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How Mothers Make Decisions for Feeding Young Children: A Grounded Theory Approach

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To the Graduate Council:

I am submitting herewith a dissertation written by Dana Rae Cox entitled "How Mothers Make Decisions for Feeding Young Children: A Grounded Theory Approach." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Human Ecology.

Jean D. Skinner, Major Professor

We have read this dissertation and recommend its acceptance:

Betty Ruth Carruth, James Moran III, Thomas C. Hood

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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And recommend its acceptance:

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James Moran III

Thomas C. Hood

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Acceptance for the Council:

Anne Mayhew
Vice Provost and Dean of
Graduate Studies

</div>

(Original signatures are on file with official student records.)

HOW MOTHERS MAKE DECISIONS FOR

FEEDING YOUNG CHILDREN:

A GROUNDED THEORY APPROACH

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Dana Rae Cox

December 2002

DEDICATION

This dissertation is dedicated to God.

"For with God nothing shall be impossible."

--St Luke 1:37

ACKNOWLEDGMENTS

ABSTRACT

In this study a theory of how mothers make decisions about feeding their young children aged 3 to 5 years was developed using the grounded theory technique. In-depth interviews were conducted with 50 married mothers of children aged 3 to 5 to determine their mealtime practices and feelings about mealtimes. Interviews were audio taped and transcribed verbatim. Transcribed interviews were analyzed using the grounded theory technique to build a theory from the data (interviews).

Analyses of mothers' interviews indicated that mothers in this study formed expectations for 5 distinct stages of feeding decisions based on their experiences. The five stages were food planning, food acquisition, timing of eating, food preparation, and food consumption. Mothers approached feeding decisions at any stage with preconceived notions about how the decision should be made. At the time of the decision, mothers made specific assessments within the context of that decision to form perceptions about what their child needed and what barriers existed to implementing their expectations for the situation. If the mothers' perceptions were compatible with the expectations they held for that decision, mothers implemented their expectations. If their perceptions were not compatible with their expectations for the situation, mothers employed strategies to manage the differences between perceptions and expectations. The strategies they employed were maintaining expectations, modifying or abandoning expectations, compromising expectations, or planning to control the barriers to meeting their expectations.

The following document describes the theory that was developed from this research. It is divided into parts as follows. Part 1 contains a review of literature regarding meal patterns and child-feeding practices. Parts 2-4 describe the theory that was developed using grounded theory analysis on the interviews with mothers. Part 2 describes the causal and contextual conditions in mothers' child-feeding decisions. Part 3 describes the intervening condition of expectations that mothers formed from experience and brought with them into the feeding decisions they faced. Part 4 describes the overall theory and its development, focusing on the action/interaction strategies mothers used in child-feeding decisions. Finally, Part 5 provides a detailed description of the methodology used for this study.

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

LIST OF TABLES

PART 1

INTRODUCTION AND REVIEW OF LITERATURE

INTRODUCTION

The feeding of children is a concern of families, government, and health care professionals. Issues such as the rising incidence and the ramifications of obesity in pediatric populations,[1-4] suboptimal intakes of select nutrients,[5-6] and dieting and eating disorders[7] highlight the importance of understanding child feeding practices. Amidst the concerns in feeding children, the meal pattern of the typical American family may be changing. The reality of daily family meal patterns may not match traditional expectations for when food should be consumed, what food should be consumed, how food should be consumed, and who should be responsible for its preparation and clean up. Mothers have traditionally carried the responsibility for the family mealtime organization, but many societal trends are leading away from this arrangement. Crockett and Sims[8] state that, "tempting as it is to nostalgically long for a time when most children shared meals of home-prepared fare around the family dinner table, those days are gone (from p. 235)."

The purpose of this study was to determine how mothers provide food for their young children aged 3 to 5. After reviewing the traditional view of the daily meal routine and how it traditionally worked, societal trends that may be leading away from the traditional patterns will be reviewed. Next, characteristics of mothers relevant to child nutrition will be described, and the study of mothers' behaviors will be discussed. Finally, grounded theory, the method of analysis used for this study, will be described and its selection for a method of analysis defended.

THE TRADITIONAL MEAL PATTERN

Definitions. In order to understand the changing American meal, meal patterns must first be understood in the context of the United States culture. Webster offers insight into the meaning of meals and snacks in the United States: a <u>meal</u> is *the food served and eaten in one sitting or a customary time or occasion of eating food;* <u>breakfast</u> is *the first meal of the day*; <u>lunch</u> is *a midday meal or food for a midday meal*; <u>dinner</u> is *the main meal of the day, a formal meal or banquet honoring a person or commemorating an occasion, or the food prepared for a dinner*; <u>supper</u> is *an evening meal, a light evening meal, or a social affair, as a dance, during which supper is served*; and a <u>snack</u> is *a hurried or light meal, or food eaten between meals*.[9] In 1964, Van Schaik[10] defined the family's food pattern by first defining a family as, "the group of relatives who live together and belong to one household." The family's food pattern is, "the nature and quantity of the food consumed by the family, the sort of food prepared, the frequency and the rhythm of the meals, the number of times specified foods or drinks are consumed per day, per week, month, season, or year."[10] While this definition does include more variables, it still does not standardize what constitutes the family meal pattern.

Applications. Because of the descriptive nature of the definitions of meals and snacks and because of the variability in individuals' experience with and expectations for meals and snacks, the literature does not offer many operationalized

definitions of these events. Meals and snacks have been classified using various criteria. Techniques used in the literature for distinguishing meals versus snacks include the time of day food was consumed;[11-12] a combination of the time of day food was consumed and the types and quantities of the foods that were consumed;[13-14] or simply the types of foods that were consumed. [15] Additionally, self-report of subjects has been used in national surveys to determine the name assigned to eating occasions by those being studied.[16] The basic structure of the family meal pattern (breakfast, lunch, dinner and snacks) and all of the traditions surrounding these events are important components in the understanding of child feeding.

The structure of traditional meals was analyzed in 1943. [17] Differences in food components of breakfast, lunch and dinner (as described by mothers) were reported. Cereal, eggs, bread, and sometimes fruit were mentioned for breakfast; salads, sandwiches, fruits, and leftovers were predominant lunch components; and meat, vegetables, potatoes, and dessert were components of dinner. [17] More recent and comprehensive updates to these expectations were not found in the literature, but Birch et al[18] found that both adults and children classified cereal, eggs, and orange juice as breakfast foods and pizza, green beans, and macaroni and cheese as dinner foods. Both adults and children supported these classifications with their preferences: they liked breakfast foods when they tasted them in the morning and dinner foods when tasted in the late afternoon. [18]

Meal patterns today may contain more snacking occasions than the traditional meal pattern. Analyzing data from the 1977-78 Nationwide Food Consumption

Survey (NFCS), the 1989-91 Continuing Survey of Food Intake by Individuals

(CSFII), and the 1994-96 CSFII, Jahns et al[16] described trends in reported snacking

behavior. Among the 2- to 5-year-old children in the surveys, the number of

children consuming snacks increased significantly from 79% in 1977 to 94% in

1996. Additionally, the number of snacks per day increased from an average of 1.73

per day in 1977, to 1.87 per day in 1989, to 2.29 per day in 1996. Only the change in

the number of snacking occasions from 1977 to 1996 was statistically significant, but

the contribution of energy from snacks per day increased significantly in each of the

study periods. The researchers reported no significant changes in the average gram

weight of an individual snacking occasion or the average energy provided by a

snack. [16]

Reporting on younger children (aged 1-2 years), but also using data from the

1977-78 NFCS and the 1994-96, 98 CSFII, McConahy et al[19] found a similar

stability in the portion sizes of specific foods consumed over time. With the

exception of foods in the meat group, serving sizes of the most commonly consumed

foods within the food group categories of dairy, grains, fruit, vegetables, and

mixtures were not significantly different from 1977 to the 1996 data. Beef and

chicken portion sizes were significantly smaller in the 1996 survey compared to the

1977 survey. [19]

IMPLEMENTATION OF THE TRADITIONAL MEAL PATTERN

To implement the traditional family meal pattern where families shared three home-prepared meals around the table each day required work, which was typically the responsibility of the mother. In 1943 the report of the Committee on Food Habits of the National Research Council included a chapter by Dr. Kurt Lewin entitled "Forces Behind Food Habits and Methods of Change".[17] This article described the channel theory and introduced the concept of a household 'gatekeeper.' Lewin explained that the real question regarding food habits is not 'why people eat what they eat,' but 'how food gets to the table and why.' Contending that once food reached the table it would generally be consumed by someone in the family, Lewin emphasized the importance of studying how food gets to the table. Food comes to the table through different channels, which might include purchasing food from the store or a restaurant or growing food in the garden. Food may move through these channels at different rates. However, the food does not move independently. Food is allowed to enter or not enter or move about within a channel under the direction of a 'gatekeeper.' Women have traditionally been thought to occupy this role as gatekeeper.[17,20]

From this perspective, Lewin interviewed housewives from three economic classes (high, medium, and low income) of White Americans and housewives from two minority cultures in the United States: Czech and Negro. By determining how the housewives felt about food, how food decisions were made, and what conflicts

arose regarding food, Lewin determined what he called 'the psychology of the gatekeeper.' Lewin pointed out that, "...in all our groups the wife definitely controls all the channels except that of gardening, and even there the husband seldom controls this channel alone. Children are never mentioned as controlling any of the channels, although they undoubtedly influence the decisions indirectly through their rejection of food put before them." [17]

More recently, Schafer and Schafer[20] interviewed husbands and wives regarding their roles and beliefs about food work in the home. Of the 85 couples in the family life-cycle stage of young families (wife under 45, at least one child under age 6), both husbands and wives reported that wives were planning, purchasing, and preparing food more often than husbands, regardless of employment status. When compared with couples in the later stages of the family life-cycle, husbands and wives both reported the perception that husbands should increase their efforts with the food tasks in the home; whereas, fewer of the husbands and wives in the later family life-cycle stages felt that husbands needed to increase their efforts. [20]

Data from the 1994 CSFII indicated that men were involved in planning, shopping, and preparation to a lesser degree than women, but that they were more likely to be involved in these activities if their wives were employed full time.[21] Of the 1204 individuals interviewed who were living in households with male and female heads, it was reported that 93% of female heads usually plan meals, 88% usually shop for food, and 90% usually prepare meals. By contrast, only 23% of male heads of household were planning meals, 36% were shopping for food, and

27% were involved in preparation of food (percentages sum to more than 100%

because both male and female heads of household could be reported to be involved

in the food tasks). When broken down into age categories of the male head of

household, the younger the male, the greater the employment of the female, and the

smaller the household size, the more likely the male heads of household were to

participate in all aspects of food work. [21]

SOCIETAL CHANGES AFFECTING MOTHERS

The traditional American family meal pattern operated through the efforts of the

mother. Women stayed at home to care for the children and the family in general,

which included the responsibilities of meal planning, preparation, and clean up.

However, many trends in society today justify a new look at these assumptions about

family meal patterns and how they operate, particularly given societal trends that

impact the mother, or the gatekeeper. Increased maternal employment, decreased

time spent on meal preparation and actual meal time, increased dependence on

convenience foods, changes in household characteristics, and changes in

responsibility for household production are all trends in the American society that

affect family meal patterns through their effect on mothers. Numerous other less

direct trends, such as trends influencing food availability (e.g. improved

transportation and trade), also affect family meal patterns, but these trends are

beyond the scope of this discussion.

Maternal employment. Mealtime rituals may change as family schedules and structures change. Mothers are increasingly seeking employment outside the home, and thus, they divide their time between the roles of homemaker and provider.[22] Jensen et al[23] reported that women of differing employment status had different psychographic profiles related to their purchase, preparation, and consumption of food items. Working mothers placed increased importance on convenience and less importance on health and nutrition than did nonworking wives.[23] However, Candel[24] developed a more detailed and multi-faceted measure of convenience orientation and reported differing results. Candel reviewed pertinent literature and conducted in-depth interviews with meal preparers in the Netherlands to develop a 19-item scale to measure convenience orientation, or CONVOR. Contending that both time and energy savings were a part of the definition of convenience for individuals and that the desire for variety or experimenting with foods influenced convenience, a new scale was developed. Using this scale, the researcher administered a survey-style questionnaire to a total of 604 meal preparers and found that those who enjoyed meal preparation and food involvement and who were not experiencing role overload placed less value on convenience than those who did not share those characteristics. Differences in convenience orientation towards foods were not dependent on working status of mothers.[24]

In 1980 Redman[25] studied the effect of women's time allocation on the family's expenditures for meals away from home and for prepared foods. Family

income had a highly significant, slightly positive effect on expenditures for both meals away from home and prepared foods. The age of the woman had the same effect on expenditures for prepared foods, but had a highly significant, slightly negative effect on expenditures for meals away from home. At that time Redman stated that only about one third of the households in the United States included wives who were employed outside the home,[25] whereas in 1996, over half of all households included wives who were employed outside the home. Goebel and Hennon[22] also studied expenditures for meals away from home and reported that time used for meal preparation was significantly lower in families where wives were employed, and that there was a significant inverse correlation between the amount of time wives spent in meal preparation and the average expenditures for meals away from home.

Given the increased incidence of consuming food away from home, quality of meals consumed away from home may be important. Zoumas-Morse et al[26] conducted 24-hour dietary recalls with adolescents as well as children aged 6 to 11 years to determine the energy and macronutrient composition of foods consumed in a variety of settings: at home, at work/school/day care, at restaurants, at friends' homes, in transit, etc. They reported that most eating occasions of children (n = 367) aged 6 to 11 occurred at home, followed by those consumed at work/school/day care, with restaurant eating occasions at a distant third. However, meals consumed in restaurants were significantly higher in energy from fat and saturated fat, while meals consumed in all other places were very similar.[26]

These trends such as increased maternal employment, increased expenditure on prepared food items, and increased expenditures on food away from home suggest that children's diet quality may suffer as the number and duration of outside time commitments of the family members, especially mothers, increases. Contrary to this assumption, Brann et al[27] did not observe significant differences in nutrient intake, variety of foods consumed, or incidence of fast food consumption among middle/upper income white women with children. Johnson et al found that maternal employment did not have a detrimental effect on the intake of iron, calcium, or zinc; and over consumption of total fat, saturated fat, total cholesterol, and total sodium were not observed in young children.[28] Likewise, Skinner et al[13] did not report significant differences in the nutritional quality of adolescents' diets when comparing groups whose mothers were employed versus those who were not employed. Nutrient density (nutrient intake per 1000 calories) was reported to be lower for iron in the group of adolescents whose mothers were employed; but the number of subjects skipping breakfast, the number of snacks consumed, and the number of evening meals consumed away from home were not significantly different between the two groups.[13] While employment status seemed to affect the amount of time women spent on meal preparation and possibly their reliance on convenience foods, these factors had little impact on the nutritional quality of their children's diets. It may be that factors other than time and use of convenience foods determine the nutritional quality of food served for meals and snacks.

Household Characteristics. Household characteristics such as the number of individuals living in the household (household size), their relationships to the other members of the household, the type of family (dyadic, nuclear, extended, etc), the stage of the family life cycle, and interaction characteristics of the family have all been associated with family food intake characteristics. Household size can range from one individual to multiple individuals, with each end of the spectrum having different concerns. Meal size, or the amount eaten, has been reported to be influenced by the number and the type of companions in eating, a phenomenon referred to as social facilitation. [29] Johnson et al[30] found that the iron intake of a sample of children from the United States Department of Agriculture's 1987-1988 Nationwide Food Consumption Survey was positively related to increasing household size. Kinsey[31] found that while per person weekly expenditures on food did indeed drop with increasing household size, some of the drop could be altered depending upon household composition and income. The largest household size was for married couples with teenagers, but they spent more per person on food than did the households with single mothers. [31]

Another aspect of the household composition that is related to the food intake characteristics of the family is referred to as the family life cycle stage. Just as individuals develop according to the life cycle, families have also been considered to develop in a life cycle pattern. The developmental phase of the family is determined by the developmental phases of its members, for example Schafer and Keith[32] described four life cycle stages as follows: Stage 1, married couple with at least one

child under 6 and wife less than 45 years old; Stage 2, married couple with child(ren) aged 6 through 18 and wife any age; Stage 3, married couple with no children at home and the wife aged 45 to 59; and Stage 4, married couple with no children at home and the wife age 60 or older. Couples in stage 1 were reportedly relying on the following sources of influence when making food decisions: health concerns, cost of foods, their own weight, and the influence of their spouse and friends. [32] Cross et al[33] used the same stages to determine what women at different stages in the family life cycle were concerned with when selecting food. Women with the youngest child under 6 years of age were not as concerned with planning meals low in calories or fats and cholesterol as women in most other stages, and they were more concerned with looking for bargains and sale specials and limiting food spending than women at any other stage. [33] Gillespie and Achterberg [34] used a mailed questionnaire to mothers and fathers in upstate New York to study family interaction involving food and nutrition. They reported that mothers and fathers with greater levels of education interacted more with their families about food and nutrition (e.g., discussing food preferences, nutrition quality of food selections, and food planning) than did mothers and fathers of lesser educational attainment. [34]

Other family characteristics such as family stability, unity, discipline, and communication have been reviewed, [35-36] but specific, nutrition-related research is slim in the recent literature. A 1987 study of 46 families at mealtime measured family interaction patterns and formality for comparison with verbal interactions.[37] Larger families were less orderly, and more mealtime formality was associated with

increased verbal interactions for the 3-year-old target children. [37]

The media and advertising have been identified as major sources of information for individuals regarding food and nutrition, [38] but television has also been negatively associated with family mealtimes and children's eating. Coon et al[39] studied families with at least one biological or legally adoptive parent and at least one child in the fourth, fifth, or sixth grade in the Washington, DC area to determine if there were differences in overall food consumption (not just consumption of specific types of foods or foods advertised on television) between families in which the television was usually on during at least 2 meals per day compared to those families in which the television was never on during meals or on during only 1 meal. Using nutrient information from 3 nonconsecutive 24-hour dietary recalls, the researchers found that children from families with high television use consumed diets significantly lower in total energy from carbohydrate; significantly more red meat, processed meat, sodas, and caffeine; and significantly fewer servings of vegetables than their low television use counterparts. [39] While these data do not indicate a causal relationship between television viewing during family meals and nutrition outcomes, they do suggest that television viewing may be associated with other characteristics of families that result in poorer nutrition quality of the diets of children. Similarly, Dennison et al[40] found positive associations between television use and children's body mass index (BMI). They surveyed 2761 parents and obtained height and weight measurements of their children aged 1 – 5 years in New York State. The researchers reported that the odds ratio of the children

being overweight (having a BMI greater than the 85th percentile) for each

additional hour of television (including videos) viewed each day was 1.06, which

was small but significant at P < .03. Children with a TV in their bedroom watched

more television and were more likely to be overweight.[40] Thus, family

characteristics, including television use, may have a significant impact on the diet

quality and nutrition status of young children.

