied. The Lawrence Public School System had began the SBP at the start of the spring semester of the 1986-1987 school year, and was the only large school system in which standardized achievement tests (Comprehensive Tests of Basic Skills, CTBS) were administered to all elementary grades. The changes in test scores on the CTBS and in the rates of absence and tardiness before and after implementation of the SBP for children participating in the program were compared with the scores and rates of children who were qualified to participate in the SBP, but did not participate. The study sample consisted of 1,023 children, 365 of whom (33%) participated in the SBP. Results revealed that increases in test scores from 1986-1987 were significantly greater for SBP participants than for nonparticipants in the CTBS battery total scale score and language subscore. Increases in mathematics and reading subscores were marginally greater for SBP participants, as compared to nonparticipants. Rates of tardiness decreased for SBP participants and increased for children who did not participate in the SBP. Students who participated in the SBP also had reduced absenteeism in 1987, as compared to 1986.
Child and Adult Care Food Program (CACFP)

First authorized as a pilot project in 1968, the Child and Adult Care Food Program (CACFP) was formerly referred to as the Child Care Food Program. It became a permanent program in 1978, and its name changed in 1989 to reflect the addition of adults. The CACFP allows childcare and Head Start centers, after-school hours programs, adult centers, and family day care homes to provide meals and snacks meeting the USDA minimum nutritional requirements to children (12 years and younger) and adults in day care. Child care centers and family daycare home providers are reimbursed for their meal costs, as well as provided with commodity foods and nutrition education materials. Family daycare home providers are reimbursed for administrative expenses. In FY 1999 Congress spent $1.6 billion for the CACFP, compared to $1.3 million when the program began in 1969. Participation has grown from 375,000 meals in 1975, to 2.67 meals million in 1999 (USDA-FNS, 2000a). In Iowa, in September 1999, the CACFP reached 29,807 children and adults (Bureau of Food & Nutrition, 2000). In Iowa, as well as in several other states, providers are required to participate in on-going nutrition education training.

Nutrition Education and Training (NET)

Before the Senate Select Committee on Nutrition and Human Needs in 1972, Dr. George Briggs stated, “every child of the next generation should, by the time he is 18, have significant knowledge about food values and nutrient needs to be able to make adequate food choices” (Journal of Nutrition Education, 1992, p. 11S). In 1974, twenty-five nutrition educators were brought together at the request of Senator George McGovern to develop a nutrition education bill. In 1974, Senator McGovern introduced the National Nutrition

In 1977, Congress passed the NET Program as part of the reauthorization of the National School Lunch and Child Nutrition Act. NET was established to support nutrition education in food assistance programs for children, including the National School Lunch and School Breakfast programs, Summer Food Service, and Child and Adult Care Food Programs. Educational and training programs were targeted to children, educators, food service personnel and parents. In 1998, Congress appropriated $3.75 million for NET. However, in 1999, Congress eliminated NET funding from the federal budget (Iowa Department of Education, 2000).

**Expanded Food and Nutrition Education Program (EFNEP)**

In the early 1960s, when close to 40 million Americans were classified as poor, Cooperative Extension initiated studies to learn how to serve poor families more effectively. Cooperative Extension had historically served rural families, including poor families, but was interested in learning how it could expand its reach to poor families living in nonrural areas. These studies focused on how to reach poor families with more structured educational programs, how and who should deliver the education to low-income families, and what educational methodology would be most effective (Leidenfrost, 1975).

Cooperative Extension initiated seven pilot projects throughout the country during the time period 1962-1966. During these pilot projects the “paraprofessional as teacher” model was tested in rural and urban areas with different racial and ethnic audiences to identify educational methods that would be most appropriate to reach poor families. Two primary
conclusions were drawn from the pilot studies: (1) educational programs tailored to the interests, needs, competencies, and economic and educational levels of families could be effective in changing the eating habits of poor families; and (2) indigenous paraprofessional teachers supervised by professional home economists could be used to teach low-income families. When hunger surfaced as a major social issue in the late 1960’s, USDA looked to Cooperative Extension’s success with the pilot projects as one way to address inadequate dietary intake in families. In 1969, with an appropriation of $10 million by Congress, EFNEP was established by Extension to deliver nutrition education to low-income families with young children. In 1970, appropriations were expanded to $30 million and EFNEP began to directly reach youth through the use of volunteers. Approximately 7,500 paraprofessionals were employed in 1970 reaching families through nutrition education in 1,100 counties, cities, and on Native American reservations. By 1989, EFNEP was funded at a level of $60 million and was operating in 50 states and the District of Columbia, Guam, Puerto Rico, the Virgin Islands, Micronesia, the Northern Marinas, and American Samoa. By 1989, EFNEP had reached nearly 10 million people directly, and another 11 million family members (Leidenfrost, 2000). However, since 1989, appropriations by Congress have stabilized. In FY 2000, $873,324 was appropriated to Iowa to administer EFNEP to adults and youth in seven urban Iowa counties (Iowa State University Extension, 2000).

In Iowa, and throughout the nation, individuals participate in EFNEP and the Family Nutrition Program (FNP) (discussed in the next section of this chapter) primarily on a voluntary basis. Individuals are recruited to participate in EFNEP and FNP by past participants, friends, family members, and agency personnel with whom they have contact with in other programs. Cooperative Extension personnel recruit individuals directly by
promoting the benefits of EFNEP and FNP at WIC clinics, food stamp offices, Head Start parent meetings, and various other sites where low-income families go to receive information and support. In some communities “door knocking” is an effective method to recruit individuals to participate in EFNEP and FNP. Although, participation in EFNEP and FNP is for the most part on a voluntary basis, there are instances in which individuals are required to participate in EFNEP and FNP by other agencies in which they receive financial support. For example, in Iowa, some local workforce development programs require their participants (who receive TANF benefits) to partake in EFNEP or FNP. The nutrition education provided by EFNEP and FNP is considered one component of a broader life skills training program provided by some local workforce development programs in Iowa.

During 1998, a cost-benefit analysis of the Virginia EFNEP was conducted. The cost-benefit analysis revealed that for every $1 invested in EFNEP, $10.64 was saved in future health care costs. These savings were due to fewer unsafe food storage and preparation practices, fewer low birth-weight babies, more mothers initiating breastfeeding and breastfeeding longer, and improved diets reducing the risks of chronic diseases (Virginia Cooperative Extension, 1999). In 1999, this study was replicated in Iowa and revealed that for every $1 invested in EFNEP in Iowa, $10.75 was saved in future health care costs (Wessman et al., 2000). Given the similarities in EFNEP programs throughout the nation (i.e., similar target audiences, objectives, curriculum, and delivery methods), it may be appropriate to expect similar results in other states (Virginia Cooperative Extension, 1999). Thus, nutrition education through EFNEP is helping to play a role in improving the nutrition and health status of poor families.
Several other studies of state EFNEP programs were conducted over the years and have shown EFNEP to be effective in helping low-income families make nutrition behavior changes, as well as other changes. However, the research in EFNEP, especially of long-term changes in behavior is limited. Previous studies have focused primarily on changes immediately after nutrition intervention and have been quantitative in nature. Studies that have looked at long-term changes are also primarily quantitative in nature, and state limitations (e.g., lack of control group, sample size, lack of generalizability).

In Maryland, Amstutz and Dixon (1986) conducted a study to examine the impact of the Maryland EFNEP on the diets of past EFNEP participants. The two groups involved in this study consisted of 129 randomly assigned EFNEP graduates and 194 newly enrolled EFNEP participants. Diets of the graduates were analyzed at three points in time: upon enrollment, at graduation, and at follow-up, through the use of 24-hour food recalls. Findings from the participants' self-reported data revealed that positive dietary changes occurred and were largely retained by participants several months after program participation. Graduates reported increased consumption of milk, fruit, vegetables, and grains. Graduates who had initially consumed the most fats, sweets, and alcohol had significantly decreased their consumption of these items. Despite the decline in purchasing power during enrollment, the graduates were eating better, and their diets were better than the diets of the new program participants (Amstutz & Dixon, 1986).

Brink and Sobal (1994) conducted a study of EFNEP in New York City to ascertain the long-term effects of EFNEP on food and nutrition behaviors, and other benefits on participants who completed the program. Data were collected from 50 EFNEP graduates as they entered EFNEP, graduated from EFNEP, and one year after they graduated from
EFNEP. Demographic information, as well as self-reported data from a 24-hour food recall and questionnaire to assess food related practices and nutrition knowledge were collected upon entry into EFNEP. The 24-hour food recall and questionnaire to assess food related practices and nutrition knowledge was conducted again upon graduation from EFNEP and during the one-year follow-up interview. During the one-year follow-up interview an additional questionnaire was administered to assess other benefits related to EFNEP.

Findings revealed that participants reported an increase in nutrition knowledge between program entry and graduation, and continual improvement one year later during the follow-up interview. Participants reported significant improvement for 10 of the 12 behaviors associated with food-related practices between program entry and exit. Participants reported no improvement in using fewer prepackaged foods and in avoiding susceptibility to advertising. The follow-up interview revealed that participants reported significant continued improvement for two behaviors (garbage container use and making a grocery list). Data from the 24-hour food recalls revealed that except for low levels of iron, the average values for calories and other nutrients at each of the three assessments exceeded or were within the acceptable ranges of the 1980 RDA values. The only significant changes that occurred between EFNEP entry and EFNEP graduation were significant reductions in the amount and percentages of calories from fat. Comparisons between the follow-up interview and interview at graduation revealed that mean protein, calcium and vitamin A intakes were significantly less at the time of the follow-up interview. However, the mean calcium intakes at the follow-up interview were 77% of the RDA, and the Vitamin A and protein intake values still exceeded their respective RDA’s. Thus, participants reported some dietary improvements upon graduation from EFNEP, as well as during the follow-up interview.
Brink and Sobal (1994) found that EFNEP helped participants in other personal and social ways (e.g., help in their jobs, community participation, improved family and personal health). Upon follow-up, 34% of participants reported that they were employed, as compared to 24% during program participation. Also, upon follow-up 31% of participants reported that they were taking classes in school, 16% were involved in some Cooperative Extension activity, and 60% wanted to learn more about Cooperative Extension programs. Thirty-five percent of participants reported they were more involved in community activities. Almost all of the families reported that their family had been in a better state of health since participation in EFNEP. When asked, “What was the greatest benefit of EFNEP to your family?” participants most frequently reported that applying food buying and meal planning principles, as well as an increase in nutrition knowledge were the greatest benefits.

Torisky et al. (1989) examined the long-term dietary changes of EFNEP graduates in three urban and three rural communities in Virginia. Long-term dietary change was defined as maintaining dietary improvement 6 to 36 months after participation in EFNEP. Respondents were randomly selected from the total group of EFNEP graduates who had entered and exited EFNEP between October 1984 and September 1985. Self-reported data from entry, exit and follow-up interviews conducted with the 180 graduates were analyzed to assess program impacts. Instruments used to assess impacts included the EFNEP Family Record/Food Recall Form (which contained 12 questions related to food practices and a 24-hour food recall); the Family Background Questionnaire (which contained questions regarding family composition, family members’ support for the parent to be enrolled in EFNEP, and household roles and responsibilities); and the Homemaker Questionnaire (which was designed to collect primary data from respondents regarding family support for their
involvement in EFNEP and control over family dietary practices). Findings revealed that the percentage of participants who reported consuming optimal dietary patterns [ate the recommended number of servings from various food groups as recommended by USDA] increased from 8% upon program entry to 37% upon program graduation. Forty percent of the participants in the follow-up interviews reported continued optimal dietary patterns. Participants’ ratings of family support for their participation in EFNEP were highest when participants prepared EFNEP recipes. The majority of participants reported assuming responsibility for trying to improve dietary practices of their family members, and over half of the participants believed that they were actually able to help family members make dietary changes.

Torisky et al. (1989) recommended that future research examine the influence of mass media and family participation in other government and community-based nutrition programs (e.g., food banks, church and other organizations) on EFNEP participants’ dietary outcomes. Additional recommendations included: (1) The role of family and cultural variables in enhancing and serving as barriers to positive dietary change should be explored; and (2) nutrition educators need to increase dialogue with experts in human development and the social sciences to improve operational measures of family variables for correlation with dietary behavior.

**Food Stamp Nutrition Education Program: The Family Nutrition Program and State Nutrition Education Networks**

In accordance with the Food Stamp Act of 1977, as amended, the primary purpose of the Food Stamp Program is to promote the general welfare and to safeguard the health and well being of the nation’s population by raising levels of nutrition among low-income
households. Goals of the Food Stamp Program, as a result of funding allocated for nutrition education, were expanded to include improving the dietary intake of food stamp recipients through nutrition education activities that enhance self-sufficiency. During 1999, Food, Nutrition, and Consumer Services (FNCS), the USDA agency in which the Food Stamp Program is located, went through a strategic planning process and further refined its vision. The Food and Nutrition Service (FNS) and the Food Stamp Program (FSP), agencies within FNCS, also refined their mission and guiding principles. The current vision of FNCS is “We will lead America in ending hunger and improving nutrition and health” (National Food Stamp Conversation, 2000, p. 4). The current mission of FNS is “FNS improves food security and reduces hunger in partnership with cooperating organizations by providing children and low-income people access to food, a healthful diet and nutrition education in a manner that supports American agriculture and inspires public confidence” (p. 4). Guiding principles of the FSP include: (1) The FSP fights hunger and improves nutrition among low-income households; (2) Proper nutrition and sufficient food are as essential to the successful transition from welfare to work as childcare and health insurance; (3) The national eligibility and benefit rules of the FSP form a safety net across all States; (4) Improved nutritional well-being is the ultimate measure of success in the fight to reduce hunger and improve nutrition; (5) Food stamp policies must address the needs of a diverse range of children, families, and single individuals, including the working poor, elderly, and disabled; (6) Administrative simplicity is important as the program meets the nutritional needs of low-income people; and (7) Prudent stewardship of program resources is critical (p. 4). The statements reflect commitment to alleviating hunger and food insecurity, as well as the promotion of nutrition education to improve nutrition and health, and assist families in the transition from welfare to
work. Prior to 2000, a commitment to nutrition education was not explicit in the mission of FNS.

In 1981, funds for nutrition education became available as part of the federal Food Stamp Program budget. Funding is provided as part of the state Food Stamp Administrative budget and has a 50% match requirement. States are required to contribute 50% of the total cost of the nutrition education plan for their state. For example, if the total cost of a state’s nutrition education plan for one year is $2 million, then the state is responsible for contributing $1 million towards the plan. The Food Stamp Administrative budget will contribute the other $1 million that is needed to support the plan.

Regulations were published encouraging states to supplement existing nutrition education efforts by developing nutrition education plans as part of their State Plan of Operations. Cooperation with EFNEP was encouraged, as long as nutrition education activities were not duplicative. The first state to access funds for nutrition education through the Food Stamp Program was Wisconsin in 1986 (Joy & Doisy, 1996). In FY 2000, 48 states developed nutrition education plans and accessed federal food stamp dollars to implement their plans. Expenditures for state plans have increased from $660,000 in FY 1986 to over $100 million in FY 2000 (USDA-FNS, 2000b). In Iowa, over $2 million in Food Stamp Administrative funds are projected to be spent to deliver nutrition education in 32 counties to families with low incomes and young children through the Family Nutrition Program, as well as through 30 community based nutrition coalitions in FY 2001 (Iowa Food Stamp Nutrition Education Plan for FY 2001, 2000).

In 1999, the USDA-Food and Nutrition Services (FNS) contracted with Health Systems Research, Inc. to conduct a study of how nutrition education was being implemented
in state food stamp nutrition education plans across the country. The study examined the following: (1) the organizational structure and administrative components of the agencies implementing nutrition education to food stamp participants; (2) key design features of the food stamp nutrition education activities, including goal setting and objectives, identifying the target audience and developing nutritional messages; (3) approaches being used by states to implement their activities, including developing materials and designing education delivery methods; and (4) efforts to assess the effectiveness of the nutrition education programs, including barriers identified by the states that have prevented them from implementing nutrition education, lessons learned by the states, and efforts made by agencies to evaluate their programs. Data were collected through reviewing state nutrition education plans, a written survey to agencies implementing the nutrition education, and follow-up telephone interviews with state food stamp nutrition education program coordinators.

Overall, the findings revealed that nutrition education is carried out in a variety of forms by different states. Because there are currently no national reporting requirements or formats for agencies that implement nutrition education with food stamp nutrition education funds, it is difficult to get a grasp of the overall effectiveness of the food stamp nutrition education programs in reaching their target audience (i.e., food stamp participants). However, individual states have begun to develop and implement evaluation strategies based on their specific food stamp nutrition education programs to measure the extent in which their programs have met individual program determined goals (Anliker et al., 2000).
Social support

Social support has been conceptualized in a number of ways relating to emotional, informational and tangible support. Affirmation of one's self-concept, a confiding relationship, an outlet for behavior, companionship, information, tangible help or cognitive aid in thinking through solutions to problems, access to new social contacts and social roles are some of the ways social support has been conceptualized (Cohen & Wills, 1985; McLeroy et al., 1988). Social support, resulting from relationships with others, can play a valuable role in buffering life stress and contributing to overall well being (Cohen & Wills, 1985; McLeroy et al., 1988).

Mediating structures such as family, informal social networks, churches, voluntary associations, and neighborhoods play an important role in providing social support. Mediating structures are:

...repositories and important influences on the larger communities norms and values, individuals' beliefs and attitudes, and a variety of health related behaviors. Because mediating structures represent strong ties, changes in individuals without the support of these mediating structures is difficult to achieve. Mediating structures also serve as connections between individuals and the larger social environment. (McLeroy et al., 1988, p. 363)

Thus, methods to influence behavior may be most promising if they work through mediating structures.

Social support and health

Interest in the role of social support in health maintenance and disease prevention has increased in recent years. Several studies have shown that people with spouses, friends and family members who provide psychological and material resources are in better health than those with fewer supportive contacts. Negative psychological states (e.g., anxiety,
depression) due to lack of positive social relationships may eventually influence physical health either through direct effects on physiological processes that influence susceptibility to disease. or through behavioral patterns that heighten risk for disease and mortality (Cohen & Wills, 1995). Berkman and Syme (1979), and House et al. (1982) are two studies that found mortality from all causes was greater among individuals who experienced low levels of social support as compared to individuals who experienced higher levels of social support.

Using the 1965 Human Population Laboratory survey of a random sample of 6,928 adults in Alameda, CA, and a nine-year follow-up study. Berkman and Syme (1979) found that people who lacked social and community ties were more likely to die in the follow-up period than individuals with more extensive social contacts (e.g., social support). A researcher visited each of the randomly selected household units (n=8,023) to collect demographic information and to leave a questionnaire for the adult household members to complete. A total of 6,928 questionnaires were returned. The group of nonrespondents consisted of a higher percentage of older people, males, Caucasians, and single or widowed persons than the group of respondents. Mortality data were collected for the nine-year period from 1965-1974, when a follow-up survey was conducted. At the time of the follow-up survey, 682 individuals from the original sample had died. In addition, all but 302 of the respondents (4%) in the original sample were located to complete the second survey. Results revealed that people with social ties and relationships (e.g., marriage, contacts with close friends and relatives, church membership, and informal and formal group associations) had lower mortality rates than people without such ties. Marriage and contact with friends and relatives were stronger predictors of lower mortality rates than were connections with church and group membership.
House et al. (1982) revealed findings similar to Berkman and Syme (1979) in their study of 2,754 adults (age 35-69 years) in the Tecumseh Community Health Study. A combination of structured personal interviews and medical examinations were used to gather data. Data on social ties and activities were obtained in interviews conducted in the respondents' homes in 1967-1969. Data on morbidity and functional status were derived from physiological tests and a medical history and examination performed on each person in the clinic after his/her interview. During 1978-1979, mortality status was ascertained for all but one person who was interviewed and examined in 1967-1969. The associations of social relationships and activities with mortality were examined using contingency tables, ordinary least squares correlation and regression, and multiple logistic function analysis. These various methods of analysis yielded similar conclusions. One hundred and seventy-two men and women died between the time of the initial interview and the follow-up period (1978-1979). Results revealed that for men, passive/solitary activities (e.g., watching television, listening to the radio, reading) were positively associated with mortality. However, the more men were involved in active social relationships and activities (e.g., pleasure drives and picnics with family or friends, attending cultural or sports events, classes, lectures) the less likely they were to die at the time of the follow-up period. The results for women were less strong and significant. However, passive leisure time activities were even more positively associated with mortality among women than among men. Marital status was less of a predictive factor for mortality for women than it was for men. Thus, social relationships and activities appear to make up an additional set of risk factors for mortality.

Other studies revealed that there is a positive association between social support and mental health (Aneshensel & Frerichs, 1982; Billings & Moos, 1982; Coletta & Lee, 1983;
DeLongis et al., 1988). Aneshensel and Frerichs (1982) assessed the causal relationships among stress, social support, and depression using data collected at four points in time over a one-year period. Seven hundred and forty individuals in Los Angeles were selected using a three-stage cluster sample. One thousand and three individuals participated in the first interview. Approximately one-third of the initial participants were re-interviewed three times over the course of the year (1979-1980) with interviews occurring every four months. Thirteen individuals had missing data on one or more of the measures, leaving a sample size of 740.

The first and final interviews were conducted in person, and the second and third interviews were conducted via phone. Four symptom scales were used to assess depression at each of the four time periods. Stress was measured as the number of discrete life events losses (e.g., death of a spouse, divorce, employment loss) occurring either during the year prior to the initial interview or during the four months between each interview. Three measures were used to assess social support during the first and final interview. The first two measures examined the size of the individual’s social support network (as reported by the individual) such as the number of close friends and relatives. The third measure was reported support created by summing six Likert-type items selected from the Sense of Support Scale which looked at two primary aspects of support: socioemotional and instrumental assistance. Individuals were asked how often during the last two months there was someone who provided them with the listed types of support. Response categories ranged from 1 “not at all” to 4 “very often.”

Results revealed that recent stress (stress since the initial interview) was related to an increase in current depression. Depression was found to have a weak positive effect on stress
as measured four months later. Thus, depression led to increased stress later. In addition, many events may be stressful in and of themselves and are often preceded by periods of stress. The anticipation of the event may produce a depressive reaction that then appears to cause later stress. Also, the depressive state creates its own stress, especially in role performance and interpersonal relationships, and may trigger the occurrence of these life event losses (e.g., divorce). Social support was found to have negative direct effects on current depression and indirect effects on subsequent depression. Thus, social support assisted in alleviating current and future depression to some extent.

DeLongis et al. (1988) examined daily stress processes among 75 married couples during a six-month period. Participants were selected by random-digit dialing, and limited to couples in which the wife was between 35 and 45 years of age, had at least one child living at home, had at least an eighth grade education, and who were Caucasian and either Protestant or Catholic. The couples completed a battery of questionnaires and were interviewed once a month during the six-month period concerning their social support, self-esteem, beliefs, values and commitments, life stress, health, and psychological well being. During periods of four days between each of the six monthly interviews, participants completed the Hassles and Uplifts Scale and the Daily Health Record at the end of each day. This process resulted in 20 daily assessments of stress and illness, in addition to data collected during the six interviews.

Results indicated that self esteem served as a significant predictor of individual differences in the relationship between stress and health. Participants with low self esteem tended to have significantly higher stress-illness associations. In addition, the more emotional support available to the participant in coping with stress, the lower the link between daily stress and illness. Participants who reported lower emotional support tended to experience
mood disturbances on stressful days, and on the day following a stressful day. Thus, persons with low self-esteem and low emotional support were more likely to experience a positive association between stress and illness, and stress and poor mood, as compared to persons with high self-esteem and emotional support. Findings also revealed that social support network size had no effect on stress-illness and stress-mood relationships. Thus, the influence of emotional support appear to be due to the perception that one has support available from important others. Having a large social support network does not compensate for having non-supportive others in one's network (DeLongis et al., 1988).

Social support and parenting behaviors

In Coletta's 1981 study of 50 adolescent mothers the Parent Acceptance-Rejection Questionnaire (PARQ) was used to test the hypothesis that variations in amounts, sources, and kinds of support would be related to maternal rejection. The PARQ measures maternal behaviors in the areas of warmth/affection, aggression/hostility, neglect/indifference, and rejection, and has a median reliability of .91. The majority of the mothers were unemployed (76%), had not completed a high school education (58%), and had at least one child between the ages of one and three years (86%). The average age of the mothers was 18 years. The majority of the mothers were single (72%), almost half received welfare benefits (48%). 44% were African American and 56% were Caucasian.

Results indicated that, for young mothers, the most consistent predictor of maternal behavior was the total amount of social support received. With high levels of support the mothers were more affectionate as compared to with lower levels of support. Mothers were more hostile, indifferent and rejecting towards their children when they experienced lower
levels of social support as compared to when they received higher levels of social support. Of all the kinds of support mothers received (e.g., task assistance, emotional support, material support, community service, information support), emotional support was found to be most highly related to maternal behavior. High levels of emotional support were associated with mothers being less aggressive and rejecting: less likely to nag, scold, ridicule, or threaten their children.

When the adolescent’s own family was the source of emotional support, as compared to support provided from friends or the mother’s partner or spouse, the relation between emotional support and maternal behavior was strongest. Emotional support from a spouse or partner was next in order of importance. When the adolescent felt she could communicate with her partner and count on her partner when she had a problem, interactions with children were more positive. Although friends were reported as a less effective source of support, when friends did provide support the mothers were less aggressive and rejecting towards their children. Little or no help with housework was associated with the mothers directing anger and resentment at their child(ren). When mothers were able to have a break from caring for their child(ren) for at least two hours a day, they were warmer and less rejecting of their child(ren). Thus, when adolescent mothers were surrounded by a supportive social environment, where they were likely to receive encouragement, reinforcement, and assistance to provide them with the emotional resources they needed, they were more likely to demonstrate warmth and affection to their child(ren).

Stevens (1988) also found that extended family members can play an important role in providing support to adolescent mothers, thus, leading to positive parenting skills. Stevens (1988) set out to examine whether or not, and how a mother’s sense of personal control, and
her ties to both formal and informal support systems. may be related to her parenting skill in three low-income groups: African American adults, African American adolescents, and Caucasian adults. Sixty-two adult Caucasian mothers, 62 adult African American mothers, and 74 African American adolescent mothers were recruited to participate in the study through door-to-door canvassing in neighborhoods throughout a metropolitan area considered to have a high percentage of poor families. Parenting skills were assessed using the Home Observation for Measurement (HOME) Inventory for families of infants and toddlers. The HOME Inventory assessed the mothers' emotional and verbal responsivity, avoidance to restriction and punishment, provision to play materials, and involvement in and press for developmental advance. A short version of the Adult Nowicki-Strickland Internal-External Control Scale was implemented to assess mothers' beliefs about personal control.

To identify sources of informal support, mothers were asked a series of questions through a structured interview. Interview questions pertained to who, among those living in the household with her, provided her with general help in everyday matters or in emergencies. Mothers were then asked to identify ten people who were relatives or friends, and who lived inside or outside their household, to whom she felt close. Mothers were also asked to identify the two most disturbing child-rearing problems they had encountered in the past year, and to whom they had turned to for help.

Results revealed that willingness to report child-rearing problems and seek help from extended family members were important predictors of parenting skills for African American adolescent mothers, especially for mothers living in three-generation households. This finding may suggest that parenting information and skills is effectively taught in homes where very young, African American mothers have access to experienced, more
knowledgeable women. The only important predictor of parenting skills for African American adult mothers was locus of control (e.g., self reliance and personal determination). For Caucasian adult mothers, locus of control, and seeking help from extended family members and professionals were important predictors of parenting skill. The differences in informational support by African American adolescent mothers and Caucasian adult mothers may indicate as much about the accessibility and availability of support systems as about cultural patterns of resource use (Stevens, 1988).

In another study, Coletta and Lee (1983) found that support from individuals is related to a decrease in stress and increase in self-esteem. This exploratory study interviewed 64 African American adolescent mothers in Baltimore. The average age of the mothers at the time of the interviews was 17.47 years, and just over half of the mothers had completed, or were enrolled in the eleventh grade. The children of the mothers ranged in age from 2 months to 2 years. Sixty six percent of the mothers were working in part-time, work-study, or youth-entitlement programs. The names of potential mothers to participate in the study were received from high school personnel involved in administering programs for adolescent mothers in the Baltimore City Public Schools. Three groups of mothers were interviewed: those who were both in high school and in the Baltimore City Public Schools Infant-Parent Program (n=25), those who were enrolled in high school (n=25), but not the Infant-Parent Program, and those who were neither enrolled in high school or the Infant-Parent Program (n=14). The Infant-Parent Program was designed to encourage adolescent mothers to complete their high school education, to offer courses on child development and parenting skills, and to provide quality childcare for infants.
Research instruments included the Stresses and Supports Interview Schedule (an open-ended questionnaire designed to elicit perceptions of social and institutional factors that make it easier or more difficult to function in daily life). Rosenberg's (1965) scale of self-esteem, Nowicki and Strickland's (1973) scale to measure locus of control, and a series of 11 open-ended questions to measure emotional stress. All interviews were conducted either at home or in school, and were tape recorded and transcribed. Overall results revealed that there were variations in the amount, source, and impact of social support available to the African American adolescent mothers. The amount of support provided by individuals varied with the mothers' need for assistance with maternal role performance. Support was highest for mothers who had the greatest need for others to care for their children, for those who returned to school, and for those who were working. Dropouts experienced the lowest levels of support. Support was most effective when it was personalized to meet the mother's specific needs. When the maternal grandmother was the source of support, the support was most effective. Mothers who received support from the Parent-Infant Program reported better mental health and less stress. When mothers accessed broad-based community services not specifically targeted to meet their needs, a negative relationship to the mother's sense of being able to control the events in her life occurred. Thus, support served as a mediating factor buffering the effects of difficult life circumstances.

**Relevant Theoretical Frameworks**

A researcher brings to his/her study "a considerable background in professional and disciplinary literature" (Strauss & Corbin, 1998, p. 48). This background inevitably shapes how the researcher views the data. However, it is important that the researcher acknowledges
his/her background and uses it "to enhance, rather than constrain, theory development" (p. 49).

Three relevant theoretical frameworks are discussed in this chapter. These frameworks help to "enhance sensitivity to subtle nuances in data" (Strauss & Corbin. 1998, p. 49), "formulate questions for initial observations and interviews" (p. 51), and "stimulate questions during the analysis process" (p. 51), especially "when there is a discrepancy between the researcher's data and the findings reported in the literature" (p. 51). These frameworks also help "to direct the researcher to situations that he or she might not otherwise have considered" (p. 51), and "to confirm findings" or illustrate where the existing literature "only partially explains the phenomena" (p. 52).

**Family systems theory**

Whitchurch and Constantine (1993) in their overview of family systems theory state that family systems theory is derived from General System Theory (GST), which is both a field of study that crosses disciplines and a theoretical framework in which various micro-level approaches are referred to as "system theories." Family systems theory suggests that a system must be understood as a whole. A change in one part of the system affects all parts of the system. Thus no one part can be looked at in isolation from the other parts. This interactive whole creates a synergistic effect that results in the whole being greater than the sum of the parts of the system.

Family systems theory suggests that human systems are self-reflective. Self-reflexivity is the ability to make oneself and one's behavior the object of examination and the target of explanation. Self-reflexivity is what allows humans to examine their systems and set
goals for themselves. Communication allows self-reflexivity to occur in family systems because it facilitates people’s creation of meaning and their simultaneous activities of sending and receiving messages of symbolic content.

Family systems theory can be used to understand processes within a family (e.g., family functioning, family communication, family conflict, separateness and cohesiveness among family members) through transactions among family members. Family processes can be understood as the product of the entire family system, shifting focus from individual family members to relationships among family members. Thus, situations that occur in families are influenced by relationships among family members, versus solely the attitudes and/or actions of one family member.

Family systems theory takes a holistic perspective in delineating subsystems and their relationships, examining system boundaries, emphasizing the process of homeostasis, and considering relationships between systems. Family systems theory suggests that there is a layering of systems of increasing complexity that function together as collective units: subsystems, systems, and suprasystems. Examples of subsystems include a marital subsystem, a parent/child subsystem, and a sibling subsystem. All of these subsystems are included within the family system. the next layer. Extended family, the community, and culture all make up suprasystems in which the family belongs. Many of the same processes studied at the systems level (e.g., family functioning, family conflict) are also studied at the subsystems level (e.g., conflict between siblings). Examining suprasystems allows exploration of the family system within larger systems. Thus, families can be examined in relation to their culture, their extended family, and the community in which they live.
Examining family issues at various system levels allows greater understanding of the issues, as well as deeper understanding of how family systems change.

Family systems change over time as a result of normative and nonnormative transitions and completed positive feedback loops. Examples of normative transitions include: birth of children, marriage, and loss of an elderly family member. Examples of nonnormative transitions—change that is not expected, off-schedule or crisis include: teenage pregnancy, or pregnancy in later adult years, loss of a job, divorce, loss of housing or food support, illness and chronic health problems. These transitions influence the relationships among parts of the family system; thus change is processed by the entire family system, not just one family member. For example, when a death in a family occurs (an event), the death is experienced by all members of the family in various ways. Relationships among family members are altered as a result of this event.

When a parent who has stayed home to raise children decides to enter the workforce, the effects of the parent’s employment touches not only the newly working parent, but also other family members as well. For example, children who may have been used to the parent being home when they arrived home from school, may now find themselves at home alone for an hour or two before the parent returns home from work. Thus, the children may be expected to “take on” a new role such as taking care of themselves after school (e.g., prepare a snack, work on their homework). A positive feedback loop is complete when the children begin to “take on” this new role and the parent has adjusted to entering the workforce. Thus, change in the family system has occurred.

Boundaries define the family system and represent the interface between the family system and other systems (e.g., school, work, childcare), as well as between the family
system and its subsystems and suprasystems. From the ecological perspective, the environment is considered a suprasystem in which the family system is embedded. Thus, in order to gain a full understanding of the family system, it is necessary to understand the environment (the context) in which families live. Boundaries within family systems are characterized by their degree of permeability, the extent to which they allow information, energy, or materials to flow in (inputs) and out of the system (outputs). All family systems are open systems because they have at least some degree of interaction with their environment. However, family systems vary in their degree of openness. Family systems change inputs into outputs. For example, food that comes into the family system helps to nourish family members, thus helping children be more attentive at school, and parents more productive in the workforce. Information that comes into the family system helps the family make decisions that influence family members' behaviors. For example, information pertaining to understanding food labels can result in a family using this information to help them make food purchasing decisions in the grocery store. The concept, boundary, as it pertains to family systems is typically operationalized in one of two ways: (1) the internal cohesiveness or degree of involvement of family members (Constantine, 1986); and (2) emotional connectedness among family members (Olson et al., 1979).

Family systems experience equifinality—the ability of the family system to reach an end state through different routes. For example, when a teenager who turns 16 years of age wants a car, possible options include the teenager’s parents purchasing the car for the teenager, or the teenager becoming employed and saving money to either purchase the car on his or her own, or help pay for the car with financial assistance from his or her parents.
Family systems are dynamic, with homeostatic processes that attempt to maintain stability when a change in one part of the system influences other parts of the system. This process of maintaining stability within the family system is referred to as negative feedback loops. For example, if a parent takes a new job that requires traveling frequently on overnight trips, family members may complain that the parent is gone frequently, which leads to household chores not getting done, or children not receiving the extent of parental attention that they used to. If the parent quits the new job as a result of the complaining by family members, then a negative feedback loop is completed (homeostasis is achieved). However, if the parent does not quit the job, and family members begin to assume some of the roles that the traveling parent used to play (e.g., mowing the lawn, laundry, putting children to be at night), then a positive feedback loop is completed. Both negative and positive feedback loops help to counterbalance each other and ensure continuation of the family system.