Household production. Household production, or the fruits of labor spent for home

and/or family, includes many forms of work, including food work. Food work

consists of many tasks such as meal planning, shopping, food preparation, and clean

up. U.S. government agencies and others have developed food guides to aid meal

planners in meeting food and nutrient needs of individuals using economical,

tasteful, and available foods.[41] The United States Department of Agriculture

currently recommends the Food Guide Pyramid[42] for guidance in food selection, and

its usefulness to meal planners is unique for several reasons outlined by Achterberg

et al.[43] The Food Guide Pyramid emphasizes variety, moderation, and

proportionality or balance of foods, rather than just meeting minimum nutrient

requirements.[43] These general principles of variety, moderation, and balance are

reflected in basic nutrition texts,[44] but specific suggestions for implementing these

ideas are best found in layman's sources such as cookbooks. For example, Better

Homes and Gardens New Cook Book[45] recommends that meal planners design

menus before grocery shopping rather than developing menus at the grocery store

because ingredients may be overlooked without advance planning. They also suggest that dinner menus be developed around a main-dish component (meat or meat alternative), a salad, a vegetable, and bread. Strategies for saving time are included, many of which involve preparation that can be done in advance, such as shredding cheese for multiple meals at once. [45]

Knowledge of [46] and compliance with[47] recommendations of the Food Guide Pyramid have been shown to be related to better diet quality. However, Dinkins[48] found that most food preparers occasionally served meals to their families that were not "nutritionally complete," that most worried about whether or not they were serving "nourishing" meals, and that less than one third developed a complete food list before shopping. Sloan[49] reported that many meal preparers did not know what they would serve for dinner at 4:00 in the afternoon. Additionally, a survey conducted for the American Dietetic Association[50] indicated that the most common reason for not eating a healthy diet was that it takes too much time. The Expanded Food and Nutrition Education Program (EFNEP) provides nutrition education for low income families. EFNEP lessons teach principles of planning ahead, using a grocery list, and other food safety and food economy topics. After learning these principles, participants reported better diet quality and a better state of health for their families because of these practices. [51]

In her book titled *Feeding the Family*, Marjorie L. DeVault[52] described some of the work involved with the specific branch of household production involving food. She described meal planning, the organization of the meal as an event (time,

place, rules of behavior, kinds of interactions, etc.), provisioning (shopping for

and stocking food in the home), and the invisible work such as planning and

coordinating meals, juggling and strategizing about individual family members' food

preferences, economizing, etc. She described how many of the women she

interviewed dismissed the effort involved in remembering and planning for all that is

associated with meal production by saying that it is 'just all up there' or 'just

routine.' However, DeVault suggested that, "keeping track of the routine, keeping it

'all up there,' is in fact the heart of [a mother's] work." [52]

When not only the obvious tasks such as cooking and cleaning up, but also

the mental tasks of remembering, organizing, etc. are included in the equation of

total time spent for meal production, the task appears more demanding. This is

probably a more accurate picture of what is involved in meal production than just the

obvious tasks. The responsibility for these tasks has traditionally belonged to

women or mothers. Mothers were home and were in charge of the meal production.

As more women began to enter the work force and advance their educational

levels, scholars began to predict that the responsibility for household production,

including meal production, would shift toward a more equal distribution of labor

between husbands and wives. Farkas[53] found some evidence that husbands and

wives divided market work (i.e., work outside the home) based on their relative

education and wage rate. Absolute education had a small positive association with

husbands' involvement in housework for younger couples (wife less than age 35),

but neither education nor wage rate were useful for predicting the role of husbands in

housework in older couples (wife 36-60).[53] Gronmo and Lingsom[54] studied time-use data from Norway to determine that the discrepancy in the distribution of household labor between men and women was decreasing. This was not because men were increasing their contribution to household labor, but rather, it was due to women decreasing their contributions. Thus, as women gained more education, spent more time in the paid labor force, etc. the total time the family spent on household work decreased. Women spent less time with household labor, and no other family members (namely husbands) increased their household workload to compensate for the women's decreases.[54] Both men and women in the US were found to agree that food selection and preparation was and should be the responsibility of women. This was true across all of the family life-cycle stages; however, men and women in the earlier life-cycle stages expected a significantly more even distribution of the responsibility for cooking when the wife was employed compared to families where the wife was not employed.[20]

Many studies have shown that with increased participation in the paid labor force, increased education, and for other reasons women are not spending as much time as they traditionally did with household labor.[53; 55-57] However, as Schafer and Schafer[20] clearly indicated, the implications of this are not that men will necessarily become more involved in household production. In fact, when measuring total family time allocated to various household labors, Hilton[55] found that increasing time pressures on parents, such as single parenting or increasing hours of maternal employment, resulted in decreased total time spent on food preparation.

Recognizing this trend that total time allocated to household labor decreases with many societal trends, such as single parenting and maternal employment, Olson et al[56] attempted to determine a minimum number of hours required in household labor to maintain a healthy, functional family. Using various methods of regional economic analyses (including one method for measuring long-term effects a change in economic conditions has on a region, and one for measuring short-term effects a change in economic conditions has on a region), they determined that a minimum of 35 hours of total household labor per week in the long term and 2 hours per week in the short term were required to maintain the family. [56]

The societal trends that affect mothers are typically those that result in decreased time for meal preparation and mealtime. Whether the decreased time and effort for meals is due to changing employment situations, changing household composition, or simply a desire for convenience, many families do not match perceptions of traditional meal patterns. These changes are not necessarily good or bad, but they do warrant attention. Children are dependent upon adult caregivers, and, thus, changing meal patterns may have implications for their growth and development.

CHARACTERISTICS OF MOTHERS

Given the traditional and continuing role of mothers in the production of food for the family, women have been the subjects of many studies on child feeding. Similarities

between mother and child eating patterns have been explored, as well as the

knowledge and attitudes of mothers associated with child eating behaviors. Finally,

mother-child interactions or actual parenting styles have been studied to determine

the influence of mothers on the food intake and practices of children.

Similarities between mothers and children. The question of taste preference

similarities within families has been studied. Even the effects of maternal nutrition

during pregnancy and breastfeeding have been examined for possible relationships

with children's food preferences. Mennella et al[58] recruited 46 pregnant women in

the US who were planning on breastfeeding their infants and randomly assigned

them to one of three groups based on different exposure to carrot juice. One group

was given carrot juice daily for 4 days/week during the last trimester of pregnancy,

one group was given the carrot juice during the first months of lactation, and one

group was given carrot juice both in the last trimester of pregnancy and during the

first months of lactation. Water was the control beverage when carrot juice was not

consumed. Researchers then examined infant facial responses to the initial

introduction of carrot-flavored infant cereal versus expressions when fed plain

cereal. They found that exposure to the carrot flavor either in utero or via breast

milk resulted in significantly fewer negative facial expressions while eating the

carrot-flavored cereal compared with the plain cereal. Infants whose mothers

consumed only water displayed more negative facial expression when consuming the

carrot-flavored cereal versus the plain cereal, but the difference was not statistically

significant. [58] Thus, the influence of mothers' actions on the food preferences of children may begin even before children are born.

Borah-Giddens and Falciglia[59] conducted a meta-analysis of studies designed to determine the association between mother-child and father-child food preferences. Examining data from 5 separate studies, they found that mothers' and fathers' food preferences were significantly correlated to the food preferences of children (ranging in age from 2 years to 24 years), but the magnitude of the correlation was very small. However, when using a much larger range of foods, Skinner et al[60] reported concordances ranging from 82-83% between the preferences of children aged 28 to 36 months and other family members (mothers, fathers, and siblings).

Nutrient intakes also have been shown to be similar among members of families. Using participants from the Framingham Children's Study (children of participants in the Framingham Heart Study) and their children, food diaries were recorded for 83 fathers, 87 mothers, and 91 children (aged 3-5 years). Comparison of nutrient intake data for macronutrients indicated that parents and children's intakes were significantly correlated, and that the correlation was strongest between mothers and children. [61] Vauthier et al[62] collected 3 days of food intake diaries for 387 middle-class French families with two children over age 7 years in the home for a total of 774 parent and 774 child food diaries. Macronutrient intake and contribution to total energy intake were calculated and significant correlations were found between all the relationship pairs. Children who ate more meals together with

their families had a stronger relationship to the intake of their parents, indicating

the importance of the family in food and nutrition activities. [62]

Children may model both healthful and unhealthful behaviors of parents.

Using data collected from parents of white 5-year-old girls, fruit and vegetable intake

of the girls was positively related to fruit and vegetable intake of parents. [7] Likewise,

5-year-old girls whose mothers engaged in dieting practices were more likely to be

able to describe dieting techniques and hold opinions about dieting. [63] Carruth and

Skinner[64] found that mothers and their children aged 42 to 84 months displayed

similar behaviors toward food. They found a significant relationship between the

number of times mothers and their children tried an unfamiliar food before deciding

it was disliked. [64] Johnson[65] reported that parents' restraint and disinhibition in

eating were related to children's ability to self-regulate food intake after preload

snacks of varying energy density. After an intervention of teaching children to

recognize and respond to internal cues of hunger and satiety, children were able to

more accurately compensate for differences in energy density of preload snacks (i.e.,

they were able to self-regulate intake accurately). Johnson reported a 40% decrease

in the deviation from ideal energy compensation after the intervention.[65]

A study of 3 to 5-year-old children showed that when allowed to self-select

from an assortment of high and low-fat foods, children with heavier parents had

stronger preferences for the high-fat foods.[66] Branen and Fletcher[67] provided

evidence suggesting that college-age students' current consideration of health in food

selection and their food habits such as meal schedule and eating all food on the plate

were related to the same behaviors being practiced by the caregivers of the students when they were growing up. Mothers' food preferences and behaviors may have an early and lasting impact on the food preferences and behaviors of their children.

Knowledge and attitudes. Children generally do not have as much knowledge about nutrition as adults. Lucas[68] related Piaget's theory of cognitive development to feeding and nutrition and reported that during the preoperational phase (2-7 years), children have a limited ability to classify food into groups or to identify why certain foods are required or should be avoided. Groups may include foods that are classified in simplistic categories, such as liked foods or disliked foods.[68] Once again, children are somewhat dependent upon adult care givers to help them make food intake decisions and to dictate to some degree the type of lifestyle they will lead, at least in their youth. Contento et al[69] described the results of research into the effects of mothers' criteria for food choices on the intake of preschool children. Contento et al found that by segmenting the Latino mothers of 218 four and five-year-olds into groups based on their criteria for making food choices (e.g., health, taste, convenience, cost, etc) they were able to find strong relationships between food choice criteria of mothers and nutrient intake of children. For example, the children of mothers who were classified in the positive health clusters had significantly lower intake of energy and total fat (but not percent energy from total fat) and significantly higher intake of vitamin A.[69] The emphasis on taste preferences of children as a

criteria in food choices was challenged in a study of French children aged 9-11.[70] One thousand children and their mothers reported their attitudes toward food, and it was found that mothers viewed food as a pleasure for their children, while the children themselves saw food consumption as a simple necessity. Children gave similar enjoyment ratings to 'unhealthy' foods (e.g., candy) and 'healthy' foods (e.g., fruit).[70]

Using a two-stage study design of focus groups followed by individual meetings with the participants in the focus groups, Kirk and Gillespie[71] determined the factors that influenced food choices of working mothers through theme analysis of mothers' responses. The researchers reported 5 different perspectives from which mothers made their food choices: nutritionist, economist, manager-organizer (emphasis on the allocation of time and effort), meaning-creator, and family diplomat (emphasis on avoiding undesirable family interactions such as confrontations).[71] The nutrition knowledge of meal planners (predominantly women) of children aged 2 to 5 in the 1989-91 CSFII and Diet Health Knowledge Survey were found to be related to their children's consumption of fat at home (but not in the total diet).[72]

Interactions with children. Several studies have demonstrated a relationship between the health status or food habits of children and their interactions with one or both parents. Increasing mother-child interactions, for example, were negatively associated with skinfold thickness.[73] Favaro and Santonastaso[74] found that the

psychological status of the parents, especially of the mother, was related to the degree of obesity in children aged 4-13 years. More severe obesity in children was associated with mothers with more serious psychiatric problems and disturbances. [74] Anliker et al[75] found that parents' messages to young children affected children's nutrition awareness. Parents' nutrition messages to children and styles of instruction about nutrition were significantly and positively associated with the children's ability to judge food origins, food groups, food transformations, energy balance, and food values. [75]

In addition to affecting the health status of children, the personality and parenting styles of parents may affect the nutritional patterns or food habits of children. Birch et al[76] found that the social-affective context of food presentation influenced children's food preferences. After identifying a neutral food (one neither highly preferred nor nonpreferred) for each child in the study, that food was presented to the child in one of four contexts: as a reward; noncontingently, along with adult attention; nonsocially; as a snack. Increases in child preferences were associated with foods presented as rewards or noncontingently with adult attention. [76] Children's acceptance of unfamiliar foods was also shown to vary according to whether or not adults who were offering the food were eating the food.[77] Children put more offered foods into their mouths when the adults also were eating, and this was especially true if the adult was the child's mother. [77]

Adults may influence children's food behaviors, as well as their food preferences. Birch et al[78] employed two conditioning strategies for satiety on

preschool children to determine the influence of conditioning on meal size. Children who were conditioned with external cues, such as cleaning up their plates, were not as responsive to changes in caloric density of foods as their counterparts who were conditioned with internal cues of satiety (i.e., feeling full). [78]   Several other studies of the influence of parents or mothers on children's self-restraint and ability to accurately self-regulate energy intake have been conducted. In a retrospective study of college students enrolled in an introductory psychology class, Batsell et al[79] found that 69% of the 407 students surveyed remembered a forced food consumption event. A follow-up questionnaire was administered to 140 of the students who had experienced a forced food consumption episode, and the researchers found that the most commonly reported type of forced food consumption event was a parent or other authority figure forcing the student (as a child) to consume an unwanted food. Most (75%) of the students recalled that the episode was accompanied by at least moderate to strong conflict, and only 3% reported no conflict with the episode. Eighty-five percent of the students recalled feeling angry or fearful/upset at the time of the event, and 32% of the students still held those feelings. Interestingly, 72% of the students who had experienced the forced food episode responded that they would not willingly consume the target food today. [79]

Sanok and Ascione[80] demonstrated that a child with a behavioral problem of prolonged eating behavior could be conditioned by parents to reduce the time required for meal consumption. Parents were trained to use a timer and give verbal praise to gradually condition their child to a reduced temporal limit on eating. Mean

duration of mealtime across meals each day decreased significantly from baseline with the intervention. [80]

Anliker et al[81] examined the level of control that young children (3 years old) had in choosing what they would eat, how much they would eat, and the level of their involvement in food preparation for themselves and their families, as reported by mothers. The researchers found that control over food choices varied dramatically between breakfast, lunch, and dinner. They reported that children alone made food choices in 14% of the families for breakfast, 9% of the families for lunch, and none of the children planned their own dinners. By contrast, all food choices were made for the children in only 5% of the families for breakfast, 15% at lunch, and 81% of the families at dinner. Mothers also reported that the children had less control over the portion sizes consumed, especially at snack time, where 58% of the mothers reported that the amounts of all foods consumed at snacks were always limited.[81]

DeWalt et al[82] found through analysis of register tapes that children prompted about 14% of the food dollar purchases in families with 4 to 5 year old children in rural Kentucky. However, that influence over food purchases varied in the families from 1 to 44% of the food dollar.[82] Klesges et al[83] looked at food selection from the opposite direction: parental influence on the food choices of young children (aged 4 to 7 years). Children selected foods that were significantly lower in energy, saturated fat, and sodium when their food choices were monitored by their mothers or even when they were merely threatened with parental monitoring of food choices

(i.e., child told that mother would inspect the food selections) than when their food selections were made freely. [83]   O'Dea[84] reported that Australian children aged 6 to 11 knew of foods that were forbidden and why they were forbidden (e.g., sugary and fatty foods are 'unhealthy' and can cause weight gain or tooth decay). Mothers were reported to be primarily responsible for enforcing the restrictions. [84]

While children did have some control over food choices and portion sizes, these data indicated that other individuals, especially parents, were very influential in determining what and how much children consumed. Parental restriction of access to palatable foods among girls aged 4 to 6 was measured and compared to girls' self-evaluation of their own eating during an experimental snack. [85]   Girls were given free access to palatable foods (e.g., chocolate, ice cream, popcorn, etc) to eat at their own discretion during a 10-minute test period. Then the girls were interviewed about whether these foods were allowed at home, how much they thought they consumed, and how they felt about that. The researchers found that restriction of access to foods was associated with the girls' evaluation of how they ate and their actual intake of the forbidden foods. [85]   Francis et al[86] examined data from 104 overweight and 92 non-overweight mothers and their 5-year-old daughters to determine predictors of the mothers' child-feeding style, specifically, the mothers' feeding behaviors of restricting intake of palatable foods and pressuring their daughters to eat more food. They found that mothers' concern about their own weight and their own restraint in eating were significantly and positively related to their concern for their daughters' weight and their restriction of their daughters' food

intake. [86] When they analyzed differences between mothers who were overweight versus non-overweight, they found stronger associations between maternal weight concern and restraint and restrictive feeding practices. [86] Using the same variables of parental pressure and restriction, Carper et al[87] reported the incidence of dietary restraint (mental control of eating) and disinhibition (eating in response to cues other than internal cues of hunger and satiety) in 197 5-year-old girls in Pennsylvania. They found that 61% of the girls reported feeling some parental pressure to eat and 63% of the girls reported feeling some parental restriction of their food intake. On the other hand, 26% of parents reported using pressure to encourage eating, and 51% of parents reported restrictions of intake in their daughters. [87] While mothers' and fathers' self-reported levels of pressure and restriction in feeding were not related to their daughter's restraint and disinhibition with eating, the girls' perceptions of parental pressure and restriction in feeding were associated with the girls' restraint and disinhibition. One third of the girls interviewed reported feeling at least some restraint and 75% of the girls reported some disinhibition. [87]

THE STUDY OF MOTHERS

While many studies point to a relationship between mothers and children's eating practices and the impact of parenting styles on child food intake, a comprehensive theory of the child feeding behaviors of mothers was not found in the literature. Many theoretical approaches have been applied to the study of various nutrition

issues,[88-89] including some focus on child feeding and factors influencing mothers,[71,90] but a theory has not been developed or tested that specifically deals with how mothers feed children.

Symbolic interactionist theory[91-92] was an organizing principle in Kirk and Gillespie's work on food choice perspectives.[71] This theory contends that humans, being social creatures, define themselves and their situations in terms of their interpretation of interactions with others. Thus, the food choice perspectives described by Kirk and Gillespie (which were 'nutritionist,' 'economist,' 'manager-organizer,' 'meaning creator,' and 'family diplomat') were frameworks for interpretation of interactions with others. Based on symbolic interaction theory, mothers with different perspectives differ from one another in the way they make food choices not because of objective components of the food choice situation, but because of their different interpretations of the situations.[71]

Social Cognitive Theory asserts that behavior can be predicted and explained by factors associated with the person's behavior, the person's environment, and the person's cognition.[93] Changes in one of these areas is said to affect a change in the others. Reynolds et al[90] applied this theory to the study of elementary school children's fruit and vegetable consumption. Seven days of 24-hour recalls were collected, and children responded to questionnaires to determine their scores on the three areas: the behavior (actual fruit and vegetable consumption behavior), the environment (availability, modeling, and nutrition education), and cognition (motivation and knowledge). Using structural equation modeling to test

relationships between these factors and fruit and vegetable consumption, it was reported that each of the factors directly or indirectly affected fruit and vegetable consumption. [90]

While these theories and their applications provide some insights into how mothers feed young children, some limitations are apparent. First, these theories were developed to explain the behavior of individuals. In the feeding situation, mothers were acting in the behalf of their children. Secondly, selection of a theory *a priori* and application of the theory to subsequently collected data limited the possibilities for discovery of new concepts and explanations. Because the behavior of mothers feeding children has not been comprehensively studied, a qualitative data collection technique (open-response, flexible-format questionnaire) was selected. [94] Grounded theory technique[95] was selected for the method of analysis because it results not only in the generation of new concepts grounded in the data themselves, but also results in the integration of those concepts into a functioning theory to explain the data from which it was developed. Grounded theory approach has been used in the nutrition literature to explain concepts related to this study, such as influences on menus at childcare centers, [96] fruit and vegetable consumption of adults, [97] and food choices of adults. [98-99] Grounded theory technique has not reportedly been applied to the question of how mothers feed their young children aged 3 to 5.

Grounded theory analysis proceeds as a series of overlapping coding techniques that result in the generation of a theory from the data. The first phase of

coding, open coding, is a process of breaking down the data into individual

phenomenon. It involves determining what discrete happening is being described in

the data. Once the concept is identified, a label is assigned to the concept. By

asking questions of comparison between concepts, the labels attached may become

increasingly abstract as concepts are compared and found to be the same

phenomenon. The concepts are categorized and described in terms of their

attributes, or properties, and how the concept specifically fits on a continuum of that

property (dimensions). Once data have been broken apart, categorized, and

described in terms of its properties and dimensions, it can be verified through

comparisons with other incidents in the data; in a general way, the category should

be evidenced in all subjects. Hence, grounded theory is also referred to as the

constant comparative method.

Having broken the data apart and created categories, the next phase of coding

focuses on putting the data back together using the paradigm model to relate

subcategories to main categories. Subcategories are labeled as causal conditions,

contextual conditions, intervening conditions (structural conditions that affect actions

that can be taken within a context), action/interaction strategies, and consequences of

the phenomenon being described. Finally, all main categories are organized in the

paradigm model under one organizing or core category in the selective coding stage

of analysis. All stages of coding are verified through repeated comparisons to other

incidents in the data. The final theory fits the data from which it was generated. [95]

CONCLUSION

In the face of societal trends that affect mothers, such as increased maternal employment, changes in household characteristics, and changes in responsibility for household production, the traditional meal patterns in this country may no longer describe behavior of mothers when feeding children. If mothers are no longer spending as much time in the home or spending as much time with household production, the traditional family meal pattern must be changing. While research has shown that nutritional quality of children's diets is not affected[27-29] by societal trends such as increased maternal employment and increased consumption of commercial foods, research has not been conducted to describe changes in the family meal patterns or to determine how mothers fulfill their responsibilities for feeding children. Children are a special concern in the transformation of the typical meal pattern because they have lower levels of autonomy and knowledge. They are dependent upon their parents, their family environment, and sometimes their daycare providers for appropriate nutrition and training in food habits. Because not only children's nutritional status, but their development as well can be affected by meal patterns,[37] it is important to understand what is happening to the American meal pattern. All family members are affected by these changes.

Very little is known about what women are doing to transition from the gatekeeper role where the stay-at-home housewife is in charge of all meal preparation activities into the more modern role where she may be employed full

time outside of the home. The work of Schafer and Schafer[20] indicates that both men and women agree that housework (including meal preparation) is still predominantly the responsibility of women, but women are not spending as much time at home or on housework.[55-56] This study was designed to describe how the mothers are feeding their young children today. Some of the pertinent questions such as the impact of maternal employment and food choice considerations of mothers can be answered in part by the literature, but the dynamics and the influential factors of mothers' behaviors are not well understood. The results of this study will increase our understanding of how mothers feed their young children.

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PART 2

THE CHILD FEEDING CONTEXT: STAGES

OF DECISION-MAKING

ABSTRACT

Objective: To determine the type and context of decisions mothers made about feeding their young children.

Design: Data were collected in 1998 and 1999 from individual, in-depth, flexible-format interviews with mothers.

Subjects/setting: Interviews were conducted in the homes of 50 married mothers (>21 years old) of at least one healthy child aged 3 to 5 years and no child over age 10 living in the home. Food assistance in the last year was an exclusion criterion.

Variables measured: Interview statements regarding the mother's child-feeding practices were tape recorded for analysis.

Analyses: Grounded theory technique was used to analyze the interview transcriptions of mothers' child-feeding practices.

Results: Five distinct stages of decisions for feeding children were identified: food planning, food acquisition, timing of meals, food preparation, and food consumption. Contextual properties of each of these decisions were identified with their corresponding dimensions.

Implications: Identification of the stages of decision-making can facilitate the design of appropriate nutrition education and intervention strategies specific to the challenges of individual mothers. Understanding the context in which mothers make decisions can be useful in understanding how mothers provide food for young children and helping them make improvements in feeding practices.

Key words: Decision-making, child-feeding practices, mothers

INTRODUCTION

Childhood is a period in the life cycle characterized by rapid growth and development, dependence on adult caregivers, and relative impressionability for the development of eating habits and patterns.[1] Children are developing habits that they may carry into adulthood,[2] and, thus, what and how children eat is of considerable interest.

Some studies of children's eating describe specific nutrient and/or food intakes.[3-6] Other studies emphasize the importance of a holistic approach to examining the feeding of children, and researchers list components of children's environment that influence eating at the individual, societal, cultural, biologic, and ecologic levels.[7-9] The holistic approach described in these studies is similar to earlier reviews and descriptions of the 'human ecosystem' as an approach to investigating behavior.[10-11]

The holistic approach to the study of child feeding is difficult to operationalize because of its broad scope. Most studies of child feeding narrow the scope of study, and because mothers have traditionally been and still are typically responsible for the feeding of young children, [12-14] research involving feeding decisions for children generally focuses on mothers. Various characteristics of mothers, such as education, [15] race, and level of urbanization[16] have been shown to

be related to child feeding variables. The broad scope of factors involved in the feeding of children complicates research attempting to rank or measure the relative influence of those many factors.

Other child feeding research has focused instead on how food decisions are made. Factors influencing mothers' food selection decisions for their young children have been studied using focus groups[17] and using comparisons to mothers' nutrition attitudes.[18-19] Food availability decisions were analyzed using grocery store receipts to determine child influence over mothers' food purchases.[20] Birch and Fisher[21] described the balance of power between parents and children for three types of feeding decisions: meal timing, food selection, and food consumption. Anliker et al[22] measured the level of control of 3-5 year-old children over food selection and food consumption decisions. All of these studies alluded to the decisions that mothers faced when feeding their young children, but the decisions themselves were not described. Thus, food decisions were studied as independent events rather than a complex series of decisions that influenced one another.

The purpose of this paper is to outline the context of the decisions that mothers faced as they provided food for their young children. This study used grounded theory analysis of mothers' free responses to questions about child feeding to construct a theory about how mothers fed their young children aged 3 to 5. Grounded theory, also referred to as the constant comparative method, is an analytic process where theory is developed and verified using the data collected (in this case, quotes from mothers), rather than applying an existing theory to collected data.[23]

Grounded theory technique is more complex than a standard content analysis study, as it emphasizes the integration of findings into a theory. Review of the literature did not reveal a comprehensive theory on child feeding, and grounded theory was selected as the most appropriate method of study because this technique allows for the creation of theory directly from the data. This paper describes the causal and contextual conditions in the theory developed to explain the decision-making processes mothers used as they provided food for their young children aged 3 to 5 years.

METHODS

Sample selection and study design. The participants in the study were 50 married mothers with at least one healthy child between the ages of 3 and 5 years and no child over the age of 10 years living in the home. Mothers were at least 22 years of age and had not received any food assistance within the last year. The purposive sample was recruited by distributing flyers in churches, day care centers, and local businesses; participants also were asked for referrals. This study was approved by the University of Tennessee Institutional Review Board.

Data collection. Data were collected in 1998 and 1999 in a city in the Southeastern United States. Mothers met individually with the investigator (DC) on two occasions. On the first, mothers signed consent forms and answered demographic

questions, such as number of children in the family and work status of parents. At

the second meeting, the investigator administered an open-response, flexible-format

interview about child feeding practices. Consistent with grounded theory

methodology,[23] questions for the in-depth interviews were modified midway through

data collection to pursue emerging themes in greater detail. Minor adaptations to the

format also occurred throughout the interview process with individual subjects as

additional probing was warranted for clarification and depth of description (Table 1).

The interviews were tape recorded to ensure accuracy.

Data analysis. Responses to the demographic questionnaire were entered in

Microsoft Excel (version 5.0c, 1994), and summary statistics were performed where

appropriate. The tape-recorded interviews were transcribed and analyzed using the

grounded theory technique.[23] The transcribed interviews were read multiple times

and analyzed using the three types of grounded theory coding techniques. First, data

were open coded, meaning the responses of the mothers were broken down to

identify recurring phenomena or categories. As additional interviews were coded,

the categories were identified again and again in increasingly abstract description

through constant comparison of mothers' responses. Axial coding involved using a

paradigm model of causal conditions (events leading to a phenomena), context

(conditions in which action is taken), action/interaction strategies (techniques for

managing a phenomena), and consequences (outcomes of action taken) to describe

each category.   Finally, selective coding was the process of integrating all main

categories into the paradigm model with one organizing 'core' category. The core

category was the one under which all other categories fit as part of the paradigm

model to constitute the developed theory. As with each of the other steps

(identifying categories and describing the categories in terms of the paradigm

model), the theory that emerged was verified by testing the theory against the

interviews.

RESULTS

Participants. Mothers and fathers in this group were well educated, with 74% of

each holding at least a bachelor's degree. Most (60%) of the mothers were working

at least part-time outside the home. Full-time employment was considered working

at least 30 hours per week, and part-time employment was considered working

anything less than 30 hours per week. Only 1 of the fathers was not employed

outside the home, and fathers worked an average of 48 hours outside the home per

week. Fifteen of the families had only the target child living in the home, 31

families had 2 children in the home, and 4 families had 3 children living in the home.

The average age of the target child in the study was 4 years, with a range in ages of 3

to 5. Twenty-eight of the target children were males, and 22 were females.

Theory development. Results of the grounded theory analysis conducted on the

initial interviews with mothers yielded a theme of planning styles in the provision of

food for young children. Two extremes identified were 1) a mother who did all of her planning at the grocery store then let her children decide when and what to eat from the foods available in the home and 2) a mother who set out all of her dinner ingredients (including pots and pans) the night before the meal. The planning theme was identified in the first 25 interviews; therefore, additional questions were added to the interviews with the next 25 subjects to further describe the theme of planning (Table 1). Planning was originally divided into 3 phases: advance planning, planning just prior to food preparation, and planning at the time of food preparation. While this approach did provide increased theoretical sensitivity to the planning phenomena, additional comparisons and analyses revealed that all mothers were making distinct decisions, but the timing of those decisions was the variable component. Additional analysis of interviews to determine what decisions mothers were making in the feeding of young children consistently yielded 5 distinct stages of decision-making, which were collectively referred to as the child feeding context. The need for these decisions was the causal condition in the question of how mothers provide food for their young children.

Stages of decision-making. As summarized in Table 2, food planning, food acquisition, timing of eating, food preparation, and food consumption were stages of feeding decisions that all mothers experienced. Using quotations of the mothers, each of these stages will be defined and described individually in terms of the contextual conditions surrounding the decision, which will also show the variations

among mothers in these decision-making processes. All quotations from mothers

will appear in italics, and the mother's assigned subject number will follow.

Food planning. The first stage of decision-making was food planning: in other

words, deciding what foods to make available in the home. All families in the study

were bringing foods into the home from outside sources; thus, they had to decide

which foods to make available. This stage of decision-making was named 'food

planning,' but it did not exclude behaviors that indicated lack of planning, such as

delaying planning until the time of an eating occasion. Results showed that the

process of food planning was distinct from the process of obtaining food (food

acquisition) and from the process of selecting what food to present for consumption

at a given time (food preparation), even though in some cases the activities may have

appeared to take place simultaneously. The two contextual factors identified at this

stage of decision-making were timing and type of planning. The timing of food

planning varied from days or even weeks in advance to planning while shopping.

The following examples demonstrate the spectrum of planning that the mothers

reported:

> *I don't spend a lot of time planning. My planning happens at the grocery store, pretty much.*
> *As I walk down the aisles I think, oh, maybe we'll have this week, and I grab all the*
> *ingredients....my planning happens...kind of haphazardly.* 038

I can tell you now what we're having for dinner tonight, I can tell you tomorrow... [for] seven to ten days... I can tell you what we're going to have...I plan before I go to the store. 005

The type of planning varied as well. Plans for food availability were either written or simply mental notes.

I always make a list out. And I pretty much stay with the list... 039

I think, if a person has more time they just plan their menus, you know, a week in advance and have the food there. And...I just don't do that...I go grocery shopping once a week, so I sort of think about it then. 053

Planning ranged from familiar (including routine) to unfamiliar.

I don't make out a shopping list, if that's what you're asking [laughs]. So I don't have it planned a week or whatever. I just know what we typically eat...and so when I go to the store I get all that. 042

I like to cook different things. I'm not a repetitive cook. I don't very often cook the same things. Except for...our breakfasts and our lunches are... the hot dogs or the cereal. But as far as a meal time at night...we have a lot of variety. 043

The type of planning also varied by the amount of detail involved. Mothers could simply be planning what foods were available in the home, or they could be organizing menus. Routines (such as eating cereal every morning for breakfast) also simplified planning activities.