Family systems theory promotes integration of ideas. Its breadth gives it great flexibility that allows it to be applied to many situations. However, criticisms of the theory include that it tends to be ambiguous, concepts are difficult to operationalize for empirical research using the theory, and that it is perhaps more of a philosophical perspective than a theory. An additional criticism is that family systems theory places equal emphasis on all members of the system; therefore concepts of little importance are given the same level of importance as concepts that have major explanatory power.
Bronfenbrenner's ecological model of human development

Bronfenbrenner's ecological model of human development views human development as a relationship between the developing person and his/her immediate environment.

The ecology of human development involves the scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate environment in which the developing person lives, as this process is affected by relations between these settings and by the larger contexts in which the settings are embedded. (Bronfenbrenner. 1979, p. 21)

To describe how the developing person interacts with his environment, Bronfenbrenner uses the terms micro-, meso-, exo-, macro- and chronosystem.

Microsystem: Bronfenbrenner (1994) defined a microsystem as

...a pattern of activities, social roles, and interpersonal relations experienced by the developing person in a given face-to-face setting with particular physical, social, and symbolic features that invite, permit, or inhibit engagement in sustained, progressively more complex interaction with, and activity in, the immediate environment." An example of a microsystem is the developing person's immediate family. (p. 1645)

Mesosystem: A mesosystem "...comprises the relationships existing between two or more settings; in short it is a system of two or more microsystems" (Bronfenbrenner & Morris. 1998, p. 1016). An example of a mesosystem is the relationship between the developing person's family and the childcare setting.

Exosystem: The exosystem comprises the:

...linkages and processes taking place between two or more settings, at least one of which does not contain the developing person, but in which events occur that indirectly influence processes within the immediate setting in which the developing person lives. (Bronfenbrenner. 1993, p. 24)
An example of an exosystem is the linkages and processes taking place between the developing person's family and the job training setting.

**Macrosystem:** A macrosystem is defined as the:

...overarching institutional patterns of the culture or subculture, such as the economic, social, educational, legal, and political systems, of which micro-, meso-, and exo-systems are the concrete manifestations. Macrosystems are conceived and examined not only in structural terms but as carriers of information and ideology that, both explicitly and implicitly, endow meaning and motivation to particular agencies, social networks, roles, activities, and their interrelations. (Bronfenbrenner, 1977, p. 515).

An example of a macrosystem is the cultural beliefs of U.S. society in general regarding welfare reform. Zimmerman (1998) suggested that America's policy approach to the economic problems of families for much of the country's history is based on the values of individualism, private property, and minimal government. Individualism promotes the idea that people should work hard, get ahead, and have equal opportunities to do so. If an individual is unable to work hard and get ahead, then it is their own fault and a justifiable reason for shame, but not for intervention and help from the government.

**Chronosystem:** Bronfenbrenner (1986) used the term chronosystem to incorporate time as the developmental history of the individual (events and experiences) and its effect on development. Life transitions (normative and non-normative) throughout the life span can be the impetus for developmental change. Examples of normative transitions include entering the school system, puberty, entering the workforce, marriage, retirement. Examples of non-normative life transitions include death or severe illness, divorce, moving. Normative and non-normative transitions can affect human development indirectly by affecting family processes. Chronosystems also examine the cumulative effects of an entire sequence of developmental transition over an individual's life course. Thus, the chronosystem looks at the
impact of personal and historical life events on family processes and their developmental outcome.

Klein and White (1996) stated that the major strengths of ecological theory are that it is multidisciplinary in its application (e.g., family scientists, nutritionists, community planners), has breadth, is inclusive, and sensitizes practitioners to the multiple levels and complex interactions between various ecological systems. However, they state many criticisms of ecological theory. Criticisms include that ecological theory states that human development occurs as a result of interactions with the environment; however, it does not take into account how decline and decay come about. For example, in his writings, Bronfenbrenner (1989) focused on child development and omitted concepts of aging.

Ecological theory also fails to specify when ontological causation [caused by "on-time" developmental changes] changes to sociogenetic causation [caused by environmental-genetic influences]. An example of this is toilet training. Bronfenbrenner (1989) does not explain the relationship between developmentally "on-time" physical changes in the child and environmental and genetic influences as it pertains to toilet training. Bronfenbrenner did not specify what level of the ecological system is most appropriate to analyze, thereby leaving no guidance to scholars as to when one level of analysis is more appropriate than another. Bronfenbrenner conceded that a flaw in his theory is that the process by which change occurs is not identified. McLeroy et al. (1988) stated that a criticism of ecological theory is that it lacks sufficient specificity to guide conceptualization of a specific problem or to identify appropriate interventions.
Double ABCX model: Family adaptation

The Double ABCX Model: Family Adaptation, developed by McCubbin and Patterson (1983), builds upon Rueben Hill’s work (1949) to help explain why families differ in their definition and response to family transitions, and the basic coping strategies they use as they adapt to stress and family crises. Rueben Hill (1949) proposed the ABCX model of family stress in which the traits of the stressor (A), the family’s internal crisis-meeting resources (B), and the family’s definition of the stressor (C) contribute to the prevention or promotion of a family crisis (X).

McCubbin and Patterson (1983) extended Rueben Hill’s model to address post-crisis. The Double ABCX model includes a pile-up of additional family stresses that makes adaptation more difficult (aA). social and psychological resources (bB). coping strategies (BC) that the family uses in dealing with potential crisis situations. the meaning the family gives to the stressor event (cC). and the range of positive and negative outcomes possible (bonadaptation and maladaptation respectively). Thus, the Double ABCX model describes life stressors and changes, which may influence the family’s ability to achieve adaptation. the critical psychological and social factors families call upon and use in managing crisis situations, and the outcome of these family efforts.

The Double ABCX Model: Family Adaptation takes into consideration three units of analysis (e.g., the individual family member, the family unit, and the community) to help explain how families cope. The family is a social system and change in one part of the system affects the other parts of the system. Both the individual family member and the family unit are characterized by demands and capabilities. The demands, or needs of individuals and families, change over time as a result of family transitions (normative and
non-normative) that occur over time. The demands of society also change over time. These changes call for adjustment and adaptation by the family, and thus are additional demands placed on the family unit. Family adaptation is achieved through reciprocal relationships where the demands of one of these units are met by the capabilities of the other unit. In crisis situations, the family struggles to achieve a balance at both the individual-family and family-community levels of family functioning. Thus, family adaptation efforts simultaneously involve attentiveness and responsiveness to all levels of family functioning. There is a continuum of outcomes reflecting family efforts to achieve a balance in functioning (bon-adaptation on the positive end to maladaptation on the negative end).

Summary

In this chapter literature was presented that relates to various aspects of the issues low-income families face as they strive to meet their food and nutrition needs. Poverty, race and ethnicity are factors that play a role in the food security and hunger status of families, as well as their nutritional and health status. Literature pertaining to the role of social support in families lives through government food assistance and nutrition education programs, as well as through relatives, friends, and the community at-large was reviewed. Theoretical frameworks that provide a basis for understanding human behavior and family processes were reviewed to help the researchers become well grounded in various theoretical perspectives to help them understand the research data.
CHAPTER 3. METHODOLOGY

The way researchers believe they can understand the world is changing dramatically (Guba, 1990). Researchers are questioning the current methods and culture of epistemology, and believe that knowledge has been limited by employing the quantitative paradigm of physical sciences to study children, families and society (Brotherson, 1994). The quantitative paradigm also produces a kind of science that "silences too many voices" (Denzin & Lincoln, 1998, p. 10). The qualitative paradigm offers new ways of understanding humans in society (Brotherson, 1994) and provides an opportunity for voices to be heard, especially voices with little power.

This study used a qualitative research design, an emergent design that yields data rich in description and seeks to discover individual's experiences and how they make sense of them (Babbie, 1998). Qualitative research methodology is pragmatic, strategic, and self-reflexive (Denzin & Lincoln, 1998). Each component of the research process informs the next and, thus, it is continuously evolving and flexible (Patton, 1990). The researchers grew in knowledge and insight as they interacted with the respondents (Stainback & Stainback, 1984), and their values were used to develop theory, questions, methods and data analysis (Guba, 1981; Denzin & Lincoln, 1998). As a result of this immersion, data were uncovered that otherwise might not have surfaced using less context sensitive methods (Angera, 1997).

Criteria for Ensuring Quality in Research

Quality qualitative research demands that specific steps are taken to ensure that the data collected and reported accurately portray the experiences of the participants in the study. To ensure quality in qualitative research (as well as in research using quantitative methods)
Lincoln and Guba (1985) suggest specific criteria for researchers to take into consideration as they conduct qualitative research to ensure quality. This research study incorporated various criteria identified by Lincoln and Guba (1985) and Lincoln (1995) to ensure quality. Lincoln and Guba (1985) proposed four criteria to judge the "truth value" of qualitative research, its applicability, consistency, and neutrality. These criteria include credibility, dependability, transferability, and confirmability. Lincoln (1995) built upon these criteria and identified additional criteria to judge qualitative research. These additional criteria include "positionality" (p. 280), "community as arbiter of quality" (p. 280), "voice" (p. 282), "critical subjectivity" (p. 283), "reciprocity" (p. 283), "sacredness" (p. 284), and "sharing the perquisites of privilege" (p. 284). Lincoln (1995) notes that researchers need to be cautious as they use these criteria to judge research. Cautions include: (1) different traditions might require different criteria; (2) some of the criteria may be more applicable at one stage of the research study than another; (3) criteria are relational; and (4) standards for quality interact with standards for ethics. Taking into consideration the cautions noted by Lincoln (1995) above, this research study sought to include the criteria of credibility, dependability, transferability, confirmability, voice, reciprocity, sharing the perquisites of privilege, and community as arbiter of quality.

Credibility

Credibility, the "match" between the realities constructed by the respondents and the realities represented by the researchers and attributed to the respondents, was established in
this study by using a variety of techniques. Such techniques include: multiple methods (e.g., focus, in-depth and case study interviews), progressive subjectivity (continual communication among researchers regarding their values and assumptions as the study progressed), multiple researchers, member checks, and thick descriptions.

**Dependability**

Dependability, the issue of maintaining research stability and consistency while allowing for an evolving design, was ensured by the researchers. First they debriefed their findings, beliefs, attitudes and thoughts concerning the emerging research design during the last portion of each interview and immediately following each interview. Then they met weekly to discuss findings and emerging themes.

**Transferability**

Transferability, the issue of providing information about the general phenomenon to situations with similar contexts, was achieved by triangulating multiple sources of data (multiple interview methods and observations) (Marshall & Rossman, 1995). Purposive sampling and complete contextual descriptions also were used to meet the criteria of transferability.

**Confirmability**

Confirmability, the issue of objectivity, was ensured through the creation of an audit trail. The audit trail provided a record of the manner in which decisions were made and how the research project evolved. The audit trail provided information to ascertain whether the
data helped confirm the general findings and led to the implications of the study (Marshall & Rossman. 1995).

**Voice**

Voice refers to providing an opportunity for people to be heard, especially individuals who have been silenced or marginalized in society (Lincoln. 1995). Researchers have a responsibility to be both involved with the “research subject” and with changing conditions that seek to silence and marginalize individuals (Tierney. 1993, p. 5). This research focused on the experiences of low-income families who have not been as well represented in the literature as middle-income families.

**Reciprocity**

Reciprocity is marked by a deep sense of trust, caring and mutuality (Lincoln. 1995). “One cannot study persons without studying the relations they make with others...the observer, with the cooperation of the other, constitutes himself as part of the field of study...[the researcher] must be able to reflect upon, and reason about, a reciprocity that includes himself as one of the reciprocating terms” (Esterson. as cited in Rowan. 1981, pp. 167-168). Consistent with the need to establish reciprocal relationships the research team benefited from the guidance of paraprofessionals who work with low-income families on a daily basis in identifying parents to participate in the focus group and case study interviews, identifying and securing safe, convenient focus group interview sites, and identifying participation incentives that would be most meaningful for families. Three paraprofessionals also served as interviewers for the case study interviews. Rather than view the multiple roles of the paraprofessionals as a potential contaminating factor in data collection, the research
team viewed the richness of the reciprocal relationship with the paraprofessionals to be an important factor in gaining access to participants, helping participants to feel at ease in the interview process and providing rich information about their experiences, and appropriately compensating the participants for their participation in the study. Parents who participated in the case study interviews were also involved themselves in conducting research on their own situations (e.g., case study interviews). As researchers of their own situations, parents were able to provide information pertaining to food and nutrition issues they were experiencing that would not have been obtainable by other means.

**Sharing perquisites of privilege**

Sharing the perquisites of privilege involves acknowledging the valuable contributions that participants provide to research, as well as compensating them for these contributions. Focus group and in-depth interview participants were compensated $25 in cash or a grocery store gift certificate, and were provided refreshments, transportation, on-site childcare, and a children's book focused on a nutritional topic. Case study participants received $150 in cash, as well as a variety of small gifts for their participation in the research study. A videotape depicting participants' experiences as they strive to meet their food and nutrition needs through participant interviews was included as part of a national research presentation to professionals in the field of Family and Consumer Sciences. In addition, a second videotape, depicting participants' experiences in meeting their food and nutrition needs, as well as their perceptions of the benefits of nutrition education, has been developed and distributed to a variety of audiences (e.g., State and county Food Stamp offices, WIC (Women, Infants, & Children) offices, Iowa State University Extension councils, USDA-
Food and Nutrition Services, National EFNEP (Expanded Food and Nutrition Education Program) and FNP (Family Nutrition Program) Program leaders. Also, plans are underway to distribute this video to select Iowa legislators and the Iowa Governor’s office.

Paraprofessionals who conducted the case study interviews were compensated for their time in conducting the interviews and participating in training at their current rate of pay. The paraprofessionals were involved in preparing and presenting findings from the case study interviews at an annual statewide conference involving their peers and supervisors. One paraprofessional also was involved in co-preparing and co-presenting the research findings at a national conference involving professionals and community members who implement programs targeted to children, youth and families at-risk. This individual’s expenses to participate in this conference were paid through university and community funds. The research team hopes to involve the three paraprofessionals, and possibly the three families who participated in the case study interviews, in co-authoring a journal article focusing on the research study, as well as a guide for nutrition educators and other professionals to use as they work with low-income families with young children.

Community as arbiter of quality

Community as arbiter of quality refers to the communitarian nature of the research. This criterion recognizes that research takes place in, and is addressed to, communities. Research should serve the purposes of the community in which it is carried out, versus solely the purposes of researchers themselves and policymakers (Lincoln, 1995). To fulfill the goal of serving the purposes of the community in which the research was carried out, the research team plans to distribute the guide sheet mentioned above to agencies and organizations who
work with low-income families, as well as develop a report of findings and policy recommendations to distribute to administrators of the EFNEP and FNP programs, the Iowa State Food Stamp Director, USDA-Food and Nutrition Services National and Mountain Plains Regional offices, Iowa Governor's office, and select Iowa legislators.

Research Design

Qualitative research depends greatly on the researcher's credibility as the "instrument of data collection and the center of the analytic process" (Patton, 1990, p. 461). As a result, beliefs and experiences of the researcher must be known to understand the full context of the research.

Researcher as instrument

As the lead researcher in this study, I served as the key research instrument. It is important for the researcher to explicitly state his or her past experiences, biases, prejudices, and orientations that have influenced the study (Creswell, 1998). I will describe my experiences and beliefs that provide a context to help understand how the data in this study was interpreted.

The lead researcher in this study is a 37-year-old, Caucasian female whose family farmed for many years, and then moved to a town (25,000 population), neighboring a larger city (100,000) in Iowa. Although she was raised in Iowa in an environment consisting of predominantly Caucasian individuals, she has had experiences in other states and countries (e.g. employment in rural and urban areas, high school and college cross-cultural exchange programs, international travel), that have helped to shape the lens in which she views the world.
During her childhood years her family (13 brothers and sisters and 2 parents) fit the criteria of low-income according to the federal poverty guidelines. As siblings left the household to pursue higher education (e.g., technical school, college) and employment, and family income became more stable, the family no longer fit the criteria of low-income. Even though low-income could have been a term used to describe her family, she never felt “poor” in the sense of feeling deprived of what she needed to meet basic needs. Family support from immediate family members, as well as from extended family members was prevalent.

The lead researcher coordinates a statewide nutrition education program that strives to help low-income families with young children acquire knowledge and develop attitudes, skills and support mechanisms to assist them in consuming a nutritious diet and enhancing their quality of life. She came to this position following work experiences with families in both rural and urban communities. Her most satisfying work experiences resulted from her involvement in educational projects targeting low-income families. Through these experiences she came to believe that there is great potential to help families in poverty obtain a higher quality of life. She believes that investing in families through educational programs, assistance programs, and shaping public policies that affect families can enhance quality of life for families in poverty.

The researchers

Core research team. A core research team consisting of six individuals provided input for the emerging design, planned and conducted the interviews, and played a vital role in analyzing data throughout the research process. The different perspectives and various
Backgrounds of the researchers helped to limit the potential bias of only one researcher (Brotherson & Goldstein, 1992; Guba, 1981).

The lead researcher is an Extension professional who coordinates a nutrition education program for low-income families. She is also a graduate student in Human Development and Family Studies, and has twelve years of experience in designing, implementing and evaluating education programs targeted to youth and families. The lead researcher provided organizational leadership for the research team, as well as conducted focus group and in-depth interviews.

The other team members consisted of a professor of Human Development and Family Studies (who has extensive knowledge and experience in designing and conducting qualitative research, bases her work on a family systems framework, and seeks to enhance the competence and strengths of families), and three paraprofessionals who facilitate nutrition education with low-income families on a daily basis (one who has experienced poverty herself at one point in time), and a graduate student interested in qualitative research and human development issues. The professor provided expertise in helping the research team think through the research design, interview questions, protocol and data analysis procedures. The professor provided initial and on-going interview and data analysis training to team members, and served as the internal auditor. The graduate student assisted in conducting the focus group and in-depth interviews, and transcribed all the audio tapes and entered the data into the NUD*IST, a computer software program. All team members were involved in various aspects of the data analysis.
**Participatory research.** Methods of participatory action research were used by involving low-income families actively in critically thinking about the issues addressed in the research question, and reflecting upon their personal experiences with these issues. Through case study interviews, families were continually reflecting upon their experiences and asked to conduct research on their own situations (e.g., monthly income, expenditures, assistance sought, perceptions of situations, stressors they’re experiencing), and share the information they collected with the paraprofessionals. Families were involved in the analysis of the findings and in shaping the grounded theoretical model so it best portrayed the experiences of families. Paraprofessionals shared the on-going analysis of the findings with the case study participants and gathered their perspectives on the accuracy of the analysis (a form of member check), as well as additional ideas they had for inquiry pertaining to the research question posed. The paraprofessionals were involved in the research process by collecting data, helping to analyze the data, and informing the research process through sharing their experiences during monthly teleconferences and face-to-face meetings with the research team. The spirit of the research study was to do research with families, not unto families (McTaggart, 1991).

**Advisory committee.** A research advisory committee was created to provide input into the research design, references to current, appropriate literature, and respond to data analysis. This committee consisted of three individuals: a professor of economics who has extensive research experience and knowledge of family economic issues as it pertains to food and nutrition, a professor of Food Science and Human Nutrition who specializes in community nutrition, and a licensed, registered dietitian who provides overall direction for
nutrition education programming for low-income families through Iowa State University Extension. This committee met at the beginning of the study to provide input into the research design and references to appropriate literature. As emerging themes and a preliminary model were developing, the advisory committee met again to provide feedback and direction to additional studies and literature that may help explain the data.

**Moderator training.** Training pertaining to planning and conducting focus groups and in-depth interviews was conducted in three one-day trainings that involved mini-lectures, small group discussions, role play and observation of and participation in a focus group. Content covered in the trainings included: overview of the research study, the interview process, recruiting participants, the art of asking questions (e.g., non-judgmental, open ended), listening and reflecting skills, pausing, establishing and communicating ground rules, confidentiality, ethics, and guidelines for creating debriefing and observation notes. Semi-structured interview guides were provided to all interviewers. Three one-day training sessions were held for paraprofessionals conducting the case study interviews covering the topics above. In addition, monthly teleconferences were conducted to process interview data and plan direction for future interview questions. Team members also received on-going training through literature authored by experts in the field of qualitative research.

**Participants**

**Selection**

Purposive sampling was used to select participants who were information-rich and who could communicate both depth and breadth of experience (Morgan, 1988). In addition to
the traits mentioned previously, the researchers identified key characteristics that were most relevant to the research problem, included enough diversity in characteristics to provide a range of responses, and sufficient homogeneity so respondents had characteristics in common to share and build upon. Key characteristics of individuals selected included: females who graduated from either the FNP or EFNEP (for the focus group and in-depth interviews, individuals were selected who graduated 6-24 months prior to the interviews; for the case study interviews, individuals were selected who graduated 0-3 months prior to the interviews); lived in one of the six counties identified; represented various family structures, size of families, ethnicities of the local community; had varying education levels and employment status, participation in community resources (e.g., food assistance programs such as WIC, Food Stamps, FIP, Head Start, food pantries, soup kitchens), and who had diverse life experiences. Since the purpose of EFNEP and FNP is to help families increase their knowledge, understanding, and skill level in meeting the food and nutritional needs of their families, it is hypothesized that after participation in EFNEP or FNP families will be better able to meet their food and nutrition needs. However, we wanted to see if there were other factors, in addition to nutrition education, that influenced how families coped with meeting the food and nutritional needs of their members. Some of the individuals who were recruited to participate in this study participated in EFNEP and FNP on a voluntary basis. However, some participants were required to participate in EFNEP and FNP by a local workforce development agency in which they received services.
Incentives

Incentives were provided to recognize the time, energy and important contributions the participants made in helping to further understand the phenomenon. Lack of or inadequate childcare, and lack of or reliable transportation have been cited as barriers to participation in education programs (Shirer et al., 1996). Thus, to ensure adequate participation, we included a variety of incentives.

Each focus group and in-depth interview participant received either a $25 gift certificate to a local grocery store or $25 in cash, and a children's book focused on a nutrition topic for their participation. A registered childcare provider provided childcare on site during the focus groups, and a $10 childcare subsidy was provided to participants who arranged their own childcare. Transportation was provided if needed (e.g., via a taxi driver paid by the research study, or a volunteer), or a $10 transportation subsidy was provided if participants arranged their own transportation. Light refreshments were provided during each focus group for the respondents, as well as for their children if they were present. Case study participants received $150 cash for their participation ($50 after the first six months and $100 after the second six months), as well as small incentives (i.e., wire whisk, plastic colander, air freshener, children's book, baby's bib, magnetic notepad) throughout the year to show appreciation for their participation.

Confidentiality and consent

Measures were taken to assure confidentiality and respect for families in data collection and reporting. Audiotapes were transcribed using no personal identifiers on the transcriptions. The tapes, transcriptions and field notes are locked in a file cabinet and the
tapes will be destroyed after five years. A participant consent form indicating permission to be a part of this study, confidentiality on the part of the researcher, as well as on the part of the participant, was developed (see Appendix A). Each participant was asked to review and sign the informed consent form before each interview. Participant consent documentation is kept separate from all data. Pseudo names for participants in the study were used for confidentiality in reporting the results.

Data Collection

The Iowa State University Committee on the Use of Human Subjects in Research insists that researchers make sure that the rights and welfare of the human subjects are adequately protected, that risks are outweighed by the potential benefits and expected value of the knowledge sought, that confidentiality of data is assured, and that informed consent is obtained by the proper procedures. The procedures for this study were reviewed and approved by the committee, and followed throughout the study.

Multiple methods of data collection were used including focus groups, in-depth interviews, and case study interviews (which included an observation component, such as observing families grocery shopping, planning, preparing and consuming meals). A protocol, including procedures and questions for conducting the interviews, was developed based upon a review of the literature, input from the advisory committee, participatory action research, and the interviews (focus group, in-depth, and case study). The protocol is included in Appendix B.

Each method provided a different "lens" through which to observe the data, thus adding richness to the data. The use of multiple methods, along with involving a team of
researchers in the study, served as a form of triangulation to allow the strengths of one
method to compensate for the limitations of another method, and to ensure credibility
(Brotherson & Goldstein, 1992; Creswell, 1994; Lincoln & Guba, 1985). This process also
allowed the researchers to look for consistency of data across the methods used (Guba.
1981), and allowed "thick," descriptive data about the families and their environments to be
gathered. This contextual information provides readers with a greater understanding of the
context in which the data were drawn, thus providing for greater transferability of the
findings (Brotherson & Goldstein, 1992; Guba, 1981).

Focus groups

Focus groups were conducted to provide opportunities for individuals to interact with
one another to share experiences and beliefs, as well as challenge each other's perceptions.
thus, furthering understanding of attitudes, behaviors and contexts from several points of
view (Patton, 1990). Seven focus groups over a period of five months were conducted in six
different communities in Iowa, ranging in population from approximately 2,700 people to
193,000 people. The counties were selected based on whether or not they had an EFNEP
(Expanded Food and Nutrition Education Program) or FNP (Family Nutrition Program)
(nutrition education programs targeting limited resource families), and whether the
paraprofessional(s) located in the county had the time available to help recruit participants
and identify an interview location. A range of four to nine low-income women with young
children participated in each focus group. Focus groups were held in a family resource
center, library, extension office, and churches. Extension nutrition education
paraprofessionals identified locations that would be familiar to participants, would be viewed
as nonthreatening and safe, and had facilities to provide childcare during the focus group interviews. Paraprofessionals recruited participants in person, keeping in mind the criteria established by the research team. Follow-up letters of invitation were sent with directions to the interview site. The night before the interview the paraprofessional called the participant to remind her of the interview and ask if she had any questions.

A moderator and an assistant moderator conducted each focus group. The primary role of the moderator was to explain the focus group process, ground rules, and facilitate the group discussion and interaction. The assistant moderator ensured that the audio equipment worked properly and the temperature and lighting of the room were comfortable. The assistant moderator welcomed and oriented any respondents who arrived late to the interview, and recorded notes during the interview pertaining to seating arrangement, change in the direction or nature of the questions, group dynamics, and key comments from respondents. Throughout the study, the lead researcher and the graduate student alternated playing the moderator and assistant moderator roles.

**In-depth interviews**

In-depth interviews allowed opportunity to explore further perceptions of the phenomenon with individuals, thus adding depth to the focus group data where needed. One individual from each focus group who was particularly articulate on the issues discussed, or who shared a perspective that was quite unusual in comparison to other respondents and who was available for a one- to one-and-a-half hour follow-up interview, was invited via a phone call and follow-up letter to participate in an in-depth interview. Six of the seven in-depth interviews were held in the participants' homes, and one interview was conducted via the
telephone. The telephone interview was conducted because the researcher and the participant were not able to find a common date and time that would work for the researcher to travel to the participant’s home (three hours away) to conduct the interview.

**Case study interviews and observations**

Case study interviews and observations provided opportunities to obtain an in-depth look at the participants’ daily lives. The three case studies were conducted over a one-year period of time by paraprofessionals who work with low-income families through the EFNEP and FNP. The case studies were conducted in three different communities: a city of approximately 193,000 people, a town of approximately 2,000 people between two larger communities, and a town of approximately 1,300 people. Each paraprofessional identified two or more recent nutrition education program graduates who were interested and willing to participate in a series of interviews, were able to articulate their experiences, and had varying life situations that would lead to better understanding of the issues at hand. The research team reviewed the characteristics of all the individuals identified, and then selected three individuals who represented a range of life experiences and situations. During the first six months of the study, interviews were conducted weekly either in person (45-60 minutes), or via telephone (20-30 minutes). During the second six months, interviews were conducted in person for one to one-and-a-half hours on a monthly basis. All interviews were audiotaped and detailed field notes of observations were recorded. In addition, photos were taken of the participants engaged in activities related to meeting their food and nutrition needs (i.e., grocery shopping, planning, preparing and eating a meal), as well as their living situation.
(i.e., house, neighborhood, family) to add other dimensions to illustrate and understand the phenomenon.

Debriefing

Immediately following each interview, the researchers shared their reflections of the interview and the emerging data with each other. Adaptations for subsequent interviews were made based upon discussions. The researchers noted information and issues that were most salient. The debriefing sessions were audiotaped for later reference, and key notes were written down on paper. A sample of debriefing notes is provided in Appendix C.

Data Analysis

The data analysis was guided by the grounded theory approach outlined by Strauss and Corbin (1998), as well as by writings of experts in the field of qualitative research (Glaser & Strauss, 1967; Guba, 1981; Lincoln & Guba, 1985). The research team strove to be theoretically sensitive (to understand what is important and give meaning to it) (Strauss & Corbin, 1998) by periodically stepping back and asking, “What developments are taking place,” and “What are the prevalent issues that families are facing?”

Initial process

Data from the focus groups and in-depth interviews were transcribed verbatim by a graduate student who was a member of the research team. Approximately 650 pages of text were generated from 21 audio-tapes. The case study data were transcribed verbatim by three paraprofessionals who were also members of the research team. Over 700 pages of text were generated from these data.
After the tapes were transcribed, three members of the research team read and reread the transcriptions several times to familiarize themselves with the data, and to identify emerging themes and scrutinize the data for discrete ideas (Creswell & Brown, 1992) using the process of constant comparative analysis (Glaser & Strauss, 1967). The researchers marked relevant passages that met the criteria of relevance and meaningfulness as defined by Seidman (1998). Seidman (1998) considers passages to be relevant and meaningful if they:

1. reveal data that is meaningful to the reader;
2. reveal conflict between people or within a person;
3. reveal hopes expressed and whether or not they are fulfilled;
4. contain language that indicates beginnings, middles and endings;
5. reveal frustrations and resolutions;
6. show indications of isolation and community;
7. describe the way issues of class, ethnicity, and gender play out in people’s lives;
8. show the way hierarchy and power influence people.

The researchers did not go looking for these criteria, but when they appeared in the data they placed brackets around them. During this stage of analysis it was important for the researchers to acknowledge they were exercising judgment about what was significant in the transcripts, and they needed to trust their instincts.

By identifying emerging themes and discrete ideas, the researchers reduced the material and began to analyze, interpret and make meaning of the data. Through member checks, the researchers checked with respondents to see if what they identified as meaningful was consistent with what respondents identified as meaningful.

Researchers wrote memos alongside the raw transcripts and recorded their insights and emerging themes via audiotape and journals. A sample of a journal entry is exhibited in Appendix C. As themes emerged, or questions about the data arose, data were reviewed with
the focus group respondents via in-depth interviews for clarification and deeper understanding. This process served as a form of member checking. The data were also taken to future focus groups and case study respondents to gather their insights pertaining to the emerging themes and whether or not the themes were present in their life stories. Based on the information derived, adaptations to the research design, procedures or questions were made as necessary.

Discussion of the transcripts continued until consensus was achieved. Marshall and Rossman (1995) refer to this process as bringing order, structure and developing meaning out of the vast collection of data. Eventually the organized themes were refined to a point where saturation of data was reached (Brotherson, 1994), and interviewing ceased. After consensus had been reached on all categories and codes where assigned to categories, the raw data were entered into QSR NUD*IST 4.0 (Non numerical Unstructured Data Indexing searching and Theory-building), a data management computer program. Categories were identified as “nodes”, and subcategories were identified as “children.” NUD*IST sorted the data by nodes and children in the computer printouts. The computer printouts were used extensively to review the classification of the categories, and to identify properties and dimensions of the categories. A sample of a NUD*IST printout indicating categories identified is exhibited in Appendix C.

Audit trail

Three of the six researchers met weekly to review the research design, emerging themes, and to record their perceptions, expectations and interpretations of the data. Their analysis and insights were recorded via memos alongside the raw transcripts and via
audiotape. In addition, written memos and audiotapes of data analysis and insights of all six researchers were recorded during two full-day meetings during the year. Four members of the research team met monthly via teleconferences to review and analyze data from the case study interviews. Memos of the data analysis and insights communicated during these meetings were recorded in written form. In addition, two of the researchers recorded their insights, and questions of the data and emerging themes in journals as the study progressed. These activities served as an internal audit trail of how the study and data were emerging over time (Brotherson, 1994).

**Developing the grounded theory**

In developing a grounded theory, it is essential to “ground” the theory in data from the field, especially in the actions, interactions, and social processes of people (Creswell, 1998). Following the guidance of Corbin and Strauss (1998), we used systematic procedures for analyzing the data and developing the grounded theory. The tasks we performed (as described in the following paragraphs) were not necessarily sequential analytic steps. For example, during the process of open coding, a sense of how some categories related to one another began to emerge, although an extensive look at how categories related to one another took place during the process of axial coding. In addition, although the central phenomenon was identified during the process of axial coding and placed in the visual model, it was further committed to and related to other categories during the selective coding process. Printouts from NUD*IST summaries were used to complete the tasks below. Throughout this process the research team referred back to the transcripts to review the raw data as needed.
Table 1 provides an overview of the coding process and definition of each step. Each step is discussed in detail in the narrative that follows.

**Step 1: Open coding.** Line-by-line and paragraph-by-paragraph, the research team began to identify concepts, "the building blocks of theory" (Strauss & Corbin, 1998, p. 101), and emerging themes from the data. This first step is referred to as open coding. Three members of the research team read each transcript several times individually to identify concepts and emerging themes from the data. During weekly meetings each member of the research team shared the concepts and themes they had identified. Team members discussed the concepts and themes extensively by comparing and contrasting the concepts and continually asking reflective questions of the data. The research team extensively discussed their agreements and disagreements in order to reach consensus on the categories and subcategories. Through the process of comparison and questioning, they identified properties and dimensions of data, and identified key quotes. Properties are "characteristics of a category, the delineation of which defines and gives it meaning" (Strauss & Corbin, 1998, p. 101).

<table>
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<tr>
<th>Step</th>
<th>Definition</th>
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<tr>
<td>1. Open coding</td>
<td>Concepts identified, compared and contrasted to form categories, properties and dimensions of categories discovered.</td>
</tr>
<tr>
<td>2. Axial coding</td>
<td>Categories are related to their subcategories by their properties and dimensions; a central phenomenon, conditions, strategies and outcomes are identified, and a visual model developed.</td>
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<tr>
<td>3. Selective coding</td>
<td>Theory is integrated and refined: major categories are related to the central phenomenon through explanatory statements of relationships, poorly developed categories are saturated through further theoretical sampling, theory is validated by comparing it to raw data or presenting it to respondents for reactions.</td>
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Dimensions are "the range along which general properties of a category vary, giving specification to a category and variation to the theory" (Strauss & Corbin, 1998, p.101). Key quotes were statements that appeared to illustrate the essence of important issues that were communicated by participants. Patterns in the data began to emerge through identifying properties and dimensions. This process resulted in the reduction of large amounts of data to smaller, more manageable pieces (Strauss & Corbin, 1998). Concepts were grouped into categories based on properties and dimensions.

Twenty-one initial categories were identified (see Appendix C). Strauss and Corbin (1998) refer to categories as "concepts that stand for phenomena." Phenomena are defined by Strauss and Corbin (1998) as, "...central ideas in the data represented as concepts " (p. 101). Properties and dimensions were also used as the basis for developing subcategories. "concepts that pertain to a category, giving it further clarification and specification" (Strauss & Corbin, 1998, p. 101). Thus, as properties and dimensions were identified, some of the initial twenty-one categories became subcategories, and five overarching categories were identified (i.e., social support, government policies, societal expectations, past experiences, and sense of control/personal empowerment). A list of the over-arching categories, their properties and dimensions, and the subcategories, is provided in Appendix C.