> *...the point is that I don't bring anything into the house that I don't want them to eat. That's how I avoid them eating things that are bad. All the things in the house are mostly good, so I don't have to worry if they want to eat whatever they want to eat.* 006

> *I plan sort of a week ahead, and I just jot a list and stick it on the fridge of what the different things are that I have the ingredients for, and then that night, depending on how much time I have to prepare it, what's defrosted, or whatever, that's how I'll decide what to make that night.* 035

> *...breakfast and lunch, I don't ever worry about planning for that unless we need milk for the morning or something like that. Or we're out of cereal.* 040

Food acquisition. The next stage of decision-making was food acquisition, and it involved when and how to shop or acquire food. One of the main contextual properties affecting decisions at this stage was food planning.   The timing and type of food planning affected the ease of food acquisition and the susceptibility to omissions, impulse buying, or miscalculations.

I'm always forgetting something cause I don't have a list, or...I don't do that planning. 048

I like to plan out my menu before I go to the grocery store, and I usually don't get to. I usually buy stuff that I end up having to go back to the store and get more stuff. 031

...the thing I do when I don't have [a plan] is...I'll really over-buy produce, and then it'll sit and rot...Or we don't have any at all...I just don't have a big handle when I go to the grocery store of how much of everything I need. 054

Other contextual properties reported at the food acquisition stage were the urgency of grocery shopping and the proximity of shopping to the eating occasion for which food was being acquired. First, the urgency of the need for food acquisition varied from being routine to shopping for impulsive items to actually running low on food.

...every Saturday we go to the farmer's market and buy organic produce. And then whoever has done that has a list of...seven dinners, so that'll take us from Saturday to Friday. 019

... in a 7-day week I probably go to the grocery 5 days.....out of a 7 day week...[to] fill in items or if we're in the mood for something particular that I don't have in the house. 043

I try and go as long as I can in between [grocery shopping trips] to save money, so just whenever there's absolutely nothing left to eat in the house, then we go [laughs]. 006

The proximity of food acquisition to the consumption of the foods similarly varied from immediate consumption plans to future plans.

> *I do a lot of impulsive things like, 3 o'clock in the afternoon I want to make something, and I don't have an ingredient. So I'll have to run after [the baby] gets up from his nap or I'll have to call my husband and have him pick it up on the way home.* 046

> *...I try to buy everything we need for the week.* 051

Finally, the intensity of food acquisition was a contextual property that referred to the amount of food acquired. The intensity varied from purchasing all foods needed for multiple eating occasions to purchasing specific items randomly and haphazardly.

> *I don't like to be going to the store every other day... And so to do that you have to be there for long enough to really fill up your cart.* 047

> *I haven't done that yet where I plan a week's worth and then be successful at the grocery. I'm running to the grocery store every other day because I plan a meal at a time, and that is so frustrating to me.* 014

<u>Timing of eating</u>. The next stage of feeding decision-making was deciding when food would be consumed. Approaches to scheduling eating were reported to vary from rigidly structured to flexible.

> *...when [my son] was a baby I read everything I could about being a mom and...they said your baby should be fed every three to four hours, so basically, that's what I got started doing And then when he hit baby foods, it was just like, well, he's waking up around 8 o'clock, well, four hours from that, that's 12 [laughs]. So that's pretty much how that got established, and we've just carried on with it.* 004

> *I'm not real...set on times and, and that because at their age, I like for them to just tell me when they're hungry, and not so much dictate when they're going to eat.* 027

Another key contextual property in this stage of decision making was the proximity to the next scheduled eating occasion; timing of eating could be more flexible if eating was not scheduled to take place soon.

> *...to make it from their 1:00 lunch to 7 is a long time. So, they wake up from their nap at 4, so...they are thirsty, and then they usually tell me they want a snack to go with their drink. And then that holds them over till dinner.* 014

...for snack time, if it's right before supper, no, he can't have it. But any other time prior to...he's allowed...but he's not allowed to tank up on it enough so that is would affect his eating supper. 004

Food preparation. The food preparation stage of decision-making referred to decisions regarding the preparation and service of foods for a specific occasion. Previous stages of decision-making affected the context in which food preparation decisions were made. The following two mothers gave examples of how limited food planning and food acquisition decisions influenced food preparation decisions.

If I don't have a good idea of what I want to make for dinner, I worry about it all day and try to come up with something. So I pretty much have it in the back of my mind all day. I need to think of what to make. 040

I will assume that something that I bought at the store over the weekend is going to be in the house available to eat. And we've gotten home and found out that that's not the case, and that's when we call the pizza man. 038

Other contextual properties of the food preparation stage of decision-making included the timing of preparation and the participants included in the eating occasion. Timing of food preparation was reported as ranging from advanced to last-minute.

...tomorrow I already know I'm going to have spaghetti, salad, and rolls. And I'm going to get all that out, have it set up, get my spaghetti out, get my sauce, get the pans, and so all I have to do when I come home is put my water in, cut up my lettuce, and set the table, and it'll be ready. 020

...some days it's like, oh man, I didn't put anything out this morning. I've got to decide what we're having for dinner. It's 5 o'clock. Everything's frozen. Then it's burdensome [laughs]. 024

The participants included in the eating occasion ranged from the entire family to just the child. Many mothers reported that it was extremely important to gather the family together at dinnertime. The presence or absence of family members, particularly the father, was described as affecting food preparation. Eating dinner together was important enough that many of the mothers altered their dinner plans if their husband was not going to be home. Some mothers did not want to go to the trouble of preparing a meal if their husbands were not present to appreciate the meal.

Sometimes if he's not here we eat a less elaborate meal because the kids don't care as much about what we eat and all the flavors and all of that. So I'll make something real simple if he's not going to be here. 035

...for me to fix it...for just me, I don't. [If] he's not there, we just normally eat simpler things. And quicker things. 006

[For my husband] I know I have to have a heavier protein in there…so if [he] is missing, it's easier cause I don't have to worry about some kind of chicken or beef or something we're going to have. 054

For some of the mothers, eating out was a favorable option if their husbands were not going to be home, but for others, eating out was too difficult if their husbands were not available to help.

If [my husband is] not coming home for dinner and it's…a real busy day…I might be more inclined to eat something out with the kids as opposed to spending as much time as I typically do fixing dinner. 042

It's hard for me to get excited about going to a sit-down restaurant by myself with just the kids unless it's a very child-friendly atmosphere. So that's probably what limits [eating out]. 052

Food consumption. The final stage of feeding decision-making was the food consumption stage, which referred to decisions about what, how, and how much of served foods the child will eat. The context for these decisions was composed of three properties: enforcers of rules, strictness of rules, and consistency of rule enforcement. The enforcers of rules were the mom, the dad, or both parents together.

...my husband will give in to [my son], so, he'll be eating right before he goes to bed at night. And I don't like that. I would, if it was up to me all the time, and I've done this, not let him eat at bedtime. 012

I'll let them eat in the living room and at the coffee table, but my husband doesn't. 017

They know that both parents are going to hold them to the rules. 047

The rules established by parents varied from formal to lax.

...we expect the children to use their utensils. Even our 1-year-old is already learning to use a fork and a spoon. We put our napkin in our lap...mostly we're just trying to teach them to basically be polite at the table and that that's a time to be nice and act appropriate. 035

I'm just not very particular about stuff like that. If somebody was chewing on their hair while they were eating or something like that would bother me [laughs], but right now we haven't had to deal with that really. 051

The consistency of rule enforcement ranged from consistent to variable.

Even though he doesn't finish his milk at supper most of the time, he will finish it before he goes to bed...there's no punishment involved because there's no need in it...he just knows that's a rule...he knows we enforce it... 045

...we're not real consistent about that. Sometimes we sit down and say this is dinner...more or less take it or leave it, although that's not what we say. And then sometimes if they choose not to eat what we serve, they can make themselves a sandwich and have some yogurt or something like that. 052

DISCUSSION

Using grounded theory techniques, five stages of decision-making for feeding children were identified: food planning, food acquisition, timing of eating occasions, food preparation, and food consumption. These five stages provided a broader view of decisions involved in feeding children from start to finish, rather than a view of isolated decisions. Additionally, the data revealed a distinct contextual framework for each of the stages. For example, the important contextual factors to mothers for making decisions about food planning were not the same as the contextual factors important in making decisions about food preparation. In a similar study using grounded theory techniques to determine food choice influences, Furst et al[24] presented a conceptual model of food choice and indicated that it could be used in a variety of food choice settings. However, they did not report on the specific settings for those decisions or precisely what the decisions involved; these components were both major factors in the present study.

The five stages of decision-making were similar to the decisions described by Birch and Fisher,[21] which were meal timing, food selection, and food consumption.

However, in this study food selection was stratified into more stages: food planning, food acquisition, and food preparation. Typically, feeding decisions are studied as a conglomerate of food choice decisions, with no distinction between food choices at the planning, acquisition, and preparation stages. [18,21,24] Additional stratification of the food selection decisions allows for more specific identification of what takes place when mothers are involved in feeding decisions. The findings of this study are distinctive because they specify the building-block nature of feeding decisions. Although the decisions identified in this study were not new information, the specifying or stratifying of the decisions into stages as a result of these analyses provided new insights into feeding decisions as relationships among stages were studied.

The five stages of decision-making were not independent of one another, but rather they worked to facilitate or constrain future decisions. For example, a mother who developed a complete written menu, then acquired food using a list formed by looking at that menu faced a different decision-making context at the point of food preparation than a mother who did not form a complete menu prior to food acquisition and preparation. The five stages of decision-making could overlap, such as deciding what to buy while at the grocery store (overlap of food planning and food acquisition) or ordering food in a restaurant (overlap of food planning, food acquisition, and food preparation). But the interaction of the different stages of feeding situations influenced how feeding decisions were made for young children. Categorizing mothers by their reported actions at one stage of feeding decisions

instead of analyzing each stage of decision-making masks key information about how mothers feed their children.

The timing of eating occasions, or meal timing as it has also been called, [21] has not been thoroughly investigated as a component of feeding children. Birch and Fisher[21] reported that both mothers and children share responsibility for deciding when to eat, but the nature of this stage of decision-making and the impact that it has on other feeding decisions has not been extensively reported. As the data from this study showed, the timing of eating occasions ranged from scheduled to unscheduled, and the timing influenced food preparation decisions. Unscheduled eating could change the nature of food preparation decisions through interruption of food preparation or through not yet having foods ready for consumption. Those mothers who adhered to a more rigid eating schedule had more predictable settings for food preparation than those who followed a more flexible eating schedule.

Food preparation decisions were often reported to change depending on the participants at the eating occasion, particularly in the absence of the father. If the fathers were not going to be present for the meal, some mothers reported that they did not take as much time to prepare, lending additional support to the summary of findings presented by Murcott[25] of families in the UK that mothers cook to please their husbands. In this way, families where the father was often absent for dinner may be more similar to single-parent households, who have been observed to spend less time on food preparation and eat out more often.[26] Single-parent households

have also been reported to be significantly more concerned with convenience and to be less likely to consume foods from the fruit group.[27]

One major limitation of these findings is that, by design, they were drawn from a relatively homogeneous sample of married mothers with young children. Limited variation among the sample limits the ability to discover all properties and their dimensions, as described by Strauss for grounded theory analysis.[28] Different contextual conditions may have emerged if more extreme contrasts in mothers' backgrounds and family characteristics had been sought when recruiting participants for the study. Additionally, results of this study would have been strengthened by data collected from other participants in the feeding of children, such as fathers and children themselves.

The five stages of decision-making were specific to feeding decisions in the home, not those made at daycare or other childcare facilities. Because the mothers were discussing topics that were salient to them, very few mentioned their feelings about feeding decisions made by others in alternate locations. The mothers varied by employment status, and so some mothers were responsible for all eating occasions for their child, others were responsible for fewer occasions, and some were only responsible for the dinner meal. These differences in responsibility were not fully explored because the nature of the data collection was to emphasize what was important to the participants, and their responses to questions were tailored to their individual responsibilities in food provision, which differed among mothers.

IMPLICATIONS FOR RESEARCH AND PRACTICE

The child-feeding context is the foundation for how mothers were feeding their young children aged 3 to 5. Results of this study revealed a more complex decision-making structure for feeding decisions than simply a selection of one food from those available. Mothers in this study reported 5 distinct stages of decision-making for feeding children, and each stage was reported to possess unique contextual conditions. An understanding of the multiple stages of feeding decisions mothers must make for children, the context of those decisions, and the interactions of the stages of feeding decisions can help researchers to ask appropriate questions for determining how mothers decide what to feed their children. Additionally, nutrition education can be more effective when targeted to specific decisions that mothers make and the specific context for those decisions, rather than general comments about types of foods to choose for children. The feeding context provides a comprehensive guide for gathering and presenting information about child feeding.

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APPENDIX

Table 1. Progression of topics and related questions discussed with mothers (n=50).

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Weekday and weekend eating schedules of children

How is the time for eating occasions determined?

What are the food components of meals and snacks?

What changes are made to meals if a family member is going to be absent?

Which meals are special meals and why?

How do children and parents' eating schedules compare?*

What is the importance of adhering to eating schedules?

Food production (planning, grocery shopping, preparation and clean up)

What are your feelings about time spent with food production?

Who is responsible for each aspect of food production?

How much time is spent with meal production? How is each task accomplished?

Opinions about convenience and restaurant foods

How do you feel about the convenience, taste, and nutrition quality of convenience foods?

Fast food restaurants? Sit down restaurants? Delis or take-out?

Eating rules

Meal formality (service style, manners, etc.)

Do you ever encourage or discourage your child's food consumption? How and when?

Do you have any policy on manners for your child?

_____

∗ Questions in boldface were added to the questionnaire after interviews with the first 25 mothers.

Table 2. Contextual properties of the five stages of feeding decisions and their
dimensions

Stage of Decision Making	Properties	Dimensions
Food planning	Timing	Advance - while shopping
	Type	Mental - written
		Familiar - unfamiliar
		Full menus – food availability
Food acquisition	Food planning	Organized - disorganized
	Urgency of acquisition	Out of food-routine-impulsive
	Proximity to consumption	Immediate - distant
	Intensity	Multiple occasions - specific items
Timing of eating	Rigidity of schedule	Rigid - flexible
	Proximity to next scheduled eating occasion	Near – far
Food preparation	Food planning	Plan (or routine) - no plan
	Food acquisition	Food available – not available
	Timing	Advance – at preparation time
	Participants	Whole family – child alone
Food consumption	Enforcers of rules	Mom, dad, other
	Type of rules	Formal - lax
	Consistency of enforcement	Consistent - sporadic

PART 3

MOTHERS' EVOLVING EXPECTATIONS FOR

FEEDING CHILDREN BASED ON THEIR

OWN EXPERIENCES

ABSTRACT

Objective: To determine mothers' expectations for feeding young children (aged 3-5) and how they evolved from mothers' experiences.

Design: In 1998 and 1999 mothers responded individually to flexible-format interviews about feeding young children.

Subjects/Settings: Using flyers and referrals, 50 adult married mothers of at least one healthy child aged 3-5 were recruited.

Variables Measured: Interviews with mothers were tape recorded and transcribed verbatim to yield a data set of mothers' quotations about feeding their children.

Analysis: Grounded theory analysis of mothers' responses was used to develop categories from the data. Categories were organized under one main category as causes, context, action, or consequences of the main category to form a theory from the data.

 Results: Depending on circumstances, mothers' incorporated their own experiences with food-related situations into their own child feeding practices through modeling, modifying, compromising, or consciously deciding to change from what they experienced. Mothers' expectations differed for breakfast, lunch, dinner, and snacks, and dinner expectations were reported to be more complex than expectations for other eating occasions.

Implications: Understanding food-related expectations and how they are formed can assist nutritionists and researchers in identifying mothers' intentions as well as their behaviors, both of which may need modification.

Key words: Grounded theory, mothers, food choices, experiences, expectations

INTRODUCTION

Food-related experiences have been reported to originate from sources such as childhood, [1-2] education and public health campaigns, [3-4] and society and culture in general. [5-6] Research attention has been focused on associations between experience and behavior, such as childhood exposure to foods and current consumption and preferences. [7-8] In their model of reasoned action, Fishbein and Ajzen[9] noted a distinction between behavioral intention (referred to as expectations in this study) and the performance of a behavior itself. Experiences have been shown to influence expectations for feeding situations, such as similarities in college-age students' current considerations for food selection and food habits and the behaviors practiced by the students' caregivers when they were growing up. [10] Additionally, experiences were related to expectations when comparing 5-year-old girls' impressions about their mothers' dieting behaviors to their own feelings about dieting; girls whose mothers dieted were more likely to consider dieting in adulthood. [11] Expectations have been shown to influence food outcomes or behaviors, such as comparing expectations about consumption of foods grouped by fat content to the behavior of

consuming those foods.[12] Mothers have been reported to be responsible for much of the food provision for young children,[13] so understanding mothers' expectations is necessary for understanding how they feed their children.[14]

Associations between experiences, expectations, and behaviors have been empirically studied, but the process of translating experience into expectations has not been outlined for describing food-related decisions. The formation of expectations for eating behaviors has been alluded to in research on changing behavior. For example, the Stages of Change Model[15]describes how problem behaviors can be changed or managed by individuals in several stages: precontemplation (not considering a change), contemplation (motivated to change, but not yet committed to the change), and action (actually making the change). The contemplation stage indicates that the individual has experienced a change in expectations from the precontemplation stage. The Health Belief Model[16] describes the influence of reason on willingness to change problem behaviors. As individuals become more convinced of the necessity and benefits of the behavior change and their ability to implement the change, the individuals will change their expectations for behavior.

Additionally, expectations for eating occasions have not been recently or comprehensively outlined. In 1943, Lewin documented the structure of meals by asking mothers what comprises breakfast, lunch, and dinner. Lewin generalized each of those meals by types of foods served, as described by mothers.[17] Birch et al[18] found that general types of foods served at specific eating occasions were

reinforced by expectations; both children and adults found breakfast foods to be more acceptable at breakfast time and dinner foods at dinner time.[18] Anliker et al[19] described some of the characteristics of planning for the various eating occasions by measuring the level of control and involvement of 3-year-old children over food choices, foods consumed, and food-related activities throughout the day. Children were more involved with food choices at breakfast, lunch, and snacks than at dinner.[19]

The purpose of this paper is to outline the nature of mothers' expectations for feeding decisions made for their young children and to describe the origins of those expectations in mothers' experiences. Grounded theory analysis of this data produced a theory of how mothers make feeding decisions for their children (Part 4) based on 5 stages of decision-making (Part 2). These stages were food planning, food acquisition, timing of eating, food preparation, and food consumption. Mothers' expectations fit into the overall theory of how mothers may make feeding decisions as intervening conditions, which are the structural elements in a situation or phenomenon that influence actions taken within a specific context. Intervening conditions help explain why different individuals take different courses of action in the same setting. [20]

METHODS

Participants. Fifty married mothers of at least one healthy child aged 3 to 5 years

and no child over 10 living in the home were recruited from the Knoxville, TN area

in 1998 and 1999 using flyers posted in day care centers, churches, and local

businesses and participant referrals. Mothers were at least 22 years of age and had

received no food assistance (e.g., participation in the Supplemental Program for

Women, Infants, and Children or 'WIC,' food stamps, etc.) in the last year. The

study was approved by the Institutional Review Board of the University of

Tennessee.

Data Collection. Mothers met individually with the principal investigator on two

separate occasions. At the first meeting, mothers signed consent forms and answered

questions about demographic characteristics, such as how many children were living

in the home and how many hours per week the parents worked outside the home. At

the second meeting, mothers responded to questions in an open-ended, flexible

format questionnaire. Mothers were asked to respond to questions about feeding

practices they used with their children, such as name of each eating occasion, time of

day, typical food components, preparation time, and planning responsibilities (Table

3). Mothers were also asked about things they remembered from their own food

experiences, such as the amount of time their mothers spent with meal preparation,

how their meals as a child differed from practices with their own families, and the

influence of their single life on their eating patterns. To ensure accuracy, the interviews were tape-recorded.

Analyses. Summary and descriptive statistics were performed on demographic data. Responses to the flexible- format interview were transcribed verbatim and analyzed using the grounded theory technique.[20] The grounded theory approach was selected for analysis because it allowed for the formation of theory directly from the data.[20] Interviews were 'coded' by reading responses multiple times and comparing them to other responses from the same and other mothers for recurring phenomena (categories). Categories were verified or 'grounded' through repeated appearance in the interviews; the categories described phenomena experienced by all of the mothers. This stage of coding is called open coding.[20] Each category identified in open coding was developed in terms of the paradigm model of causal conditions, context, intervening conditions, action/interaction strategies, and consequences associated with that phenomenon. This stage of coding is called axial coding. Finally, selective coding involved the selection of one 'core' category under which all of the major categories and their subcategories could be organized as a theory. Under the core category, all other categories fit as part of the paradigm model. The theory was verified or grounded by making sure that all interviews supported the theory.

RESULTS

Participants. The average age of the 50 target child in this study was 4 years. Most of the children (n=31) had one sibling living at home, 4 target children had two siblings living at home, and 15 of the children had no siblings living at home. The average number of children living in the home was 1.78. Forty percent of the mothers did not work outside the home, 32% worked part time (average of 13 hours per week), and 28% worked full time (average of 40 hours per week). All but one of the fathers was employed full time, and the average number of hours worked by fathers was 48 hours per week. Seventy-four percent of both fathers and mothers in the study had achieved at least a baccalaureate degree, with 28% of fathers and 22% of mothers holding an advanced degree.

Theory development. From open coding during early stages of analysis a theme of body signals emerged. This category referred to mothers' experiences with feeding practices such as the 'clean plate' policy versus allowing children to listen to body signals of fullness and hunger, and how body signals may be affected by food rewards and contingencies. Mothers reported making definite changes away from this type of behavior with their own children. Additional questions were added to the interviews with mothers to further develop some of the body signals themes (Table 3). Additional analyses also revealed that mothers developed expectations about food planning, food acquisition, timing of eating, food preparation, and food

consumption, which evolved from their childhood and other experiences with the five stages of feeding decisions (Table 4). *Mothers' expectations* were defined as preconceived notions about properties of the general feeding decision, or how the decision will and/or 'should' proceed. Expectations were formed prior to the need for a feeding decision. The results describe the mothers' experiences and how they were translated into expectations for feeding their children and the general expectations for each of the four types of eating occasions identified by mothers (breakfast, lunch, dinner, and snacks) in the study.

Mothers' experiences and expectations. Mothers in this study anticipated that feeding situations with their children would proceed in specified ways. These expectations for feeding situations were formed from their childhood and other experiences (including observation and indirect experiences), such as exposure to nutrition education. Quotations from mothers appear in italics, followed by the subject number.

> *I would probably say I fix close to the same things that my mom did.* 031

> *...the nutrition of the meals I cook is superior to the ones [my mom] cooked because people didn't know as much about nutrition back then...* 006

Depending upon how mothers felt about their experiences, data from this study indicated that mothers used four strategies to translate their experiences into their current expectations (Figure 1). If the mothers felt that their experiences were positive or neutral, they evaluated whether or not the experience applied to their current situation. If it did, mothers used the strategy of 1) modeling their expectation after the behavior they learned by experience. If the experience did not fit the current situation, mothers changed their expectations from what they had experienced. If the mothers felt that the change was acceptable, it was a 2) modification or abandoning of the experience. If the change in expectation was not considered acceptable, it was defined as 3) compromising the expectation. Finally, if mothers were not satisfied with their own experiences, they used the strategy of 4) making a conscious decision to change their expectation from what they had experienced. Examples of the four strategies are indicated by quotations from various mothers.

Modeling. Mothers who modeled their current expectations based on their past experiences tried to repeat or emulate things learned from their past experiences, or they simply ended up doing the same things because they had not thought of changing.

...I cook the same things a lot of the time that I grew up eating. And we do it the same way as far as setting the table and where the knives and forks are placed even. Just even having a pitcher of ice water on the table and pouring it in the cups...it's just the same. 040

...I was talking to my sister on the phone and [asking her] why do we sit down to breakfast, lunch, dinner...and I think it's because that's what we did growing up... 051

Modifying or abandoning. Mothers may have been satisfied with the feeding practices they experienced but modified the practices to fit their needs. In other situations they abandoned the practice all together.

See I grew up with the garden...we live in the city, and where there's no place. Like the new house that we're moving to, you can't have a garden. So where do you, I mean...sometimes we do visit the farmer's market... at least get applesauce or...things like that. 037

Sunday dinner--like a big mid-day meal or something. That just hasn't worked for us very well. We've tried it sometimes, but it just doesn't work very well. 005

Compromising. Mothers may have wanted to model their past experiences with feeding, but the experience did not fit their current situation. As a result, some mothers made a change in their expectation from the feeding practice they experienced. In contrast with the change made when modifying or abandoning

experiences to form expectations, mothers who compromised or lowered their

expectation from their experience often felt disappointed with the change.

> *...Occasionally [we have a blessing before the meal]. It's one of those things you want to do*
>
> *all the time and in the hustle and bustle we sort of pass up on it, but it's one of the things we*
>
> *try to say a blessing...I would say we're probably at 40% of the time.* 032

> *I would like to have a little bit more versatility. [My husband] doesn't eat meat very much at*
>
> *all. I'm a real meat kind of person...I've gotten to where I don't eat that because they don't*
>
> *eat it, and so I don't prepare it..if I were to do something different, I would have it more*
>
> *versatile like my mom had it.* 020

Conscious decision to change. Finally, mothers may have made a conscious decision

to change, meaning they were unhappy with the feeding practices they had

experienced and they wanted to change and correct some patterns. Some of the

strongest feelings expressed by mothers involved feeding experiences they

deliberately wanted to change. Feeding policies such as eating everything they were

served and expectations about classification of foods and behaviors as healthy or

unhealthy were strongly influenced by childhood experiences with weight control

issues.

> *...My mother never allowed for us to have, like, Frosted Flakes or Fruity Pebbles. You know,*
>
> *we always had, like, Cheerios and just the old dry stuff. And so, as soon as I got old enough,*

I was like, hey, I'm on my own, and I am having Frosted Flakes, I'm having Cocoa Pebbles...and I'm going to eat it, and enjoy every bit of it [laughing]. It's probably the only kind of cereal I buy now. 017

I also am coming from having been an overweight child and overweight much of my adulthood...[my children] seem right now to be at a real happy place where they eat as much as they want when they're hungry, and...I don't want [food] to be a focal point. 052

I'm not ever going to tell [my children to] stop eating. I don't want to give them a complex or make them think I think they're getting fat or anything like that. My mother...put me on a diet when I was 4 years old, and told me that she was...and put this idea into my head, and I was always on diets the whole time I was growing up. And, if I eat anything, I feel guilty about it, and it was just awful. So, I don't want that to happen to them. 006

I tend to have more specific times for eating. Snacks, I guess. The kids have a bedtime snack, and they might have an afternoon snack...But, in the home I grew up in there was a lot of snacking throughout the day. Meaning, the chips were kept on the counter, there was always candy, and it was just kind of out--more accessible. And for my kids, it's in the pantry; it's away. And you don't just go through and get the bag of potato chips and just go sit down in front of the TV and eat it. We don't do that. But I did growing up... I think... you are much more likely to overeat and be overweight in the way, the home I grew up in with the snacks...the way we do [snacks], it's a conscious thing that you're going to have a snack or you're going to eat. My parents are overweight, my sister's overweight, and I was overweight as a child...I don't think it's healthy the way they did it. 005

Expectations by eating occasion. The dimensional location of mothers'

expectations by stage of feeding decision (Table 4) differed markedly depending on

the type of eating occasion. As was expected, four types of eating occasions were

observed among the mothers in the study: breakfast, lunch, dinner, and snacks. Each

of these types of eating occasions varied in terms of the properties from Table 4.

Breakfast. The first eating occasion of the day was called breakfast by all of the

mothers in the study except two, who explained that their children ate so late in the

morning that they called it a morning snack rather than breakfast. Early planning for

food availability was routine and in the form of maintaining staples or standard food

items in the home rather than formally organizing breakfast menus and shopping

from a list for those menus. Breakfast menus were repetitive, simple, and quick to

prepare.

> *...he'll have juice usually before...And typically we have cold cereal or oatmeal.* 015

> *...Just cereal, generally [laughs]. Cereal or oatmeal....yogurt. He'll have days where he has yogurt and a banana...um, once in a while I'll give him a waffle if we have a lot of time. It's a big mess to clean up, so it takes more time. That's generally the four things that we eat.* 051

> *Not more than 10 minutes usually [for breakfast preparation].* 033

Children were often involved in decisions about when to eat breakfast and what would be eaten, and mothers did not feel as much responsibility for breakfast as for dinner.

> *...[my daughter] usually says I want my breakfast now, or I'm ready for my breakfast.* 024

> *I usually give him choices. He might have some kind of toast with butter or sugar or dry toast or cheese toast. Um, muffins, Pop Tarts. It depends on what kind of mood he's in and what kind of [laughs] rush we're in!* 026

> *[If I were not involved with food preparation,] the older child [age 7] would probably take the initiative and prepare at least breakfast and lunch. She would do the sandwich, chip thing. Dinner would be a little bit more difficult.* 048

Foods served at breakfast time were mostly foods that are cold, such as ready-to-eat breakfast cereal, or easily heated foods, such as toasted bread or frozen waffles. The predominant food groups represented at breakfast were grains and dairy. Many mothers also mentioned fruit. None of the mothers mentioned vegetables as a component of breakfast. The perceived nutrition contribution of breakfast did not include all food groups, and most commonly included only 2 or 3 of the 5 food groups (fruit, vegetable, meat, dairy, grain).

She either has like Cheerios, um, and milk.   White milk. Or strawberry Pop Tart with milk.

Um, I have been known to fix waffles with syrup and milk. 020

...a grain of some type and milk. And...I try to give him a fruit, but he won't always eat a

fruit for breakfast. 043

Mothers reported that expectations for behavior at breakfast were generally lower relative to the dinner meal.

If we all sit down together for a real meal, like for dinner, yes [we bless the food]. But not

for breakfast or lunch. 006

Um, at breakfast, they get to eat in their pajamas… so they don't have to come to the

table…with their clothes on and all this and that… 001

Lunch. The eating occasion at the middle of the day was called lunch, and it bore many similarities to breakfast. As with breakfast, children were involved in lunch planning. Mothers relied on routines for lunch, and very repetitive menus were acceptable. Menus were composed of staple foods on hand at home rather than formal organizing of menus and shopping from those menus.

[My children] are very consistent in what they want for lunch. It's almost always a cheese

sandwich or cheese and crackers. But I always say what do you want for lunch. 052

The things that she has in her lunch each day are things that we just always have here: boiled eggs, lunch meat, cucumbers, black olives and crackers and peanut butter. Those are staples for our house, and we keep those here all the time, and I don't have to do a lot of planning. 036

As with breakfast foods, lunch foods were quick and easy to prepare, generally cold foods (e.g., sandwiches) or foods that are simply heated (e.g., leftovers, soup). Food groups represented were grains, meats, dairy, often fruit, and sometimes vegetables. Thus, expectations for the nutrition contribution of lunch were more extensive than that of breakfast because they also included meats and perhaps vegetables, but lunch did not necessarily include all food groups.

...lunch is usually pretty simple, so I'd say on the average, probably about 15 minutes [of preparation time]. If there's stuff left over from dinner, I'll warm that, and that doesn't take long. Or [my son] eats sandwiches pretty well...and he likes things that are pretty easy to fix...So it's pretty much already put together. It doesn't take a lot of time. 042

10 minutes again, I mean, cause, I don't cook anything for lunch, usually. 029

He usually has-- he calls them regular sandwiches, which is a piece of meat, cheese, mayonnaise and mustard. And sometimes we put lettuce on it. 023

Like breakfast in the examples above, expectations for the setting and behavior at lunchtime were lower relative to dinner.

Dinner. The last meal of the day was dinner, or supper as referred to by some mothers. In contrast to breakfast and lunch, the dinner meal involved more planning and organizing of the menu. Preparation was more involved both with time and effort than the other meals of the day, and mothers had a standard in mind for an appropriate dinner (or supper) meal.

> *Breakfast and lunch, I really don't put any thought to. I mean, five minutes. Supper I usually try to...get the groceries, and then I try to think, OK, what night would this be good for...* 036

> *I usually don't get home until 5:30, and [we eat dinner] just as quick as I can make it...sometimes if I've put something in the crock pot we can eat almost as soon as we get home...* 017

> *Dinner would take a little bit longer [than breakfast or lunch preparation]. I'm going to say 30 to 45 minutes.* 048

> *...[dinner preparation] could be anywhere from an hour--no less than a half an hour and sometimes an hour or more...I tend to go to a lot of elaboration...So that can be time-consuming.* 043

> *...we don't normally eat soup for dinner. I mean, if we had soup we would usually have it for*
>
> *lunch, but...we were all kind of tired, so we just had soup for dinner that night. We don't*
>
> *normally have something like that. We normally have our bigger meal at dinner.* 024

Mothers did not rely as much on routines and repetition of menus for the dinner

meal. Along with this, mothers felt that the family depended upon them more for

provision of food at the dinner meal than at any other eating occasion, where

children may be able to select foods from choices provided by mothers.

> *Well, if for dinner we had fried fish and french fries on Tuesday, I don't want to have that on*
>
> *Wednesday. I want to have something different.* 030

> *We do that [present him with food options to choose from] a lot. Especially for breakfast*
>
> *and lunch and snack. Dinner we usually decide for him. Unless we go out to eat, and then*
>
> *he has his options.* 025

More food groups were represented at the dinner meal than at any other eating

occasion of the day. Most notably, vegetables were often mentioned by mothers as

an important component of the dinner meal, and the expected nutritional

contributions of the dinner meal were greater than they were for the other meals of

the day.

...usually we have a meat and a vegetable, a bread, and maybe a starch. 021

...there's always vegetables...two to three vegetables. That's when we get to eat our vegetables is every night. 014

dinner time tends to be the one time that something might land on his plate that he really doesn't like. And so that's when I have to.....I guess the dinner time would be the only time that...he needs a little extra encouragement. 038

Dinner was described by mothers as the most formal of all the eating occasions. Mothers tried to avoid distractions during the mealtime, and they encouraged family interaction during dinner.

No TV, no radios. I don't even like the radio on [during dinner]. 045

I like chit chat and everything...We keep things to say to each other, oftentimes till [dinner time]... 050

Snacks. As was reported for breakfast and lunch, mothers' planning for snacks was very informal and in the form of having standard foods on hand rather than organizing menus and shopping from those. Children were involved in planning both the time and the food selection for snacks.

I don't really plan [snacks]. I just have food here. Like I'll buy bananas and apples and strawberries and mandarin oranges or whatever she likes. And then when she says she wants a snack I give her a choice. So she tells me when she's hungry, but I have the food that I really want her to eat available. 029

…they open the pantry door [laughs] and they point and say hold me up, or I want to show you something up there. So, yeah, they have choices [for snack foods]… whatever's in there is usually OK. 014

Snack foods were typically ready-to-eat or required very little preparation. Crackers and savory snacks, fruit, or sweet foods (e.g., cookies) were consumed at snack times. Snacks generally consisted of only one or two food groups, and the perceived nutritional contribution of snacks to the child's overall nutrition needs was lower than at other eating occasions.