The following is an example that illustrates this process: Income from FIP or a job, WIC coupons, Food Stamps, affirmation and caring from family and friends, and information and skill building through nutrition education were all concepts that families reported helped them meet their food and nutrition needs. These concepts were compared and contrasted to identify their properties and dimensions. The following questions were asked: "How do Food Stamps differ from nutrition education in how they help families meet their food and
nutrition needs?” “How does a caring attitude, empathy and affirmation of one’s positive behaviors influence the ability to feed one’s family?” The research team identified that income, Food Stamps and WIC coupons were material objects that varied in amount per family. In addition, caring and affirmation were not tangible but related to feelings, attitudes and behaviors, and also varied in amount per family. Information and skill building were process-oriented, sometimes tangible and sometimes not tangible, and varied in amount or degree per family. Through this process of comparing and contrasting the research team identified similarities among concepts, as well as differences. Similarities among properties and dimensions led to the development of a central category (social support), whereas differences among the concepts led to the development of subcategories (tangible, emotional and education support).

**Step 2: Axial coding.** During axial coding the researchers began the process of reassembling the data that were “broken down into discrete parts” (Strauss & Corbin, 1998, p. 102) during open coding. The researchers reviewed data analysis summaries from NUD*IST several times and wrote memos alongside the summaries describing the relationships between categories. The researchers referred back to these memos, and added information and insights to them as they further analyzed the data. During this process they looked at how categories cross cut and link by relating categories to their subcategories along the lines of their properties and dimensions. They looked for answers to questions such as why or how come, where, when, how, and with what outcomes. For example, they asked, “How does tangible support help a family?” and “When is emotional support most influential for a family?” and “How can educational support influence the food and nutrition needs of families?” These questions helped to uncover relationships among the categories, thus
allowing the researchers to form more precise and complete explanations about the phenomenon.

The phenomenon (social support) was identified by looking for repeated patterns of happenings, events, or strategies that represented what participants said they did in order to try and meet the food and nutrition needs of their families. In addition, the researchers asked themselves the following questions: "What is going on here?" "What appears to be the main issues families are struggling with?" "What keeps appearing over and over again?" and "What is coming through the data, although it may not be said directly?" The questions of why, how come, where, etc., also helped to locate the phenomenon (social support) within a conditional structure, and identify the means through which the phenomenon is manifested, thus helping to relate structure to process. The conditional structure created the circumstances to which issues, problems or happenings pertaining to the social support arise or are situated. The process pertains to the strategies over time of low-income families, agencies, the government, and communities in response to certain problems or issues (i.e., meeting family food and nutrition needs). By combining structure with process the research team was able to identify and explore the complexity of the issue at hand (i.e., how low-income families meet their food and nutrition needs).

A visual model was developed to systematically gather and organize the emerging connections among the data (categories), thus integrating structure and process. To do this the researchers identified the variety of conditions (causal, contextual and intervening), strategies and consequences (outcomes) that were associated with the phenomenon (social support). It was important during this stage of analysis that the researchers kept in mind that they were coding for explanations of the data and to gain an understanding of the
phenomenon, not for the terms, "conditions, strategies and consequences." Doing so allowed the researchers to capture the vivid flow of happenings and the complexity of the relationships that resulted in interesting, plausible and complete explanations of the phenomenon (social support). Thus, during this stage of analysis, the theory began to emerge.

Figure 1 illustrates the components of the model and how they relate to one another.

![Figure 1. Components of the model](image)

Components of the model (i.e., conditions, strategies, consequences) are described below. Conditions help to answer the questions why, where, how come and when, and form the structure or set of circumstances in which the phenomenon is embedded. Three types of conditions were identified (i.e., causal, intervening and contextual). Strategies, or actions/interactions, are the strategic responses made by individuals to the issues, problems, or happenings that arise under the conditions. Consequences, or outcomes, answer the questions as to what happens as a result of strategies, or as a result of the failure of persons to respond to situations by strategies. Consequences may be intended or unintended, of varied
duration, visible to self and not others or visible to others and not self, immediate or cumulative, and reversible or not reversible. The impact of consequences may be narrow (only affecting a small part of the situation) or widespread (several consequences interacting with each other to create a series of events that completely alters the context). After forming the visual model, propositions were developed (see Chapter 4). Propositions are a set of statements that depict relationships among concepts in a theory.

**Step 3: Selective coding.** During selective coding the researchers integrated and refined the identified categories by moving back and forth between various steps. During axial coding they identified a central phenomenon that depicted the salient issues of the research problem, and explored relationships among categories and subcategories. During selective coding a “storyline” (Strauss & Corbin, 1998, p. 148) was written to further illustrate how the overarching categories and their subcategories related to the phenomenon (social support). To accomplish this, the data were reviewed again (NUD*IST summaries), and a descriptive story of how the data related to one another was written. This story included statements regarding the relationships under varying contextual conditions; these statements were then verified against the data. When cases did not seem to fit in the visual model (i.e., negative cases), the researchers traced back to discover the conditions that caused variation and incorporated them into the theory.

For example, many of the participants responded that they felt they were “worse off” in terms of meeting their food and nutrition needs by being employed than by not being employed and receiving the full food stamp benefit amount. However, one woman stated that she was able to meet her family’s food and nutrition needs more adequately by being employed than being on welfare. As the researchers further examined the conditions
surrounding this individual's situation, they found that the woman had several social supports in place (i.e., childcare, clothing and food occasionally provided by her mother, reliable transportation, food pantries, emotional and educational support from an EFNEP paraprofessional and family members living nearby), earned a wage above minimum wage and had opportunities for advancement, was working 50-60 hours a week, and had a strong sense of personal empowerment. Thus, the researchers needed to incorporate these conditions into the theory: parents are more likely to be able to meet their family's food and nutrition needs given the conditions of extensive social support, strong sense of personal empowerment, earning above minimum wage and working more than 40 hours a week.

To further refine the theory the researchers reviewed the theoretical scheme to ensure that it flowed in a logical manner and did not have inconsistencies. They reviewed the central phenomenon and its meaning by going back through memos written alongside the raw transcripts and NUD*IST files to see if more detail could be added to the definition of its categories and dimensions. They discovered that people varied in their use of available social support based on their values, attitudes, beliefs, and past experiences. The extent of their use of social support influenced the outcomes for their families. Thus, the parents who stated that "other people were worse off" would not access food at their local church food pantry and, thus, at times, found themselves short on food supplies for their families.

To check for consistency and logic development, it was important for the researchers to step away from the data and ask themselves, "What are the properties of the overarching categories?" and then go back and see how much had been built into the theory. To check for "density" of the theory, the researchers reviewed the overarching categories to see if their properties and dimensions were developed adequately to demonstrate their variability as
concepts. “Density” means that the salient properties and dimensions of categories have been identified to build in variation, give categories precision, and strengthen the explanatory power of the theory. When the properties or dimensions were not developed adequately, the researchers reviewed the transcripts and memos to identify data to fill in the gaps.

Theoretical saturation was reached when no new properties or dimensions emerged from the data, and the analysis was appeared to account for most of the potential variability of the theory. To validate the theory the researchers performed four tasks: (1) they compared the visual model with the raw data to see if the model could explain most of the cases; (2) they took the model to members of the research advisory committee, who provided input on current literature and research in this area, to gather their perspectives on how well the model depicted the experiences of families; (3) they took the model to the case study respondents and asked them to comment on how well the model fit their cases; and (4) based on the feedback received, the researchers altered the model to illustrate the process families use to meet their food and nutrition needs.

At this point in the analysis the researchers compared the grounded theoretical model and its propositions with various human and family development theories and models (e.g., Family Systems Theory, Bronfenbrenner’s Ecological Theory of Human Development, and Double ABCX Model: Family Adaption) for similarities and differences. These existing theories and models were used to provide insight into the findings of the grounded theory. Finally, propositions were developed to explain the experiences of the participants.
CHAPTER 4. RESULTS AND DISCUSSION

This study was conducted to answer the research question: "What helps, and what makes it difficult for low-income families to meet their food and nutrition needs?" A grounded theory was developed based on interviews with forty-nine women in Iowa.

Forty-nine women were interviewed (46 women interviewed via focus group and in-depth interviews, and three women interviewed via case study interviews), ranging in age from 16–46 years (average age=31 years). The majority of the women were Caucasian 78% (n=39), however, some of the women were of other races: 7% (n=3) Hispanic, 4% (n=2) Asian, 9% (n=4) African American, and 2% (n=1) Native American. Fifty-nine percent (n=29) of the women reported that another adult lived in the household, 22% (n=11) reported being the only adult living in their household, and 18% (n=9) did not comment on this item. Eighteen percent (n=9) of the women had earned a Bachelor’s degree, 6% (n=3) were currently in college, 59% (n=29) were high school graduates or had earned a G.E.D., and 16% (n=8) had less than a high school education or G.E.D. The number of children in the households ranged from one to eight, and two of the women were pregnant. Children ranged in age from 10 weeks to 19 years (average age was 6 years). Median household income per month was $1,050. The women participated in a range of public assistance programs: 49% (n=24) food stamps, 65% (n=32) WIC, 33% (n=16) TANF, 27% (n=13) School Lunch and/or School Breakfast, and 18% (n=9) Head Start.
Development of the Grounded Theory

Using the process of open coding, 21 initial categories were identified from the data (Table 2). Through the process of identifying properties and dimensions of the categories, and how the categories related to each other, five overarching categories and several subcategories were identified. The overarching categories were social support, societal expectations, government policies, past experiences, and sense of control/personal empowerment. Subcategories, which are defined as concepts that pertain to an overarching category, thus giving it further clarification and specification (Strauss & Corbin, 1998), are as follows: emotional support, tangible support and educational support (social support); attitudes, values, and beliefs of society at-large, stigma with welfare, mothers as primary providers of food and nutrition, media messages, keeping busy as a family (societal expectations); PRWORA requirements, Food stamp benefit calculations (government policies); role models, skills and knowledge learned, parental guidance, hunger, food habits, family traditions (past experiences); and self-efficacy, motivation, access to resources, knowledge and skill (sense of control/personal empowerment). Overarching categories and their specific properties and dimensions can be found in Table 3. Overarching categories and their subcategories can be found in Table 4. Some of the twenty-one categories that were initially identified did not become overarching categories or subcategories. However, these categories continue to represent relevant data; therefore they are depicted in the visual model (Figure 2).

Various initial categories were renamed and/or divided into two categories later in the analysis process to communicate their meaning better. For example, parental influences was renamed parental guidance, and societal influences was renamed societal expectations. The
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Family support (immediate, i.e., husband, children, boyfriend and extended family members i.e. grandparents, aunts; emotional, tangible, educational support)</td>
</tr>
<tr>
<td>2.</td>
<td>Friend support (friends living nearby, experiencing similar situations; emotional, tangible support)</td>
</tr>
<tr>
<td>3.</td>
<td>Community support (attitudes of neighbors and people in grocery store: help finding resources to meet basic needs, i.e., clothing, furniture, pay utilities; play groups, role modeling; emotional, tangible, educational support)</td>
</tr>
<tr>
<td>4.</td>
<td>Community food resources support (food pantries, salvation army meals, community action: tangible support)</td>
</tr>
<tr>
<td>5.</td>
<td>Faith community support (emotional support from belief in higher power, and members of church community; educational support i.e. cooking)</td>
</tr>
<tr>
<td>6.</td>
<td>School support (communicating nutrition messages, food served)</td>
</tr>
<tr>
<td>7.</td>
<td>Government assistance programs (FIP, WIC, food stamps, CACFP; offer tangible support, can be emotionally unsupportive; conflicting messages on promoting self-sufficiency)</td>
</tr>
<tr>
<td>8.</td>
<td>Educational programs (FNP, EFNEP provide emotional and educational support; CACFP, WIC provide tangible and educational support)</td>
</tr>
<tr>
<td>9.</td>
<td>Employment (income earned, as well as effects of employment such as lack of time for food preparation, less time with children, increased stress to balance work and family, perception of being worse off with a job than being unemployed because of loss of Food Stamp benefits and other assistance)</td>
</tr>
<tr>
<td>10.</td>
<td>Lack of time (to prepare meals; seen as a stressor)</td>
</tr>
<tr>
<td>11.</td>
<td>Family preferences (preference of children, husband, boyfriend; often seen as a stressor)</td>
</tr>
<tr>
<td>12.</td>
<td>Parental influence (attitudes and behaviors of parents; parental responsibilities, role models)</td>
</tr>
<tr>
<td>13.</td>
<td>Food security (fear of not having enough food, of having food or food stamps stolen, having less money or food stamps to acquire food)</td>
</tr>
<tr>
<td>14.</td>
<td>Societal influences (values, attitudes of society at large, welfare reform, media, mothers as primary providers of food and nutrition, keeping busy as a family)</td>
</tr>
<tr>
<td>15.</td>
<td>Life events (normative transitions- pregnancy, birth of child, aging, entering workforce; non-normative transitions- divorce, health issues of family members, car accident and job loss. Health issues (examples): diabetes, obesity, high cholesterol, high blood pressure, heart attack, arthritis, allergies, pregnancy, sick from flu, gastrointestinal problems, Chron’s disease, dental issues (several cavities, loss of teeth), drug addiction, car accident resulting in hospitalization and bills.</td>
</tr>
<tr>
<td>16.</td>
<td>Family make-up (age of children, family structure, size of family, fluctuating family membership)</td>
</tr>
<tr>
<td>17.</td>
<td>Self-efficacy (motivation, attitude, belief in ability, vision for future; seen as perception)</td>
</tr>
<tr>
<td>18.</td>
<td>Physical environment (working cooking equipment i.e. stove, microwave, appropriate utensils, i.e., muffin pans, pizza pans, shredder)</td>
</tr>
<tr>
<td>19.</td>
<td>Transportation (lack of any transportation and reliable transportation)</td>
</tr>
<tr>
<td>20.</td>
<td>Childcare (accessibility, cost, quality)</td>
</tr>
<tr>
<td>21.</td>
<td>Knowledge and skills (related to nutrition, cooking, resource management; seen as a personal resource; developed as youth, through nutrition education, i.e., EFNEP and FNP, WIC, CACFP, or as adult through learning from a husband, boyfriend, sister)</td>
</tr>
</tbody>
</table>
Table 3. Overarching categories, properties, and dimensions derived from axial coding

<table>
<thead>
<tr>
<th>Overarching categories</th>
<th>Properties</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support</td>
<td>Type</td>
<td>Tangible to intangible</td>
</tr>
<tr>
<td></td>
<td>Duration</td>
<td>Duration: Short to long-term</td>
</tr>
<tr>
<td></td>
<td>Outcomes</td>
<td>Evasiveness: Direct to indirect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intensity: Low to high level</td>
</tr>
<tr>
<td>Emotional support</td>
<td>Affirmation</td>
<td>Duration: Short to long-term</td>
</tr>
<tr>
<td></td>
<td>Empathy</td>
<td>Intensity: Low to high level</td>
</tr>
<tr>
<td></td>
<td>Encouragement</td>
<td></td>
</tr>
<tr>
<td>Tangible support</td>
<td>Cash</td>
<td>To pay existing bills: to pay future bills</td>
</tr>
<tr>
<td></td>
<td>Food stamps</td>
<td>To meet total family food needs; to meet partial family food needs</td>
</tr>
<tr>
<td></td>
<td>Food from family, friends,</td>
<td>To supplement food supply: to provide major proportion of food supply</td>
</tr>
<tr>
<td></td>
<td>emergency food resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Childcare</td>
<td>Occasionally provide childcare: to provide total childcare</td>
</tr>
<tr>
<td></td>
<td>Transportation</td>
<td>Provide routine transportation to grocery store</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Duration: short to long-term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intensity: basic to in-depth</td>
</tr>
<tr>
<td>Educational support</td>
<td>Information</td>
<td>General to specific needs</td>
</tr>
<tr>
<td></td>
<td>Skill building</td>
<td>Duration: short to long-term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intensity: basic to in-depth</td>
</tr>
<tr>
<td>Past Experiences</td>
<td>Personal</td>
<td>Close family relationships to relationships that are not close</td>
</tr>
<tr>
<td></td>
<td>Long-lasting effects</td>
<td>Pleasant to unpleasant interactions and memories</td>
</tr>
<tr>
<td></td>
<td>Role modeling</td>
<td>Skills and knowledge passed on or not passed on</td>
</tr>
<tr>
<td></td>
<td>Emotional</td>
<td>Negative to positive influence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intensity: short to long-term experiences</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prevalent to not prevalent</td>
</tr>
<tr>
<td>Societal expectations</td>
<td>Build on middle-class, Protestant</td>
<td>Family centered to non-family centered</td>
</tr>
<tr>
<td></td>
<td>values &quot;Work ethic&quot;</td>
<td>Short sighted to visionary</td>
</tr>
<tr>
<td></td>
<td>Developed over a period of time</td>
<td>Realistic to unrealistic in today's world</td>
</tr>
<tr>
<td></td>
<td>Unrealistic expectations in today's</td>
<td>Long standing vs. new</td>
</tr>
<tr>
<td></td>
<td>world</td>
<td></td>
</tr>
<tr>
<td>Government policies</td>
<td>Goal: self-sufficiency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protects/safety net</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gaps</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Politically driven</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reflect societal expectations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Far-reaching effects</td>
<td></td>
</tr>
<tr>
<td>Sense of control/</td>
<td>Sense of control in one's life</td>
<td>Pertain to many aspects of life to few aspects of life</td>
</tr>
<tr>
<td>Personal empowerment</td>
<td>Good sense of self-esteem</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feel successful</td>
<td>Frequency: daily to occasionally</td>
</tr>
<tr>
<td></td>
<td>Feel confident</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feel proud</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Belief of being a good parent</td>
<td></td>
</tr>
</tbody>
</table>
Table 4. Overarching categories and subcategories derived from axial coding

<table>
<thead>
<tr>
<th>Overarching category</th>
<th>Subcategories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Social support</td>
<td>Tangible</td>
</tr>
<tr>
<td></td>
<td>Emotional</td>
</tr>
<tr>
<td></td>
<td>Educational</td>
</tr>
<tr>
<td>2. Societal expectations</td>
<td>Attitudes, values, and beliefs of society at-large</td>
</tr>
<tr>
<td></td>
<td>Welfare stigma</td>
</tr>
<tr>
<td></td>
<td>Mothers as primary providers of food and nutrition</td>
</tr>
<tr>
<td></td>
<td>Media messages</td>
</tr>
<tr>
<td></td>
<td>Keeping busy as a family</td>
</tr>
<tr>
<td>3. Government policies</td>
<td>PRWORA. 1996 requirements</td>
</tr>
<tr>
<td></td>
<td>Food stamp benefit calculations</td>
</tr>
<tr>
<td>4. Past experiences</td>
<td>Role models</td>
</tr>
<tr>
<td></td>
<td>Skills and knowledge learned</td>
</tr>
<tr>
<td></td>
<td>Parental guidance</td>
</tr>
<tr>
<td></td>
<td>Hunger</td>
</tr>
<tr>
<td></td>
<td>Food habits</td>
</tr>
<tr>
<td></td>
<td>Family traditions</td>
</tr>
<tr>
<td>5. Sense of control/ personal empowerment</td>
<td>Self-efficacy</td>
</tr>
<tr>
<td></td>
<td>Motivation</td>
</tr>
<tr>
<td></td>
<td>Access to resources</td>
</tr>
<tr>
<td></td>
<td>Knowledge and skill</td>
</tr>
</tbody>
</table>

initial categories that pertained to social support (i.e., family support, community food resource support) were reclassified into three subcategories of social support (i.e., emotional support, tangible support, and educational support). Government policies was an overarching category that emerged from the initial categories of government assistance programs, societal influences, and employment. The initial category, employment, was eventually dropped as a category because concepts related to its meaning were merged into other categories (i.e., government policies). Past experiences is also an overarching category that emerged as a result of pulling together concepts related to the initial categories (i.e., skills and knowledge, parental influences).
Figure 2. A visual model illustrating the process low-income families use as they strive to meet their food and nutrition needs
After identifying the overarching categories, the researchers further explored relationships among the categories and their subcategories using axial coding. Relationships between overarching categories and subcategories are illustrated in a visual diagram (see Figure 2). To develop the grounded theory, a central phenomenon was identified (social support), as well as conditions (causal, contextual and intervening), strategies and outcomes. The core logic of this model suggests that when select causal conditions exist (e.g., government policies, past experiences), and these conditions influence a phenomenon (social support), strategies are taken (e.g., juggle resources, provide less food, etc.) to achieve the best outcome possible (meet the food and nutrition needs of family members). To further explain the model examples of each component are included in the following paragraphs.

Central phenomenon (social support)

Emotional support

Social support consisted of three primary forms of support: emotional, tangible, and educational. Emotional support, as defined by the data, included listening, affirming feelings, accepting people for who they are, being nonjudgmental, acknowledging one’s efforts, empathy, and encouraging words. Family members served as a source of emotional support for some participants. Children, spouses and boyfriends who were willing to try new foods and showed appreciation for the work that goes into preparing the food encouraged the women, as illustrated by this quote, “I love when my kids say, ‘Mom that is really good.’ It makes you feel smart...when they clean up their plate you know you’ve done well.” However, family members who were “picky eaters” and who did not show appreciation resulted in women feeling stressed and unappreciated. Some women received support from peers and
friends that led to increased self-confidence. "If you have a good friend that kind of boosts you, cause you have someone in your corner...when you know people that have been where you have been then that makes it easier knowing that you are not nuts, that someone else has been through it, too."

Observing others who have been in a similar or a more difficult situation, and who have been able to move on also is a source of emotional support. For example, one woman shared, "I'm looking up to her because five boys and one girl and I'm like, my God, and I said well, if she can do it, I know that I can do it." Some women felt a sense of connection and support from friends that nurtured their confidence. One woman stated, "I wouldn't know what to do without my woman friends, we all nurse and discipline each other's children."

However, many of the women did not feel they had friends to reach out to for help. "I have nobody to support me, so I'm by myself. I'm doing all this and I have done it by myself;"

"...us being in the house by ourselves, it can get lonely...I don't get out much." and "I don't have any volunteers like the septuplet's parents. I have nobody" (this mother was raising eight young children).

Emotional support commonly came from staff of the Expanded Food and Nutrition Education Program (EFNEP) and the Family Nutrition Program (FNP). Parents reported, "She [FNP paraprofessional] is very unassuming and comes in with the attitude, 'What can I do for you? How can I help you?' It really boosts your self-esteem to have somebody like that." "I wouldn't still be in my job if it wasn't for her (EFNEP paraprofessional) helping me and being there by my side all the way through," "...last year, and it was because of this program (FNP). my self-esteem went up 100%," and "Just to know someone cares about your
nutritional needs and is just there to help out, you know. The supportiveness of the program-it's good.”

Although some of the women participated in a faith community, overall they did not view the people who belonged to that community as a source of support. However, one woman spoke extensively of how her faith and faith community helped to encourage her and gave her hope. “Every church body is there to reward and encourage me, give me personal strength and spiritual strength... it's all interrelated into how you go on with your life, and meals is a part of your life.” Another woman shared, “I learned a lot (about cooking) from the ladies where I go to church.”

Participants shared that it would be helpful if staff of public assistance programs provided more emotional support. “...they need some type of support group to tell these women. 'You can get daycare. It's kind of hard to get to school and do the laundry and to take care of the kids, but you can do it. You can do it. It will be okay.” Many of the women who participated in Promise Jobs (job training component of the Family Investment Program, Iowa's version of TANF) stated that they felt the Promise Jobs workers were not empathetic to their situations or supportive. One woman said, “She [Promise Jobs staff member] was acting like she was so above me, and I'm like you're not above me, you're trying to help people like me... I don't want to be on welfare. It isn't nothing anybody wants to do.” Another woman shared, “He [Promise Jobs staff member] was in a position to help a lot of these women hold themselves up and get out (of welfare), and it was not going to happen.”
Tangible support

Tangible support took many forms in the data, including money, food, childcare, and transportation. Cash benefits from the Family Investment Program (FIP), income from employment, and money from family members or boyfriends helped the women meet their basic living expenses (e.g., rent, utilities, transportation costs). Reimbursement checks from the Child and Adult Care Food Program (CACFP) (for those participants who were childcare providers) offered support in two ways: (1) the reimbursement check was used to purchase food for the children they cared for, as well as for their family as a whole if they budgeted their money tightly and used smart shopping strategies; and (2) the reimbursement check served as a source of cash flow to cover bills until income from FIP or other employment became available. One woman shared, “I guess I kind of lucked out. With the food program [CACFP] they reimburse me for meals so I got that check and that helped. Otherwise, it would have been tough. I would have had to look at things different.”

For many participants, food stamps were seen as the family’s primary resource for food. Many participants believed their family’s food needs were better met when they received the full food stamp benefit amount and were unemployed, as compared to when they were employed and had cash to pay their bills. The following quotes illustrate this belief:

“After 5 1/2 years of getting off assistance...we don’t eat nearly as well as we did when we were on food stamps...I had more money in my budget then because I knew that you can’t take your food stamps and pay your babysitter.”
...you might not buy as good of food as what you will buy if you got food stamps."

and "...you have to pay the babysitter so you can have the job. you have to pay the bills so you have a place to live. so the food suffers."

In addition, many women tapped into a range of community food resources to help feed their families. Women shared, "I have other food resources besides food stamps. I know places where I can get free bakery items, free donations. I use those as part of our total family meals," "Like if you run out of food stamps you can go there [community action agency] and get something." "...shopping is really hard and I don’t even get to the grocery store that often. We get food from the food pantry." "...I have a job...I have food pantries available to me so that I can feed my family." and "That’s pretty much what I get from the stores. like stuff that I can add to...I get canned stuff at the food pantry." One participant shared that the Salvation Army helped to provide food for her family, "We couldn’t afford to eat out and we couldn’t always afford good food. But, that was one way to get a nutritious meal."

Food coupons from the Women, Infants, and Children Supplemental Food Program (WIC) helped to feed young children and “free up” income that could go towards other family expenses (e.g., rent, utilities, clothing). Sometimes other family members benefited from the food provided by WIC if it was not all consumed by the young child(ren). Family members were an occasional resource for food if they lived nearby. Grandparents occasionally invited their children and grandchildren over for a meal, brought food to their children’s homes, or provided money for food. “It’s hard to cook food with eight children around all the time. She (grandmother) was there to cook meals for them...she would have us over there for meals.”
Two participants stated that they buy food in bulk with a network of friends and divide the food to save money. One participant shared that she and her friends garden and can together to save on food costs.

Support from family members in caring for young children helped some participants be able to work to earn income. However, many of the participants expressed concern about the impracticality of working at a low-paying job, and finding and paying for childcare and the costs of transportation (e.g., gasoline, car repairs). They shared that they could not afford to pay for childcare and transportation costs given the amount of money they would earn from a job. They believed their families were worse off when they were employed as compared to being unemployed and receiving welfare benefits. One woman responded, "Why should I pay someone else to raise my children when what I make doesn't put us ahead?"

Grandparents and friends helped to provide transportation to the grocery store. Two participants stated that they would occasionally get a ride with their mothers to the supermarket across town where there were better prices. One participant (who lived in a rural town) said that she would wait to buy groceries until her neighbor was going to the supermarket in a town twenty miles away so she could save money and have better food choices.

**Educational support**

Educational support typically came from community agencies (Iowa State University Extension via EFNEP and FNP, WIC and CACFP) and helped participants increase their confidence, reaffirmed what they already knew, increased their awareness of current eating habits, helped them understand the nutritional needs of family members, taught them about
positive approaches to feeding children, and assisted them to acquire other knowledge and skills to improve their situations. Participants reported that they developed menu-planning skills that helped them prepare more nutritious meals and save money. Several participants shared that, through nutrition education, they learned how to look at the total resources available to them to feed their family (food pantries, WIC, food stamps, income, etc.), how to budget their money and stretch their food stamps, get “good buys,” avoid wasted food, read food labels and comparison shop, acquire basic cooking knowledge and skills, prepare more balanced meals, choose and prepare foods with less sugar and fat, and deal with family members who were “picky eaters.”

Comments to support the above statements include: “I portion the money... I still have like $20 or $30 left in food stamps that I can save for next month”, “...it gives you more information and then you are a better parent because you can make more choices, more informed choices”. “I have the knowledge to feed him well”. “It strengthened my family...my family’s health. It’s made me feel like a better person, a better mom, a better wife...it’s given me self-confidence. It’s made my kitchen my friend instead of my enemy”. “It made you think about when you shopped. Just being able to talk with someone about it makes you aware of it”. “The nutrition program tried to give you simple recipes and give you ideas...help with the planning.” “It (EFNEP) was good because...they’d talk to you about the importance of nutrition. It made you think about it”. “...having the knowledge and education. It’s really changed my life and it’s made my life a lot better”, “I got, from Jan (FNP staff) a lot of good advice instead of having to sit down and make a meal that takes 2 hours. Using those leftovers saves us not only money, but keeps us healthy”, and “What I learned most from her (EFNEP staff) was that it is okay not to make a perfect meal every night and that took a lot of
pressure off.” Nutrition education delivered in groups also helped to build a sense of support among women. One participant shared, “...we were all looking forward to seeing each other...we were ready to learn...if all of the rest of them are older than me (teenager) then there is something that I can learn from them and it’s something that if they have teenagers that are my age then they can learn from me.”

Participants shared conflicting stories regarding educational support from their children’s schools. A few participants felt good about the school serving nutritious foods and encouraging children to try new foods. One participant shared, “Jesse will come home and say: ‘Can we buy kiwi or mango?’ It does influence.” However, many participants were frustrated with the food choices offered to children, and the lack of guidance from school personnel in helping children make good food choices. They felt schools were not doing a very good job of promoting good nutrition, which made their job as parents to promote good nutrition at home more difficult. One participant said, “I can look at the school menu with my child and point out some good foods for him to eat. However, at school he can choose whatever he wants. So, if he wants the brownie and chips, that’s what he can do. He doesn’t have to eat the other foods.”

Conditions (causal, intervening, and contextual)

There are three types of conditions in the model: causal, intervening and contextual. Conditions formed the structure in which phenomenon was embedded and helped to explain why one person had a certain outcome or chose a certain set of strategies while another person didn’t. Although we differentiated the types of conditions, it was most important for us to focus on the complex interweaving of the conditions that led up to a problem or issue
that people responded to with strategies, and that resulted in outcomes (Strauss & Corbin. 1998).

Causal

Causal conditions represent a set of events that affect the phenomenon, and may have direct or indirect influence on strategies that families employ. Causal conditions may also shift and change over time, may affect one another, and may combine in various ways along different dimensions. The two primary types of causal conditions that emerged from the data were past experiences and government policies.

Past experiences: Experiences the participants had while growing up, as well as experiences they have had as adults, influenced their values, attitudes and behaviors. Participants reported that experiences from their childhood both positively and negatively influenced how they feed their children today. Many of the participants shared that they, as well as other women, did not learn about nutrition, managing money or how to cook when they were younger. It was not until they had children, or were married, that they learned some of this information and developed skills in these areas. If they did learn this information and develop these skills as adults, it was through “trial and error,” a sister, or through nutrition education (EFNEP or FNP). A participant (19 years old) said, “I didn’t realize everything you needed to know to feed a family.” Participants that did acquire knowledge and skill pertaining to cooking while they were growing up did so from observing family members (e.g., mother, grandmother, aunt, sister) or in a high school home economics class.
"It was from years of sitting near grandmother, my mother, aunts and seeing how they did it. I started cooking when I was seven...in the kitchen, pinching, you know trying to help, asking 'What goes where? Why do you do that?'"

Most participants indicated that they want just as good, or a better life for their children than what they experienced growing up. Some parents grew up in households that did not have much parent/child interaction. They did not eat meals together as a family and did not talk to each other often. When they did eat together, mealtime was often unpleasant. Parents shared that they want a more pleasant mealtime experience for their children than what they had experienced, and were willing to work hard to ensure it happens. Some parents grew up in households where food was sparse and they were always hungry. As children they had to find and prepare food for themselves. "When we were hungry she'd (mother) say: 'Go get an orange', and that would be our dinner." Participants stated that they were determined that their children will never go hungry. They remembered the pain they had felt, and did not want their children to experience this pain. "Often times my house didn't really have any food except maybe a can of soup or something. I find myself stocking my cabinets to make me feel like it's [food] there for my son."

Food habits and traditions often are passed down through generations. For example, some parents were raised in households in which a good portion of meat was served at each meal, and the food was prepared using a large amount of fat (e.g., pan and deep-fat frying). They learned that meat was essential to every meal, and to enjoy foods prepared with fat. As parents, they found themselves planning and preparing food for their family in a similar manner.
Traditional foods, especially if they were associated with holidays and fond family memories, continued to be desired and family traditions. Habits developed as youth are hard to break. One participant shared that as a child, whenever she was sad or upset her mother would give her something sweet to eat (e.g., cake or brownie). As an adult, she now finds it difficult to break herself of the habit of using food as a "comfort." She tries not to use food as a comfort with her children; however, for herself she often continues to use food as a comfort.

Some participants shared that experiences they have had as adults influenced their behaviors. One woman said, "...I had to, and out of desperation learned, what these programs were. Now, I am more than willing to pass them off to someone else." This woman had received public assistance for 5 1/2 years, and, at the time of the focus group, was employed as an income maintenance worker for the Iowa Department of Human Services.

Government policies: The primary government policies that families mentioned that influenced their ability to meet their food and nutrition needs were those regarding the calculation of food stamp benefits, and the work requirements of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA). Fluctuating food stamp benefits made it difficult for families to know the amount of resources they would have available to them each month to feed their families. Food stamp benefits fluctuated because household incomes frequently varied (e.g., loss of job, intermittent or seasonal employment, occasional multiple jobs), and food stamp benefits are largely based on monthly household income. Also, food stamp benefits are calculated on the household income earned two months prior to the actual receipt of the food stamp benefits. Thus, families often did not have an accurate picture of the amount of their food stamp benefit each month. Participants
stated that a household receives the same amount of food stamp benefits whether it has younger or older children. However, older children eat larger amounts of food as compared to younger children; thus the food stamps do not stretch as far.

Many participants shared that they felt welfare reform was making it harder to feed their families. They were being “forced” to get a job, and most jobs available to them paid minimum wage, or slightly higher. In addition, health care benefits typically were not included. They also would have to find childcare and transportation in order to be employed. One participant shared, “She (Promise Jobs worker) wants me to go right now, go to school and get a job, at least 30 hours a week. And are you guys helping me get daycare? My son can’t sit at home by himself—he’s 2 1/2. She says, ‘Well, we don’t help with babysitting.’ Well, I can’t get a job then. I mean that’s just the reality of things. I can’t and I told her.”

The majority of participants reported that income earned through employment, in many cases, would not make up for the difference in resources that they would lose from having their food stamp benefits reduced, as well as for the additional costs of childcare and transportation. However, one participant who was employed and believed that she was “making it” without welfare, shared:

My strengths are that I have a job, that I have an income. I have food pantries available to me so that I can feed my family. A life experience was getting off of FIP to get a job and my job paying well. So, I could get a job instead of a once a month income, I got a steady income. And I know approximately how much my checks were going to be each time I got paid to help feed and take care of my family. I feel great, I can give my kids more now versus when I was getting help...I can feed my family better now. I feel they’ll be a lot healthier. They get to try a variety instead of just the basic stuff. I can buy more fruits and vegetables, I can buy basically anything I want, but I can get more of it because I don’t have a limit of what I can spend at the grocery store. Like when you get your food stamps you get only a certain amount and that amount has to last you the whole month...I can buy a whole lot more fresh produce than when I was on aid. I can get them whenever I want to because on aid you
have to space out your food stamps to get you through it so that it don't go bad. So, you have to buy it and eat and it's kind of hard when you buy them all at one time in the beginning of the month and then you lose cause they go bad...

Thus, this participant felt she was feeding her family better by being employed than when she was unemployed and receiving welfare benefits. She reported that the money she earned through employment could be used more flexibly than her food stamp benefits.