…Snacks [occur] just as she comes up looking for something. And that depends on what I have. It could be graham crackers...something like that. Maybe an apple--usually a fruit is an afternoon snack. Usually something carbohydrate--a fruit, maybe a little cheese. 034

a lot of times we will have ice cream in the freezer...I don't typically give that out as like an after-school-snack. I don't want to deal with dishing it out and all the mess of cleaning that all up [laughs]. So usually something like that would be reserved for a dessert [after dinner]. 028

Expectations for behavior and setting of snacks were less formal than that of other eating occasions.

> *[My son eats snacks at] his little children's table because I feel like it's unfair to make him, when he can't get down from his high chair at the big table... to put that restriction on him just for snack... And then, if you want to sit there and take a couple of bites, get up and go play and then come back and get a couple more bites, fine...* 004

> *...they might have a snack while watching TV...* 005

Amid these general expectations, mothers did have situations for which they systematically modified their expectations. An intervening condition for mothers' expectations was sickness (either being sick themselves or having a sick child).

> *Every now and then we'll hit...our sick spell...when he's sick and mama's sick and baby sister's crying cause she's cutting a tooth, it's like if you don't feel like eating, that's fine...here's you a cookie. Eat [laughs]...So when we're sick I kind of throw the rules out the window...* 004

DISCUSSION

Both positive and negative experiences of mothers influenced, but did not necessarily predict, mother's expectations for feeding decisions with their children.

The strategies identified from grounded theory analysis of mothers' comments for translating experiences into expectations show some similarities to other published studies, although methodologies may have differed. The finding that mothers modeled some of their past experiences to form their expectations for feeding their children corroborates other research findings about the influence of experiences on expectations. For example, Branen and Fletcher[10] found that college students continued many of the feeding practices they experienced as children in their young adulthood. Devine et al[7] used grounded theory methods to examine fruit and vegetable consumption of adults and found that the adults' 'food upbringing,' or their earlier life experiences helped to form their current consumption patterns. In a qualitative study of Finnish mothers, content analysis of mothers' responses to questions about food choices revealed that one of the main criteria for food selection was habit or tradition of the family.[22] Similarly, in a grounded theory analysis of menu selection at daycare facilities in Texas, researchers reported that menu selection relied on what was termed 'history.'[23] Menus had been planned long ago, and that plan was followed through without additional or current planning.[23]

An important finding of this study was the distinction between expectations that were purposefully formed and those that were habitual or a continuation of past habits or experiences. Analysis of the reports of mothers in this study revealed a distinction in the process of modeling which highlights the differences between the purposeful formation of expectations and the continuation of habits because change had not been considered. The 'history' referred to in the daycare menu planning[23]

mirrors that of the simple continuation of habits in the modeling category of this study. Likewise, Furst et al[24] referred to the food choice process as either "highly reflective or habitual and automatic (from page 262)." Thus, some of the mothers' child-feeding expectations were simply a continuation of past experience rather than a consciously produced strategy for the decisions associated with feeding children.

While modeling of experiences resulted in the formation of both purposeful and habitual expectations, analysis of the data here showed that a conscious decision to change only resulted in purposefully formed expectations, as the name of the category implies. Similar to the stages of change model,[15] mothers who made a conscious decision to change were taking action to change their current expectations from what they experienced in the past. The mothers who made conscious decisions to change described some of the elements of the Health Belief Model of change as well.[16] Mothers believed that certain feeding behaviors were unhealthy, that changing could decrease disease risk (especially obesity and obesity related disease), and they believed that negative consequences would result for their children from continuation of the behaviors. Mothers who had made a conscious decision to change patterns such as "clean your plate" related strong emotions associated with their decisions to change. These emotions were comparable to the negative feelings reported by participants in a study of forced eating occasions. Batsell et al[25] reported that 85% of college students who had experienced a forced eating occasion as a child (N=105) felt anger, fear, or were upset during the time of a forced eating occasion, and 32% of the participants still felt those emotions as adults at the time of the study.

Additionally, Branen and Fletcher[10] found that half of college students who recalled being 'forced' to eat a food as a child disliked the same food at the time of the survey.

The process described here for the formation of expectations from experiences was dynamic rather than static. This model describes the formation of expectations as a process that included current experiences and situations as well as past experiences. The inclusion of current experiences and situations in the model was reflected particularly in the strategy of modifying expectations from experiences. While Devine et al[7] referred to childhood experiences, or food upbringing, as a determinant in fruit and vegetable consumption choices, their model did not account for current experiences, such as the reactions of mothers' children to the food choices. The model presented here accounts for modifications and compromises made to expectations because of current experiences and situations, and thus it is a more dynamic model.

The types and patterns of eating occasions described by the mothers in this study were very similar to those described by Lewin,[17] indicating that these eating occasions are still part of the American culture. Three meals were consistently mentioned, similar to another study with teenaged children.[26] Although Lewin did not describe snacking occasions,[17] the prevalence of snacking in the study group corroborates reports of snacking behavior among children in the U.S.[27]

Mothers expressed feelings of inappropriateness of typical foods for one occasion served at a different occasion (e.g., peanut butter and jelly sandwich for

breakfast or soup for dinner). This is similar to the findings of Birch et al[18] that acceptability of foods varied by time of day or eating occasion. Like the study by Anliker et al,[19] children were reported to be more involved in breakfast, lunch, and snacks than they were for the planning and preparation of dinner.

This study highlighted the relative weighting of meals and snacks in terms of the mothers' expectations for a nutritional contribution to daily intake.   While the expectations were greater for the nutritional value of dinner, individuals may not be able to accurately perceive nutrition quality.[28-29] The inability to accurately perceive nutrition quality lends support to the importance of identifying mothers' expectations as well as their feeding behaviors.

The questions asked of mothers in this study were very broad and general, particularly regarding mothers' past experiences. This method of questioning allowed mothers to share a wide variety of experiences that were pertinent to them, but mothers did not all respond to the questions in a uniform manner. Rather, mothers responded to the aspect or interpretation of the question that was salient to them, and the questions asked were modified for the second 25 mothers. Had a more standard, survey-style questionnaire been administered, mothers may have reported the influence of more types of experiences on the formation of their expectations. For example, inclusion of questions regarding the nature and sources of nutrition education and knowledge or other meaningful experiences such as entering marriage may have revealed additional experiences that impacted the formation of expectations. Only the reports of mothers of their feeding decisions for children

were used in this study. Data regarding the influence of fathers and children in the formation of expectations would have strengthened the results presented here, and further research is needed to clarify the role of others in influencing how mothers make decisions for the feeding of children. Furthermore, the data collection process was completed prior to the completion of data analysis, which limits the complexity of theory development in grounded theory technique.[21]

Another limitation of this study was that it did not incorporate anthropometric measures of mothers or children, nor were concerns about weight and obesity assessed. Relationships have been noted between parental adiposity and child feeding behaviors[30] and between child feeding practices of mothers and children's adiposity. [31] Parents of obese children may have different feeding expectations than parents of normal-weight children. Given these potential associations, more research is needed to determine if there are differences in mothers' experiences and the incorporation of those experiences into expectations based on their own or their child's adiposity. The results presented here were limited to a very homogenous sample of married mothers of young children, with no distinction based on weight status of mothers or children. Sampling from a more diverse group of mothers may have provided additional insight for understanding mothers' expectations. [32]

IMPLICATIONS FOR RESEARCH AND PRACTICE

Mothers' experiences led to mothers' expectations about eating practices. Understanding how mothers' expectations were formed (whether they were simply continued from childhood or whether they were purposefully formed) can influence the approach to dietary counseling. Different approaches may be needed to modify expectations that have carried over from childhood without further consideration versus ones which have been purposefully formed. Additionally, understanding mothers' expectations can help nutrition educators to reinforce messages about healthful eating; it may be that not only the mother's behaviors are not healthful, but also her expectations are not healthful. By asking questions designed to identify mothers' expectations, how those expectations were formed, and the strength of the mothers' feelings associated with those expectations when interviewing mothers or collecting diet information, nutritionists and researchers can more appropriately target nutrition education needs. Questions such as, "What would you consider to be an ideal dinner for your children? Why does this seem ideal to you? How do you feel if you do not provide this type of dinner for your children?" can yield a wealth of information about mothers' expectations, where diet recalls tell only about behaviors mothers are currently performing.

Knowing the importance that mothers place on the dinner meal has great implications for nutrition educators. Efforts at nutrition education can be targeted at

building on ideas about food expectations at dinner meals and at increasing

expectations for other eating occasions, particularly snacks.

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APPENDIX

Table 3.   Selected topics related to mothers' expectations used in individual, flexible format interviews with mothers (n = 50).

Weekday and weekend eating schedules

How is the time for eating occasions determined?

What are the food components of meals and snacks?

What, if any changes are made to meals if a family member is going to be absent?

Which meals are special? Why? How are ordinary and formal meals distinguished?

How do children's and parent's eating schedules compare?∗

What is the importance of adhering to eating schedules?

Eating rules

Meal formality (service style, manners, etc.)

When and how do you determine if your child has eaten the *right* amount? How is it enforced?

Do you ever restrict your child's snacking? How? When?

Mothers' experiences with meals while growing up

Do meals differ from childhood to now? How? With what implications?

How have meals as a child influenced meals now? As a single adult?

How much time did your mother spend with meals? Did you ever feel this was too much or too little?

∗ Questions in boldface were added to the questionnaire after interviews with the first 25 mothers.

Table 4. Summary of dimensions of mothers' (n = 50) feeding expectations by

stage of decision-making

Stage of Decision Making	Expectation	Dimensions
Food Planning	Time spent	Much – little
	Degree of organization	Organized - haphazard
Food Acquisition	Frequency of acquisition	Often - seldom
	Susceptibility to impulse	High – low
Timing of Eating	Time for meal or snack	Time of day
Food Preparation	Nutrition quality of occasion	High – low
	Preparation responsibility	Full – shared - none
	Ease of preparation	High – low
	Preparation time	High – low
	Food group representation	All groups - single group
Food Consumption	Amount of food to consume	All – none
	Which foods to consume	All – none
	Expected conduct	Formal – lax

Experiences with 5 levels of feeding decisions

Feelings about the experience

Positive

Negative

Fits current situation?

Conscious decision to change

Yes

No

Modeling

Is change acceptable?

Yes

No

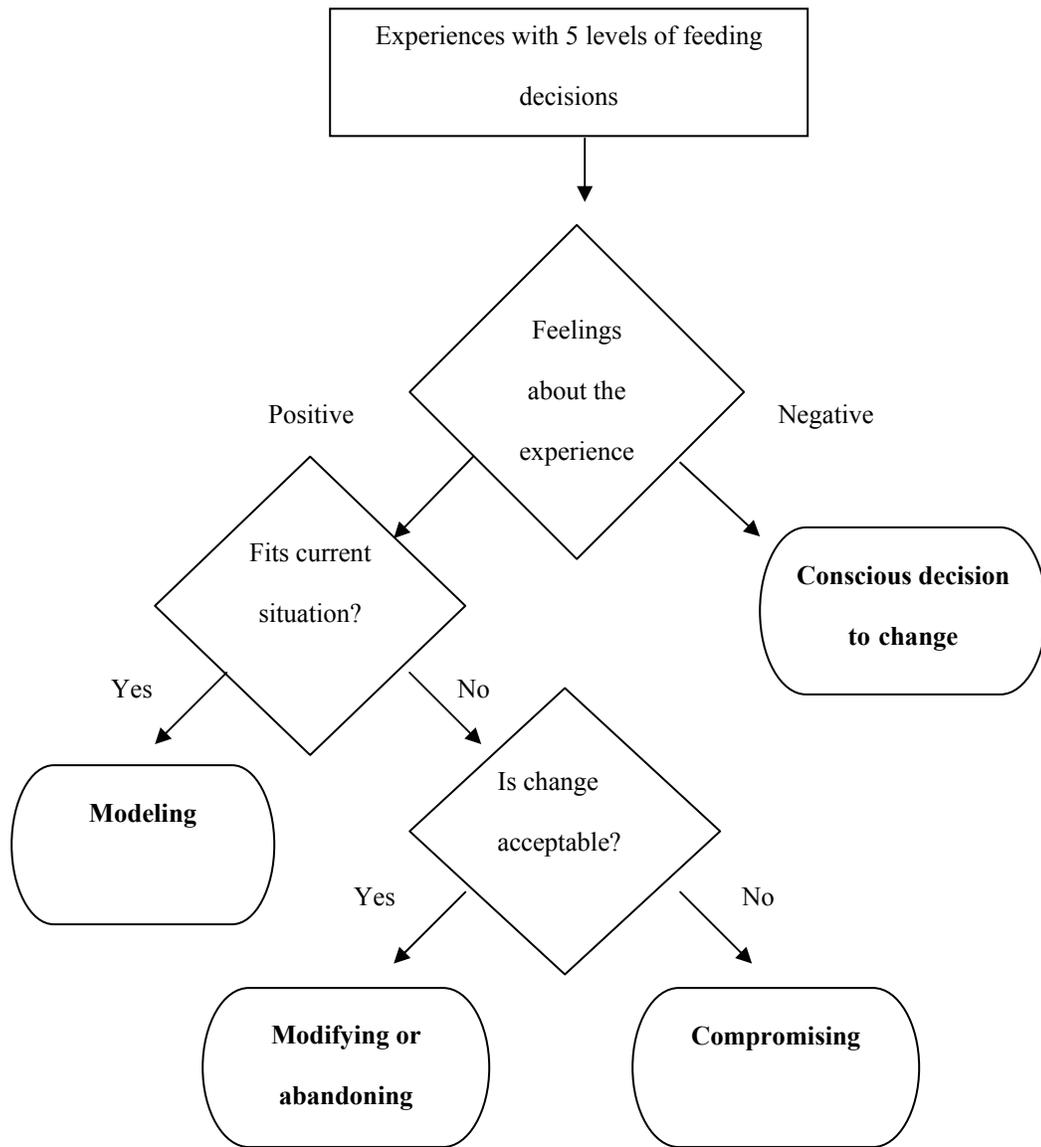**Modifying or abandoning**

Compromising

Figure 1. Flow chart of the four strategies for forming expectations for feeding situations from experiences of mothers (n = 50).

PART 4

A GROUNDED THEORY OF HOW MOTHERS

MANAGE PERCEPTIONS AND

EXPECTATIONS ABOUT FEEDING YOUNG

CHILDREN (3 – 5 YEARS)

ABSTRACT

Objective: To develop a theory of how mothers make feeding decisions for their young children.

Design: Open-response, flexible-format interviews were conducted.

Subjects/Settings: Fifty married mothers with at least one healthy child aged 3 to 5 years were recruited through flyers and referrals to participate in individual interviews. Reception of food assistance in the last year or presence of a child over age 10 living in the home were exclusion criteria.

Variables Measured: Mothers' feeding practices for their child were investigated.

Analyses: Grounded theory techniques were applied to mothers' feeding practices data to develop a theory from the data.

Results: A theory was developed in which mothers held general expectations for five stages of feeding decisions. When a decision was needed, mothers perceived needs and barriers for the specific situation. Perceptions and expectations were not always compatible, and mothers managed these differences by maintaining, compromising, modifying, or planning to avoid barriers to their expectations.

Implications: This theory is distinct because it highlights the importance of perceptions in decision-making. Mothers' expectations, perceptions, and the management of differences between the two all can be targets of nutrition education and research.

Key words: grounded theory, child-feeding behaviors, perceptions, food decisions

INTRODUCTION

Mothers have been reported to be primarily responsible for the feeding of young children.[1-3] There are a multitude of factors that have been shown to influence children's eating behaviors,[4-5] and Kirk and Gillespie reported that nutrition, time, and food preferences were the 3 mentioned most often by working mothers of young children.[5] However, mothers differ in their perceptions (i.e., the conclusions they reach after making assessments of the conditions of a specific feeding decision) about factors influencing child feeding practices. For example, mothers' perceptions of nutrition may or may not be accurate when compared with recommendations from nutrition experts.[6-9] Thus, even individuals who perceive that their diets are nutritionally adequate may not have nutritionally adequate diets when compared to standard measures of nutritional adequacy among nutritionists.[10] Mothers' perceptions (accurate or inaccurate) are important because they have been reported to influence feeding practices. Mothers' perceptions of the nutrition quality of child eating were reported to influence mothers' mealtime behaviors, with low perceptions of quality associated with increased use of feeding practices such as prodding or contingencies.[11-12] Similarly, mothers' perceptions of taste preferences for foods influenced how often mothers served those foods.[13-14] Research among low-income families indicated that once mothers determined that foods were disliked, they may not have been served again,[15] even though other research suggested that increased frequency of exposure coincided with increased acceptability of foods.[16]

Mothers' perceptions are subjective and individual rather than objective. For example, much attention has been focused on the role of maternal employment in the diet quality of children because of objective reasoning that mothers employed outside the home do not have as much time to spend on meal production. However, no significant differences have been reported in children's diet quality for mothers employed outside the home versus those who were not.[17-18] Candel showed that mothers' perceptions of time available for food preparation and consumption were reported to vary based on the subjective value the mothers placed on food work, rather than on objective measures such as mothers' employment and other outside commitments.[19] DeVault[20] described how some mothers underreported the amount of time spent on food work because some of the "invisible" aspects of the work, such as planning and coordinating meals and juggling and strategizing about individual family members' food preferences, were not incorporated into their perceptions of the time they spent.