Many participants reported frustration with the welfare system. They believed there were negative consequences of receiving welfare (e.g., negative stigma, welfare workers telling them what to do), as well as not receiving welfare (e.g., more food insecure; not better off financially when they take into account the cost of childcare, transportation, and having a job that does not pay a "living wage"; spending less time with their children, and experiencing increased stress of balancing work and family). Participants believed that welfare workers were in positions of power to help families, but did not always provide the support and encouragement that is needed to assist families to become self-sufficient.

Participants also believed that the government sent conflicting messages associated with welfare reform. The government wants families to be self-sufficient, but does not provide the support systems that are needed for families to become self-sufficient. A prevailing example from the data is the reduction of food stamp benefits as household income increases through employment, even though the employment they found does not often pay a "living wage."

Families also reported that receiving benefit payments once a month made it difficult to meet family food needs, as well as other needs. Families found it difficult to predict their food and other basic needs on a monthly basis, and preferred to receive payments biweekly. They
believed biweekly benefit payments would provide them more flexibility to meet the needs of their families.

**Intervening**

Intervening conditions mitigate or alter the influence of causal conditions on the phenomenon (Strauss & Corbin, 1998). Examples of primary intervening conditions derived from the data include societal expectations, a sense of control/personal empowerment, and life cycle issues.

*Societal expectations:* Participants were frustrated with societal expectations that are illustrated in PRWORA, and believed the expectations are unrealistic or very difficult to achieve given the situations they are experiencing. Many of the participants felt that people who had never experienced similar situations as theirs have difficulty visualizing their plight and lack empathy for their situations. The women supported the societal expectation that parents should be responsible for their children, which includes providing adequate, safe, and nutritious food for their children. However, they believed that society at large believes “you are not a good parent and aren’t trying if you are on welfare, you haven’t taken care of your children”. Many of the participants disagreed with this belief and felt that they were trying hard to care for their children, and to be good parents. They believed that the new work requirements resulting from PRWORA are unrealistic for some families, and may not be in the best interest of all families. For some participants, getting a job would help to meet a societal expectation, but would actually put their family in a worse situation financially (e.g., they would have less available resources to pay bills and purchase food if employed because their food stamp benefits would be decreased, and they may no longer be eligible for
subsidized housing). Some of the participants stated that the government was supposed to help families when they needed it, and they viewed that the help they asked for (i.e., food stamps, WIC, FIP) was needed. The participants believed they were in a "no-win" situation: they were "damned if they did, and damned if they didn’t".

Many participants stated that receiving public assistance is uncomfortable, embarrassing and degrading. Some participants expressed guilt and shame that they could not provide for their families without public assistance, and stated that they never saw themselves in this situation when they were younger, and imagined it happened to "other people." In addition, many parents receiving public assistance hold similar values as society at large. Nevertheless, they empathize with other people’s situations because they are “living it”—they understand what it is like to be poor and receive public assistance. Some participants said that sometimes they do not access all the public assistance available to them because there are families who are more desperate than they are and who need assistance more than they do. They also do not want their children to feel embarrassed or ashamed to be on welfare.

The media (i.e., television, radio, magazines) make parenting more difficult. Participants are continually competing with the media to influence their children. Children see advertisements promoting cereals with toys, and juices that look fun to drink. The advertised cereals and juices are more expensive than the store or generic brands, and often are less nutritious (e.g., high in sugar). The media also promotes thinness and beauty that may be unachievable (and unhealthy) for some individuals, and result in individuals feeling inadequate. In addition, the media promotes meals that may be unrealistic for parents with low incomes to prepare because of the number and cost of the ingredients, as well as the
cooking time required. Participants responded. "...Betty Crocker cookbooks: they want you to buy foods: you can't afford the products." "...it just gets overwhelming with all this health, health, health stuff...everyone has to be thin and gorgeous and never age...every meal is full of carrots and peas and broiled chicken...it's overwhelming..."

They're [recipes in cookbooks and magazines] not as healthy as they're supposed to be, and they're like for single people or people romanticizing...Where's the family cookbook with the kids? They show it and they've got duck a la range or something. Who the heck is going to cook that with the little orange twisty thing and little asparagus?...it's not family oriented...I don't know who they think is cooking.

Children are targeted with ads for specific brand name of clothes, shoes, or toys. Participants viewed these items as unaffordable, but felt pressure by their children to purchase some of these items so their children will not feel different than other children. These messages are continual reminders that they are "different" from other families.

TV is a big influence. My oldest son (13yrs) will come to me and want the Captain Crunch Oops snack. So, I went and bought it. I checked the price first and it was $2.50 at Fareway...2 weeks later it was up to $3.25 and he would kill me if I didn't get it. So I got it, but I kept it in the back of my bedroom closet. I found a coupon.

Participants shared that society expects children to be involved in several activities within and outside of the school day in order to have fun, and not be deprived of opportunities that are available to other children. However, the costs of some of these activities are difficult to manage at times. Often parents find themselves running children to and from activities, which frequently results in meals that can be prepared quickly (e.g., instant foods), or are pre-prepared (e.g., bought at the grocery store ready to eat or obtained through a drive through window of a fast food restaurant).
Sense of control/personal empowerment: The data revealed that when the participants believed they had the knowledge and the ability to feed their family well, they felt a sense of personal control. This sense of control helped to increase their self-confidence and helped them feel like they were good parents, that they “had done their job well.” When the participants spoke of knowledge they referred to knowing the basics of nutrition (e.g., food groups, understanding food labels, what foods and in what proportions children need to be healthy, how to handle and store food safely), and how to manage resources (e.g., developing a budget, awareness of community food resources). When they spoke of abilities they referred to having the skills (cooking, managing money), and the resources (cash from a job or FIP, food stamps, WIC coupons, food pantries, etc.). Several participants reported that how they felt about themselves influenced how they fed their family, and their desire to cook for their family. One participant shared, “I can honestly say that my self-esteem and how I feel with all this garbage going on with finances right now, I’ve been down and I just really haven’t felt like cooking. I think the way you feel about yourself has a lot to do with what you put into it.”

Little successes help to build up confidence and breed future successes. One participant shared how she had never planned a menu before and didn’t know if she could do it. Menu planning looked like it would take too long and be too hard. However, after working with an FNP paraprofessional she learned how to do this and is now planning menus faithfully every week. She has tried new recipes, and has found that her children liked some of the foods she had not served before. Her children are eating a wider variety of food now, than they were before the nutrition education. Thus, her belief that she had the ability to feed her family well was nurtured. Another participant shared that nutrition education has helped
her feel more confident to feed her child well. She shared. “To know that I can feed him, to
know that I can give him nutritious stuff, to know that I can help build up his energy, to know
that I can help build up his muscles, to know that I have the knowledge to feed him well.”

Feeling a sense of personal control permeated other aspects of the women’s lives.
These women felt they communicated with their children more often and in a better way and,
therefore, felt closer to them. In addition, they reported feeling more confident to seek
employment. “If I can prepare a meal, I can do anything.” Thus, a sense of control or
personal empowerment is closely related to the concept of self-efficacy. Self-efficacy has
been defined as “beliefs about capabilities of performing specific behaviors in particular
situations” (Schunk & Carbonari, 1984).

Life cycle issues: Age of the parent, age of children, and family transitions (normative
and nonnormative) were life cycle issues that emerged from the data. Typically, the younger
participants (teens, early 20’s) had fewer experiences raising children and were less mature
than the older participants (30’s, 40’s). One participant said:

Some of that stuff just comes with age. I think I am a better parent now with
my five year old than I was with my older son when he was five years old. Just
because I have had more kids and I have gone through more things and more
stages of growing up and then you feel more confident.

Participants also indicated that it usually costs less to feed younger children (infants
to preschoolers) than older children (teens) because younger children eat less than older
children. Participants expressed concern that they received the same amount of food stamps
regardless of the age of their children. Many women expressed the need for more food
resources as their children mature. “…you could probably feed four younguns from what you
get (food stamps) to feed those two teenagers.”
Transitions experienced by parents include normative transitions (e.g., birth of a child, death of an older family member, marriage) and nonnormative transitions (e.g., loss of a job, divorce, chronic health issues). Participants reported that birth of a child, a normative transition, often resulted in participants increasing their interest in learning about nutrition and how to best provide for their family. Chronic health issues, a non-normative transition often resulted in participants increasing their awareness of nutrition, and altering their food choices and food preparation methods. One participant stated:

My problem now is that I don't have the energy. I have arthritis really bad. I just get so worn out sometime taking them back to school and doing stuff at home. I can put things in the crockpot and I can cook stuff and put it in the refrigerator and it is ready. Otherwise, I can't do it. It's hard. I just don't have the energy.

Additional intervening conditions that were identified include: family make-up (e.g. family structure, size of family), values, attitudes and beliefs (i.e. attitude and desire to meet family needs and envision a better life), and parenting knowledge and behaviors (understanding appropriate expectations of parents in providing food and feeding children, understanding developmental needs of children, role modeling). As the number of children in a family increased or the number of adults decreased, families found it more difficult to meet their food and nutrition needs. Fewer adults in the family resulted in less income from employment for the family. One participant who had eight children in her family, and whose husband worked intermittent part-time jobs, indicated that she served the food on plates to ensure that each of her children was fed. She needed to make sure there was enough food to go around the table, and she could not afford to have food wasted.

Some participants displayed positive attitudes, and stated that they believed that people “have to want to make a change” to make their life better. One example of an attitude
that helped move one participant and her family forward was. "...it was just a bump in the road and life goes on and you can, too."

Parenting knowledge and behaviors were displayed as several participants shared the importance of eating with their children and serving as role models. One participant said. "Jamie (boyfriend) knows that if he sits with Tommy (her son) and eats, then Tommy will eat better." Another participant said. "I tell my husband just to eat the peas. because if he doesn't, then the kids won't."

Contextual

Contextual conditions intersect to create circumstances in which people respond through strategies (Strauss & Corbin, 1998). The following primary contextual conditions were derived from the data: feelings of isolation; lack of jobs that pay a "living wage": lives in chaos (i.e., health issues, divorce, job loss, continual "roller coaster" of fluctuating income): lack of accessible, affordable, quality childcare; lack of reliable transportation; and family dynamics.

Feelings of isolation: Even though all of the participants lived in neighborhoods, many of them felt isolated. For the most part they did not see their neighbors as a source of support, nor did they identify many friends who provided them support. One woman who lived in an apartment complex and moved to her current community two years ago said, "I don't depend on nobody because you put your trust or anything in someone and they disappoint you and that kind of breaks your self-esteem down." This woman also reported that her neighbors stole her food stamps and food. "I wanted to share my stuff with these people, but it was like, they'll take advantage of you. So, I had to buy day by day...I had to
hide it.” Participants who had family members living nearby reported that family members supported them by providing childcare and food. Some participants also shared that their children were involved in school and community activities. However, few participants were involved in outside activities.

*Lack of jobs that pay a “living wage”:* Almost all participants believed it was up to them to provide for the food and nutrition needs of their families. All of the participants lived in households that were at or below 185% of the federal poverty level. Nearly half lived in households that were at or below 130% of the federal poverty level. The types of jobs available to many of the participants in their local community or in a nearby community did not pay much over minimum wage, and often required evening hours. One participant who had eight children shared that she tried working at a department store to earn income. Even though she earned a minimum wage, it was not enough to compensate for her childcare expenses despite receiving a childcare subsidy. In addition, her income was not enough to compensate for her loss in food stamp benefits.

*I can’t afford to work. I still have four at home that aren’t in school. If I did go on the full benefit then we both would be required to work, and the babysitting costs would only be 25 cents for each additional child past the first one. With eight children there’s no way.*

Another participant shared that when she got a job paying $6.20/hour she felt proud of her accomplishments. However, the income she earned resulted in a reduction in her food stamp benefits. As a result, she reported that she actually had fewer resources available to her through employment, than when she received the full food stamp benefit amount. Another participant expressed concern that the income she would earn would only be slightly above minimum wage, and earning income would result in her no longer being eligible to receive
subsidized housing. Income from employment would not make up the difference in the benefits she received from subsidized housing.

_Lives in chaos:_ Most of the participants experienced continual chaos in their lives. Often this “chaos” was due to nonnormative life transitions, such as a recent or chronic illness of a child, spouse or themselves; divorce; job loss; and the continual “roller coaster” of fluctuating income and strategizing how to make ends meet. Health issues (e.g., allergies, arthritis, diabetes, high blood pressure, Crohn’s disease, gastrointestinal problems, and obesity) were common among the participants and their family members. For some participants, health issues influenced the food they purchased and how they prepared it. Examples include: “Their (grandparents) meals changed after the heart attack. Which helps us too, because we are eating more healthier also”, “Lance (husband) is diabetic, so I had to work meal planning with his diabetes and get him to eat healthier”, and “We cut out meat because of cholesterol problems.” For others, health issues of the mother influenced food preparation. One woman shared that increased debility from arthritis in her legs and arms resulted in her lack of energy to prepare food. Another woman who used a wheelchair for locomotion and a ventilator for breathing shared that she was no longer involved in purchasing and preparing food for her family. Her husband and two young children have assumed these tasks. She mentioned that she tried to share the knowledge she gained through participation in EFNEP and hoped that it would help her family make healthy food decisions.

Participants reported that their household incomes and benefits often fluctuated month to month, therefore making it difficult to plan very far ahead. However, they used resources that were flexible (i.e., CACFP reimbursement checks, FIP checks, other cash) to
fill in as needed (e.g., pay rent, utilities, purchase children’s clothing). Juggling resources is an on-going task in their lives. Participants had very little buffer in their budgets to help them when an unexpected expense occurred. Divorce often resulted in the loss of income for the family, as well as an increase in stress for parents and children.

*Lack of accessible, affordable, quality childcare:* As mentioned earlier, most jobs that participants believe they are able to acquire do not pay enough to outweigh the costs of childcare and other basic family needs. It does not make sense to participants to be employed at a job where they earn a wage that does not cover their costs for childcare and food. They reported staying at home to care for their children versus getting a job was more beneficial because they did not have to pay for childcare and were able to retain food stamp eligibility.

*Reliable transportation:* Some participants, representing both urban and rural communities, spoke of the difficulty in accessing transportation, or reliable transportation, to get to the grocery store. “*Low-income people also have trouble with transportation... when you don’t have a car you might be making more trips to the grocery store, more often. I ended up spending more doing it that way than buying for the whole month.*” Participants living in urban communities shared the following: “*...walking up to Quick Shop and getting things. It’s so expensive, but if you don’t have a ride*, “*or you can’t afford gasoline”, and “You have to buy only what you can carry. I ended up spending more money that way than buying for the whole month*”. One participant shared that she had to take the bus in order to go to a supermarket. She said the bus stop was two blocks away, and she would have to take her two year-old child with her. Being pregnant, having a two year-old child, and given the cold, icy, windy weather in Iowa in the winter, she said that it was not worth it to walk to the bus stop to get transportation to go to the supermarket to save money. Also, she would only
be able to buy a small amount of groceries anyway since she would be holding her son in one arm. As a result she did her grocery shopping at the local convenience store which was only one block away. She said, "That isn't too healthy, but my son is eating." In a rural community a participant said she did not have reliable transportation to travel to a larger community twenty miles away where groceries were cheaper and there was a better selection of foods. As a result she purchases groceries in her small town at much higher prices and has fewer choices than she would have at a larger grocery store. Another participant faced a similar situation. "I just got a car, but the stupid fuel pump went out already. So, instead of buying food I have to buy a fuel pump." However, some participants were able to find a ride to a larger grocery store in another town, "I had to do it at night. I had to take the kids with me because the lady that took me worked during the day."

*Family dynamics:* The nature of the relationships among family members had both positive and negative influences on how the family was fed. Several participants shared that it was important to eat together as a family, and to have a positive environment during mealtime (e.g., not yelling, television turned off, sitting together at a table). They reported that when they ate together, their children ate better. Participants reported that when the adults ate a variety of foods, their children were more likely to do so as well.

Another aspect of how family dynamics influences how families meet their food and nutrition needs is illustrated as one participant shared that her husband was not willing to share his income with her to help pay the bills and provide food for the family (six children and two adults). He used his income to provide material objects for his three daughters (from another marriage) in order to "win" their love so they would not decide to live with their
mother. The refusal of the husband to share his income made it very difficult for the woman to have adequate resources to feed their family and to pay other bills.

Additional contextual conditions that influenced participants' strategies included lack of time, "picky eaters" and lack of working cooking appliances (e.g., stove, microwave). Participants reported that they did not have as much time to plan and prepare foods as they did when they were not working. As a result, some participants reported preparing quicker meals (e.g., frozen foods, premade mixes), or having their children prepare meals while they were at work. Participants reported that they often would "give in" to "picky eaters" to avoid stress and wasted food. Some participants reported that their cooking appliances were broken (e.g., microwave, stove) and they could not afford to fix them, or purchase a new appliance. As a result, they changed the way they prepared food (e.g., grilled outside versus used the stove or microwave), or prepared less food.

Strategies

The responses people give to the issues, events or problems they experience are referred to as strategies (Strauss & Corbin, 1998). Primary strategies participants cited that they used as they worked to meet their families' food and nutrition needs are juggle resources, provide less food, make trade-offs, use nutrition and shopping knowledge and skills, and rely on others for support.

Juggle resources

Participants reported making conscientious decisions on how to use government benefits (save FIP check to pay utilities and rent; use food stamps to purchase food) most efficiently. Overwhelmingly, participants reported that they viewed food stamps as their
primary resource for food. Some participants also reported spending all of their food stamps at the beginning of the month so their stamps would not get stolen, or hiding their food so their neighbors would not steal it. In contrast, other participants reported saving some food stamps at the end of the month to get them through the next month. For example, one participant said, “When the food is starting to shorten, I still have like $20 or $30 left in food stamps that I can save for the next month.” Some participants reported that they delayed getting a job or quit a job because their food stamp benefits would decrease when their income increased. Other participants reported the need to acquire multiple jobs at various hours throughout the day in order to earn enough income to pay bills. Other conscientious strategies participants reported using included avoid paying bills or only pay part of the bills; use their CACFP reimbursement check to pay other bills until income they earned through employment would be available, and managing their food budget very tightly so their reimbursement check would subsidize their family’s meals. Participants also reported that they would go without health insurance to save money, but they would try to make sure their children had health insurance.

**Provide less food**

Participants reported that if they were short on money, they would cut into the food budget. They believed that they needed to pay other bills first (e.g., rent, utilities). Their rationale for doing so was that if they didn’t pay the rent, they would lose their housing, however, if they skipped a meal, or ate less, they would not starve. A few participants reported rationing food (providing small servings on children’s plates to make sure all family
members have some food), or making sure their children had enough to eat before they (the participant) would eat.

**Make trade-offs**

Participants reported fixing quick, easy meals as a result of lack of time and energy. Participants "gave in" to children’s and spouse’s wishes for certain foods so they did not have to deal with the stress resulting from a complaining family member and food would not be wasted.

**Use nutrition and shopping knowledge and skills**

To manage their resources most effectively, participants reported using nutrition and shopping knowledge and skills. Examples of using these knowledge and skills include planning menus, using a grocery list, comparing prices before purchasing an item, reading food labels, stocking up on sale items, and buying food products in bulk. Participants reported that they consider the total resources they have available to them when they make their food plan (e.g., WIC, food stamps, food pantries).

**Rely on others**

Grandparents helped to provide childcare so participants could work to earn income for their family. They also reported that grandparents helped to provide transportation to the grocery store, and provided food by inviting parents and the grandchildren to their house for meals. A few participants also reported the value of their social network in sharing resources that helped them save money by buying food in bulk and sharing the food, and watching out for good buys for each other at garage sales.
Outcomes (with and without support)

Whether intended or unintended, outcomes result from strategies taken, or from the lack of pursuing strategies (Strauss & Corbin, 1998). Outcomes were different whether social support was provided, or social support was not provided.

With support

Outcomes that resulted when social support was provided included: (1) participants were better able to meet family food and nutrition needs (e.g., have resources for food such as food pantries, food stamps, WIC; better able to stretch food dollars and make healthier food choices); (2) participants reported less stress; and (3) other aspects of participants’ lives improved as they felt empowered to solve other issues in their lives (e.g., felt closer to family members and had more positive communication with children and spouse, strengthened time management and problem-solving skills, able to get a better picture of their financial situation and identify resources to reduce debt, increased self-confidence, and sought employment). Quotes illustrating some of the above outcomes include: (1) better able to meet family food and nutrition needs: “With food stamps, you know food you have…”, “I portion the money...it’s helped me a lot...I know what I can do...”, “I guess I just learned more...how to make my dollar go a little farther and actually make nutritious meals for my family”. “We are a lot more aware now of what we buy, what is in it and how far it will go”. “I feel great that I can feed my family better now, they’ll be a lot healthier, they get to try a variety instead of just the basic stuff”, “A very important part of my life is to get a steady income to budget my money to buy food and make sure the bills and stuff are paid”, and “…I know places where I can get free bakery items, free donations. I use those as part of our total
Family meals: (2) reduced stress: “Planning ahead has helped me save money and decrease stress”; and (3) other aspects of family life improved: “My self-esteem after finishing this program went up 100%”, and “If I can make a meal, I can do anything”.

Without support

Outcomes that resulted when social support was not provided included: (1) participants consumed a poorer diet; (2) participants were more food insecure; (3) participants spent less time together as a family; and (4) participants experienced feelings of failure, helplessness, frustration and hopelessness. Quotes that help to illustrate the above outcomes include: (1) participants consumed a poorer diet: “the food might suffer because the babysitter and the bills have to get paid”; (2) participants were more food insecure: “I’m so afraid of going without, without having a full pantry that I always have a full pantry...I figure I got about 3 months worth in that pantry...that if we went off food stamps, we would be okay for a while”. “I want to make sure everyone is getting food. So, I put it on the plates in really small quantities...we don’t give our kids a whole apple. That’s too expensive because they will probably waste that apple”; and “I don’t have money to buy something that we would not eat. I make sure, he’s got to eat it”; (3) participants spent less time together as a family: “We do a lot of eating around the television now, mainly because I just don’t have time”; and “We don’t have the time that we used to have together in cooking a meal”; and (4) participants experienced feelings of failure, helplessness, frustration and hopelessness: “…so I felt confident in myself, but they let me know I’m not by cutting my food stamps.”
Summary

Data were gathered from 49 low-income women in Iowa to understand the processes that they experience as they strive to meet their food and nutrition needs. The majority of the women were Caucasian. The average age of the women was 31 years, and the median monthly income of their households was $1,050.

A grounded theory was developed following the guidance outlined by Strauss and Corbin (1998). Using the process of open coding, 21 initial categories were identified from the data, as well as five overarching categories and several subcategories. The overarching categories included social support, societal expectations, government policies, past experiences, and sense of control/personal empowerment. Using the process of axial coding, relationships between the overarching categories and their subcategories were identified. Through this process a central phenomenon emerged (social support), and a visual model was developed that included the phenomenon, as well as conditions (causal, contextual, and intervening), strategies and outcomes.

The following strategies were identified: juggle resources, provide less food, make trade-offs, use nutrition and shopping knowledge and skills, and rely on others. Outcomes (with and without support) were identified. With support, participants were better able to meet family food and nutrition needs, experienced less stress, and other aspects of their lives improved as they felt empowered to solve other issues in their lives. Without support, participants consumed a poorer diet, were more food insecure, spent less time together as a family, and experienced feelings of failure, helplessness, frustration, and hopelessness.


Discussion

This study sought to understand further the process low-income families use to meet their food and nutrition needs. It is evident that the process is complex and ever changing due to the variety of conditions experienced by families. It is also evident that conditions intertwine with one another, and together influence strategies that families pursue, as well as the outcomes that families experience. For example, societal expectations and government policies are closely related to each other; thus it is difficult to discuss the influence of one without considering the other. The following subsections will describe: (1) the prevalent role of social support in the data; (2) the relationships between social support, the central phenomenon, and the other overarching categories; (3) postulate propositions of the grounded theory; and (4) relationship of the findings to relevant theory and literature.

Prevalent role of social support

Social support was an issue that emerged from essentially every interview. However, the types, accessibility and degree of social support resources used by families varied. Families commonly accessed different types of social support at the same time, often without consciously realizing it. The data revealed that each type of support (emotional, tangible and educational) plays an essential role in helping families to meet their food and nutrition needs, and becomes more effective if provided alongside another type of support. Thus, tangible support (food stamps) increases its effectiveness if provided in conjunction with education (nutrition education). Nutrition education helps families manage their food stamps and other resources to purchase and prepare low-cost nutritious foods. For example, learning how to plan meals ahead of time, create grocery lists and use available foods through nutrition
education, alongside receiving reimbursement (tangible support) for meals in a childcare setting has helped many families provide more nutritious meals for children they care for in their daycare, as well as for their own family. In addition, conveying feelings of empathy and affirming families for what they are doing “right” (emotional support) enhances the effectiveness of nutrition education. When people feel valued and respected they are more likely to be receptive to information and advice from others.

**Relationships between social support and the overarching categories**

**Personal empowerment and social support**

Personal empowerment and social support were closely related to each other, especially when emotional support was provided alongside educational and tangible support. Turnbull and Turnbull (2001) define personal empowerment as having a sense of control and taking action to get what you want and need. Participants who had a sense of personal empowerment believed that they had the knowledge and ability (which includes having the resources) to give direction to their lives. When participants felt they had control over their lives, or at least over an aspect of their lives, they felt better about themselves as a person and as a parent, thus feeling more confident to address challenges in their lives. Vondra and Belsky (1993) reported that a mother’s perception of control in her life is predictive of the quality of care she provides her children, which includes meeting children’s food and nutrition needs.

Educational support helped to provide participants tools to use the resources (e.g., income, food stamps, WIC coupons) they had most efficiently, as well as become more aware of other resources (e.g., Earned Income Credit, SHARE program) available to them.
However, education alone did not nurture a sense of empowerment. The data revealed that emotional support demonstrated by nonjudgmental attitudes, empathy, and listening by program staff were essential in helping parents increase their self-confidence and belief that they could meet their family's food and nutrition needs, as well as make other changes in their lives. For some participants, FNP or EFNEP was the first educational program they had completed (16% (n=8) had less than a high school diploma or G.E.D.). Listening to families and giving them the opportunity to be "heard" and feel valued often resulted in "opening the door" to their receptiveness to nutrition education. If families are provided the opportunity to talk about their situation and their dreams, the nutrition educator becomes more knowledgeable about the strengths of the family, as well as areas needing improvement. The educator is then in a better position to share nutrition information that is relevant and more likely to be listened to, thus increasing the chances that the participant will apply the information and eventually improve her nutrition behaviors. A quote that helps to illustrate the importance of tailoring education to family needs is: "...there was no set formula (to FNP)...here's what's available. What do you want? Pick out of here what you can use right now...I wanted to learn what I need to know when I need to know it right now. Don't overwhelm me with everything."

The goal of EFNEP and FNP is to help families identify areas that they would like to improve in nutritionally, provide practical nutrition information that the family can use immediately, and help the family develop skills that will help them improve and maintain positive nutrition behaviors (e.g., balanced, healthy meals; stretch food dollars). Through emotional and educational support from the FNP paraprofessional, one participant reported being able to examine her family situation and who was controlling the resources (i.e.,
income and food). She was able to learn about the nutritional needs of her family, and how to stretch the resources she had to best meet those needs, as well as other community resources available to her. Through continual nurturing from the FNP paraprofessional and experiencing several small successes in meal planning and cooking, her self-confidence eventually increased. She decided to increase her household’s income by starting a childcare business, became enrolled in the CACFP, and signed up for FIP and food stamps. She reported that the one thing she felt she could control in her life was the food she planned and prepared for her family. Even though her stove and microwave broke and she didn’t have enough money to fix them, she used her creativity and determination to grill all of their food that needed to be cooked outside (e.g., meat, vegetables). As a result, she realized that she could provide for her family without her husband’s financial help, as long as no major catastrophes occurred. Thus, the margin of error in which this individual had to operate was very small. She did not have room in her budget for errors or “extra” items that family members may have wanted to purchase. Middle- and higher-income families have a broader margin of error in their budgets. An event that might be considered a catastrophe (i.e., car repair) for a low-income family may be considered a minor inconvenience for a middle- or higher-income family.

EFNEP and FNP paraprofessionals typically meet with participants weekly or bi-weekly over a period of several weeks for one to two hours. This time frame allows time for participants to learn a few basic concepts pertaining to a specific nutrition topic (e.g., role of grains in the diet and how to include grains in the diet), reflect on these concepts, and then apply the information they learned in the lessons to their daily lives. During each lesson the paraprofessional reviews topics covered in the prior lesson with the participants, personal
goals they set in the prior lesson, and their progress toward achieving these goals. The paraprofessional affirms participants on positive steps they have taken to work towards their goals, helps them think through issues that may be getting in the way for them to achieve their goals, and uses problem solving strategies to deal with these issues. Through this process participants are able to identify issues they want to work on and develop strategies to achieve their goals. Participants are placed at the center of taking control of issues in their lives and are provided support to help them in this process, thus promoting personal empowerment.

Throughout the nation, EFNEP and FNP paraprofessionals serve as role models and provide support and encouragement to parents throughout their participation in EFNEP or FNP (Arnold & Sobal, 2000; Kent, 1988; Randall et al., 1989). as well as after parents graduate from the programs (e.g., follow-up visits in person and via telephone, contact in the grocery store or at a community agency). One woman shared, “I still call Sharon (1 1/2 years later) at least once a month. And she calls and checks up on me to make sure everything is all right…” The paraprofessionals who often once lived in poverty themselves, or who currently live in poverty, refute feelings of “powerlessness” and “helplessness” among low-income women by helping them see that there different ways to look at the world, and these ways can be learned, adopted and maintained (Bremner et al., 1994; Rusness, 1993). Many of the participants shared that EFNEP and FNP helped them gain control in other domains of their lives (e.g., improved communication with family members, decision-making regarding the total family budget, time management skills, increased self-confidence leading to applying for a job). The above findings are consistent with findings from other studies (Arnold & Sobal, 2000; Brink & Sobal, 1994; Randall et al., 1989) that reveal nutrition education
through EFNEP resulted in unintended benefits such as changes in employment and family issues.

Crnic and Greenberg (1987) stated that social support exerts a more positive effect on emotional and parental functioning during times of major life transitions. One participant, who was going through some major changes in her life (e.g., trying to decide whether or not to divorce, coping with a daughter who has an eating disorder) shared that FNP helped her feel that "she was a good parent" and develop specific skills to help her feed her family better. As a result of feeling more in control of this part of her life (providing nutritious, affordable, safe food for her family), she has been able to begin to make changes in other aspects of her life (e.g., talk about stressful financial issues with her husband and children, seek employment, emotionally begin to deal with scars from a past physically abusive relationship). Thus, personal empowerment promoted through EFNEP and FNP may result in increased personal capabilities and confidence that enables people to improve not only their nutrition practices, but nonnutritional practices as well (Arnold & Sobal, 2000).

When families experience stress, such as not having adequate food or adequate income to pay all the bills and/or not knowing where to turn to for help in improving their situation, social support can help lessen feelings of helplessness and loss of self-esteem. Feelings of helplessness occur as a result of the inability to cope with the situation that needs an effective response. Social support may lessen the influence of stress by providing solutions to the problem. Such solutions could include identifying resources (educational support) where families can access food (e.g., tangible support - food pantry, food stamps, WIC, soup kitchen, money from family), and/or helping families think through problem solving strategies and develop skills so they do not run out of food. Tangible support is most
effective when the resources they provide are closely associated with the specific need elicited by the stressful event. For example, if a family is experiencing stress because there is not enough income in the household to pay all the bills, including food, then the stress will be most effectively reduced if income is increased to a sufficient level (Cohen & Wills, 1985). Thus, the family needs to seek employment or identify resources to provide income (e.g., FIP, general assistance).

Food stamps and WIC coupons can also alleviate some of this stress because they provide food resources, thus freeing up income to be used for other bills (e.g., rent, utilities, clothes, transportation, childcare). However, these resources have eligibility guidelines that limit their use (e.g., food stamps – 130% of the federal poverty level and number of persons in the household, WIC – 185% of the federal poverty level, age of children). Given this, perhaps the most effective way for families to reduce stress in their lives due to insufficient income is to find employment that provides a “living wage”. A “living wage” is a wage that is sufficient to cover basic living expenses (e.g., rent, utilities, food, clothing), as well as transportation and childcare expenses. The wage needs to be sufficient enough to afford purchasing health care insurance, or health insurance needs to be included as a benefit of employment. Without insurance families can be financially devastated due to an illness or accident, or health issues can arise that may have been preventable with adequate healthcare.

Fletcher et al. (1999) stated that the success of welfare reform depends on the availability of jobs that provide sufficient income to support families. In their study of low-income Iowa families they found (particularly in rural communities) families who could not find jobs that paid a sufficient wage to cover health insurance, childcare costs and other basic needs. In addition, there were families who lacked basic job-readiness skills or the training
needed for available jobs. In this present study, a single mom of two young children was no longer receiving FIP and food stamps, and believed she was "making it" without welfare. She was employed in a job between 40-55 hours a week that paid above minimum wage and had opportunity for advancement (she was recently promoted to Assistant Manager). She had participated in job training and nutrition education through EFNEP. She also had other social supports in place such as a mother who lived nearby and helped to provide childcare, as well as occasional meals and clothing for the grandchildren. She received WIC coupons and food from a local food pantry. Thus, even with income from employment that was above minimum wage, she still needed social support to "make it".

**Past experiences and social support**

The overarching categories of past experiences, societal expectations, government policies, and the central phenomenon of social support are intertwined with one another in many ways. For example, in this study, participants who grew up in supportive families (e.g., family members help each other out, look after each other, share material resources), were more likely as adults to view family members as a source of support. They welcomed support from family members because it was “normal” to do so. However, not all participants had the opportunity to experience such family support. For some participants, their parents provided little emotional support and as children they were expected to care for themselves (e.g., find and prepare food and eat when they were hungry, put themselves to bed, and get themselves ready for school). Participants who grew up in this type of an environment reported not having close relationships with their parents today, and therefore did not view them as a source of support. However, some of these same participants decided that they wanted their
children to experience a different home environment and tried very hard to achieve an atmosphere where their children felt supported by them.

Several participants did not grow up on public assistance and did not want it to be "a way of life" for their children and themselves. Thus, many participants in this study who received welfare benefits held the same values as society at large. They were frustrated because low-wage jobs make it difficult to be self-sufficient and not to rely on welfare and other community assistance programs (e.g., food stamps, WIC, food pantries). However, they had empathy for other people's situations because they were "living it"—they understood what it was like to be poor and to use public assistance. Using public assistance was an uncomfortable feeling because they never saw themselves in that situation when they were younger, and imagined it happened to "other people." Because of the values they held, many participants felt embarrassed and ashamed to be receiving public assistance.

Society expects women to be the primary decision makers regarding family food and nutrition issues. Women are viewed as being primarily responsible for purchasing and preparing nutritious food for their families. However, many participants did not have the opportunity to learn basic nutrition information, or develop basic cooking and money management skills while they were growing up. Thus, expectations were placed upon them they were unprepared to meet. As a result, feelings of inadequacy and hopelessness, and a lack of self-efficacy were often present. Nutrition education helped participants acquire information and develop skills leading to increased confidence and ability to better meet these expectations. A recent study revealed that some of the greatest benefits to parents as a result of participating in nutrition education (via EFNEP) were basic cooking knowledge and meal planning skills, as well as overall improved nutrition and health (e.g., eating more fruits
and vegetables, more balanced meals, more energy and less illness) (Arnold & Sobal, 2000). Participants who were fortunate enough to have role models (e.g., parents, grandparents, siblings) who taught them this knowledge and helped them develop these skills felt more confident and capable in meeting the food and nutrition needs of their family, than participants who did not learn these skills earlier in life.

As a result of nutrition education, some parents changed the way they eat and have liked the changes. They have learned different ways to prepare food (e.g., bake or broil versus fry), and to plan and prepare meals without meat or with less meat. Nutrition education has assisted participants in preparing meals using a greater variety of foods and has helped participants save money. Some of the women reported that their husbands have not adapted to these changes well. For example, some husbands “still want their meat” and do not consider that the food prepared is a meal unless there is plenty of meat.

Nutrition education can also help parents who are struggling to find time to prepare healthy meals because they are working, trying to fulfill the requirements of assistance programs, and are “running” their children to various activities. As a result of parents perceiving they do not have time to prepare food, they will often forego nutrition and cost-savings for quick, convenient foods such as fast food and preprepared and packaged foods. Often these types of foods are more expensive, and contain more fat, sodium and sugar than foods prepared from scratch. Through nutrition education parents can learn simple, nutritious, cost-savings strategies and meal preparation ideas. However, there may be personal limitations that make it difficult for parents to meet the food and nutrition needs of their children. Such limitations may include lack of motivation (based on one’s attitudes, values and beliefs), as well as learning disabilities that make comprehending and applying
nutrition education information difficult. Extensive social support (e.g., emotional, educational and tangible) over a long period of time may influence a parent’s motivation and help to increase her capacity to meet her children’s food and nutrition needs, thus eventually relying less on social support. However, there may be situations where the parent will never be able to do this on his/her own, and will always need social support.

**Government policies, societal expectations, and social support**

It appears logical that policies that are put in place with the intent to make our nation stronger (economically better off) would also make our families stronger. It also appears logical that policies that guide programs that are to “serve as the safety net” for families (e.g., Food Stamp Program), would do that, and not place families at greater risk. The government’s role is to develop and monitor policies to serve the welfare of the nation and to protect those who are least able to protect themselves. Children and families in poverty are clearly a population in the U.S. that the government has a responsibility to protect. However, government policies (influenced by societal expectations), do not always serve the best interests of children and families in poverty, and thus are not always viewed as supportive mechanisms. Government policies that are not viewed as supportive mechanisms for children and families seem ironic because a primary purpose of government is to protect its people.

A recent example in which government policy does not seem to align itself entirely with the needs of families, and actually places families at greater risk is PRWORA, 1996. As a result of this legislation, all able-bodied individuals are expected to become employed and “move off” of welfare. If welfare recipients do not become employed and leave welfare within state determined time limits, they are viewed as “lazy” and have “failed” in the eyes
of society. Thus, society expects parents to provide for their children with limited government help (and then only when it is absolutely necessary). These societal expectations are unrealistic for some limited-income families, and may not be desirable in all situations. When limited-income parents work, the jobs they hold often pay low wages, often do not have health benefits, and often require parents to work at various hours of the day and night (e.g., factory work, food service, restaurant, store clerk). Being employed results in a decrease in food stamp benefits, which often leads participants to reporting they have less money for food for their family than when they were not employed and received the full benefit amount. Thus, families become even more food insecure. Therefore, being employed does not necessarily bring economical stability to families and diminish food insecurity.

Unfortunately, employees of the institution whose mission is to protect families (i.e., government) often are viewed by families as nonsupportive and lack understanding of issues families are facing and the realities of meeting policy expectations. Social support can help parents meet these challenges. Nutrition education via paraprofessionals in EFNEP and FNP helps parents acquire knowledge and develop skills which can lead to an enhanced sense of personal empowerment, which can influence the food and nutrition needs of the family, as well as other family needs.

Employment was stressful and frustrating for some participants because the income they earned was not sufficient to meet their family’s needs (e.g., rent, utilities, food, clothing), and assistance from the government (i.e., food stamp benefits) was reduced as a result of their employment. Thus, unless participants were realistically able to “work up towards more pay”, and have supports in place to help keep them employed (i.e., reliable,
quality childcare and transportation), and provide tangible resources (e.g., food pantries, WIC coupons), being employed placed their family at further risk and did not necessarily "put them ahead". Some participants believed they are "worse off" financially and less able to meet their family's food and nutrition needs by being employed than being unemployed. At least when they were unemployed and receiving the full food stamp benefit amount they had a resource designated specifically for food, and that resource could not be used for other expenses. In addition, employment requirements of PRWORA has resulted in many participants reporting they have less time to spend with their children now than when they were unemployed. Being employed has resulted in some participants not being able to provide the nurturance and guidance they would like to as a parent. As a result, some participants felt frustrated, helpless and less confident in their abilities to provide for their family. Thus, resulting in some participants feeling they had very little control in their lives. Thus, low-income families "walk a thin line" as they try to meet society's expectations of self-sufficiency.

The participants in this study felt that the government is sending conflicting messages. The government is asking them to become self-sufficient, but government policies, such as policies that operate the Food Stamp Program and FIP makes self-sufficiency difficult, and unachievable for some families.

*If you get a job and you feel that you're achieving, at some point they tell you that you're not. I had a job and it was more than minimum wage- $6.20/hour, so I felt confident in myself. But they let me know I am not by cutting my food stamps...now I am struggling.*

In addition, if parents do not have health insurance through their employer and there is an illness or accident in the family, there is additional strain on the family's finances. A
portion of the family’s income is needed to purchase prescriptions and pay medical bills; thus less money is available to purchase food for the family. Even though the State Children’s Health Insurance Program (referred to as HAWK-I in Iowa) insures children who are living in households whose income is between 134% and 200% of the federal poverty level, many families who are eligible for HAWK-I are not enrolled in the program. As of June 1999, 2,000 of the 39,500 children believed to be eligible for HAWK-I were enrolled. Low enrollment in HAWK-I can be explained partially by the fact that HAWK-I was not available statewide until March 1999, versus January 1999, as anticipated, and outreach efforts had not begun until late in 1998. HAWK-I staff believe that a renewed outreach effort will lead to increased enrollment in HAWK-I, and that enrollment will increase as the families who were previously unable to apply because HAWK-I was not available in their community, are now able to do so (IDHS, 2000).

WIC, a resource families may have used to provide food for their children who were younger than five years of age, is no longer available to families after children turn five years of age. Thus, parents need to identify new resources to provide food for their children who are still in a primary stage for growth and development (e.g., income from a job, food pantries, etc.).

Findings from this study suggest that a range of social supports can help families “get their feet on the ground”, and move toward self-sufficiency. We have already mentioned the importance of ensuring reliable, affordable and quality childcare, as well as reliable transportation for parents to be able to enter and remain in the workforce. However, some parents will need to develop skills to help them be employable.
The PRWORA has built in job training expectations and requirements for states to help ensure the development of job skills for the workforce. However, there are personal life skills that will be essential for people to develop or strengthen in order to enter the workforce, as well as to remain in the workforce. These skills relate to decision making, problem solving, communication, time management, and balancing work and family life. For example, financial issues are known to be leading causes of relationship problems and decreased self-esteem. If parents can learn to manage the resources they have effectively, they are less likely to be distracted at work because of stress related to these issues, thus they will be more likely to perform better on the job. Nutrition education through EFNEP and FNP, as revealed in this study and in other studies (Arnold & Sobal, 2000), provides emotional and educational supports that directly and indirectly helps parents strengthen and develop these life skills, as well as enhance their sense of personal empowerment. Knowledge and skills acquired through nutrition education can also help prevent illness and fatigue for both parents and children. Less illness and fatigue could result in fewer days missed from work and school, thus leading to more productive employees and students who are ready to learn.

**Propositions of the grounded theory**

A series of propositions and sub-propositions that depict relationships between the components identified in the visual model were developed. These propositions can be used for future testing of the grounded theory. The propositions include:

1. Social support helps families meet their food and nutrition needs.
2. Tangible support from family members reduces stress and food insecurity.
1.2. Emotional support (e.g., empathy, affirmation) promotes self-efficacy, leading to enhanced personal empowerment.

1.3. Educational support increases awareness and understanding, and helps parents to develop skills which lead to increased opportunities for food and nutrition behavior change.

1.4. When various forms of social support are combined to meet food and nutrition needs, the effectiveness of each is enhanced.

2.0. Government policies influence the strategies that families engage in to try and meet their food and nutrition needs.

2.1. Families will make decisions regarding adhering to government policies (e.g., PRWORA, 1996) based on decisions that will provide the best outcomes for their family.

2.2. When inadequate food resources are acquired through government food assistance programs (e.g., food stamps, WIC) and earned income, families will commonly turn to emergency food resources (e.g., food pantries, soup kitchens).

2.3. Families make conscious decisions (e.g., whether or not to spend FIP (TANF) check on food or to spend it on rent or utilities) on how to use government benefits most efficiently (e.g., cash from FIP check can pay rent and utilities, whereas food stamps can only be used to purchase food. Therefore, many families use food stamps as the primary resource for food, and their FIP check to pay other bills).

3.0. Past experiences and social support influence the strategies families use to meet their food and nutrition needs.
3.1. Absence of role models that teach basic nutrition and cooking knowledge and skills results in greater opportunities for social support to influence strategies families choose to meet their food and nutrition needs.

Relationship of the grounded theory to relevant theories and literature

Family Systems Theory

The previous discussion illustrated the interdependence of the overarching categories and the central phenomenon, social support. Thus, a change in one component of the model may cause change in another component of the model. This premise of the model is closely tied to family systems theory. Family systems theory suggests that a system must be understood as a whole, and human systems are self-reflective (Whitchurch & Constantine, 1993). A change in one part of the system affects all the parts of the system, thus no one part can be looked at in isolation from the other parts. Family systems theory provides a conceptual framework for understanding the interrelatedness of family members, the effects of stress and coping on families, and the effects of intervention on the family system.

For example, participants' past experiences influenced whether or not they had the knowledge and skills needed to purchase and prepare low cost, nutritional meals for their families. Social support, in the form of nutrition education, helped participants who did not acquire nutrition and cooking knowledge and skills while growing up learn this information and develop these skills as adults. Participants reported that nutrition education has helped them to be able to meet their families' food and nutrition needs better (e.g., get more nutrition for their dollar, eat a wider variety of foods, increase fruit and vegetable consumption).
Participants shared that welfare reform (i.e., PRWORA, 1996) has influenced their ability to meet their families' food and nutrition needs. Even though they may believe that they have the nutrition and cooking knowledge and skill to purchase and prepare low cost, nutritious foods for their families, they report not having sufficient tangible resources to do so (i.e., food stamps, income). Participants stated that earning income results in a decrease in the amount of food stamp benefits they are eligible to receive. Thus, a resource they rely heavily on to provide food for their family is reduced. Participants report that the income they earn is not sufficient to make up for the difference in food stamps that they lose.

Participants also report that as they become employed they have less time to grocery shop, plan and prepare meals, and spend time together as a family. Participants report that this has resulted in trading off "good nutrition" for purchasing foods that are convenient to prepare, and not necessarily the most nutritious.

Families change as a result of events. Examples of change in the family system are illustrated below with data from this study as the researchers examined how the family system is affected by broader community and societal influences.

Conditions of family members (e.g., personal empowerment, values, attitudes, beliefs, knowledge, life cycle issues, family make-up, family preferences, income, past experiences, family dynamics, working appliances) interact with broader community and societal conditions (e.g., societal expectations, government policies, jobs that pay a livable wage, accessible and affordable childcare and transportation, geographical location) and result in strategies that families use to try and meet their food and nutrition needs. For example, a family who is empowered is more likely to identify effective solutions to meet their food and
nutrition needs, than a family who is not empowered. The family who is not empowered may feel hopeless and believe that there are not many options for improving their situation.

Welfare reform, a societal influence and policy set by the government, has affected families’ abilities to meet their food and nutrition needs. Money earned often is at a minimum wage job and is used to pay bills (e.g., utilities, rent, childcare, transportation), and often is not used to purchase food for the family. Food stamp benefits are reduced as a result of earned income, and often the difference in income earned does not make up for the benefits lost. Parents increase their reliance on emergency food resources in their local communities. Often these resources are not sufficient to meet the demand. Thus, family members become more food insecure as a result of these changes. In addition, parents seek employment in their local or nearby communities who may or may not have sufficient jobs that pay a liveable wage. Parents of young children seek affordable childcare and transportation. The community in which these parents live may or may not have sufficient childcare and transportation systems in place to help support these parents as they seek employment, thus making employment difficult to achieve. As a result, frustration continues to grow among families, service providers, and the government. It will take a concerted, well-planned, coordinated effort on the parts of all systems to find solutions to these issues.

In addition to the concepts previously mentioned, Family Systems Theory recognizes that the family system constantly changes over time. Families experience normative transitions (e.g., birth of children, marriage, loss of elderly family member), as well as non-normative transitions—change that is not expected, off-schedule or crisis (e.g., off-schedule transitions such as birth of a child in adolescence or in later adult years, loss of a job, divorce,
loss of housing or food support, illness and chronic health problems). These transitions affect the processes that families use to meet their food and nutrition needs.

In this study two normative transitions that influenced processes families used to meet their food and nutrition needs were birth of a child, and marriage. Birth of children often resulted in participants being more interested in learning about nutrition and ways to best meet their children's food and nutrition needs. One participant shared that she wanted to learn how to feed her toddler “right” so he would grow up healthy and not die from a disease, such as heart disease. Another participant, who gave birth at age forty-five, also was interested in learning about nutrition. She wanted to learn about the nutritional needs of her baby, as well as about her own nutritional needs, and those of her husband to help ensure that she and her husband would be alive when their child reaches adulthood.

Many participants indicated that it was not until they became married that their interest in nutrition and cooking increased. Their heightened increase in nutrition and cooking primarily occurred because there was an expectation in most of the marriages of the participants in this study that the primary role of food preparer was assigned to the wife/mother. One participant reported that her sister and her husband taught her how to cook when she got married. She now sees her primary role as a mother, and to provide a nurturing environment for her children. This role includes providing nutritious food for her children and her husband. This participant did not have a nurturing environment during her childhood, and would like to be able to provide a nurturing environment for her children.

In this study, a nonnormative family transition that influenced processes families used to meet their food and nutrition needs is that of chronic health issues. A participant shared that arthritis in her knees and arms made it difficult for her to stand for long periods of time,
and she often felt tired. She said that this resulted in her having less energy to prepare foods for her and her son, and she often would look for meals that were quick and easy to prepare, such as meals that could be prepared in a crockpot, or were pre-prepared (e.g., frozen dinners or pre-made meals). Another participant shared that health issues of her husband, mother (who lives with them) and one of her children altered the food purchasing and preparation methods she used, and consumed a large portion of her time to care for them when they are ill. Her husband, a recovering drug addict, has dental and other health problems due to poor nutritional status and has few teeth left. He is unable to keep steady employment as a result of his health concerns. All of his food needs to be either pureed or prepared so it is very soft. Her mother has gastrointestinal problems so there are many foods she cannot eat. One of her sons (preschool age) is allergic to gluten, so she needs to read the product information on food packages very carefully to ensure that food she purchases and prepares is gluten free. This participant spends a large portion of her day planning and preparing foods for family members, as well as caring for family members when they are ill. As a result, it is difficult for her to obtain full-time employment, and they often live paycheck to paycheck.

As supported by previous illustrations in this study, Family Systems Theory assists in understanding the relationships among family members, and the influence of environmental conditions. When a family member loses a job, often the individual who lost the job experiences stress, as well as other family members. Children may begin to have trouble focusing at school, or have difficulty with friendships because they are preoccupied with the stress they feel at home and are concerned about the future of their family. Loss of income affects the amount of resources available to the family. The family may need to make changes in how they spend money, as well as seek outside support to provide for basic needs.
Depending on the values, beliefs, and attitudes of family members, outside assistance may be welcomed or met with resistance. Some families who economically qualify for food assistance may refuse to do so because of feelings of embarrassment and pride. In addition, families may either be open to nutrition education support or not, depending on their perceptions of the support that is offered.

The way relationships among family members influence family processes was illustrated in this study through the interaction of family preferences and the food selection and preparation methods participants chose. This study revealed that many participants purchased and prepared foods that they knew their children and spouses would eat to avoid stress resulting from complaining family members, as well as to avoid wasted food. Thus, sometimes nutrition is forfeited to please family tastes and preferences, and avoid stress. In their study interviewing low-income individuals in 28 focus groups throughout the U.S., Bradbard et al. (1997) also found that low-income parents are willing to purchase more expensive, less “healthy” foods (e.g., high in sugar, salt and fat) to satisfy children.

Family Systems Theory can assist in understanding and discussing family policies by examining the impacts of policy on various system levels. Policy may have the intent of affecting one part of the system (e.g., PRWORA’s intent to improve the economy by reducing the amount of money spent on welfare benefits and increase employment of low-income people in the workforce), but results in having several unintended effects (i.e., increased stress due to lack of “living wages”, food insecurity).
Double ABCX Model: Family Adaptation

Another framework related to the grounded theory developed in this study is the Double ABCX Model: Family Adaptation developed by McCubbin and Patterson (1983). This model helps explain why families differ in their definition and response to family transitions and the basic coping strategies they use as they adapt to stress and family crises. As the Double ABCX Model of Family Stress model takes into consideration three units of analysis (e.g., the individual family member, the family unit, and the community) to help explain how families cope, the grounded theory developed in this study also considers these units of analysis. However, the grounded theory model integrates these units of analysis into the conditions families face.

Based on the conditions and interaction with the central phenomenon, families choose strategies that result in outcomes. For example, the individual family member is represented in the grounded theory through the category of past experiences (a causal condition in the model), and through intervening conditions such as the values, attitudes, and beliefs of the individual. The family unit is represented through intervening conditions (e.g., size of family and family structure), contextual conditions (e.g., family dynamics), and the central phenomenon (i.e., social support). The community is represented through the central phenomenon (i.e., social support), causal conditions (i.e., government policies), intervening conditions (i.e., societal expectations), and contextual conditions (i.e., “living wage” jobs, childcare, transportation).

In the Double ABCX model: Family adaptation, both the individual family member and the family unit are characterized by demands and capabilities. Family adaptation is achieved through reciprocal relationships where the demands of one of these units are met by
the capabilities of the other unit. In crisis situations, the family struggles to achieve a balance at both the individual-family and family-community levels of family functioning. The family is a social system and change in one level affects the other. This notion is illustrated in the grounded theory in that the various conditions families face interact with one another and guide the selection of the strategies that families will choose to try and meet their food and nutrition needs. The outcomes families experience are a result of these strategies and are on a continuum of positively to negatively meeting food and nutrition needs.

The demands, or needs of individuals and families, change over time as a result of family transitions (normative and non-normative). The demands of society also change over time such as new expectations associated with welfare reform (i.e., movement off welfare and into the workforce). These changes call for adjustment and adaptation by the family, and thus are additional demands placed on the family unit. The grounded theory developed in this study takes into account family transitions and how they influence strategies families choose. However, the Double ABCX Model: Family Adaptation looks at transitions over time and the grounded theory developed in this study does not look at these changes over time. Future testing of the grounded theory model to see if it incorporates these changes over time is warranted.

**Bronfenbrenner’s Ecological Model of Human Development**

Bronfenbrenner’s Ecological Model of Human Development examines the interaction between the developing person and others at various system levels (e.g., micro-, meso-, macro-, exo-, and chronosystem). Bronfenbrenner (1979, 1986) states that the parent’s and child’s connections to others outside of the home may either constrain or promote their
interaction with one another in that ties to informal support systems (e.g., extended family members) and to formal support systems (e.g., childcare, schools, parent education programs, professionals) influence a parent's child-rearing behavior. In the grounded theory developed in this study, interaction among the system levels are illustrated in the visual model (Figure 2).

For example, the microsystem is represented by the participant's family (e.g., family structure, family make-up) as an intervening condition. A mesosystem, which consists of the relationships existing between two or more settings, is represented by the relationships between the participants and their friends in the grounded theory and was identified as a source of social support. An exosystem is represented in the grounded theory by the linkages and processes taking place between the developing person's family and the job training setting, or employment site. As mentioned earlier in the discussion section, participants reported several affects on their family as a result of being employed, or participating in job training. An example of a macrosystem represented in the grounded theory is the cultural beliefs of U.S. society in general regarding PRWORA. Societal expectations and government policies played out in PRWORA affect family members directly. Bronfenbrenner's (1989) term, chronosystem, is illustrated in the grounded theory model both as a causal condition (i.e., past experiences) and as an intervening condition (i.e., family transitions).

Using Bronfenbrenner's model, it is easy to see the role of social support (as identified from the data in this study) in the various system levels. For example, at the microsystem level grandparents provided social support by helping to provide food and money to purchase food or pay bills. Children and husbands provided emotional support by verbally recognizing the efforts of the mother as she prepared the food, as well as tried new
dishes the mother prepared. Unsupportive behaviors of family members include members who were “picky eaters”. At the mesosystem level friends and peers helped to provide emotional support to participants through encouragement and sharing resources. At the exosystem level participants reported the importance of government and private food assistance programs and nutrition education programs. Food stamps were viewed as the primary resource for food, and paraprofessionals via the EFNEP and FNP provided emotional and educational support. The chronosystem (i.e., past experiences, family transitions) is embedded throughout each of the previous systems. The macrosystem contains the values, attitudes and beliefs of society at large (e.g., self-sufficiency: stigma associated with welfare), as well as government policies affecting families. The macrosystem is an integral component of the conditions families face which in turn influences strategies they choose to meet their food and nutrition needs.

Summary

The discussion section of this chapter described the prevalent role of social support in assisting low-income families in meeting their food and nutrition needs. It also examined the relationships between social support and the other four overarching categories (societal expectations, government policies, past experiences, and sense of control/personal empowerment). Propositions that depict relationships between the components identified in the visual model were developed.

Relationships between the grounded theory developed in this study and other theoretical frameworks (i.e., Family systems theory, Double ABCX Model: Family Adaptation, Bronfenbrenner’s Ecological Model of Human Development) that help to
provide insight into family processes were illustrated. This study provides valuable information on the issues families face as they strive to meet their food and nutrition needs. The next chapter presents the limitations and implications of this study, as well as recommendations for future research and practice.
CHAPTER 5. CONCLUSIONS

Limitations

Generalizability

Given the exploratory nature of this study, and the fact that there is a dearth of research in this area, the primary purpose of this study was to develop a theory, grounded in data from the field that would provide an initial conceptual foundation for the study of how low-income families meet their food and nutrition needs. Thus, the purpose of this study was not to make generalizations about the process that low-income families with young children use to meet their food and nutrition needs.

As mentioned, this study cannot be generalized to the total population of low-income families with young children. The findings from this study are only transferable to families who experience similar contexts as families in this study. Families who were interviewed in this research study were low-income families who live in six specific counties in Iowa, have young children, and participated in nutrition education through either EFNEP or FNP. Also, this study collected data from low-income families during a specific period of time that may or may not vary in context from other time periods. It is the responsibility of the researcher to provide “thick description” of the context in which the data were found. It is the responsibility of readers to transfer these findings to similar contexts.

Definition of terms

The researcher used general terms pertaining to meeting family food and nutrition needs. The researcher reported participants’ perceptions of whether or not they were meeting
their families' food and nutrition needs. Thus, participants' perceptions of the definition of "meeting food and nutrition needs" determined their responses. Therefore, two people who were providing basically the same amount and types of foods to their families could have responded to the questions differently based on their perceptions. However, qualitative research bases its findings on "multiple realities", and what one believes is true for her situation, is true for that person. Future research could explore families' definitions of these terms.

Need to explore the role of ethnicity and culture

This research study did not specifically set out to explore the role of ethnicity and culture in meeting family food and nutrition needs. Although, the lead researcher and research team members were open to emerging concepts and themes related to ethnicity and culture had they appeared predominantly in the data. Perhaps one reason why concepts related to these issues did not appear predominantly in the data is that the majority of the participants were Caucasian, as was the lead researcher and members of the research team. Future research is needed to involve more non-Caucasian parents as participants, non-Caucasian individuals as interviewers, and to explore concepts related to ethnicity and culture in meeting family food and nutrition needs specifically.

Implications

There are several implications for the findings of this study that relate to program and public policy, as well as to the delivery of services to families. Implications suggest that social support is critical to helping families meet their food and nutrition needs.
Valuable role of social support

Social support: “One size fits all” does not work

The findings reveal that social support plays a crucial role in helping low-income families meet their food and nutrition needs. Meeting family food and nutrition needs is a complex task influenced by a variety of conditions at the family, community and societal levels. The type of and intensity of support that is most effective for a family, depends on the varying conditions the family experiences. Therefore, policymakers and program developers need to realize that a “one size fits all” approach will not effectively help all families meet their food and nutrition needs.

Welfare reform’s link to food insecurity

According to Zimmerman (1995, 1998), PRWORA is consistent with the values that have influenced America’s policy approach to the economic problems of families for much of the country’s history: individualism, private property and minimal government. Individualism promotes the idea that people should work hard to get ahead, and have equal opportunities to do so. If an individual is unable to do so, then it is viewed to be at their own fault and a justifiable reason for shame, but not for intervention and help from the government.

Prior to PRWORA some individuals who used to qualify for food stamps, no longer qualify. There are time limits placed on food stamps for able-bodied adults ages 18-50 years who have no dependents. These individuals are only eligible for food stamps for up to three months within a three-year period over a lifetime. Only a few categories of legally admitted immigrants are entitled to receive food stamps. Thus, societal support that these individuals
used to receive through food stamp policy prior to PRWORA no longer exists. In addition, prior to PRWORA, parents and their children (who were also parents) could be counted as two households even though they lived in the same residence. PRWORA requires that parents and their children under the age of 22 be counted as one household (Iowa Department of Human Services, 2000). Thus, the amount of food stamps that the families were eligible for when counted as one household were less than the amount of food stamps that the families would have been eligible for if they were counted as two households. This change in policy of how households are counted, as well as changes in policy regarding food stamp benefit eligibility for legal immigrants and able-bodied adults without dependents, raises concerns about the potential, negative effects on diet quality for these groups (Basiotis et al., 1998).

USDA reports that nationwide participation in the Food Stamp Program has declined dramatically since 1996, the year PRWORA was enacted. Fletcher et al. (1999) reported that the use of food pantries and other emergency resources have dramatically increased in the seven Iowa communities where they conducted interviews with low-income families. Thus, food pantries and other community emergency resources are playing a larger role in helping families meet their food needs when food stamps are unavailable or inadequate.

Tangible support in the form of food stamp benefits is crucial for many families, and is viewed by families to be their primary resource for food. Families will commonly use income from FIP, or earned income from employment to pay household bills (e.g. rent, utilities) before using income to purchase food. Many of the jobs that low-income families in Iowa have available to them do not pay “living wages” (Fletcher et al., 1999), and families
need to identify reliable transportation, as well as accessible, affordable and quality childcare in order to enter and remain in the workforce.

As income is brought into a household, the level of food stamp benefits for that household decreases. Edin and Lein (1997) found that for every additional dollar earned per month by the female low-income single-parents in their study, their food stamp benefits were reduced twenty-five cents. Often this decrease in food stamps is not compensated by the earned income that now enters the household. The earned income is used to pay rent and utilities, and purchase clothing and household supplies, and other basic resources for the family. Thus, families often report being “worse off” by being employed, than by being unemployed and receiving full food stamp benefits. To balance the decrease in resources resulting from reduction of food stamp benefits, many low-income parents hold multiple jobs to earn enough income to help meet their family’s basic needs. Some parents delay getting a job in order to continue receiving the full food stamp benefit amount. Such situations can promote additional psychological stress that could lead to physical and mental illness, thus putting families at greater risk. In addition, families believe they are receiving conflicting messages from the government- PRWORA states that families need to become self-sufficient, however, few jobs exist that pay “living wages”. Thus, self-sufficiency is difficult to achieve. These conflicting messages can lead to decreased respect for and trust in government, as well as a sense of helplessness and hopelessness for some families.

Given the previous information, it appears essential that the interface between PRWORA’s requirements pertaining to welfare participants entering the workforce and the calculation of food stamp benefits be examined. Adequate nutrition safety nets need to be ensured. Social and economic conditions need to be created to assist families in gaining
access to food through earning income to purchase food, participating in food security activities, and where practical, producing food (Kramer-LeBlanc & McMurry, 1998). In addition, given the data in this study, it also seems relevant for food stamp benefit calculations be reviewed to take into account age of children.

Raising a family’s income through employment can potentially move a family above the federal threshold of poverty, however, higher income does not necessarily eliminate the poor living conditions that families may face (e.g., food insecurity, dilapidated housing; unsafe neighborhoods; and lack of access to reliable transportation, a telephone, adequate health care, quality education).

PRWORA reflects the high value U.S. society places on individuals taking control of their lives and providing for their families. PRWORA, 1996, was largely created by upper-middle class Caucasian individuals- government officials. Congressmen and state legislators are also predominantly upper-middle class Caucasian individuals, most of them male, and married. It seems quite ironic given that the people who PRWORA most directly affects (low-income mothers and children) are far from being upper-middle class, and many are not Caucasian, or married. To have people carry out specific actions or behaviors successfully (such as those stated in PRWORA), it may be beneficial to involve the people directly affected (e.g., low-income mothers) in the process of making policy, or at least involve individuals who have worked closely with these individuals in the process.

In addition to taking responsibility for their actions, PRWORA expects individuals to acquire knowledge and develop skills that will help them become and remain employed. PRWORA, and policies guiding programs such as the Food Stamp Program, need to be closely reviewed and scrutinized to ensure that they are indeed creating an atmosphere of
empowerment for families, versus a “catch 22” in which families do not feel they have a sense of control over their lives, but rather government is determining their options.

**Nutrition education helps move families from “at-risk”, to “safe”, to “thriving”**

Families can be identified as “at-risk”, “safe”, and “thriving” (A Measure of How Families Are Doing. 1993). The family “at risk” can be described as a family who cannot meet its basic needs and growth potential of its members is minimal. Descriptors of the “at-risk” family include: not enough food; family members are hungry; unable to prepare food; little or no nutrition knowledge; and inadequate income to meet basic needs.

The “safe” family can be described as a family who is secure and has the potential to move forward. Descriptors of the “safe” family include: has enough food to satisfy hunger; understands basic nutrition; and has enough income to meet basic needs.

The “thriving” family can be described as a family who is continually growing and contributing to its and the community’s well being. Descriptors of the “thriving” family include: can afford a variety of foods; eat well-balanced, scheduled meals; has knowledge of basic nutrition; practices preventative health habits; allows family choices in the budget; active in the community; and consistently cares for family members.

A variety of influences can assist a family in acquiring the attitudes, knowledge, skills and resources necessary to move from “at-risk” to “safe” to “thriving”. However, a prominent influence can be nutrition education, such as that delivered by the Expanded Food and Nutrition Education Program (EFNEP) and the Family Nutrition Program (FNP) throughout Iowa and across the nation through the Cooperative Extension Service. EFNEP and FNP involve families in “hands-on” activities that explore concepts relevant to their
daily lives (i.e., stretching their food dollars; feeding their children; making healthy food choices; planning and preparing low-cost, simple, healthy meals; and saving time). EFNEP and FNP paraprofessionals assist families in acquiring some of the means (i.e., nutrition knowledge, decision-making, problem solving, and food preparation skills) they need to take action to get what they want and need, thus be empowered.

"Unless children are adequately nourished, they cannot learn. If they cannot learn, they cannot earn. If they cannot earn, they cannot become personally responsible and self-sufficient" (Braun, 1997). This quote speaks well to the role nutrition education plays in welfare reform as welfare recipients strive to become self-sufficient and nurture "thriving" families. Over time Extension has worked closely with food assistance programs; however, integration between food assistance programs (such as the Food Stamp Program) and EFNEP or FNP has never been mandated (Sims & Voichick, 1996). Given the proven benefits of nutrition education to low-income families and the life skills needed for self-sufficiency, it seems relevant for food assistance programs (such as the Food Stamp Program) and Cooperative Extension to work together even more closely than before to involve families in nutrition education. In a nation with tremendous resources, and 16.9% of its children living in poverty (Dalaker & Proctor, 2000), it appears obvious that continued and increased investment in nutrition education and food assistance programs is both do-able and necessary. The future of our nation and world is dependent upon our investment in the well being of children.

There is a direct link between nutrition and health care costs. A recent cost-benefit analysis study of the Iowa EFNEP reveals that for every $1 spent on nutrition education through EFNEP, $10.75 is saved in future health care costs (Wessman et al., 2000).
Unfortunately, public policy is often short-term focused. It is important for educators and researchers to help policymakers focus on cost/benefits and help them see nutrition education as an investment in the future (prevention-focused). In addition, it is important to realize that modest, first steps are valuable and valid outcomes. For many individuals, participation in EFNEP or FNP is the first, positive educational experience they have ever had in their lives. By accomplishing modest goals through nutrition education, people may develop a feeling of control for the first time in their lives, leading to greater personal responsibility and greater self-sufficiency (Braun. 1997). In this study, findings revealed that nutrition education assisted parents in developing a sense of control/personal empowerment, thus leading to enhanced self-sufficiency.

The “new” Thrifty Food Plan: Its relevance and challenge for today’s families

The USDA Thrifty Food Plan (TFP) serves as a national standard for a nutritious diet at a minimal cost. Food stamp allotments are based on the TFP. TFP market baskets indicate the type and quantity of foods that individuals could consume at home to obtain a nutritious diet at minimal cost. In 1999, the TFP was revised to reflect current dietary recommendations, food consumption patterns, food composition data, and food prices while maintaining the cost at the level of the previous baskets (CNPP. 1999). In 1991, Shirley Watkins, the USDA Under Secretary for Food, Nutrition, and Consumer Services, announced:

...we have been able to develop a new Thrifty Food Plan that meets current dietary guidance and stays within the financial constraints of the current food stamp allotment. The challenge before us now is to provide food stamp recipients with nutrition education on meal planning, purchasing and preparation. (USDA Releases Studies, 1999)
This challenge will be a difficult one to address, especially with the lack of basic nutrition knowledge and food preparation skills, lack of access to adequate, safe food, as well as time constraints that some families face. The Thrifty Food Plan is largely based on preparing foods from scratch. This study revealed that many parents did not acquire basic nutrition, meal planning and food preparation knowledge and skills during their youth, and often did not have adequate opportunities to learn these skills as adults. Nutrition education via EFNEP and FNP can help low-income families (parents and youth) acquire basic nutrition, meal planning and food preparation knowledge and skills; however, EFNEP and FNP are limited in the number of families they can serve due to funding constraints. Federal funding for EFNEP has stagnated over the years, and federal funding for FNP is dependent upon state “matchable” dollars.

USDA’s TEAM Nutrition, a nutrition education initiative targeted to youth, families and communities, has helped to promote nutrition. However, many competing factors continue to confront youth and families as they make food choices (e.g., vending machines in schools that do not provide “healthy” food choices; easy access to fast food restaurants; easy access to convenience stores that have few “healthy” food choices, and often charge higher prices for food than grocery stores; increasingly fewer meals eaten together as a family; and for some families, a lack of access to grocery stores which offer a variety of high quality food choices at affordable prices). In addition, communities often welcome fast food chain restaurants because they bring jobs into their communities.

Low-income families face lack of time issues, just as middle- and upper-income families. As more individuals leave welfare for work, time constraints will further increase. Even if low-income families have basic meal planning, nutrition and food preparation
knowledge and skills, they often lack time to prepare foods from scratch, as do many American families. In addition, spending income on food away from home has become a common occurrence in American culture. In 1996, 39% of American households’ total food expenditure was spent away from home (Lin et al., 1999). Perhaps the answer lies just as importantly in helping families make “healthier” food choices when eating out, as it does in trying to help families develop food preparation skills. Many restaurants, especially fast food restaurants, offer few foods low in fat, sugar and salt, and often provide serving sizes that are far beyond the recommended serving size. Fast food restaurants offer few foods that are high in calcium, Vitamin A and C, and iron- nutrients often low in the diets of low-income families. Community and policy efforts also could be explored to influence fast food restaurants to offer more “healthy” food choices.