Carruth and Skinner[21] reported that mothers formed perceptions about picky eating behaviors in children through direct observations of eating behaviors, but little information is available on how mothers form perceptions about other factors influencing feeding practices. However, it has been reported that mothers' perceptions of factors influencing feeding decisions for children are sometimes contradictory or conflicting, such as conflicting food preferences of multiple family members.[22-24] Strategies were necessary for negotiating contradictory influences on feeding decisions, such as having two different types of milk available in the home[22]

or accommodating the food preferences of others.[23] In a qualitative study of food

choice among adults, Furst et al reported that the process of negotiating perceptions

(contradictory or otherwise) often followed patterns and even became routines,

which minimized the time needed to make choices.[24]

The purpose of this study was to specifically examine the feeding practices of

mothers for their young children to identify mothers' perceptions of feeding needs

for their children, barriers to accomplishing the feeding of young children, and

strategies used by mothers to manage conflicting perceptions of child feeding needs.

Grounded theory technique[25] was selected for the method of study because of the

ability to generate theory from the data, rather than selecting a theory to test against

the data.

METHODS

Sample selection and study design. Fifty married mothers of a healthy child

between the ages of 3 and 5 years were recruited from the Knoxville, TN area in

1998 and 1999. Mothers were at least 22 years old, had not received any food

assistance in the last year, and had no children over the age of 10 years living in the

home. Participants were recruited via flyers in daycares, churches and local

businesses, and all participants were asked for referrals. The university institutional

review board for human subjects approved the study.

Data collection. Each mother met individually with the principal investigator (DC) on two occasions in a location of convenience for the participant, typically in the participant's home. At the first meeting, mothers answered demographic questions about their family, such as number of children and their ages, working status of both parents, etc. Mothers also participated in a 24-hour food recall for their child and received training to keep 3 additional days of food records for their child (giving a total of 4 days of dietary information, which are not reported here). During the second meeting, mothers turned in the food records for their child, which were checked for completeness and accuracy by DC. The 4 days of food records served as a starting point for discussion of the child/family eating patterns during the in-depth interviews. Then mothers participated in a flexible-format, open response interview with the investigator. Mothers were asked to respond to questions about feeding practices they used with their children, such as their eating schedules and their feelings about various aspects of food work. Consistent with grounded theory technique, questions were adapted to further develop concepts that emerged through data analysis.[26] Table 5 provides a summary of questions asked of mothers and changes made in those questions as the study proceeded. Interviews with the mothers were tape recorded for accuracy.

Data analysis. Responses to the demographic questionnaire were entered into a spreadsheet format (Microsoft Excel, version 5.0c, 1994) for analysis. Descriptive statistics were calculated for variables where appropriate. The interviews with

mothers were transcribed verbatim and analyzed using the grounded theory technique.[25-27] A grounded theory is built from the data (quotations of mothers' responses to interview questions) through continuous and repeated analysis of the data. In the grounded theory pattern, transcribed interviews were coded by response to interview questions, meaning that each response to a question was treated as a unit to be coded (by contrast, each line of transcribed text or each word of transcribed text could have been chosen as the unit of analysis). Three distinct types of coding were used to analyze the data, but these techniques often overlapped or occurred simultaneously.

Open coding. The breakdown of data and assignment of conceptual labels to the interview responses, or open coding, was conducted by determining a label that described the phenomenon in each response. Concepts were compared to one another and grouped together under increasingly abstract titles until a category (or classification of concepts) was discovered and described in terms of the characteristics of that category and the potential range of differences in the characteristics of the category. Early coding with the first 25 participants showed that time and effort for food planning differed dramatically among mothers, and this led to changes in the in-depth interview format at the halfway point of data collection to further explore planning in subsequent interviews (Table 5).

At the completion of data collection, two main ideas had emerged, 1) different mothers gave greater precedence to food as a part of their lives than did

other mothers, and 2) the amount of time and effort for food planning differed among

mothers. These ideas were evident in all 50 interviews, but they were not

appropriate as a core category. They did, however, increase theoretical sensitivity

such that differences between mothers' styles of providing food for their children

could be distinguished more clearly. Thus, theoretical sampling (choosing subjects

based on concepts that have been proven to be relevant to the data)[25-26] was done

from the transcribed interviews with the aim of generating the greatest possible

differences between mothers, and additional preference was given to interviews with

the most information (generally the mothers who gave the longest responses).

Axial coding. The development of categories in terms of the paradigm model is

called axial coding. Subcategories were related to categories by determining which

were causal conditions, context, intervening conditions, action strategies, or

consequences (collectively the paradigm model). These relationships were verified

as they appeared repeatedly in the data.

Open coding continued in sets of 5 interviews, with a scheduled stop between

each set for more emphasis on axial coding. At that time, coding notes were

reviewed and the concepts generated were compared to ensure consistency and

accuracy in concept labels. This served as beginning verification of provisional

categories with their properties and dimensions. A summary of findings to that point

served as the basis for sorting concepts into beginning relationship groups using the

paradigm model, and questions were identified for recognizing and grounding

relationships between the categories. This also allowed for the identification of

criteria for selecting the next 5 interviews for coding (again, theoretical sampling).

When open coding was no longer yielding new concepts, the focus shifted to axial

coding. Concepts had been classified into categories using a constant comparative

technique to see if the phenomena described in mothers' responses were the same.

There were initially 16 categories. Through axial coding to describe each category

as conditions, context, action/interaction strategies, or consequences, these 16

categories were eventually collapsed into 5 main categories with subcategories

according to the paradigm model. The 5 categories were *stages of decision-making,*

mothers' expectations, mothers' perceptions, managing, and *balance of power*.

Selective coding. Finally, selective coding is a step beyond axial coding in which all

main categories are linked together in the paradigm model as a theory under one

'core category' that encompasses all the others; each category is identified and

verified as causal conditions, context, intervening conditions, action strategies, or

consequences of the core category. Thus, the theory evolved from and fits the data

from which it came. [25]

As axial coding proceeded, selective coding was also taking place. The first

step in selective coding was identifying the story in the data, or providing a

description of the main concept in the data. The main idea in the story was that

mothers held expectations for 5 stages of feeding decisions in general. At the time a

decision was needed, they perceived needs and barriers for the specific feeding

situation, which were not always compatible with the expectations they held for the general situation. Mothers had to manage the discrepancies between their expectations and perceptions for child feeding needs to make decisions about how to feed their children. The main or 'core category' was determined from this story, and all of the other categories fit under this category as components of the paradigm model. The selective coding continued and the theory was verified through continued theoretical sampling into the transcribed interviews for all fifty participants.

RESULTS

Most of the mothers and fathers had achieved at least a college degree (74%). Of the 50 mothers, 60% were employed at least part time outside the home. Only 1 father was not employed outside the home. The fathers worked an average of 48 hours outside the home per week. On average, these families had 1.8 children living in the home, and the average age of the target child in the study was 4 years. Mothers in this study were predominantly the providers of food for children. Many mothers did share meal production responsibilities with their spouses, but only 1 father was in charge of most meal production. Table 6 provides a summary of selected demographic characteristics of the mothers in the study.

From the analysis of interview transcriptions using grounded theory techniques, the core category was identified as a combination of mothers'

perceptions and managing. It was named *managing perceptions and expectations* to indicate that many factors were influencing mothers and that mothers were evaluating multiple factors to make a decision. *Mothers' perceptions* were defined as, "assessments made at the time of a feeding decision specific to the conditions of that decision," and *mothers' expectations* were defined as, "preconceived notions about properties of the general feeding decision; how the decision will and/or 'should' proceed." (See Part 3) Because these two conditions were not always compatible, mothers were *managing perceptions and expectations* to decide which of the many feeding choices available were appropriate for the given situation, using both expectations and perceptions as a guide.

All of the main categories could be placed under the core category of managing perceptions and expectations. Causal conditions and the context for the core category were that a feeding decision was needed at one of the 5 stages of decision-making (Table 7). Mothers' expectations (Table 7) were the intervening conditions for the theory, meaning the structural components of the situations within which actions (perceptions and its management) took place. According to Strauss and Corbin, intervening conditions explain why one person chooses one strategy while someone else chooses another.[25] The action/interaction strategies were a process of 1) assessment of feeding needs and barriers to form perceptions of the specific situation and *2)* managing the perceptions and expectations, or evaluating them to make choices. As a consequence of the process of managing perceptions and expectations, a solution for the feeding situation was provided and implemented.

Figure 2 graphically represents the theory. This paper will focus on the process of managing perceptions and expectations: the formation of perceptions about what is needed in feeding situations, barriers to meeting expectations, and how conflicting perceptions and expectations were managed to make decisions for feeding children.

Perceptions. While mothers held expectations for the general case of any feeding decision (Table 7 and Part 3), they were faced with infinite variations of the general case when they approached specific feeding situations. Not all of the properties of feeding situations could be evaluated in advance. Situation-specific properties that were evaluated at the time of decision-making were nutrition needs, taste preferences, and the child's hunger. When a decision was needed for a specific feeding situation (e.g., Tuesday morning before dropping a child off at daycare on the way to work as opposed to weekday breakfast in general), mothers used direct and indirect cues to assess the characteristics of their present situation to form perceptions of what was needed and barriers to providing what was needed. Mothers' perceptions were not necessarily compatible with their expectations for the general feeding situation.

What is needed. In the context of forming perceptions, mothers' assessments of children's nutritional needs were based on current behavior and health status, rather than general expectations of food components that should be present at meals.

Indirect assessments of nutrition needs were based on growth or well-being and education or advice (not necessarily correct).

...right now he's going through a growth spurt...he'll either eat everything or nothing at all. And he's just... looking so thin cause he's getting tall, and I'm so worried that he's not getting enough to eat... 051

She seems to be able to ward off disease well enough...she's bright and chipper. She seems healthy enough. So I don't worry too much. 034

...But I guess I truly believe that....what I've read in research is that kids left to their own devices seem to find what they like and what they need. And so I will say 'do you want juice?' And what she says she wants is what she gets. And the number of times that it's not either juice or milk...is minimal...we never have Kool-Aid in the house. 050

Mothers' direct measures of nutrition needs of children were formed from 'looking back' on food consumption or 'keeping a tally' of food consumption to compare intake to recommendations.

...if there's something they don't particularly want to eat, for instance, I'll say have you had a fruit today? Then they say no. OK, then you're going to eat your peaches. 005

...if I know that she's going to be having candy later at the movie theater, she won't have sweets in the morning... A lot of it will be based on what I know she's going to have later or what she's already had. 044

Another property of feeding situations that had to be evaluated regularly was taste preferences. While tastes in general may have been known, the preference for a specific situation had to be evaluated. These mothers illustrate the difference between having preferred foods available in the home and evaluating the immediate taste preferences of the family.

...we just kind of walk over to the cabinet and see what's there, and shout out, hey, do you feel like having this, and if there's agreement, great. If not, we move down the list. 038

...we have a variety of things available for breakfast…So she kind of chooses from options she knows are available. 024

Mothers used direct and indirect cues to determine taste preferences of their child and other family members. While adults (namely, the fathers) could explicitly discuss food preferences with the mother, much of the communication about preferences came indirectly, in the form of eating well, eating poorly, or maybe not eating at all.

...if they're eating really fast, I know that I did a good job. 049

...he likes cheese pizza. He'll have 3 pieces of it...I usually make green beans every meal.

He'll usually eat those. No corn, no carrots, no salad, nothing. 022

Direct communication about food preferences included complaining as well as explicit comments about food. Information on food preferences was often gathered after the fact, during the consumption stage rather than at the planning stage; thus, mothers were often guessing what others would like to eat even when verbal opinions were expressed.

...there's just not that many things that everybody likes. And so...one or the other of the kids

is going to complain about dinner. 024

...[my husband] likes the fact that I cook, and he thinks I'm a good cook...if he doesn't like

something he feels free to tell me, and I don't get my feelings hurt over it. I just take it off the

list, or throw the recipe away. Don't make that again. 035

Finally, mothers assessed the child's hunger at the point of making feeding decisions. Children's hunger was assessed using the indirect cue of observation of behavior or the direct cue of verbal communication.

I've tried to observe his behavior and get him food when he seems to need it so that he

doesn't fall apart. 032

...when I come home, I immediately start cooking because my little boy gets really grumpy and grouchy and wants to eat everything in sight if I don't cook dinner... 011

But he's the one that says mom, I'm hungry [for breakfast]. Otherwise, he won't eat anything. 023

Barriers. Sometimes mothers perceived barriers to the completion of food-related work. Mothers perceived barriers to meeting their expectations for foods and feeding situations at every stage: food planning, food acquisition, timing of eating, food preparation, and food consumption. Perceptions reported by mothers in this study that could act as barriers to food work were mother's motivation level, ease of food acquisition, child hunger, childcare, time available, and work.

Mothers' motivation levels fluctuated, so motivation level sometimes acted as a barrier to meeting expectations, as these mothers described.

...our schedule is very...crazy. And they...were doing a lot more free eating, which I'm cutting back on. And we go through spells. I mean, we get real good, and then we kind of slack off. And then we get real good, and then we slack off. 043

I give myself a lot of leeway for my mood swings. If I feel like keeping it [the kitchen] pristine and clean and every dish in the dishwasher as soon as the meal is done, then that's

what I'll do for maybe a week. Um, then I'll fall into the fact that I have to wash dishes

because there aren't any clean ones left. 034

Ease of additional food acquisition was sometimes perceived as a barrier for feeding

decisions, and these women showed the range of easy to difficult food acquisition.

...if there's nothing in the house [at dinner time] I'll call [my husband] and go, 'Honey, we

don't have any food in the house. Can you pick something up?' 027

...it's really hard for me to run out to the grocery store with 3 kids...I usually just try to make

a meal with what we've got in the cupboards and...I try to have a balanced meal, but

sometimes they come out weird. 040

Other circumstances that mothers reported to perceive as barriers to

implementing their expectations for feeding situations were childcare

responsibilities, time available, and work outside the home.

...we have a galley kitchen that has doors on either side, and the children will run around the

kitchen and it just drives me crazy. They'll chase each other one way and then back the other

way. But it's all right here through where I need to [work]... it's actually pretty funny if you

sit back and watch it. I mean, we must look like, just, nuts. 016

I don't always cook on Tuesday nights because that's the night that [my husband and my son]

go go-cart racing...So, I have a very small window of opportunity to get things situated and

get them fed and get them out the door...sometimes I'll cook and then sometimes they'll go

out to eat somewhere on the way there. 023

If we've gotten home and it's late, then I'll try to fix something quick: leftovers. Or if it's

early, then we can fix something that takes more time. 030

Managing perceptions and expectations. As summarized in Figure 2, mothers

approached a specific feeding situation with preconceived notions about what should

take place (expectations), and then they formed perceptions of needs and barriers

based on their assessment of the specific circumstances. If the mothers' perceptions

were compatible with her expectations, then she implemented her expectations.

When there was a discrepancy between expectations and perceptions, mothers

managed expectations and perceptions using strategies of 1) maintaining

expectations, 2) compromising expectations, 3) modifying expectations, or 4)

planning to control barriers to expectations for feeding situations.

Maintaining expectations. If expectations and perceptions did not match, mothers

who felt highly committed to that expectation could decide if they were capable of

meeting the expectation. If they were, they maintained the expectation even though

it meant extra effort or took longer. For example, this mother faced a childcare

barrier to meeting her expectations for food preparation at the dinner meal. She

maintained her expectation even though it required extra time (as opposed to

changing her menu or going out, etc.)

...I think we're going to eat at 6, and we eat at...around 7 or 7:30...[meals] never come

together as quickly as I think they will, even if I know exactly what we're going to have...[I

think that's caused by] disorganization… Probably [my son's] interruptions and [my baby]

having to be held. But...I don't worry about it too much. 003

Another mother maintained her expectation for meal conduct even though it did not match her perception of the preferences of others.

...[my husband and my daughter] don't care if [dinner is] in a Happy Meal box or if it's on

a paper towel or China. So I have more expectation than they do, the both of them. 020

Compromising expectations. Another approach to managing perceptions and expectations that differed was to compromise expectations. If mothers were committed to their expectation but were not able to meet it for that feeding decision, they compromised the expectation. That is, the mother adopted an alternate solution to the feeding decision that did not meet her expectations; the mother was disappointed. As an example, this mother described how she faced a discrepancy between her expectation about food work and her perception of the food preferences and nutrition needs of multiple family members. She compromised her expectations about meal preparation.

I don't want [my daughters] to eat nothing, so I feel OK about fixing something. On the

other hand...I sit there and I realize that I have two totally different meals. Two totally

different vegetables, two totally different meats...and two totally different starches and I

think, gosh, I have fixed two meals here. And that's a little frustrating. 005

Another mother described a discrepancy between her expectation of food work and

her perception of time available for meal preparation.

I feel sometimes guilty for not cooking more, but when I get home at 6, I don't want to spend

an hour in the kitchen. I feel like I'd rather spend that time with my child, playing with him.

015

Modifying expectations. If mothers did not feel committed to meeting their

expectation, they could change their expectations. This meant that they reevaluated

how their expectation fit their current situation and made modifications to the

expectations they held. This is shown as a dotted line in Figure 2 to indicate that it is

a feedback mechanism: information from one situation influenced subsequent

situations through changing expectations for subsequent decisions. For example, one

mother's perceptions of child maturation level conflicted with her expectations for

meal conduct, so she modified her expectations.