Thus, the Thrifty Food Plan may look achievable on paper; however, it may not be realistic in the context of the lives of many low-income American families. As the data revealed, even with basic nutrition knowledge and food preparation skills, sometimes parents trade-off “good” nutrition for simple, easy-to-prepare and quick-to-consume foods that may not be as nutritious to decrease stress and save time. In addition, issues of access to healthy, low-cost food choices influence the food choices of families. For example, in Iowa, the price of fresh produce varies dramatically throughout the year. This study found that as prices of fresh produce increase, families, especially low-income families, purchase less fresh produce and, certainly, a smaller variety of fresh produce. Thus, the wide range of vitamins, minerals, and fiber available in fresh produce is not being consumed in the recommended amounts by most Iowans. In 1998, Iowa ranked near the bottom among states in the U.S. in relation to the
number of people eating the daily recommended number of servings of fruits and vegetables (NCCDPHP. 2000).

Need for community level problem solving

As mentioned in previous studies (Fletcher et al., 1999), PRWORA has resulted in increased responsibility at the state and community level for creating infrastructures and systems in which welfare reform will be successful. States are responsible for ensuring that PRWORA is carried out and welfare recipients are entering the workforce. State government in Iowa has relinquished much of the decision-making power regarding policies and programs to local communities through decategorization, empowerment, Innovation Zones and Department of Human Services self-sufficiency grants. Thus, communities are being held responsible for developing employment opportunities that pay “living wages”, finding solutions to childcare and transportation issues, as well as examining local food systems to ensure that families are food secure. Communities will need to have strong leaders, and a broad base of civic involvement to deal with these issues.

Recommendations

The data led to the recommendations that programs designed for low-income families need to: involve families in program decisions directly affecting them, be family-centered, and be integrated into other programs serving families where feasible. In addition, policymakers (e.g., county board of supervisors, city council members, school board members, state legislators, Congressional members, program administrators, etc.) need to seek out the “voices” of low-income families and involve families in developing and shaping public policies that directly affect their lives.
Involve families in policy and program decisions

Those with the most severe health problems are often those with the least access to sources of community power (McLeroy et al., 1988). Individuals with the least access to power include the poor, the minorities, the rural, the uneducated, the unemployed or the underemployed, the homeless, the disabled, and those with socially derided health conditions such as AIDS, mental illness, and alcoholism. Often these individuals are left out of the process of defining problems and developing solutions (McLeroy et al., 1988; Scheider, 1992), and are often labeled, “the hard to reach.” Many times these individuals are difficult to reach because their personal problems are so severe that they have little time, energy, or resources for participating in larger community programs. The “hard to reach” are not politically organized and are disconnected to community political processes and power structures. As a result of this “disconnectedness” they often become the objects of services and programs (McLeroy et al., 1988).

A recommendation is to involve families in the decision-making process of programs and policies that affect them. This recommendation is not an easy challenge, but one that is essential to address. If policies and programs are developed with the intent of supporting families, then it is essential that families are a part of the decision-making process of what the policy or program will entail, and how it will be carried out. It will serve society well to involve families as partners, as an equal voice, in the development of policies and programs that directly influence their lives. Too often, policies and programs are developed for families, and not with families, resulting in policies and programs that do not effectively meet the needs of families and leave policy makers, program administrators, front line workers, and families frustrated.
Family-centered practices

Family-centered practices are founded on the premise of full partnership with families designed to maximize the family's capacity to meet the needs of its members (McBride & Brotherson, 1997). Family-centered practices operates among three primary principles: (1) establishing the family as the focus of the services; (2) supporting and respecting family decision-making; and (3) providing intervention services designed to strengthen family functioning (McBride et al., 1993). This framework for practice is supported by family systems theory and is based on research and "recommended practices" of what families say are important (Turnbull et al., 1984). Dunst et al. (1991) describes family-centered practices as using family needs and desires to guide all aspects of service delivery and to aim to strengthen family’s capacity to meet their own needs.

In her evaluation of programs serving families, Schorr (1997) found that the most effective programs in increasing positive outcomes for families were based on the ecological model and mirrored principles of family-centered practice. Successful programs were described as: (1) “Comprehensive, flexible, responsive, and persevering” (p. 5); (2) Seeing “children in the context of their families” (p. 6). Having staff who were aware that whether or not a child’s needs would be met depended on the parents’ coping abilities, and social and economic resources; (3) Responsive to the needs identified by the community and were “owned” by the community; (4) Having a “long-term, prevention orientation, a clear mission, and continue to evolve over time” (p. 8). An organizational culture was created that was outcome oriented versus bounded by rules; (5) “Well managed by competent and committed individuals with clearly identifiable skills” (p. 9) that provided leadership and vision for the programs. Program managers were willing to take risks, tolerate ambiguity, were able to win
trust with staff, politicians and the public, able to respond with prompt, tangible program results, able to collaboratively work with staff, and supportive of staff discretion at the front lines; (6) Having staff who were “trained and supported to provide high quality, responsive services” (p. 10); and (7) Implemented “in settings that encourage practitioners to build strong relationships based on mutual trust and respect” (p. 10). Program staff were engaged with families long enough and persevering enough to forge the kind of genuine relationships that helped to turn their lives around.

Thus, perhaps key criteria to consider when employing staff to work in a nutrition education program, or another program serving low-income families, is the ability to listen well, empathize, be non-judgmental and respectful, develop rapport with families, advocate, as well as take initiative to seek out other services that could benefit families. Educators would act as “facilitators” versus “lecturers” or “information deliverers”. In this study, listening and allowing families opportunities to think through their situations and alternative solutions was paramount in assisting families to make some of the nutrition and nutrition-related behavior changes they shared in this study. Furthermore, initial and on-going staff training needs to build upon these skills and infuse them into all aspects of program delivery. Staff roles and crossing boundaries to best address families needs should be discussed between program staff and managers to ensure mutual understanding, and support of families by program managers.

To enhance the effectiveness of nutrition education programs further it is important for program staff to be just as concerned with method, as they are with content (Kent, 1998). Program staff need to work alongside families to help families critically think through food and nutrition issues in their lives. Questions staff can help families think about include: What
are the food and nutrition issues my family faces? How did they come about? What do we need to solve the issues? How do we develop a plan to solve the issues? What knowledge do we need? What skills do we need? What resources from other people do we need? Through reflecting upon and working through these questions, staff can assist families in identifying relevant solutions to family food and nutrition issues. By involving families in this process, their sense of personal control can be enhanced. It is important to note that this is a lifespan process and does not happen in 2-3 meetings with families. It may take a period of several weeks, months, or perhaps one or more years for an individual and his/her family to develop a sense of control and empowerment in their lives.

In her study of thirty-three low-income women in Canada, Travers (1997) found that over a period of sixteen months women involved in a process of participatory research and community organization were able to answer the questions posed by Kent (1988), identify solutions to their own issues, and take action to improve their situations. These women participated in a series of twenty-seven weekly group interviews at a local parent center that explored their experiences of feeding their families with low income. Through listening to others talk about how they coped with and overcame experiences similar to their own, the women learned coping strategies from one another. Each woman began to realize that she alone could not be fully responsible for creating the difficulties she faced because so many women faced similar problems for which they had no responsibility. Recognizing the common origins of their problems, the women built hope toward working together for solutions.

The women visited two urban and two suburban supermarkets to collect information regarding the pricing of items they typically bought. They found that the prices in the urban
stores were consistently 5% higher than the prices in the suburban stores. The women wrote letters to the stores addressing their concerns around the inequities in price, quality and services in the stores. Through this process the women not only developed personal skills such as the use of unit pricing, but they actively participated in identifying a concrete source of their problems. Not only had they raised their consciousness of their individually experienced oppression, but they had increased their awareness of the role of infrastructures (supermarkets) in creating inequities. The stores, in response to the women's concerns, decreased priced inequities between locations, and in one store a bulk-food section was created. Some of the women also became involved in developing a cooperative grocery enterprise that operated out of the parent center. Thus, through the process of participatory research and community organization, the women became personally empowered, as well as took collective action towards issues that influenced them directly and promoted inequities in their community.

Kent (1988) suggested that the content (information) staff have to offer will do little good if families do not believe they have the power to make changes in their lives. Thus, nurturing a sense of personal empowerment is essential in order for the information that staff have to share will be listened to and applied by families. Staff can also help families develop a sense of personal control through nurturing people's skills in decision-making and problem solving, self-advocacy, regulating one's own behavior (Abery, 1994), self awareness, self-evaluation, and goal setting and attainment (Doll et al., 1996).
Integrate nutrition education into existing programs serving families

Educational and emotional support provided through nutrition education can have far-reaching effects for many families (e.g., enhanced problem solving, decision-making and communication skills, increased self-esteem and enhanced sense of personal control and empowerment). Educational and emotional support, coupled with tangible support (e.g., food, income, childcare, transportation, health insurance, housing subsidies) from public and private agencies and/or friends and relatives can help families meet their immediate food and nutrition needs, and work toward meeting their long-term food and nutrition needs. However, if a family has no food, or a very limited supply of food, first and foremost on their mind is obtaining food. Information delivered through educational support pertaining to healthy food choices and stretching food dollars would probably not be relevant for this family until they have access to an adequate food supply. As studies have shown, children learn better if their nutritional needs are met and they are not hungry (Murphy et al., 1998b). Thus, if is difficult to focus on higher level skills (e.g., stretching food dollars, healthy food choices) until very basic needs are met (i.e., food).

Given that “free” time is increasing unavailable for most families, finding time in a family’s schedule to participate in nutrition education is becoming more difficult. One way to try and involve families in nutrition education is to integrate nutrition education into existing programs that serve families. Partners can compensate for one another and together deliver a stronger program than could be delivered by each program in isolation from one another. Collaborative partnerships need to be further developed between programs that specialize in nutrition education (e.g., EFNEP, FNP, WIC) for low-income families and programs that offer other services to families (e.g., Head Start, Family Resource Centers, Welfare-to work
training programs. Food Stamp Program, home visitation programs for young families, literacy programs). To develop these partnerships, nutrition education programs (e.g., EFNEP, FNP, WIC) will need to be flexible and creative, and willing to take risks to deliver nutrition education in new ways.

**Future Research**

To further understand the process that low-income families experience as they strive to meet their food and nutrition needs, there are several suggestions for future studies.

1. Include participants who have not participated in nutrition education via FNP or EFNEP in a study to identify if there are other conditions or interweaving of conditions that affect the process low-income families go through to meet their food and nutrition needs;

2. Follow low-income families over a period of time (e.g., 3-5 years) to explore the impact of family transitions and societal influences over time on their ability to meet their food and nutrition needs;

3. Explore the relationship between local food systems and the abilities of low-income families to meet their food and nutrition needs;

4. Involve a more diverse representation of ethnicities in future research studies. For example, with the rapid increase in Latino, Bosnian and Southeast Asian families in Iowa, it appears relevant to include a higher proportion of families from these ethnicities/cultures in a future study to understand issues they experience in meeting their food and nutrition needs that may or may not be different than the majority population in Iowa (i.e., Caucasians):
5. Expand this study to include quantitative measures such as actual monthly income over a period of time (including source of income), food consumption data gathered via a food frequency questionnaire or 24-hour food recall, and food security data gathered via a survey based on the food security instrument used in the U.S. Census Bureau's Current Population Survey Food Security Supplement; and

6. Document systems change on how the grounded theory developed in this study can influence policy after systematically being shared with policy makers.

Summary

This study provides a contribution to understanding the food and nutrition needs of low-income families. Food and nutrition education programs and policies historically have been developed and delivered without consideration of how the family system influences and is influenced by these policies and programs. As this study found, there are many causal, intervening, and contextual conditions that affect the success of policies and programs designed to meet the needs of low-income families. Until we incorporate a broader understanding of families into policy and program development, we will not be able to fully help families meet their food and nutrition needs.
APPENDIX A: INFORMED CONSENT

Iowa State University

TITLE: Understanding the changes in nutrition and food-related behaviors of families with limited incomes and young children.

PURPOSE: The purpose of this project is to understand what helps and what gets in the way of families making changes in how they feed their families. What we learn will help the Expanded Food & Nutrition Education Program (EFNEP) and the Family Nutrition Program (FNP) better meet families' needs. The project is being conducted by faculty, staff and students at Iowa State University.

PROCEDURE: Interviews will be conducted with 60-70 people who have graduated from either EFNEP or FNP. Interviews will be conducted at your convenience. Individuals will be asked to complete a short questionnaire. Any questions you have about the study will be answered at all times.

RISK: Participation in interviews and completion of the questionnaire will be completely voluntary. The interviews and questionnaire will present little or no risk to you. The interviews are intended to be enjoyable and interesting. If there are questions you do not want to answer, you do not have to answer them. Any concerns regarding the procedure will be discussed fully with you.

BENEFITS: The benefits for participating include the satisfaction of having your point of view heard, as well as helping to improve EFNEP and FNP. In addition, you will receive cash or a gift certificate and a small gift to compensate you for your time.

CONFIDENTIALITY: Every effort will be made to ensure confidentiality of participants. Your name will not be directly associated with any specific words that are said. Audio tapes and written notes gathered will be kept in a locked file cabinet. All information will be destroyed after five years.

I understand what my participation in the above study (Understanding the changes in nutrition and food-related behaviors of families with limited incomes and young children) will involve. I also understand that my participation is voluntary and that I may withdraw at any time.

NAME: _____________________________________________ DATE: __________________

WITNESS: __________________________________________
APPENDIX B: INTERVIEW PROTOCOL
B-1: Qualitative Research Method- Individual and Group Interviewing

**Process of Interviewing**

- **Participant Selection**
  - Identify Selection Criteria
  - Develop Protocol
- **Conduct Interviews**
  - Train Interviewers/Moderators
  - Conduct Member Checks
  - Revise Protocol
- **Analyze Data**
  - Recursive Data Collection and Analysis
  - Develop Organizing Schemes
  - Final Member Checks
- **Develop Questions**
  - Formulate Research Questions
- **Report**
  - Conduct Interviews

**Develop Procedures**
Focus Group and In-depth Interviews: Des Moines, Franklin, Polk, Story, Tama, Woodbury counties
Case Studies: Fayette, Polk, Story counties
Thank you for agreeing to participate in this focus group. Feel free to help yourself to refreshments and make yourself comfortable.

What is a focus group?

A focus group usually consists of 6-8 people who have something in common. The purpose of a focus group is to hear about people's experiences around a particular issue.

The issue we are focusing on today is what helps, and what makes it difficult for parents to feed their family.

To get started, we would like you to think about the following questions:

"What helps you feed your family?"

"What makes it difficult, or gets in the way, of feeding your family?"
"Please share your name, the ages of your children, and your favorite meal to feed your family."

Moderator selects a person and says,
"(Name of person), turn to someone in the group and tell them why the meal you stated is your favorite meal to feed your family. This will help us learn a little more about each other."

After the first person has chosen someone to share with, the moderator says to the person selected,
"(Name of person), now it’s your turn to turn to someone in the group and tell them why the meal you stated is your favorite meal to feed your family. We will continue to go around the group until everyone has had a chance to share."

After everyone has shared, the moderator says,
"Now, let me share with you the stories of two women. Listen to their stories and then share with each other your thoughts on how they feed their families."

**Scenario 1:**
Alice is 24 years old, has a 3 year old son and a 6 month old daughter. Her husband works at a local gas station, and has to work some days and some nights.

During the nights that her husband works, Alice usually stops by McDonald’s, picks up food and takes it to her husband so the family can eat together. She usually buys cheeseburgers, fries, milk for her son and cokes for herself and her husband. For variety she’ll purchase fish or chicken sandwiches and shakes. Sometimes she’ll buy a box of cookies for her son or a hot apple pie for her husband. Alice usually feeds her daughter baby food (e.g. beef and mixed vegetables) and formula.

On nights that her husband is home, Alice usually prepares frozen pizzas and corn. Her son and husband love corn. Sometimes she will fix macaroni and cheese and hotdogs, or frozen fish sticks.

"Describe how you think Alice feeds her family."

"What advice, if any, would you give Alice?"
Scenario 2:
Sammy is 31 years old, has two sons, 10 and 6 years old. She is a single mother and works part-time at the local JC Penny store.

The kids usually eat cold cereal and have orange juice to drink. Sometimes they have pop tarts that they heat in the toaster. However, sometimes when they are running late, the kids eat cereal bars in the car on the way to school. Debi usually drinks coffee and has a piece of toast.

"Describe how you think Sammy feeds her family."

"What advice, if any, would you give Sammy?"

"How realistic are these scenarios?"
"How could they be changed to better describe situations families face?"

"Think back over the last 6-18 months. How, if at all, is the way you feed your family different today, than it was 6-18 months ago?"

"If it is different, how is it different?"
"If it is the same, how is it the same?"

"What do you believe is the reason(s) why you fed your family differently than compared to now?"
"What do you believe is the reason(s) why you feed your family the same as you did 6-18 months ago?"

"Describe what you believe helps people make positive changes in the way they feed their families."

"Describe what you believe makes it difficult for people to make positive changes in how they feed their families."

"How could things be different to help people feed their families well?"

"What does it take, or would it take, for you to make changes in how you feed your family?"

"Are there changes you would like to make, but have not been able to make yet? Do you believe you have the power (or are in control) to make these changes?"

"We are trying to understand what helps and what gets in the way of parents making changes that will help them feed their family. Is there anything that we should have talked
about, but didn't? Is there anything else you can share that will help us understand this better?"

"This is the first of a series of focus groups that we are doing. Do you have any advice on how we can improve?"

"Thank you for your time and for sharing with us. If later you have additional thoughts to share with us regarding this topic, please feel free to call or write us. We want to hear from you!" (Pass out business cards)

"We have a small gift to share with you for sharing with us tonight (today). We hope you enjoy these books with your children." Let people choose one book per person.
B-5: Indepth Interview Script

Theme: Self-efficacy
Q: What helps people feel capable of feeding their family well?
Q: What has helped you feel capable of feeding your family well?
Q: What has increased your confidence in feeding your family well?
Q: Share with me strengths that you have that help you feed your family well.
Q: Describe for me what is enjoyable for you in feeding your family?
Q: During the focus group I remember you sharing __________. What is it that helps you __________.

Theme: Social support
Q: Another issue that has come up is "social support". Tell me, how if at all, people help you feed your family?
Q: Share with me social activities that you are involved in that have food involved. How, if at all, do these activities influence the way you feed your family?

Theme: Life history/past experiences
Q: Tell me about experiences you had while growing up, that have influenced how you feed your family.

Theme: Life events
Q: Women have shared that life events, such as illnesses, loss of a job, have effected how they feed their family. How, if at all, is that for you?
Q: Share with me some specifics of how events in life has impacted the way you feed your family.
Q: What has helped you feed your family well this week? Walk me through all the steps of one meal so I can understand every step.
Q: What has got in the way of feeding your family well this week? Or on any particular day of this week?

Other questions:
Q: When you find yourself slipping, how do you get yourself pumped up to feeding your family well?
Q: During the focus group women mentioned that they were "a better parent", "a better mom" now. What is it that helps you feel like a better parent? A better mom?
Q: Is there anything else I should know that would help me understand what helps you feed your family well, or what makes it difficult?
B-6: Sample Case Study Interview Questions

Pick one day last week. Describe what it was like on that day to feed your family.

How was it like yesterday in feeding your family? Or How was it like this morning in feeding your family?

Follow up prompts:
- How did you feel about feeding your family?
- What made it helpful or easier to feed your family?
- What made it difficult, or got in the way, of feeding your family the way you would have liked to?
- If you had that day back again, what might you do differently?

What is it that has helped you feed your family well this week?

If they respond that they weren't able to feed their family well, or not well everyday, then ask. Help me understand what got in the way of feeding your family well everyday this week?

How do you tell yourself that you are doing a good job feeding your family?

How, if at all, do others tell you that you are doing a good job feeding your family?

At the end of each interview, ask the participant, "What is one thing that you want to try and do this next week to help you feed your family well?" Have her write this item down (perhaps on the notepad you gave her). When you interview her the next week, ask her, "Last week you mentioned that you were going to ______ to help you feed your family well this week. How did that go?" If she was able to do what she said she was going to, ask her "what do you think helped you do this?" If she was not able to do what she planned to, ask her "What do you think got in the way of doing this?" These questions can be repeated each time you interview, to follow up on what was discussed last time.
### B-7: Probes

If participants state the following constraints, use the stated probe.

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not enough money</td>
<td>If you had $50 more a month, how would the food you fix for your family be different?</td>
</tr>
<tr>
<td>Food stamps run out before end of month</td>
<td>If you had $50 more a month, how would the food you fix for your family be different?</td>
</tr>
<tr>
<td>Run out of food</td>
<td>If you had $50 more a month, how would the food you fix for your family be different?</td>
</tr>
<tr>
<td>Not enough time to spend time cooking</td>
<td>If you had 30 more minutes a day to fix food for your family, how would the food you fix be different?</td>
</tr>
<tr>
<td>Too busy with job, school, kid's events</td>
<td>If you had 30 more minutes a day to fix food for your family, how would the food you fix be different?</td>
</tr>
<tr>
<td>Kids fix the foods, parent is not always there to fix the food</td>
<td>If you had a place to store food so it would keep, how would the food you purchase for your family be different?</td>
</tr>
<tr>
<td>Lack of storage space to store large quantities of food that could purchase on sale (e.g. cupboard, refrigerator, freezer)</td>
<td>If someone is willing to spend time with you to teach you how to cook, how would the food you fix for your family be different? What kinds of foods would you want to learn how to fix for your family?</td>
</tr>
<tr>
<td>Lack of knowledge or skill</td>
<td>If someone is willing to spend time with you to teach you how to cook, how would the food you fix for your family be different? What kinds of foods would you want to learn how to fix for your family?</td>
</tr>
<tr>
<td>e.g. Don't know how to cook, so I buy mostly prepared food or food that you put in the microwave. I know my kids will like these foods. they taste good.</td>
<td>If someone is willing to spend time with you to teach you how to cook, how would the food you fix for your family be different? What kinds of foods would you want to learn how to fix for your family?</td>
</tr>
<tr>
<td>Lack of transportation or unreliable transportation</td>
<td>If someone is willing to take you to the grocery store, food pantry, farmers' market, etc., to get food, how would the way you feed your family be different?</td>
</tr>
<tr>
<td>e.g. Can't get to a large grocery store where prices are cheaper because have no transportation; can't purchase large quantities of food on sale because I have to walk to the store</td>
<td>If someone is willing to take you to the grocery store, food pantry, farmers' market, etc., to get food, how would the way you feed your family be different?</td>
</tr>
<tr>
<td>Perception that fresh food/healthy food is expensive; fresh fruit and vegetables do not keep-they spoil and then have to be thrown away- I can't afford to throw food away; canned foods can be stored anywhere and last a long time</td>
<td>If fresh fruits and vegetables were cheap, how would the way you feed your family be different?</td>
</tr>
<tr>
<td>Lack of self-efficacy: belief that &quot;I am capable&quot; of performing a specific behavior</td>
<td>What makes you feel capable of feeding your family well? What are the strengths that you have that help you feed your family?</td>
</tr>
<tr>
<td>Lack of support: single parent, no one to help prepare food</td>
<td>How, if at all, would you feed your family differently if there was another adult in the household?</td>
</tr>
<tr>
<td>Stress</td>
<td>If you had someone to help you take care of your children, or watch your children while you shopped for food or prepared food, how would the way you feed your family be different?</td>
</tr>
</tbody>
</table>
B-8: Focus Group Procedures

Facilitators—before group begins:

- Gather equipment (tape recorder, microphone, cassettes, flip chart, markers)
- Make arrangements for gift certificates, child care, transportation if needed
  (envelopes if certificates will be mailed)
- Prepare props and handouts (food models, sheets paper with questions, pencils, paper)
- Contact facility to ensure that it will be open, directions to get there
- Check seating arrangements
- Adjust room temperature
- Check noise levels
- Set out nametags
- Set up refreshments
- Soft background music

Phase I

1. Welcome everyone (flip chart that has words “welcome” on it in bright colors):
   - Introduce selves
   - Develop rapport with group so everyone feels comfortable
     - Ex. Weather, where from, etc.
   - Describe the purpose of the focus group interview
     - Provide handouts on focus groups at this time
   - Review and collect consent forms and demographic forms
   - Discuss confidentiality
   - Review how gift certificates will be distributed (complete envelope if using one)

Phase II

1. Explain how we will proceed:
   - Review the ground rules for the focus groups (key rules on flipchart)
   - Ask for introductions on tape to get a voice print and check out equipment
     - Allows us to concentrate on what you’re saying
   - Moderator will ask initial questions and participants will join in with responses and other
     questions. You may confirm or contradict any comments made. However, respect will
     be given to all individuals’ opinions.

2. Explain the role of the assistant moderator:
   - Arrange seating and draw seating chart
   - Set up tape recorder and turn on at appropriate time
   - Pass out name tags, pencils, cards and forms
   - Record field notes pertaining to group dynamics, emotions, issues expressed
   - Lead debriefing
Phase III

1. Review ground rules (place on flip chart the 5 points bulleted below)
   - Only one person speaking at a time
   - Treat everyone with respect
   - There are no right or wrong answers
   - You are the experts
   - Respect the confidentiality of the group

Add:
   If you need to get up at anytime, feel free to do so
   We would like to hear from everyone
   This is a conversation: ask questions and respond to comments

Phase IV

1. Turn on the tape recorder and check to make sure it is recording
2. Conduct warm-up question
   Write down ideas
3. Choose someone to start
   Continue with responses and additional questions
4. Ask second questions
   Make sure all participate
   What do you think (Beth)?
5. Before close, ask if any other questions or comments
6. Thank everyone for participating
   Tell them a summary of the information collected at this meeting will be sent to them.
7. Conducting debriefing immediately and write down impressions and reactions.
   Tape record debriefing (state date, time location of interview, interviewers)
   Assistant moderator adds important points that are discussed in the debriefing to the field notes
B-9: Recruitment Letter to ISU Extension staff

Ann Smith
Suzanne Boldt

March 17, 1999

Dear Ann and Suzanne,

Thank you for your interest and willingness to recruit participants for a focus group study on April 21st. Your support is greatly appreciated!

Attached is a recruitment script that you may find helpful as you visit with past graduates about participating in the focus group.

We are interested in recruiting individuals who graduated from FNP (or EFNEP) 6-18 months ago (however, the time frame can be somewhat flexible), are female, English speaking, and represent the range of families who participated in Tama county. By “range”, I mean we are looking for individuals who represent various family structures, number of children, ethnicities, have varying degrees of social support, and life experiences. We believe that by interviewing people with a “range” of experiences we will get a more accurate picture of what helps and what makes it difficult for people to make nutrition and food-related behavior changes.

If you could identify 10-12 people who say “yes” to participating that would be great! Ideally we want the size of the group to be 6-8 people. However, we have found that it helps to “over recruit” because for varying reasons some people find they are not able to come after all.

You may find it easiest to recruit via the telephone or face to face. After you identify individuals who are interested please send me their names and addresses. I will send each person a follow up letter reminding them of the focus group. The letter will include your name as well. By including the staff person’s name it provides a more personal touch than receiving a letter from me, someone they have never met before. If you think it would help for the letter to come on Tama county letterhead versus Families Extension letterhead, let me know. We used Polk county letterhead in DesMoines, thinking that families may associate with Polk county extension, but not ISUE to Families. If you think we should use Tama county letterhead, please send me some. We have also found it very helpful for staff to call individuals the day before the focus group to remind them of the meeting. This extra reminder has helped with participation.
Please visit with others and identify a location that you believe families will feel comfortable coming to, as well as is safe and has a meeting room we could use for the focus group. We do have money ($25) to make a donation to a site that is providing us space for the focus group.

Childcare: we would like to be able to provide childcare on site for individuals who want to bring their children. If the meeting location has an extra room where children can be cared for, that would be great! If not, perhaps the children can be taken care of in the larger room. In Polk county, the children were cared for in a designated youth area of the library and the focus group was held in a meeting room. If you have thoughts on who could provide childcare during the focus group that would be great! In Polk county, a local 4-H club and leaders provided care and we paid them $25. They also did this as a community service project. If the group is held in a family resource center perhaps they have a child care area and volunteers or staff who would provide care if we paid them. Please let me know what you think will work best. We will pay $10 to individuals who choose not to bring their children.

Transportation: we will pay $10 to people to compensate them for transportation costs. In Polk county we lined up a taxi driver to pick up three women who otherwise would not have had transportation. We then paid the taxi driver. Let me know what you believe will work best.

Refreshments: light refreshments will be provided (e.g. cheese, crackers, fruit, small cookies, juice, coffee)

Small gifts: each participant will receive a children’s book focused on nutrition and food. Hopefully, this will get a book into the hands of parents that they can read with their child, as well as provide a pleasant parent-child interaction experience.

Tokens of appreciation for the local staff: as a small token of appreciation to staff who are helping to recruit individuals, as well as with local arrangements, we have purchased children books focused on nutrition and food. You will receive books that you can use as you work with families.

Please let me know if you have questions or need clarifications to the items above. Also, please let us know what you believe you have time to do. There may be some things that I can do from Ames via the phone (e.g. local arrangements). Once again, thank you for your interest and support. I think this will be a very interesting project. During the summer, after all the interviews have been done and some conclusions have been drawn from the study, we will be happy to share the results with you.

Sincerely,

Kimberly Greder
Family Nutrition Program Coordinator
PHONE: 515-294-5906  FAX: 515-294-1040
B-10: Recruitment Script for Focus Groups

Please use this script as a guide to recruit participants for the focus group. Please make sure to cover the following key points:

- Purpose of the study (to learn about parents experiences feeding their families)
- Location and time of group
- Duration of focus group (2 hours)
- Childcare and transportation needs
- Gift to a department store or grocery store for participating.

1. Contacting potential participants

"Hello, this is ___ (name of FNPA) with FNP, the Family Nutrition Program. may I please speak to ___?"

If the person is not at home:

"When would be a good time to reach ___?"

If the person has moved, try to get a new phone number or address.

2. Scheduling the Project

"Hi ___, this is ___ (name of FNPA) with the Family Nutrition Program. This past year you participated in FNP. On ___ (day/date) we will be bringing together people who have participated in FNP in a focus group to learn about their experiences in feeding their families. I'd like to offer you the chance to share your experiences. If you choose to participate in this group, we will provide you a $25 gift certificate to a local department or grocery store (or cash if that is decided), a small gift for you and your child(ren), have refreshments and provide childcare and transportation if needed. This is our way of saying thank you."

"Does this sound like something you would be interested in?"

If yes, then continue. If no, then thank the individual for her time.

"First of all, the session that we are trying to set up is on ___ (day/date). It will be held at ______ (place)." Do you know where ___ is?"

If no, then describe the location and how to get there.

"We would start at ___(time) and end by ___(time)."

If the participant is not available, ask what days and times would work best for them to meet. Say that if you are able to reschedule the session you will recontact them. Confirm the best phone number or place to contact them. Ask them if childcare or transportation would be needed.
If the participant is available, continue with:

"We know how valuable your time is so we’d like to start when scheduled. Do you have any concerns with the start time?"

"Do you need transportation or child care?"

If the participant says they need childcare, let them know options for childcare (e.g. childcare will be provided on site, or they will receive a $10 check (or cash if that is decided) to compensate them for costs associated with childcare. If childcare is going to be provided on site, ask for the ages of their children. If they need transportation, let them know options for transportation (e.g. they will receive a $10 check or cash if that is decided upon) to compensate for transportation costs.

3. Explaining the Project

"The group will consist of 6-8 women who participated in FNP. We are especially interested in finding out what helps families make changes in how they feed their families. We’d also like to find out what makes it difficult, or gets in the way, of making these changes. This information will help make FNP most useful to families."

"Thank you so much for agreeing to participate. A letter will be mailed to you confirming your participation in this focus group, along with a map and a reminder of the date and time. What is the best address to send the letter to?" (Get accurate spelling of name and mailing address)

"We’ll also be calling you back the day before the focus group as a reminder. Is this the best number to reach you at if we call on ___(day before the focus group)?"

"Once again, thank you. We’ll be looking forward to seeing you on ___(date)."
April 19, 1999

Beth Jones
515 James St.
Sioux City, Iowa 51106

Dear Beth:

Thank you for agreeing to participate in the focus group that the EFNEP (Expanded Food and Nutrition Education Program) is holding on April 26, 1999, at the St. Thomas Episcopal Church from 7:00 p.m. to 9:00 p.m. in Sioux City. The Church is located at 406 12th street (the corner of 12th and Douglas). We will meet in the basement meeting room. To get there, go North on Douglas to 12th Street, turn right on 12th, then turn left into the first alley. That will put you right at the church parking lot. The parking lot is well lighted with a security light. The entrance to the basement is on the same level as the parking lot.

The purpose of the focus group is to hear about your experiences in feeding your family. We know that parents experience a lot of concerns when feeding their families, and we are interested in hearing your thoughts.

The session will begin at 7:00 p.m. and will end at 9:00 p.m. We will respect your time by starting and ending on time. So, please allow yourself enough time to reach the church by 7:00 p.m.

We will provide refreshments and give you a $25 in cash for your participation, as well as a small gift for you and your child(ren) to enjoy. We also will reimburse you $10 for transportation and $10 for childcare expenses that you may have in order to participate in the focus group. Childcare will be provided at the church if you need it. If you need to take a taxi to the focus group please let us know by calling Aggie at 712-276-2157 and we can plan on paying the taxi driver once you arrive.

We are glad you have accepted our invitation to participate in this group. The success of any group depends on each of its members, so we are counting on you. If you cannot attend for any reason, please call Aggie at 712-276-2157 as soon as possible.

We look forward to meeting with you on April 26, 1999.

Sincerely yours.

Betty Ritchie
EFNEP Program Assistant
Woodbury County Extension

Heidi Bell
Graduate Assistant
Human Development &
Family Studies

Kim Greder
Family Nutrition
Program Coordinator
B-12: Case Study Interview Procedures

**Research Project title:** "A theoretical model: Understanding how feeding a family occurs in families with limited incomes and young children"

**Staff involved:**
Mary Jane Brotherson, Associate Professor, Human Development & Family Studies, ISU 515-294-3677
Mjbrothe@iastate.edu
Kim Greder, Family Nutrition Program Coordinator and Graduate Student, ISU 515-294-5906
x1greder@exnet.iastate.edu
Heidi Bell, ISU Graduate Student, 515-446-8986 xICorner@exnet.iastate.edu or lbbell@netins.net
Shelly Dilks, FNPA Story county, 515-382-6551 xdlilks@exnet.iastate.edu
Karen Franks, FNPA Fayette county, 319-425-3331 kfranks@selwein.k12.ia.us
Cheryl Jarvis, EFNEP PA, Polk county, 515-244-7782 (H)

**Purpose of study:** to understand how feeding a family occurs in families with limited incomes and young children. What helps and what gets in the way in feeding families well?

**Research design:** focus groups, follow-up in-depth individual interviews, case studies

**Respondents** (who we are interviewing): women who have graduated from either the Family Nutrition Program or Expanded Food and Nutrition Program who represent diverse experiences and backgrounds and can help us better understand the issue being studied.

**Specific criteria for case study respondents:**
* 3 FNP/EFNEP recent female graduates, in Iowa communities of various sizes (on a continuum of rural to urban)
* Articulate
* Willing to participate in the study April - September 1999
* Ideally the women would come from a range of backgrounds and experiences, immediate family structure (i.e. single parent, married), number of children (e.g. one currently involved with Promise Jobs, one representing the "working poor")

**Case study procedures:**
*Weekly contact with respondent (recent FNP/EFNEP graduate) which would involve a combination of short telephone interviews (5-10min) and face-to-face interviews (30min). The contact may be at different times of the day and week to get a better total picture of the lives of the individuals being studied.

Example: week 1- face-to-face interview (30min)
week 2- telephone interview (5-10min)
week 3- face-to-face interview (30min)
week 4- telephone interview (5-10min)

**Recording information gathered during interviews:** a combination of field notes, audiotapes, food recalls, household income data and possibly photos and videotapes will be used.
**Examples:**

**Face to face interviews:** You may find it easiest to tape each face to face interview and write up your field notes following the interview. During the interview it may be helpful to write down some key ideas expressed. * Immediately following each interview the interviewer should locate a place where she can record additional information to complete field notes that were taken during the interview. It is strongly suggested to take 15-20 minutes to do this immediately following the interview when the interview is fresh in your mind. Also, record your reactions/feelings, what you experienced during the interview. Send or fax completed field notes to Kim following each interview (every two weeks). Kim will send you SASE to use.

* Use the words of the respondent when writing concepts (e.g. fixed tacos because kids like them and they are easy to fix; went to Kum & Go for supper because mom’s car wasn’t working).

* Notes concerning the environment/setting (e.g. sounds, temperature, smells, feel of the room) and body language of the respondent should also be recorded. The interviewer should try to describe the setting in written words so that readers can feel as if they were there. Try to be as objective as possible when describing the setting (e.g. 4pm, Thursday afternoon, music from neighbor next door could be heard through the walls, no lights were on in the house, baby was sleeping in the other room, two telephone calls during interview, two children asked for something to eat during interview, mom went into kitchen and got them some graham crackers and milk).

**Food Recalls:** Once a month respondents will be asked to complete a shortened version of the food recall.

**Questionnaire:** During the beginning of the interview period respondents will be asked to complete a short questionnaire. Some of the information requested will be: age, number of children, household income last month. Respondents will be asked to complete the questionnaire again at the end of the interview period. The interviewer may fill in responses that you know have not changed (e.g. name, address, number of children).

**Observation:** Observations will replace some of the face-to-face interviews. At least 3 times during the interview period we want you to observe a specific event of the respondent’s life and write field notes. It is important for the observation to not interfere with how the individual normally does things. For example, you may ask the respondent during a face-to-face interview when she normally shops for food. Then ask her if you could join her next time. Explain that you want to get a picture of what it is like for her to grocery shop for her family.

Examples of other observations could include: meal time, preparing food

* Note: it is important that the observation be focusing on seeing how the person normally does things and what she encounters, not providing educational information (e.g. explaining the food label, suggesting certain foods to purchase, etc.). However, if the person asks you for some information, such as, “I usually buy canned corn, is frozen
corn cheaper? I know you said that it has less salt in it.” Your response could then be.
“Let’s look at each one and see what the label says”. This will be providing help if the
person asks for it, however, we do not want to initiate the help or education.

**Videotaping:** hopefully once between April and September an interview will be
videotaped. Kim or Heidi will help do the videotaping.

**Helpers for Participants:**
*Notepads- each respondent will be given a colorful notepad with a magnet on it to place
it on refrigerator and record thoughts and behaviors related to feeding their family in-
between each interview. The notes may help “jog” respondents memories of what took
place during the week before the interview

*Nutrition calendar: respondents will be given an ISUE Nutrition calendar (if they do not
already have one) to record interview appointments

**Photographs:** Throughout the interview timeline (April - September) interviewers will be
asked to take photographs of the respondent to get a visual picture of her everyday life.
The purpose of the photos would be to give us another “lens” in which to understand the
issue being studied. If respondents refuse photos being taken that request will be
respected.

Photos might include:
* a picture of her and you during the interview (perhaps a child or spouse could take the
picture)
* Respondent preparing food, washing dishes
* with her family
* the house (outside and inside pictures- kitchen, living room)
*typical meal time
* other events that might give further insight into feeding her family

**Key questions:**
You will be provided with some “key” questions to ask during the interviews. However,
you will need to use “probes” to follow-up with additional questions based on participant
responses.

Through the questions we want to get at “what is important” vs. simply “interesting” as it
relates to the ability to feed one’s family well. For example, it may be interesting to hear
“this house is so small. We have been living here 8 years and its time to move. I keep
telling him, but he doesn’t listen”’. However, an important statement that we would want
to record in field notes would be “I have no where to keep my food. I can’t afford a big
freezer to stock up on meat that is on sale”
B-13: Sample Notes from a Monthly Case Study Teleconference

Monthly Interviews

Continue to take photos
Check for good lighting
Try to get picture of whole family at some point
(let them know ahead of time)
Still thinking about videotaping, but not sure

Track expenses / income
Ask each month for respondent to
1. Identify total income
2. Total expenditures
   Esp. on food

• Want to know all resources had for food each month
e.g. money for food (from job, FIP, child support, SSI, etc.)
  Amount for food stamps
  WIC coupons
  Food pantry (if accented)

(“Alabama Calendar-Can they keep track on this?”)

• Ask basic question
  “How was it feeding your family this past month?”
  “What helped?” “What got in the way?”
  Probe for specifics

November / December: Ask about upcoming holidays and how that will impact budget?
Impact food choices?
Additional people coming during holidays-how effect food choices
Meal plans budget

Sample Questions (Nov/Dec)

1. Describe for me the kind of stressors you’re experiencing that impact how you feed your family?

2. Tell me about how getting together with family and friends effects the foods that you and your family eat?
   How you prepare foods?
   Foods you purchase?

   What do you purchase and prepare differently this time of year? Explain to me how you let this
   Into your food budget?

   Probe: feeling about whether or not in control of what family eats? They eat?

   Social expectations:
   How do expectation of others influence them and in what way? Eating? Spending money?

   Share with me resources in the community that you use this time of year
   (i.e. share, food bank, food baskets, clothes) to help you feed your family.
Dec- How will Y2K effect how you feed your family?

January- Has Y2K effected how they feed their family?
Utility/heat

Focus:
Fall out from holidays. (overspent), untypical, increase of stress

Start with general question them probe
Probes:
1. Foods
   Bills
   Access to food
   Utilities
   Y2K

January
Probe on how, if at all, continuing holiday bills impact money available for food.

Feb/March (winter)
Money spent on increase of heat costs
How, if at all, this impacts food choices? Money spent on food?
APPENDIX C: DATA SAMPLES

C-1: Sample Focus Group Transcript

A theoretical model: Understanding how feeding a family occurs in families with limited incomes and young children.

Des Moines County Focus Group
March 22, 1999

Moderator: Kim Greder
Assistant Moderator: Heidi Bell

Transcription Notes
R6: My name is Waneta. I have one boy at home who's 13. Samie.

R7: I have a 15 year old boy named Carmen, I have 12 year old twin girls, Joann and Angelina, and my 9 year old, who definitely a handful, Michael.

K: Well, and I'm Kim and I have one little boy, who's about 2 years and 3 months and his name is Wesley. He's making me realize that I'm older than I think I am because I run out of energy faster. The next thing I want us to think about is what is a meal or food that we enjoy to fix for our family, and why is it that we enjoy to fix that particular food or meal. Anybody feel free to start.

R1: A meal that we as a family eat and we enjoy to eat that?

K: Um hum.

R1: Okay.

K: And then why?

R2: We have some favorite recipes that everyone loves, even though it takes a lot of time. But, if I make beef stroganoff from scratch they love that. Then, there's a Swedish recipe that's a dessert and it's call Ustakaka, but it takes hours. You have to take the milk, and separate the curds and whey and all that, and then you have to make a custard, and you have to bake it, and it takes a long time. Then you make it with strawberries and stuff, but they love it, so the satisfaction of fixing something that they really love, it's a special treat when we do that.

R3: You are amazing. Eight kids and you've got time to separate the ....

(All laughing)

R3: the whey. I admire you girl.

R2: Well, it doesn't happen a lot.

R4: I've got 2 kids and I have a hard time making hamburger casserole.

R5: I have to agree, that I think something, most of the meals that we enjoy the most are the ones that probably take the longest to make. Their dad is Sicilian, and the prerequisite to marrying him was to learn to cook Italian. I think all of have, they’ve
gonen used to having some kind of a pasta in the meal.
K: A basta?
K: Oh, pasta.
R5: We call it basta. Lasagne, I think, or meatballs and spaghetti. The kids participate. Somebody is chopping up the cheese or somebody else is browning the hamburger meat, somebody else is fighting over the sausage that just got cooked. Michael is rolling meatballs or something. I think it's the participation between the children and the fact that they had a hand in making the meal. All of my kids cook, every single one of them, even my 9-year-old. It's always supervised. Usually, it's a rare occasion that I'm in the kitchen cooking without one of them in the kitchen with me. They take turns. It's not considered a chore from their point of view. It's a privilege. The girls now, have gotten to a point, Carmen's our breakfast person, but he's so much on the go lately this last year, that it's the girls that do the cooking. They alternate. All three of us, we alternate. Michael is our breakfast person. He's a great omelet making. Of course, supervised with him only being 9. The girls, pretty much, I can sit at the kitchen table and pretty much just watch them. But, I think when they have a hand in it, they enjoy the meal better.
You'll have to excuse my voice, I've been working a lot of hours lately. I'm wore out.
K: Anyone else have a favorite?
R6: Our favorites are spaghetti and pizza because they're easy to make. They usually, the consistency of them is usually pretty good. We know we're not going to get something really weird tasting. We usually have some kind of pizza or spaghetti.
K: Hi.
R7: I'm late, I'm so sorry.
K: That's alright.
R7: When you said it was behind Snake Alley, you know, I turn around 10 times.
K: Why don't you share your name with us.
R7: My name is Tao.
K: Tao.
R7: I know Christy, I know Tosha, Pam,..
R8: Waneta.
R7: Waneta, yeah. I know you. Heidi.
H: I called you on the phone.
K: Well Tao, we're just getting started on our conversation here, so we'll let you put your nametag on there. Then, as we're visiting here, at some point we'll have Heidi come over and help you fill out some of the forms that we need for you to fill out just saying that you agree to participate in this and nobody's twisting your arm to do so and etc. So we'll take it from there. Anyone else want to share your favorite food to fix for your family and why? Why is that your favorite?
R9: I can't say it's a favorite because he can't participate in it, but he'll ask for hot dogs. I mean it's just. He will come to me and say, "Mom, I want a hot dog. I want a hot dog."
R10: That's how ___ is. And we start eating hot dogs... R9: Plus, us being the only ones in the house, I don't need, I don't fix big dinners unless I expect company or something...cooking, and then there will be like leftovers for a week.
(R11: There's three of us in the house, because my 15-year-old, she has food ready for me when I get home.
K: Becky, what is one of those foods or meals that you enjoy fixing for your family?
R11: Well, if I'm going to cook, roast.
Roast and potatoes and a vegetable, usually green beans. Otherwise, it's usually something real fast.... K: Why is roast one of the favorite things?
R11: The kids like it. I like it. It's easy. Anything that's easy.
R12: We do that on Sundays a lot. If we through something in the oven before church, then we know that it's going to be done and it'll smell good when we get home. So we'll make the roast or the chicken, one of those type of meals. K: Treva, how about yourself?
R13: I have a hamburger casserole that I make. It has about everything in it. I also have a roast that I put in the slow cooker and I cook it all day long. I have to fight the kids and Bob to keep it out of it. Because, it makes its own gravy. You use cream of celery or cream of chicken or mushroom soup. We make mashed potatoes with it. Then I make a scalloped corn to go with it. There's never leftover of that.

K: It's something the family enjoys.

R13: Yeah, I never get it the second day. There's nothing left.

K: Tosha, how about you... a favorite food that you like to cook for your family?

R14: Well it's just like me and my friend that live together so we don't really cook big meals or anything like that either. If I cook, I'll just do tacos. I like tacos.

K: What is it about tacos that you like?

R14: It's pretty easy to make.

K: Okay.

R15: Tacos or spaghetti usually. Every time I say tacos, C.J. will eat. It's hard to get him to eat because he's two. He's picky.

R16: You get your basic food groups with that kind of stuff too.

R15: I have to tell him there's hot dogs in tacos.

K: He likes those hot dogs.

R15: He knows it tastes different, but as long as he thinks it's hot dogs then he eats it. He likes tomatoes and lettuce and cheese. He loves vegetables.

K: How old is he again?

R15: Two, 2 years old.

R16: What is it with little kids and hot dogs. My kids will get into the refrigerator and get a hot dog in each hand, run into the living room, sit down and begin to eat.

R17: Nobody has to cook it for them or cut it up for them or anything.

R18: Mine will not eat them.

R17: Mine are not big on hot dogs, they were when they were younger.

(Many talking).

R19: We get those turkey dogs, with the turkey meat.

R17: Those are good.
R19: They eat them.
R20: I was at the store the other day and I say these veggie dogs!
R21: Eww, veggie dogs.
R20: Vegetable hot dogs.
R22: Those don't sound good.
K: Tao, if you could share for us how many children you have and their ages.
R23: I have one, Keagan. He's 2 ½.
K: Okay, 2 ½.
R23: Her son's buddy.
K: Okay, the kids know each other. And then we're sharing if there's a favorite food that we have to fix and then if we do, what makes that our favorite food to fix.
R23: Okay, his dad is kind of, he's very picky with food, so we usually don't cook the same food every single day. Either we just cook something easy like spaghetti, but I usually make it from scratch. He prefers that. We make like stir-fry and then we change to Thai food the next day. If we have leftovers, we're not making anything. We don't usually eat hot dogs. He doesn't want to eat it. Some, mostly I eat like fried rice and stuff like that. He likes it.
K: What I'm going to do now, is I'm going to read you a couple stories. We'll start with the first story. These are stories of two women that are actually real. The names have been changed to protect the innocent. I want you to just think about, first Alice. I'm going to read you a short little story about Alice. I want you to think about Alice and about how she feeds her family. Alice, she's 19 years old and she has a little boy who's 18 months old, so a year and a half, and his name is Jackson. In February she quit her job so she could go back to school to get her G.E.D. She no longer lives with her parents. Her and her son have an apartment. They live, just the two of them. Last month she received $10 in Food Stamps. Fortunately she has some money saved before she quit her job to go back to school, so that she could buy some more food than what the $10 in Food Stamps would give her. She's tried to cook a full meal for her little boy,
C-2: Sample Focus Group Transcript Analysis

December 16, 1998
6:30-8:30pm
Peoples' Place, Ames, IA

<table>
<thead>
<tr>
<th>Issues</th>
<th>Implications</th>
<th>Quotable Quotes</th>
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<tbody>
<tr>
<td>Please family- cook pizza, pasta and chicken because children and husband like it; eat out (McDonalds) is a treat for kids</td>
<td>If children or husband are &quot;picky&quot; eaters, then mom will cook what she knows children will eat (p. 2) even if mom doesn't like it, or doesn't like to prepare it (p. 3)</td>
<td>&quot;things that kids like are more apt to be what we eat than what we like&quot; p. 4</td>
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<td></td>
<td>Age of children also determines food choices (p. 8). Plan meals around children's likes. Kids' likes/dislikes fluctuate (p. 18).</td>
<td>&quot;My husband is way too picky of an eater. I'm sure it would save me a lot of time and a lot of me running to the grocery store (monthly menu), but if he isn't hungry for it, he doesn't eat it&quot; p. 7</td>
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<td>Time- busy caring for children, running kids to swim lessons, girl scouts, giggles and wiggles program, doctor's appointments; not much time to prepare food when have to work at night and caring for children during the day; involving children in setting table and preparing food saves time and decreases stress</td>
<td>&quot;It actually saves you time knowing what you are going to fix&quot; p. 7</td>
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<td>When having to care for young children (infants, toddlers), fix husband's lunch, and run kids around the women looks for what is easiest and quickest, not always a &quot;full meal&quot; and from scratch; pressure cooker saves time:</td>
<td>&quot;I go to the grocery store every week instead of month, it's easier for me, and that's my time out of the house, too&quot; p. 7</td>
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<td>&quot;It depends on (making changes). for us it depends on how many nights during the week I work. Preparing a meal at 3:30 or 4pm is really hard while I've still got kids (home daycare). So usually, that's where the eating out is and then I end up eating something at work&quot; p. 12</td>
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<td>&quot;That's time management for me because they're in there helping me do it&quot; p. 14</td>
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<td>&quot;The mom (in-law) does the vegetables, the salad, she always has the bread out, her meat, potatoes. I mean, stuff, that I don't have the time to do. When he (husband) wants mashed potatoes, I don't have time to peel them, and boil them, and mash them and get everything prepared he wants&quot; p. 21</td>
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<td>Planning ahead- some plan menus by the week and some by the month: stock up on sale items (spaghetti 99 cents) to have back up supply; set goals of how often to eat out a week</td>
<td>Planning menus and a grocery list helps to save money, time and decrease stress, as well as results in better nutritional choices. Fear of too many leftovers &amp; wasting food gets in the way of planning menus by the month (p. 8) To stay on track it is important to use variety of methods with shopping list such as putting price next to item on list, only taking amount of money need (p. 10). Food preparation earlier in the week saves times the rest of the week (p. 23) Feel better when plan to eat out (p. 33).</td>
<td>“I’ve tried the monthly thing and didn’t stick to it at all. The weekly thing, I kind of do the same thing, kind of sit down before I get groceries and say, OK, what does everyone wants for meals this week” p.9 “I never go to the grocery store unprepared. I always have my list” p.9 “I was finding that money and what I make was a big issue. When I had a list, I mean it was a lot easier” p.9 “When you have a list you can stick to your budget better. Because you kind of have a better idea of what you’re going to spend” p.9 “And I would find I would buy less prepared things, less snack foods, that kind of thing when I had a list. It probably is a lot more nutritional too, when I have a list with me” p.9 “You don’t go to the store when you’re hungry” p.9 “Week-by-week isn’t too bad....I don’t feel like we waste as much, whereas, if we did it by month, I’m afraid, I don’t think I could stick w/it with him being as picky and w/my son (p. 8).” “...but usually the roast will last 2-3 nights so sometimes a monthly schedule just won’t work because of all the leftovers (p. 8).” “Like, Sunday is my big cooking day. And just go ahead and brown it all, and then just throw it in the fridge or freezer and then you have it (p. 23).” “...so now I don’t feel like I eat out, in an ironic sense. Maybe I feel better that way. I planned it (p. 33).”</td>
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| Convenience- it is easier to eat out than prepare food when you are caring for a newborn or young children: look for quick and easy meals in summer | When you do not have the time to prepare food, look for convenient foods to fix (e.g. macaroni and cheese, hotdogs) p.4 | “It was just easier than me making it when I had a newborn” p. 6
“Shelly gave us easier ideas to make. Like the calendar of how to use leftovers to make different meals. I got from Shelly, a lot of good advice instead of having to sit down and make a meal that takes 2 hours. Using those leftovers and saving us not only money, but keeping us healthy” p.22 |
| --- | --- | --- |
| Life events/stressors- ectopic pregnancy, husband was in car accident, newborn baby has caused life to be hectic and not eat way “normally” eat, or would like to eat; frequent doctor appointments have led to more frequent eating out; the flu and colds change the way families eat | All five women mentioned that life events or stresses in their lives have changed the way they eat, or would like to eat. Stressful events result in less time to prepare food and eating out more often, thus less nutrition. The women believed they did not have control over these events, and thus little control over the nutritional outcome.

To understand why the women are feeding their families the way they are, you must understand the situations they’re in that influence food choices (p. 31). | “It has been lately with the way our life has been, but I usually try to make more vegetables and fruits. A variety in our diets. Try to anyway” p.4
“In the situation we’re in right now, we do a lot of things we don’t normally do” p.6
“It’s just like I need some normalcy in my life again. It’s the situation that you’re going through that make it really hard” p.15
“I stopped drinking pop for 2 months because I saw how much sugar. Of course, it didn’t last too long, when I started working at the gas station and needed to stay awake” p.26
“And if, you could just quite having all these thrown in things to deal w/ you know, you could get back to doing some good things again (p. 15).“ |
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<th><strong>Intrinsic/self-efficacy/self-esteem</strong>-internal desire and feelings of control needed to make changes in the way you eat/feed your family; if she thinks she's doing okay, then she may see no reason/need to make any changes: easier to have willpower over kids than yourself</th>
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<td>If you have the internal desire and feel like you can change, then you are more likely to try something different and stick with it; if you feel better about yourself you can do better for your family; how she views the food she eats/prepares her family is important to their health; difficult to make someone else change unless you control the food choices; When she knew she was doing positive things to feed her family healthy, it made her feel better, then she wanted to do it more often, and felt she was in control</td>
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<td><strong>Health scare</strong>- having a heart attack would make her change; mother-in-law had a bad heart attack which has caused the family to eat healthier; women want children to grow up healthy and not worrying about them dying before they do</td>
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<td>Health concerns e.g. heart attack; experiencing a health problem related to nutrition or knowing someone who has could influence the way you eat/feed your family</td>
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<td><strong>“It’s all the habit you’re in and she needs to not be in that habit anymore” p.5</strong></td>
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<td><strong>“She could take a picnic lunch to her husband just as easy as she could McDonalds. It would cost less” p.5</strong></td>
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<td><strong>“I don’t know what would motivate, I mean, if she feels like that’s what’s working for her family right now, and she doesn’t feel like it’s…” p. 5</strong></td>
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<td><strong>“For awhile he would think about it. It’s kind of a losing battle in some ways” “I always pack his lunch. And now, I’ll pack him, like, a thermos of milk for his lunch, so he’s not drinking probably as much (pop)” p.6</strong></td>
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<td><strong>“You’d have to have the desire too to do nutritious things for your family” p.7</strong></td>
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<td><strong>“So, when I got to work, the other thing was we get free pop at work, so if it’s there, the temptation” p.26</strong></td>
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<td><strong>“It’s strengthened my family. It’s strengthened my family’s health. It’s made me feel like a better person. That I’m a better mom, that I’m a better wife. You know, it’s given me self-confidence. It’s made my kitchen my friend instead of my enemy” p.27</strong></td>
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<td><strong>“I’m more willing to get up and make a meal knowing that it’s going to benefit Gavin in the long run. So now when I make things, I realize, if I start early.” p.27</strong></td>
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<td><strong>“Cause I think if people have a choice, if you set down a group of people, they’re all going to say I want to feed my family health (p. 30).”</strong></td>
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<td><strong>“A heart attack” p.5</strong></td>
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<td><strong>“Their meals changed (after the heart attack). Which helps us too, because we are eating more healthier also” p.20</strong></td>
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### Cost/saving money

Knowing how much money spent on fast food and eating out versus cooking at home would motivate change; having a grocery list and weekly or monthly menu helps to save money; if have a lot of children to feed then may buy the cheapest thing and not necessarily the healthiest.

### Understanding/awareness of the cost

Understanding/awareness of the cost of fast food would motivate change; eating healthy is more expensive - fresh fruit and leaner cuts of meat are more expensive; cost of foods is important because there are other bills to pay.

"The cost of what she's paying for McDonalds in a month, she could probably have groceries for 2 months. I mean, for healthy meals instead of just the crap. I know that would help me realize" p.5

"Once I realized where we were spending it and what we could be spending it on, or instead of being overdrafted or having to squeeze to get diapers, now we can buy the healthy food, instead of junk food that was there" p.6

"Lately, my husband just comes home for lunch instead of me taking him lunch" p.6

"I never go to the grocery store unprepared. I always have my list. Just because, if I go to the grocery store, my cart's going to be twice as full as it needs to be. So, that's a big help to sit down and know what you need" p.9

"If you had $50 to spend, and you have a family of 6 to feed, you're not going to look at well I can buy one meal that's really healthy. You're going to see how much you can buy for $50” p.30

### Reinforcement/support from others

Suggestions of things to try (e.g. involving kids in meal preparation, food pyramid checklist for each meal – where’s fruit? meat? veges?) has helped; most women stated little support from husbands with meal preparation; everyone wants to do the best they can-health-wise, if they fall back they need another reinforcement.

### Reminders

Reminders - someone checking up on you, touching base with you helps you keep on track; information and new ideas helps to get one to think about change and try new things; important to have reinforcement of the positive things you are doing.

"You know the kids don’t really it fruit. Well, just throw it on there anyway. If they eat it, they eat it, if they don’t, they don’t. Just things like that, having the knowledge and education. It’s really changed my life and it’s made my life a lot better" p.14

"I got, from Shelly, a lot of good advice instead of having to sit down and make a meal that takes 2 hours. Using those leftovers and saving us not only money, but keeping us healthy" p.22

"I mean, but it took Shelly, and I did both the nutrition and the money management. But the program meets, it has done a lot” p.26

### Knowledge

Knowledge of nutrition and simple ideas has given her energy to fix balanced meals.

Knowledge and awareness of healthier food choices motivates people to change because parents want to feed their children well.

"I think what helped me when I talked to Shelly was actually reading the nutrition labels of food” p.6

"Realizing how much sugars were in foods” p.6
| Responsibility - parent's responsibility to prepare healthy food for children, to model good habits, to look after their health | It's a parent's responsibility to make sure their children have nutritious food to eat; parents want good health for their children | "I'll fix the kids breakfast. My son eats breakfast. I'll make sure he eats breakfast" p.21
"I don't want him (son) to be like my husband and think that every vegetable on God's green earth is yucky and bad for him" p.22
"I guess when I had a kid it kind of made me realize I had a big influence on someone else's life" p.28 |
|---|---|---|
| Caring for young children - difficult to prepare food or grocery shop when caring for young children | Caring for young children alone results in little time and energy to prepare food or grocery shop, thus defaulting to convenience and quick foods; extra support is needed to prepare foods | "I have a set amount of time to do it (grocery shop) because if you take an 11 month old into the store it just doesn't last very long if he can't get out" p.9
"If the baby isn't crying it's easier to be out there cooking" p.13
"My husband's been more understanding about cooking and he's been helping me more since he's been home the last three months (car accident, off of work). And even cooking some himself. I think he's seeing that when you're there and dealing with 4 kids and doing it all, it's hard. He's realizing that you don't need meat like he thinks you do" p.22 |
| Role models/life history: are a lot of beef growing up, so tend to not eat or prepare much now; husband thinks that you have to have meat; kids pick up eating likes/dislikes and food habits from parents; mom never ate breakfast so daughter now doesn’t eat breakfast; dad always like to eat out so that’s what she did before the FNP program; the way my mom ate taught me to eat healthy. | Peoples’ experiences and role models growing up influence their food choices and food they provide for their family; everyone’s situation is unique—it’s important to understand each person’s situation to understand what will help them make changes; men tend to view cooking as women’s work and women believe they do a better job of cooking than men. | “My dad is a farmer and I grew up on hamburger and steaks so I don’t really eat it that much now. Except if I go to McDonald’s and then I eat a cheeseburger.” p.9
“I told him (husband) that, you know. kind of seeing what we’re doing, you know, and if we say we don’t like that, then the kids are not even going to try it.” p.17
“My role model, my mom made (mother preparing food all the time). It’s almost like a society part of it” p.19
“I got my breakfast habits from my mom. I don’t eat breakfast. I prefer not to eat in the morning” p.21
“But supper was a meal and we do the at the table thing. TV’s off, we’re at the table. And I feel first of all, we eat better if we’re not in front of the TV, and it gives us family time” p.21
“But the habits, seeing his parents (in-laws) eat, we go over there on Sunday, we go every Sunday and she prepares a full meal and his expectations are very much the same” p.21
“I don’t think he (husband) needs to be complaining so therefore, and I really don’t think he would because if it was left up to him it’d be frozen pizza, grilled cheese sandwiches, mac and cheese, the things that are way easier than” p.19
“The demand from the dad (father-in-law) is very adamant, but mom is expected to make a meal every day. She comes home and makes his supper. Then he works third shift, so after making supper, she makes him another full meal for work. And since that is expected, when Wayne and I first got together, that was expected of me. You know, to do another full meal. And first, it cut into our budget” p.20
“My husband always thinks you have to have more meat. A lot of meat. And his family is like that too. They’re big meat eaters” p.22
“I know how I was raised probably effects how I cook” p. 22 |
<table>
<thead>
<tr>
<th>Control</th>
<th>Hard to eat healthy when life is like a roller coaster/unpredictable (e.g. doctor’s appointments, kids activities, job loss, illnesses); eating out is inevitable and there are not a lot of healthy choices when eating out; hard for people to ask for help</th>
<th>“I make a monthly menu calendar. So, for the whole month, like in December, I have breakfast, lunch and dinner. Everything that I’m gonna have throughout the whole month” “and then I just stick with whatever’s on there. And, what was happening was I was just making it. I had my fruits, and my vegetables, and my grains” “for me it was easy because I knew what I was making and I didn’t go off from it, like oh no, I don’t feel like, I just did it” “It actually saves you time knowing what you are going to fix” p.7 “It’s just like I need some normalcy in my life again. It’s the situation that you’re going through that make it really hard” p.15 “Regardless of whether I think we do it too much or my husband thinks we do it too much, we’re going to eat out. I would like to know better ideas, better places to go. so there are healthier choices when you are out to eat” p.24 “My husband, he was not very willing to get help. To him, if it was anything outside of us, it was help and he was too proud to do it”” p.24</th>
</tr>
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<tbody>
<tr>
<td>Season-Time of year influences the foods families fix.</td>
<td>Season determines the number of times meals are cooked per month. Season may also help control behavior due to limited fast food delivery service (p. 12). The availability of personal gardens in the summer time influences the eating of fresh fruits and vegetables (p. 32).</td>
<td>“In the summer, we probably eat more sandwiches than we do during the fall and winter. During the fall and winter, I cook more, use the oven, so that depends (p. 9).” “Cause not everywhere delivers. So that means one of us has to go out. If neither of us wants to go out, it’s… (p. 12).” “I like to cook in the winter. Things that, warmer things, whereas during the summer, I don’t want to turn on my oven and I don’t want to make big meals that everybody just wants to be outside and snack on instead of actually sitting down and eating (p. 12).”</td>
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Sometimes that is difficult to bridge the difference from what a five year old likes and what a fifteen year old would like. Now most days that fifteen year old would eat almost anything that is not walking. But sometimes they do get picky and it is hard to make enough or have enough of something that everyone will eat.

K: Some explanation (??)?
R1: To get Ben in the kitchen. My older son he will go to the store, and he really is pretty good at it. But it was kind of hard getting him into that direction.

(Break)

K: What is it that makes people feel capable?
R1: I think to be able to feel capable to feed your family, you have to have the money to feed your family. You have to have the knowledge of how to prepare foods or how to go about finding a way to give it to them, and you have to know how to shop. You need to know nutritionally you need to have an idea of what they need if they have an infant or a toddler in order to give them the best start. I think that you need to have all of those things to feel capable to feed your family well.

K: So when you think about yourself and feeding your family, how do you feel about your capabilities to contribute?
R1: I feel very capable to feed them now. I really don't have any concerns about feeding them anymore.
K: So as you mention the issues of money and knowledge how have you been able to access those resources to feel capable to feeding them?
R1: We have both gotten better jobs, which helps money wise to feel capable of feeding them. I like to cook so I am always looking for a recipe to feed them and they are always willing to try something once. As far as the knowledge goes, that goes along with learning to cook. You get that and as you raise kids you are always getting pamphlets from the nutrition program or the doctor telling how much milk they need, how many vegetables, and how much fresh fruit to give. So now I think that I am older we are more capable of feeding them then we were when we were in our twenties.
K: Just from life experience?
R1: Just from life experience and knowing kind of what works and what doesn't.
K: You mentioned knowing how to cook and liking to cook, how did you learn to cook?
R1: Actually my mom didn't teach me, I would tell her 'teach me how to cook that,' and she would take it over and make it. She would say if you want to know how to make something here is the cookbook take it and do it. My dad worked at a grocery store so if I was in a recipe and I would say this is what I want to make and he would say then go shopping. I would go shopping and then I would buy the stuff I needed and then go home and make it. And she would take trips a couple times a year and I would cook for my dad. I had an older sister and she got married when I was six and she had a family right away and she taught me different things, she taught me how to make gravy. She taught me some of the things that in a cookbook is kind of hard to learn until you see it made. So that is how I learned to cook.
K: So you actually had a role model your sister?
R1: Right. I would call and I would say ‘oh, I made this and it really doesn’t taste all that good what did I do wrong?’ I think the one time that I made gravy I was probably twelve and the spoon stuck in the pan. I had made thickening but hadn’t added anything else. So I took the pan, the whole cast iron pan, and threw it outside. It was like stuck. So it was her telling me ‘oh that is how you make this kind of gravy, and this is how to make another kind. So I could call her and tell her and she would say ‘oh, let me show you, this is how you do it.’

K: During the focus group you had talked about your niece, you talked about her today, and you had mentioned that she never really learned how to cook. So what are some of your thoughts why she didn’t learn to cook?

R1: I really thought that she would have, being my sister’s daughter. My sister being like my mother ‘I will do it.’ She learned very little at home. Just when she was alone she would cook, but she wouldn’t cook for a family or thinking of her kids. If it was just her or her and her husband then it was easier to grab something and throw it in the microwave or the oven that was store bought. Then to take the time after working to do that. Then when she had kids she was still working so much and I think that with the time factor, she wanted to learn to cook but that she didn’t have the time. She would come for the weekends and she would say ‘oh this is so good you cooked for me.’ Not realizing what she had missed from being at home I think.

K: How capable do you think that she felt about being able to cook?

R1: I think that she felt incapable.

K: What kinds of things do you think that have happened in her life to make her feel more capable.

R1: Well she got rid of her husband. That made her a lot more capable right away.

K: Tell me a little bit more about that, how did that make her feel more capable?

R1: I think that he was really very judgemental, when we would go visit he worked in a restaurant so he would eat after we had eaten or had gone out to eat. He would sit on the floor to eat and hold out his hand and expect her to bring to him the salt and pepper shaker. She would just run and go get it. He would hold his plate up if he wanted more. or he would take his spoon and tap it on the plate and that was her signal that she had better get up and go get it for him. I think that just getting him out of there and her realizing that she didn’t have to do that. Being in the restaurant business, and he was a crappy cook, but whatever she made it wasn’t good enough. so I think that the couple times that she did cook he ran it down, and she figured why should she try again, if it is going to be crappy to begin with.

K: So her confidence?

R1: So now her confidence is much better.

K: What do you think has helped her to increase her confidence?

R1: I think getting him out of the house and she subscribed to this quick cooking magazine, actually I did it for her, it has meals 30 minutes or less. So it isn’t like anyone is expecting her to go out and make meals from scratch and have it come out perfect the first time. So she tried a couple of those and she called me and ‘said it was good, and they ate it.’ With that little success, which was a huge success cause I was just screaming ‘she cooked, she cooked.’ She felt better so then the next time she was like I will try this recipe, and that turned out well. So it was like getting that one under her belt. Then she came up here and she wanted to know how to cook homemade biscuits and gravy, we lived down south for several years, so I took her inside and we made it. But I wasn’t standing there saying ‘oh that isn’t right.’
Sometimes that is difficult to bridge the difference from what a five year old likes and what a fifteen year old would like. Now most days that fifteen year old would eat almost anything that is not walking. But sometimes they do get picky and it is hard to make enough or have enough of something that everyone will eat.

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K: During the focus group you had talked about your niece, you talked about her today, and you had mentioned that she never really learned how to cook. So what are some of your thoughts why she didn't learn to cook?
R1: I really thought that she would have, being my sister's daughter. My sister being like my mother 'I will do it.' She learned very little at home. Just when she was alone she would cook, but she wouldn't cook for a family or thinking of her kids. If it was just her or her and her husband then it was easier to grab something and throw it in the microwave or the oven that was
C-5: Sample Case Study Transcript

Name of interviewer: Sammy
Visit # 6 of Monthly Visits For February, 2000
Date: March 15, 2000 Time: 8:00 a.m. - 11:00 a.m.

Initial comments:
Jen was home. She was told she would have to extend her time out on the road for federal deadlines issues. She had promised Barb (her mom) she would be home for her doctor’s appointment and told her employer she needed to be back home. They originally guaranteed her the time home. They agreed that she would have to quit training if she kept her doctor’s appointment with Barb. Jen was unable to commit to a lifestyle, where she would be gone during major life events to pursue an on-the-road career. She is still somewhat torn about the agreement, but would rather find something close to home than be told she can’t be home if a family member is hospitalized or needs her. Believing she couldn’t come home made her feel extremely homesick she says.

Daniel, 6, was in school. Zach is out for preschool for conferences and spring break. Billy and gramma Barb were home. Matt cleaned gas stations last night and was asleep. They had a doctor’s appointment today and conferences for Zach. They were happy to see me and talk. Renee is delivering pizzas in the evenings for now.

Q: Tell me what changes have affected you all since last month?
R: Matt’s cleaning Quick Trips - 2 of them, and Kum & Go - 2 of them. Kum & Go only pays every five or six weeks so money is really tight and goes back into the business. Jen’s home and has a delivery job in the evenings for Pizza Hut. Jen still works at the DesMoines Register, but has lots of vacation time to use up. Jen and Barb have been diagnosed with Celiac/ Sprue, a disease that causes many gastro-intestinal problems if any wheat flour or glutens are eaten. Now working hard on the special diet from the dietitian and having rice bread.

Q: Tell me about feeding your family this last week?
R: The refrigerator gave out, tried to get it repaired but that didn’t work. Had to get a new one. It’s like going camping.

Q: How does it remind you of camping?
R: We eat all the fresh meat first so it wouldn’t spoil. We have had to shop and buy fresh daily and eat it that day. We have had to eat canned meats and food a lot too. Non-fat dry milk and egg mix.

Q: How did that affect your budget?
R: Shopping daily is a little more expensive. Barb said her mom died in December 99 and left a small amount of money to her and her siblings. Her brother gave Barb some of his share and ordered them a brand new fridge/freezer combo from Sears catalog sent to their house. What a relief. We didn’t know what to do until then.

Q: How was it with the contents of the fridge and freezer when it went out?
R: It all fit in the cooler and ice was fairly easy to buy. Also we have not made enough to have leftovers which sometimes you could normally store them and make more than one meal, which is more thrifty. We had almost nothing in there to lose. Very bare! We’ve had just enough food in the house to get by the last couple of months.

Q: Describe for me the differences when Jen’s home or when she’s gone?
R: Barb: after work I would come home and fix leftovers or something with eggs and vegetables like omelets, eggs, tomato juice, hash browns, toast, egg salad sandwich, homemade vegetable soup, chili cheese crackers, ham and beans.
R: When I got home I wanted peanut butter sandwiches and fixed that for two days. I don’t like eggs, cause they don’t really seem to agree with me and there was more peanut butter than anything else in the house. Then I went to fish sticks with rice and vegetables, then hamburgers and fish (fresh) on the George Foreman grill where the fats drip off, with tator tots and ramen noodles, and mixed fruit for desert and hot cocoa.
Q: What, if anything, were you able to do with Share or help-type resources this month?
R: We've done our volunteer and we are now signed up for Share for the month of March. What Jen and I can't eat from the package, Matt and the boys can probably have for lunches or with us when there is only a few leftovers.

Q: What role is finances playing in family nutrition and health this month and in the past?
R: Overall, when money is tight, snacks are sacrificed for little or cheap ones like peanut butter and bread vs. fresh fruits or vegetables, crackers, or pretzels and milk. Also sometimes it’s a 25¢ can of fruit rather than fresh or a cooked potato. When it’s tight, it’s the best buy on hamburger cause we can get it cheap and it lasts for more than one meal by making combination dishes or casseroles with many groups in one dish. or casserole with lots of rice or pasta. We get creative with those rice and pasta dishes trying new things to put a meal together and make our food stretch and last longer. This is every month and any month when things get tight and tough.

Q: What about the role of health issues/nutrition/Celiac/Spruce?
R: Many products that don't have gluten and wheat that are made with rice or corn flour and are more expensive to buy; but at the same time most of the preparation and cooking is done from scratch which means it’s fresher and cheaper in the long run. Most name brands have no gluten or wheat in them, which are used as stretchers or fillers and are cheaper. Many things that we buy “household products” from lotion to toothpaste to hair products and many more have to be changed too, because they contain glutens and can be absorbed through the skin. This has a great deal of learning, research reading contents and ingredients, not so much the labels for nutrition facts like before.

Q: How might things change in the future?
R: Practice, learning, getting better at shopping, preparing, experimenting, trial and error, education, and making an income that isn’t always so challenging, and always to little and late. Better jobs, steady work, paying bills, using the new diet for good health. We haven't known about the Celiac/Spruce very long. Sometimes (we are told) that it takes up to six months on a wheat free, gluten free intake and diet to get relief. We have begun to feel better almost right away. After years of diarrhea and stomach pains the relief is wonderful. I can tell if I cheat or go back to it (wheat). I start to feel the pains and symptoms very quickly. It is fairly easy to prepare foods gluten and wheat free, because I can use the homemade bread maker. I am also saving for a pasta maker. We even have to wear rubber gloves to handle anything with wheat or glutens in it because it can be absorbed through the skin and bring on symptoms. Actually the rice flour and baked products taste even better.

Observations:
Jen seemed glad to be home. Barb seemed glad Jen was home. The boys were yelling and screaming and running. They have just started this lately and were given other choices. Zach has always been very lovable and talkative. He was very angry and grumpy (a chip on his shoulder today).

Barb and Jen were comfortable to talk and share ideas and facts about their illness, the changes and the relief in knowing more about what’s been wrong finally. Barb is a huge help with the kids for Renee.

Comments:
It went very well. I almost felt relieved for the two women from the digestion tract suffering. I am hopeful their financial problems will lessen.
C-6: Sample Descriptions of Case Study Participants

Shalandra
Shalandra (12 years) is married to Matt (23 years). They have three boys (age 7 years, 4 years, and 2 years). They all live with Shalandra's 63-year-old mother (Rosie) who is somewhat of a work-olic, and has many health problems. Rosie is plagued with intestinal/digestive problems. Shalandra inherited these problems. Both women have a lot of abdominal pain they deal with on a regular basis. Rosie also has osteoporosis, is a breast cancer survivor, and believes she has cancer again. Shalandra has had trouble with the last two pregnancies and has tried to contribute support to the family while caring for the babies. Matt was a drug addict for about 4 years in his early teens and has been clean for 5 years, and vows never to go back. His health is poor from drug abuse during those years and he has a police record. The drugs destroyed his teeth and he can't afford dentures. Because of his bad health he has trouble keeping a job and with his record has a very difficult time being hired. All three boys have tubes in their ears, and chronic ear problems. Their 2-year-old boy has hearing loss.

Rosie's income is not enough to support a family of 6 and has borrowed more money than she can pay off in her natural life. Shalandra is in training as an over-the-road truck driver. Matt is a stay at home dad doing odd jobs to earn a few dollars. When Rosie is home they all hope that Shalandra's opportunity as a truck driver might be the way to turn things around, and pay off high medical bills and credit card debts.

They seem to be just over the guidelines for help from some social resources (e.g. Food Stamps). They do receive coupons from WIC (including Farmers Market Vouchers). They do not like to go to the food pantry unless it is a last resort because they know that there are other families who are more needy. They just try to survive until the next crisis.
Brenda

Brenda is 31 years old and has four children (12-year-old twins, a 4-year-old and 2-year-old) Her husband has two children from a previous marriage who occasionally spends time with the family Their extended family lives 3 hours away Brenda has a day care in her home and her husband works as a truck driver for the local Co-op Brenda primarily cares for three children in her home, and occasionally cares for a couple other children on a drop-in basis. The single mom of the three children she regularly cares for also has several financial strains and is able to pay Brenda for child care through state subsidized day care assistance. Her husband's work provides overtime pay, but not on a regular basis. The realities of their job situations creates a fluctuating income which causes stress at times.

Brenda is signed up for the WIC program with her younger two children and receives reimbursement for food supplied to the children at her day care through the Child and Adult Food Care Program. These programs help provide food income for food for the whole family.

Brenda and her husband survive "paycheck to paycheck" However, they are trying to start saving some money and pay off some bills. In the past few months they have had to pay for a broken sewer pipe, extensive dental work for two of their children and Brenda's husband, and purchase a different refrigerator. They paid for all these expenses with fluctuating income. However, there is always food on the table and bills are taken care of, if not always paid. (Mom knows how to make arrangements to postpone payments and does so when necessary)
C-7: Sample Research Team Meeting Notes

April 14, 1999

- Heidi’s presence at focus groups gives her the context from which to base her observations for the transcripts.
- Human beings read into things because of own experiences and perceptions. May be accurate to you but not to other folks. Value of discussing as team. Opportunity to discuss and ask questions
- Purpose of pulling out issue statements is to pull out what appears to be most significant about what’s said.
- Not every quote included in summaries. Only selected quotes that particular reader of transcripts decides worthy. After selecting synthesis statement picks key quotes that go with all variables in statement.
- Not everything in summaries will add to research question.
- Statements in summaries (synthesis statements) need to be clear so someone can just pick up summary and understand. Starts with transcripts. Make statements clear so that when summary put together, makes more sense.
- Implication statements in summaries don’t match across from synthesis statements.
- NUDIST allows for subcategories for arranging data.
- “Implications” section is YOUR interpretation of the issue for the families. Implications for whom? Implications are your interpretations. The implication for feeding a family isn’t just for the families. It’s broader.
- The more we’ve done transcripts, broader we’ve gotten in our interpretations. We’ve expanded a little more each time and broader statements. Implications just broad interpretation of issues. (Kim asked for specific examples.)
- Heidi and Kim getting together on Thursday April 15 to discuss questions for the Tama Country focus group.
- Try to get more about social effect on food and if issue and if has an impact. How influences self-esteem? Is being with other people and food an issue?
- Using in-depth interviews as member checks. Can broaden to include what hearing from all focus groups. Use specific examples when what to know about something person interviewed said in particular at focus group.
- Being more specific: Present to families. This is our model. What do you think about that? Do you think we’re representing what you heard by our presentation?
- Hold off doing more in-depth interviews until done with focus groups.
- Shared case study questions that Kim put together and those with Mary Jane’s thoughts with Karen, Cheryl, and Shelly. Teleconference on April 23 to discuss what getting from case studies so far.
- April 28 meeting: Read through the in-depth interview. Talk about the case studies and how going and what learning. Read through summaries and bring comments.
May 15, 2000

Questions for Program assistants:

1. Share a description of the family they interviewed
   Who they are, where they live, how they live

2. What have you learned from the case studies?
   What were your assumptions at the start of the project? At the end? How, if at all,
   have they changed?

3. If you were to state the most important finding, what would it be?

4. If you could start over again interviewing this family, what would you do
   differently?

Review preliminary model
   Apply what we have learned to model

Debriefing:
   How is detaching from the families going? How does it feel? What support, if
   any, do you need?

If we receive more funds to continue interviewing the families for 1-2 more years, would
you be interested in being part of this? Would the family you interviewed be interested?
C-9: Sample of Data Entered into NUD*IST

PROJECT Indepth Interviews ready for NUDIST. User Families Extension, 10 11 am. Feb 3, 2000

(14) /Stressors/Food Insecurity
*** No Definition

+++ ON-LINE DOCUMENT: Des Moines County interview (K)
+++ Retrieval for this document: 3 units out of 469, = 0.64%
++ Text units 233-235
I just don't want to worry if my son or I will ever have to go hungry.
It's just something that I fear because I have done -- I have been through
that.

I've been through the hunger and I've been through the cold where there
is no heat so you have to use candles or whatever, and I've been through
that so it is just something that I don't want to do. I just never want
to wonder if my son is going to go hungry so that's just something that I
don't want to ever happen.

+++ ON-LINE DOCUMENT: Polk County Interview (D)
+++ Retrieval for this document: 11 units out of 304, = 3.6%
++ Text units 174-184:
R: When I was, often times, like my parents they were on drugs so.

When he gets ready to go get it he can get anything he wants. Cause I
want him to be able to not feel the need for anything. So I think that
showed me what not to do when I go to get groceries I know I need to
stock up.

I don't want him to go and it's empty and he's like I have nothing to
eat at home. He'll never be able to say that.

+++ ON-LINE DOCUMENT: Polk County Interview (LS)
+++ Retrieval for this document: 6 units out of 186, = 3.2%
++ Text units 77-81:
R2: Uhm, I believe helping the women think that she can feed her family
well is when she has the food to do it and

when she knows that she can cook

and try new things, and has recipes, knowing that she can go somewhere
like a food pantry to get the food. You don't have to have meat all of
the time to have a good meal, I mean you can mix stuff together, just
anything.

R2: Making me feel capable to feed my family well is that I know I have
the food available, I could try different recipes and that I'm able to
cook for them.

+++ ON-LINE DOCUMENT: Tama County Interview (D)
+++ Retrieval for this document: 2 units out of 502, = 0.40%
++ Text units 230-230:
R: That's right. Our income doesn't allow us to have a lot of those
extras, sweets and chips.

But when I shop, I try to, because I can only get very little, and that's like beans, we eat a lot of beans and add a little hamburger with beans. Tortillas or bread, I mean I just try and get things, and like I said about that recipe, rice -- things that are going to stretch my meal because I'm going to have to. I don't really know, it's hard for me to describe my shopping experiences. I really can't get very much on our budget.

Total number of text units retrieved = 22

Retrievals in 4 out of 6 documents, = 67%.

The documents with retrievals have a total of 1461 text units,

so text units retrieved in these documents = 1.5%.

All documents have a total of 2307 text units,

so text units found in these documents = 0.95%.

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(1 4 1) /Stressors/Food Insecurity/Quotes Food Insecurity

--- No Definition

--- ON-LINE DOCUMENT: Des Moines County Interview (K)

--- Retrieval for this document: 1 unit out of 469, = 0.21%

--- Text units 233-233:

I just don't want to worry if my son or I will ever have to go hungry.
It's just something that I fear because I have done -- I have been through that.

--- ON-LINE DOCUMENT: Polk County Interview (D)

--- Retrieval for this document: 3 units out of 304, = 0.99%

--- Text units 176-176:

often times my house didn't really have any food in it except maybe a can of soup or something.

--- Text units 180-180:

I find myself stocking my cabinets to make me feel like it's there for my son.

--- Text units 184-184:

I don't want him to go and it's empty and he's like I have nothing to eat at home. He'll never be able to say that.

--- Total number of text units retrieved = 4

--- Retrievals in 2 out of 6 documents, = 33%.

--- The documents with retrievals have a total of 773 text units,

so text units retrieved in these documents = 0.52%.

--- All documents have a total of 2307 text units,

so text units found in these documents = 0.17%.

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252
"I'm so afraid of going without, without having a full pantry that I always have a full pantry." (p.14)

"I figure I've got about 3 months worth in that pantry, you know, that if we went off Food Stamps, we would be okay for awhile." (p.14)

"With 8 kids you're kind of like, what's going to happen if they cut us off. So that's always my focus, it's like how can I stretch this as far as it can go." (p.15)

"I had my Food Stamps taken from me and stolen from me so many times that when I get them, I go out, I spend it that day...if they want my food they're going to have to take it out of my freezer or take it out of my fridge or take it out of my cupboards. That's a horrible thought to have to deal with...when that's all you've got, and someone takes it from you, you have nothing to feed those children...But it forced me to sit down and make up a list of recipes." (p.14)

"You cannot trust no one." (p.52)

"It was like you grab what you eat. You get on the get what you can. What you get your hands on, that's what you eat. I wanted to share my stuff with these people, but it was like, they'll take advantage of you. So, I had to buy day by day...I had to hide it." (p.28)

"What we get in Food Stamps is what we have for food or we wouldn't have...because we just don't have any extra money for that, since we're trying to pay for everything else out of our income." (p.21)

"If you're a single parent, it makes it hard. You have to pay the babysitter so you can have the job, you have to pay the bills so you can have a place to live, so the food suffers." (p.26)
"the food might suffer because the babysitter and the bills have to get paid." (p. 25).

"And we dish out differently too. I want to make sure everyone is getting food. So, I put it in the plates, but I put it in really small quantities." (p. 34)

"I also don't want to waste too much, give them too much, so that we're not wasting anything." (p.34)

"We don't give our kids a whole apple. That's too expensive because they will probably waste that apple." (p.51)

"I don't have money to buy something that I would not eat. I make sure, he's got to eat it." (p.23)

"After finally, after 5 1/2 years of getting off assistance...well we don't eat anywhere near as good as we did when we were on Food Stamps...I really think that I actually had more money in my budget then, or had more money in my budget then because I knew that that food...you had, you can't take your Food Stamps to pay your babysitter, pay your bills." (p.30)

"for that first couple of weeks, if I didn't budget properly on the tail-end of the month before, look what that's going to do to my budget the first couple of weeks. I think that has a great deal to do with how you budget your food." (p.51)

Just take out what she needs for that day so the food don't go to waste. 147

We don't want to throw away or they don't want to eat. That's the reason you need to cook the favorite food for them. 101
C-10: Sample of Storylines

Storyline 1: Past Experiences

Parents have varying experiences from their childhood that relate to how they parent their children today. Some of these experiences have a positive influence on how they parent their children and some of these experiences have a negative influence on how they parent their children.

Cooking and money management skills: Parents who had parents or siblings to teach them basic cooking and money management skills are more capable of providing healthy food for their children (meeting children’s food needs) than parents who did not learn these skills growing up. Often these skills were taught by a mother or grandmother. Nutrition education can help parents develop these skills if they never developed them growing up, but established habits are harder to break. Parents who learned these skills growing up, feel more confident in meeting family food needs than those who didn’t.

Parent-child relations: Many parents grew up in poor households that did not have a lot of parent-child interaction. These parents want to make sure that their children have a better childhood and future than they did and are willing to work hard to ensure a better future.

Government assistance programs: Some parents have had negative experiences with government assistance programs and do not trust the government or their employers. Assistance program workers “look down” on families who receive assistance and do not believe they have the power to improve their situation. Some workers act as if the family “deserves” to be there (on assistance). This negative attitude frustrates families, makes them feel inadequate and not confident in carrying out their provider role as a parent. Families feel as if they are expected to feel guilty for the situation they got themselves into.

Parents who grew up feeling food insecure are determined that their children will not go hungry and always have food to eat. They remember the pain they felt as a child and do not want their children to experience this pain.

Many parents did not grow up on public assistance and do not want it to be “a way of life” for their children and themselves. This is frustrating because low-wage jobs make it difficult to be self-sufficient and not rely on welfare and other community assistance programs (e.g. food pantry). Thus, many parents receiving welfare benefits hold the same values as society at large. However, they have empathy for theirs and other people’s situations because they are “living it” – they understand what it is like to be poor and to use public assistance. Using public assistance is an uncomfortable feeling because they never saw themselves in this situation when they were younger, and imagined it happened to “other people.” Because of the values they hold, families feel embarrassed and ashamed to be receiving public assistance.

Families learn lessons from life’s experiences/events that influence how they provide for their family today. Growing up in a house with only one parent who wasn’t around much, or two parents who were around but never took care of their children makes some parents desire a more stable, more nurturing household for their children. Divorce leads to less income for the family, and increased family stress. The single parent must now work which leads to less time to plan and prepare meals, being tired, and less time to spend with children.

Life event: Having health issues to deal with in the past influence how you feed your children. Parents want their children to be healthy and live a long time and not develop health issues like they, or other relatives have developed (e.g. obesity, heart disease, allergies, and diabetes).

Parent’s food preferences and habits influence your habits that you eventually pass onto your children (some good, some bad). If grew up with eating a lot of meat and foods prepared with a lot of fat, then you may desire that as an adult and pass that onto your children. However, you may also learn through nutrition education healthier ways to prepare foods and selecting healthier foods to pass onto your children. Traditional family foods, especially if associated with holidays and fond family memories, are usually highly desired and continue as family tradition.
Food and emotions: If food provided as a “comfort” for emotions when you were young, then often this carries through to adulthood and you practice it with your own children.

When growing up with a supportive family, then often see family as a support system when you are a parent. Family helps to provide support to you, and you welcome it, because it is “normal.”

**Storyline 2: Societal Expectations**

Limited-income families are expected to be employed and “move off” of welfare. If limited-income parents are not working they are viewed as being “lazy” and not trying hard enough to find a job. Society expects parents to provide for their children with limited government help (and then only when it is absolutely necessary). When parents do not provide for their children they have “failed” in the eyes of society. These societal expectations are unrealistic for many limited-income families. When limited-income families parents work, the jobs they hold often pay low wages, often do not have health benefits, and often require parents to work at various hours of the day and night. Being employed results in a decrease in food stamps benefits which often leads to parents feeling they now have less money for food for their family than when they were not employed and received the full benefit amount. Having a reduced amount of food stamps results in parents believing they are less likely to meet their family’s food and nutrition needs then when they were unemployed. Thus, families become even more food-insecure. Thus, being employed does not necessarily bring stability to families and help them avoid food insecurity. Being employed also means that parents need to find child care – child care that they can afford and that they feel good about. Many times the cost of childcare outweighs the benefits of being employed. For single parents, finding and affording childcare becomes more paramount of an issue. There is no spouse to care for children. Sometimes family members are available to provide care, at least on a part-time basis. However, this often is not the case. Transportation (access to and reliable) is an issue for limited income families. Without transportation, it is difficult to get to work and from work. Thus, unless parents are realistically able to work up towards more pay (and have supports in place to do so such as affordable childcare, transportation), being employed places limited income families further at-risk and does not necessarily “put them ahead.”

Being pressured by society to be employed and believing that your family is less well-off by meeting society’s expectations, results in parents feeling less confident in their ability to provide for their family. Parents believe they are in a “no-win” situation. They are “damned if they do” and “damned if they don’t.”

Support from others can help parents believe that they can meet societal expectations. Nutrition education (especially through ISUE) helps parents acquire knowledge and develop skills which leads to an enhanced sense of self-efficacy in meeting family food and nutrition needs, as well as other family needs. Emotional and educational support from paraprofessional educators help to make this possible.

Employees of government benefit programs are often viewed by families as non-supportive and lack understanding of issues families are facing and the realities of meeting policy expectations. Government policies are created by expectations of society. Thus, government policies are based on the belief that all able-bodied parents can, and should, be able to provide for their children. TANF requires parents to be off of welfare within five years, requires that parents participate in job training and become employed, and receive a reduced food stamp benefit amount once employed.

Society expects women to be the primary decision makers regarding food in the family. Women are responsible for purchasing and preparing food for their families. Women are expected to provide enough food for their family, as well as nutritious foods for their family. Men are expected to help provide income to purchase foods. However, many limited-income women did not learn basic nutrition information, or develop basic cooking and money management skills when they were growing up to help them meet society’s expectations. Thus, expectations are placed upon women in which they are unprepared to meet. As a result, feelings of inadequacy, lack of self-efficacy and hopelessness are often present. Nutrition education support can help diminish these feelings and help women feel more confident in meeting society’s expectations.
Receiving public assistance is embarrassing and degrading to families. Parents feel guilty and ashamed that they cannot provide for their family without public assistance. Some families who economically qualify for public assistance will not apply for benefits because of the shame it brings to themselves and their families. They do not want their children to feel embarrassed or ashamed to be on welfare. Parents believe they have failed carrying out their responsibility as a parent when they cannot provide for their children on their own, and must receive public assistance. Some parents refuse public assistance (even though they qualify) because they believe there are families who are worse off financially and need it more than they do.

Limited-income families face similar pressures for children to be socially active as do middle and higher-income families. Parents feel pressure by their perception that there is an expectation by society for children to be involved in several activities in order to have fun, not “miss out” on anything and “keep up” with other families, and not deprive their children of what other children are receiving. Parents want the best for their children and do not want them to feel left out. As a result, parents spend much time running children to and from activities, and these activities often drive the family’s schedule, especially the eating schedule. Thus, families often eat “on-the-run” and look for quick, easy foods to eat because they don’t have the time or energy to prepare food that will take a significant amount of time to prepare. Parents will forego nutrition and cost-saving for quick and convenient foods. Parents want to keep their children happy. Being employed also results in parents looking for quick, easy meals. Parents identify meals that will not take much time to prepare and will be easy to prepare. Sometimes children will be preparing the meals since parents are working, thus parents want the meals to be simple, easy and items the children will eat.
Case Study - Personal Reflections

Date: 4/12/00

One of the things that I learned from the research was that people can make changes by removing obstacles. That is to say by asking themselves “how would I complete this task if I didn’t have this to prevent me.” Then the question to self becomes “in view of this obstacle what are my other options, what can I do different with this knowledge to get closer to where I want to be.”

I assumed at the beginning that Jen would tire of the same basic question “How has it gone feeding your family this last week.” But what I saw was that the probes led to how it really did differ and still stay the same week after week so it never became tiresome. I also felt like learning probes was somewhat like learning another language or manner of speaking. That was hard. Kim made it sound easy.

I felt that the case study empowered these two women (Jen and her mom) to look at things differently, communicate better, and make better choices and decisions. They mentioned feeling like they had taken the time to know themselves better.

As an interviewer/researcher it felt wonderful seeing the light come on when they felt they made a small, but maybe profound discovery that hadn’t dawned on them before, like when Jen would say “but then I could try this, and I knew it would work.” It was frustrating when I saw an answer, but it wasn’t coming to her yet and I wanted to lead her, but it needed to be her discovery (example meal planning saves time and money).

I felt like I asked her all the questions (probes) I could think of. At times I felt it was hard to be an interviewer because what if I missed asking the right probe at the right time. Would that have an effect on what she needed to discover and prevent her from having useful choices or information then. What if I made the mistake of asking a closed-ended question.

It seemed to me that the women became explorers of their own ideas or situations. I learned that many times I got a 2nd or 3rd or 4th opportunity to ask or probe a subject again. I learned it is or maybe reconfirmed that it is sometimes hard to feel strongly different from someone else and keep quiet, so the person had time and space to explore other options.

I gained a great value from knowing the importance of research and self-efficacy in solving problems.

I think one year was a good amount of time. Now the family can move on independent of me. Jen suggested periodic or monthly nutrition and budgeting information/newsletter be sent out. I left it “feel free to call anytime you might have a question.”
C-12: Sample of a Journal Excerpt by the Lead Researcher

Regarding the Case Studies: Originally we had planned to do the case studies from April to September 1999, where staff would meet with families once a week. Every other week would be a face to face contact and the other weeks would be an interview for 20-30 minutes via the phone. However, we have asked for our funding to be extended past September 30th and to March of 2000 to give us a full year picture of working with the family. Also by extending it, we would meet with families once a month for the next six months versus every week and we are very interested in seeing what kinds of responses, what families experience during the holiday time such as - especially Christmas, and Christmas spending and how that impacts food purchases and eating within the family. And then after Christmas with the bills in January if that has implications for families. Also during the winter months, is feeding a family different than during the less drastic weather months such as spring, summer and fall? These are reasons why we are going to try to extend our funding - to stay with families for a full year so we can get them through the seasons.

Staff are indicating that they think it will be good to follow the families for the complete year. They think there will be some insights in situations that exist during the winter months that were not seen happening to families right now, and they think that spending will definitely impact the food dollars.

Staff have also started to note some additional changes with families - have started to notice some things that they didn’t notice before and by interviewing the families for an additional six months they hope to gain some further understanding of what these changes may be.

On September 20th, the staff who were doing the interviews, the three program assistants, are going to come together with myself; the graduate assistance, Heidi; and then Mary Jane Brotherson to do some debriefing from the first six months of interviewing and also to give further direction for the next six months. This day of debriefing will help to put what we have learned during the last six months into perspective and help us formulate some additional questions that we have for families and get further direction to the additional interviews.
Staff has said that the families have enjoyed being interviewed and some of the things that have meant the most to them is actually having somebody that wants to listen to them -- that wants to hear their story. And with the interviews coming to an end at six months, some of the families seemed to be disappointed because they have enjoyed having the staff person visit with them weekly. So if the interviews continue the families seem to be that they will enjoy continued contact with the staff.

Some of the staff has stated that the families appear to feel very isolated, even though they may live in a community. They may feel isolated from friends, socially from support systems, other places that they could get support.

Classes for analyzing the data: All the interviews, focus groups and in-depth interviews have been audio taped and then transcribed. After they were transcribed, a team of four researchers, Mary Jane, Heidi and myself and Shelly, each pulled out themes from the transcription that we saw coming through, then compared what each of us saw until we came to an agreement of what the major themes for each interview were.

After doing several transcripts and pulling out themes we began to identify common themes amongst the transcripts and that has helped to create our framework. In our framework we now use, which consists of major themes and sub-themes as we look at additional transcripts of interviews. We are using the software program Nudist to enter the transcripts and then the software program identifies major themes from that. The major themes then will be pulled together from each interview so that we have a cluster of themes that represent various interviews of a common category.

In our projection that many of our themes will be combined in the end to have a few major themes. Right now we have approximately 15, what we are calling major themes, and we believe after all the interviews get done and we have analyzed the transcripts, those 15 will collapse perhaps into five major themes with sub-categories.

The research advisory committee will be coming together again on September 30th. The advisory committee consists of a professor of economics, who has a background in family consumer sciences,
nutrition and economics; a professor of nutrition who has much background in community nutrition; and a coordinator of EFNEP program who has a master's of science in nutrition and extensive working with families with limited incomes and children. These three people were brought together in the spring of 1999 to share the preliminary ideas that we had for the research project, asked them to leave us additional literature that we need to look at. Now when we bring them together at the end of September we will share with them our findings and the preliminary theory or the model that we think our finding is leaning towards. We will ask for their feedback if the theory makes sense. We will ask for additional literature from their perspective that we need to take a look at to clearer understand what we are finding as well as information that may help us to share or disseminate our findings with others such as journals, conferences, etc.

If the current three families that we are interviewing in case studies choose to stay with us for another six months, we will compensate them monetarily through cash as well as some small gifts that are related to food and nutrition for their time that we spend with them.

Some of the families that we have been interviewing in the focus groups as well as in-depth interviews, we have video taped them during the interview and that was to give a visual perspective of the individual that we are interviewing - to sort of get a visual image of the person to add more life to the interview than what we could have on tape or using audio cassette.

The video tape that we created, we did already show it in Seattle in June of 1999 for a presentation of preliminary findings and that video tape will be added to as the findings are refined and more families are video taped.

When the program assistants interviewed the families during the case studies, we originally thought that they would start off taking field notes and then basically from the field notes we would pull the major themes coming through. However, they found that if they audio taped the interviews they were much more relaxed during the interview, and they felt they could capture more of what the family said versus trying to listen and write notes at the same time. Therefore we’ve gone with having all the interviews for the case studies audio taped and then the program assistant at that time transcribing the audio tape and it’s then typed up and we’ll also interview - we’ll also take major themes from that after the transcribed interview.
September 22nd. Today we are going to get together with the
people who have done the interviews for the case studies — Cheryl,
Karen, and Shelly, Heidi, Mary Jane Brotherson and myself and we
are going to do some debriefing for the case studies for the last six
months and gather Cheryl, Karen and Shelly’s perspectives on how
the case studies went, things that would have been helpful as well
as their overall impression about the interview and the major
themes coming from the women that they interviewed. From today
we will know if we are going to carry on for another six months
with the study, and if we are, we will today decide what are the
major points that we are going to try to cover over the next six
months meeting with the women once a month. What issues do we
want to further probe, especially looking at the holiday season and
how that impacts providing food for the family.

During our meeting today with Shelly, Karen and Cheryl we will
also be looking at the preliminary model that we put together for
this research study and presenting a model to the three of them and
getting their reaction to it — if they see that the family that they
interviewed, the behaviors and the situations fitting into this model,
or if they have some other input to further define the model.

Received notice in September that we do have continued funding
through the 31st of March, so staff will continue to interview
families on a monthly basis. Anywhere between 5-10 hours per
month will be devoted towards this. We will be having tele­
conferences monthly to help tailor the interviews and guide the
questions that staff will be using as well as address some emerging
issues that come from families during the interview process.

On September 22nd, all the interviewers, Cheryl, Karen and Shelly
got together with myself, Mary Jane and Heidi to do some
debriefing during the six month interviews. The day went well. We
presented the preliminary model of how feeding occurs in the family
and the three program assistants doing the interviews gave good
input into how the model might be shaped. A couple of the
suggestions given were that it is a circular process that families go
in from one crisis to another and that affects the model so
McCubbin’s model was more linear, where their suggestion was to
make it a circular model drawing arrows from the outcome back to
the stressor or the crisis situation that families might face and how
they build or pile upon each other.
Karen in particular in her case study with Deanne shared that she felt that there was a lot of intrinsic motivation to Deanne's behavior with feeding her family. But, despite all the barriers and the lack of external support that Deanne perceived she had of feeding her family, her very strong inner motivation and strength to be a good mom, to feed her family well, is what really drove her positive changes in nutrition behavior. Karen felt that the preliminary model that we had developed thus far really did not bring out the strong component of internal motivation as she has seen with Deanne thus far. So with that, I think when we present the model we need to have some more specific quotes that relate to internal motivation and perhaps even actual interviews with families where internal motivation is brought out. That continues to be a strong theme.

Karen, Cheryl and Shelly will also take the model to their families as well as the video tape we prepared, share that with them and get their feedback with what we are thinking so far as a model — is that actually what occurs when they try to feed their families — how valid is the actual model that we are looking at? We will take the families input and then further shape the model.

In addition, they will be asking each of the women that they have been interviewing if they would be willing to participate in an interview that is video taped that would further help to enhance the research project and visually get the women's experiences recorded.

All the interviewers so far have shared that from their perspective the families have really enjoyed the interview. They've enjoyed meeting with the three of them, and part of that — their perspective was — that the family had some one who was there to listen to them, who was there for them to vent, to share their stories with and that many times in their lives they never felt like there were people that they could share their stories with so the women have actually very much enjoyed being interviewed and all three of them look forward to another six months of being interviewed.

We decided to continue with incentives for the families and those incentives will be for another six months of interviewing where we will get together once a month with the family for approximately a one hour interview. The family will be offered $50 in cash. We will also provide some additional incentives throughout the interview process such as near Christmas time each staff person will decide what kind of a gift they want to give the family, whether it be a fruit basket, a floral decoration, etc. and then later in January/February
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ACKNOWLEDGEMENTS

I am grateful to my major professor, Dr. Mary Jane Brotherson, for the guidance and support she provided throughout my program of study, and especially during this research. Her insights were valuable and much appreciated. Thanks also to my committee members: Drs. Steve Garasky, Sue Hegland, Mary Jane Oakland, and Mary Winter, for their support of my work.

This study was supported in part by the American Association of Family and Consumer Sciences, Massachusetts Avenue Building Assets Fund, and the United States Department of Agriculture-Food and Nutrition Services, Food Stamp Nutrition Education Program.

Several people were important to the study. I am grateful for their assistance and creative input. I list by name a few of the key supporters: Heidi Bell, a graduate student who assisted with the interviews, transcriptions, and data analysis; Shelly Dilks, Karen Franks, and Cheryl Jarvis, nutrition program assistants who conducted the case study interviews and assisted in the analysis of the data. Thanks also to the many ISU Extension field staff who are not mentioned by name, but whose assistance was vital to identifying and recruiting the participants for the study.

I am appreciative of the support given to my completion of my doctoral program of study by my supervisors, Jane Ann Stout and Connie Betterley. They enabled me to balance work, family and education, and thus reach my goal of completion of the degree requirements in a timely manner.
I am especially appreciative of the efforts of my editor, Pat Hahn, whose creativity and diligence has improved the overall quality of the written dissertation.

Finally, special thanks to my family: my mother, for her emotional support and belief in my ability to reach my goals; my husband for his patience and many hours of providing care for our boys, Wesley and Will, during this time-consuming, yet creative and enjoyable period of our lives.