...it's awfully easy just to leave things on the stove and not pass everything...but, I feel like we

will eventually get over to that point when they're older and we're not in high chairs and

booster chairs. We plan on it. That's my plan. I think it's a disappointment to [my husband]

that we don't do it. 014

Another mother's perceptions of child care for multiple children conflicted with her

expectations for grocery shopping and food preparation, so she also modified her

expectations.

...when [my oldest daughter] was little, I would go [grocery shopping] probably two or three

times a week because I wanted to cook something and I needed special ingredients. But, like

I said, I just don't do that anymore. I just cook what we have... 040

Planning to control barriers. If mothers were highly committed to their expectation,

they could take steps to avoid barriers in the future through planning and

organization. This is shown as a dotted line in Figure 2 to indicate that it is another

feedback mechanism which can affect subsequent feeding decisions. Because of

experience with facing barriers, mothers anticipated conflicts between expectations

and perceptions for situations and took measures to control the barriers that might

arise. For example, one mother planned the time of dinner so that it would not have

to compete with other activities, another mother anticipated her daughters' requests

for drinks and had them ready ahead of time to avoid barriers later, and a third

mother planned dinner to be organized on the table to avoid conflicts with her

expectation that the family should sit down together for the meal.

I guess that I kind of go backwards from bedtime [to decide on the time for dinner], and I feel like that will give them enough time to have their baths and get ready for bed. 052

...if the girls say 'may I have some milk please,' or, 'may I have some juice?' all I have to do is go to the refrigerator and take it out because it's already ready [in a cup]. 013

...if I had the table set well, then there's a lot less getting up and down, rather than if I just try to put the food on the plates over by the stove and then bring it over. Then I have to get up and down more. 047

DISCUSSION

The results of this study indicate that mothers' expectations for feeding decisions were not always compatible with their perceptions of the needs and barriers present in the specific context of an individual feeding decision, leading to the need to negotiate a solution to the contradictory influences. This concept, termed managing perceptions and expectations, corroborates with reports from other studies. Contradictory influences were found among Finnish homemakers when choosing the type of milk they would buy.[22] The researchers referred to the process of negotiating the contradiction as a "gap-closing process;" after weighing pros and cons of various decisions, homemakers made a compromise or bought several types of milk to have available simultaneously. Brown and Miller[23] reported variations in how wives

managed differing food preferences, with some couples favoring the husbands' preferences and others choosing to alternate between emphasizing husbands' and wives' food preferences. The theory presented here is unique in its ability to address changes in perceptions and expectations as a result of experiences. The management strategies outlined in this study include feedback mechanisms such as modifying expectations and planning to avoid perceived barriers to future decisions.

While this model does show feedback mechanisms for relating individual decisions to one another, characteristic patterns of decision-making were not identified among mothers. In a study of adult food choice, Furst et al[24] noted that each food choice event faced by the study participants was unique but that they tended to establish and follow consistent patterns of evaluating the situations. This decreased the amount of time required to form a choice because the process could become routine, and the patterns were reported to be different in different settings such as at home, in a restaurant, or at someone's house.[24] Because of the questionnaire format used in this study, the discussions with mothers emphasized the eating occasions in which mothers were responsible for food preparation. Mothers were not consistently commenting on food choices in alternate locations, and mothers whose children attended daycare or preschool focused their comments on the meals that they provided rather than discussing in depth the food choices at those locations. Because mothers were responding to the aspects of the questions that were salient to them, mothers varied in the information they reported, with some considering all meals and snacks in their responses and others considering only the

dinner meal. These differences were not explored, which limited the ability to characterize mothers by their reports of decisions made in a variety of settings, both in and out of the home.

The impact and formation of mothers' perceptions was a key finding of this study. In addition to previous reports of influences on food choices for children such as time, food preferences, and nutrition,[4-5;28] this study showed the importance of mothers' perceptions of child hunger, the mother's level of motivation, and the mothers' perceptions about the level of childcare responsibilities on specific feeding decisions. The direct and indirect assessments mothers made to form perceptions were similar to those of some other reports, such as the formation of perceptions about food preferences described by Carruth and Skinner[14] for picky eaters, and additional assessment strategies for determining children's nutrition needs were identified.

Perceptions played a central role in the theory of mothers' decision-making for feeding children, and perceptions seemed to be more important than objective characteristics such as employment outside the home. The emphasis on subjective perceptions over objective characteristics of mothers in food choices echoes the findings of Candel[19] regarding reliance on convenience in food preparation. Also, the emphasis on perceptions incorporates the fact that mothers' information for making decisions is not always accurate.[8-10] For example, Francis et al[11] reported that mothers who perceived their 5-year-old daughters as more overweight and felt more concern for their daughters' weight status engaged in more restrictive feeding

practices than mothers who did not perceive their daughters as overweight. If only an objective measure of the child's adiposity were used, important information about mothers' behaviors may have been overlooked, especially given that Baughcum et al[29] reported that 79% of low-income mothers failed to perceive their overweight child as overweight.

While the perception of children's weight status has been reported as an influential factor in explaining the feeding decisions of mothers, perceptions of weight status were not directly addressed in the interviews with mothers for this study. Mothers in this study did report observations of growth and well being of their child as indirect tools for perceiving nutrition needs, but a limitation of this study is that mothers were not asked about perceptions of the weight of their child. Further, no height or weight data were collected for the target children in the study. Collection of this information may have influenced mothers' responses toward more specific information about weight status perceptions.

The relatively homogeneous sample of mothers in this study limits applicability of the results to married mothers of young children in a Southeastern city, and further research is needed to expand this theory with other populations, particularly single-parent families, families with older children (school-aged children), or families in other societies or cultures with different meal patterns. The broad nature of the original research question driving this study resulted in a rich database of varied responses from mothers, but it was not as specific as many other studies of child feeding which used standardized questions and outcomes, such as

survey results. [11,19]   However, because of the broad scope of the flexible-format

interview, a 'big picture' could be formed. Management strategies and their

potential impact on subsequent feeding decisions (through modification of barriers or

expectations) were discovered, and these interactions would not have been visible

using a standard questionnaire or other quantitative techniques. The results

presented here would have been further strengthened if data had been collected to

determine the perceptions of fathers and their impact on the decision-making process

or if observational data had been collected to measure mothers' interactions with

children. Only mothers' reports of how they make child-feeding decisions were

collected.

    Because data collection was completed prior to the completion of data

analysis (rather than continuous data analysis during the data collection process as is

the protocol for grounded theory),[27] the results of this study are somewhat limited as

well. Complete saturation of categories may be difficult with early completion of

data collection.[27] Thus, some of the categories presented may include additional

elements that were not verified in this study, such as additional barriers mothers

perceived to food-related work.

IMPLICATIONS FOR RESEARCH AND PRACTICE

An understanding of the way in which mothers manage contradictions between

perceptions and expectations for feeding situations provides nutrition educators and

researchers alike a powerful tool for studying and understanding behavior related to the feeding of young children. A simple progression of questions based on this theory (Figure 2) could yield a wealth of information pertinent to research and nutrition education, such as, 'What do you expect to prepare for dinner tomorrow?', 'What might stand in your way of doing this for dinner tomorrow?', 'What will you do if you are unable to follow through with your plans for dinner?', and 'How important do you think it is to prepare dinner in the way that you said?'. Data generated from the questions above could aid nutrition educators in recognizing barriers mothers face and also strategies for avoiding those barriers. Modification of expectations may be a special concern to nutritionists because modifications may often be a lowering of expectations, such as a mother having experiences with her children not eating vegetables and modifying her expectation that they be served at dinner.

Recognition of the interactions between mothers' perceptions and expectations in a variety of feeding decisions allows nutrition educators a more effective way to provide recommendations to mothers. For example, nutrition educators can help mothers recognize and develop routines as a strategy to implement nutrition goals for their children. Additionally, they can help mothers to develop their assessment skills to form appropriate perceptions of what children need to be fed. If mothers are unable to achieve their expectations for feeding decisions, nutrition educators can help mothers to devise and implement modifications to their expectations that will not compromise the nutrition quality of children's diets.

Research and nutrition education efforts can be targeted at improving the nutrition quality of mothers' expectations for feeding their children, identifying barriers they perceive to meeting those goals, and developing management strategies to help maintain child feeding expectations in the face of barriers.

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APPENDIX

Table 5. Topics and related questions discussed with mothers (n=50).

Weekday and weekend eating schedules of children

> How is the time for eating occasions determined?

> **How much time is spent with meal production?***

> What are the food components of meals and snacks?

> **How do children's and parent's eating schedules compare?**

> **What is the importance of adhering to eating schedules?**

> What changes are made to meals if a family member is going to be absent?

> Which meals are special meals and why?

Food production (planning, grocery shopping, preparation and clean up)

> What are your feelings about time spent with food production?

> **Who is responsible for each aspect of food production? How is each accomplished?**

Opinions about convenience and restaurant foods

Importance of meals

> Where do meals fall in your list of priorities?

> What specifically about meals is important for your child?

> What specifically about meals is important for your family life?

Eating rules

> **Do you ever encourage or discourage your child's food consumption? How and when?**

> Do you have any policy on manners for your child?

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*Questions in boldface type were added to interviews with last 25 mothers to develop themes of food focus and planning.

Table 6. Summary of selected demographic characteristics of mothers (n= 50).

Participant's Education	Number (Percent)	
High school graduate	5 (10)	
Some college	8 (16)	
Standard college degree	26 (52)	
Graduate degree	11 (22)	
Participant's Employment	**Number (Percent)**	**# hours (ave)**
Not working outside home	20 (40)	N/A
Part time (<30 hours)	16 (32)	13
Full time	14 (28)	40
Spouse's Education	**Number (Percent)**	
High school graduate	4 (8)	
Some college	9 (18)	
Standard college degree	23 (46)	
Graduate degree	14 (28)	
Spouse's Employment	**Number (Percent)**	**# hours (ave)**
Not employed	1 (2)	N/A
Full time	49 (98)	48
Target Child	**Number (Percent)**	
Age 3	15 (30)	
Age 4	26 (52)	
Age 5	9 (18)	
No siblings at home	15 (30)	
1 sibling at home	31 (62)	
2 siblings at home	4 (8)	
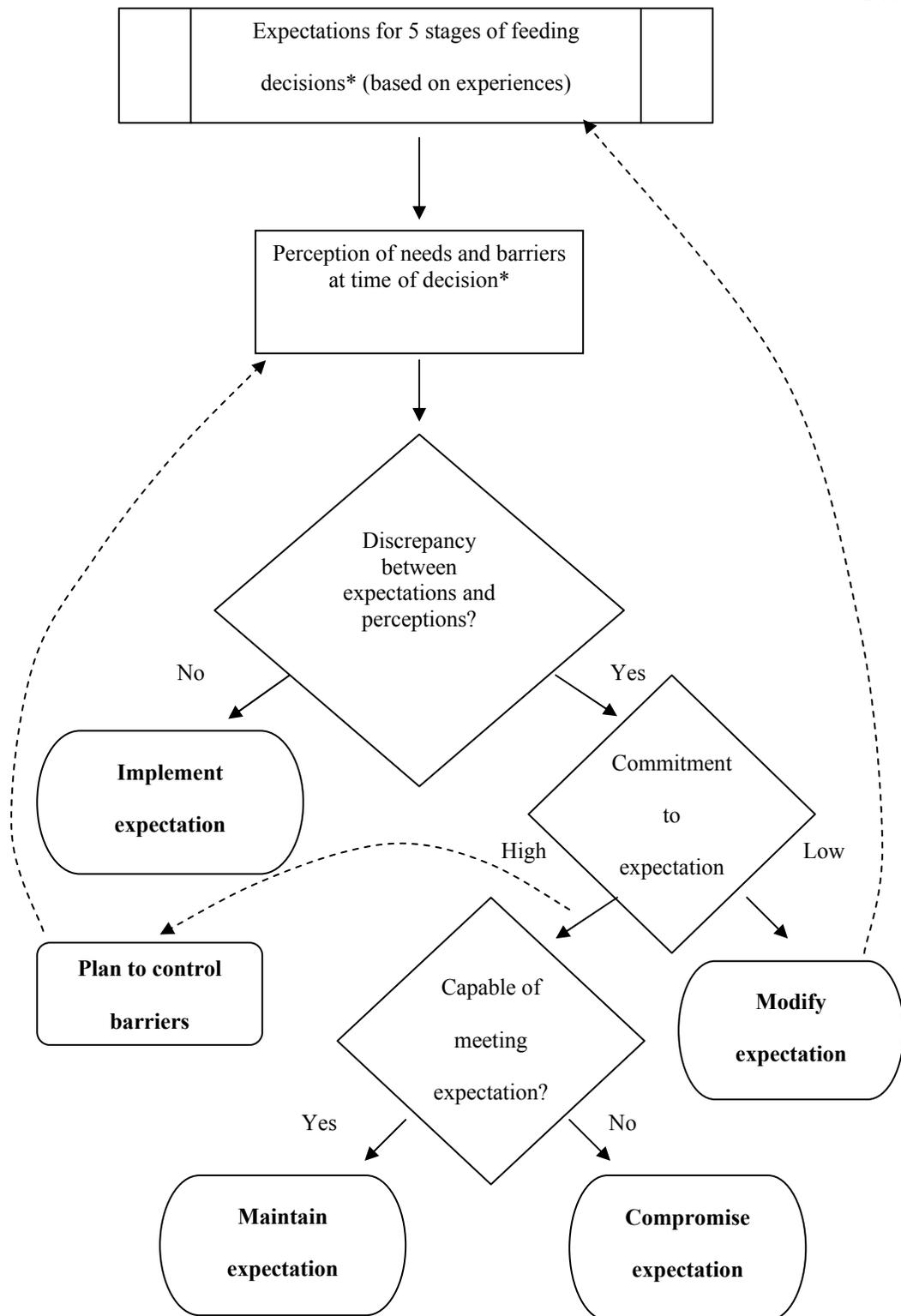
Figure 2. Flowchart of how mothers (n=50) provided food for their children
*Mothers' expectations and perceptions were based on mothers' own reports of decision-making, which included references to unmeasured influences from fathers and children.

Table 7. Summary of contextual properties and expectations and their dimensions at the 5 stages of decision-making.

Stage of Decision-Making	Contextual Properties	Dimensions	Expectations	Dimensions
Food planning	Timing	Advance – while shopping	Time spent	Much – little
	Type	Mental – written	Degree of organization	Organized - haphazard
		Routine – experimental		
		Full menus – food availability		
Food acquisition	Food planning	Organized - disorganized	Frequency of acquisition	Often - seldom
	Urgency of acquisition	Out of food – routine – impulsive	Susceptibility to impulse	High – low
	Proximity to consumption	Immediate – distant		

Table 7. Continued.

Stage of Decision-Making	Contextual Properties	Dimensions	Expectations	Dimensions
Timing of eating	Rigidity of schedule	Rigid - flexible	Time of day	
	Proximity to next scheduled occasion	Near - far		
Food preparation	Food planning	Plan (or routine) – no plan	Nutrition quality of occasion	High – low
	Food acquisition	Food available – not available	Preparation responsibility	Full – shared - none
	Timing	Advance – at preparation time	Ease of preparation	High – low
	Participants	Whole family – child alone	Preparation time	High – low
			Food group representation	All groups – single group

Table 7. Continued.

Stage of Decision-Making	Contextual Properties	Dimensions	Expectations	Dimensions
Food consumption	Enforcers of rules	Mom, dad, other	Amount of food that child will consume	All – none
	Type of rules	Formal – lax	Which foods to consume	All – none
	Consistency of enforcement	Consistent - sporadic	Expected conduct	Formal - lax

PART 5

METHODOLOGY

INTRODUCTION

The purpose of this section is to provide a detailed description of the steps taken to conduct this study. Data were collected using an open-response format following some principles of the grounded theory technique, and the grounded theory technique was used for data analysis. Some deviations from recommended grounded theory procedures will be described. Additionally, elements of grounded theory analysis will be explained and demonstrated using the analytic steps taken for this study, focusing on key thoughts, questions, decisions, and 'flashes of insight' from the study.

STUDY OBJECTIVES AND DESIGN

An initial goal of this study was to determine what characteristics of mothers affected the diet quality of children. From the literature, a few demographic characteristics (especially income and region) showed significant associations with children's diet quality, but other salient characteristics of mothers were not clearly apparent in their influence on children's diet quality. A standardized open-ended interview format was selected for the data collection format, meaning that both the topic areas to be covered and the exact wording and order of questions were predetermined.[1] However, the interview protocol was flexible enough to allow for

additional questions when needed for clarification or further discussion of a topic or idea introduced by the mother.   This method of data collection was selected to provide as much information as possible about the subject matter, particularly with generating new ideas about characteristics of mothers that impact children's diet quality. With this qualitative data collection technique, the perspectives of the mothers were allowed to emerge rather than limiting the mothers' responses to the ideas of the authors and those cited in the literature.

A purposive sample was targeted to control for income and region: women in Tennessee who had not received food assistance (e.g., the supplemental food program for women, infants, and children [WIC], food stamps, emergency food bank, etc.) in the last year. Married mothers with young children, ages 3 to 5, were targeted so that the children were young enough that most food had to be provided for them but old enough that they were eating table foods (as opposed to jarred infant foods, breast milk, or formula). The target child had to be a healthy child, meaning that he or she did not have diet restrictions or a special diet due to a medical condition. All subjects met the inclusion criteria, but other potential classifying information about the mothers was unknown at the beginning of the study, such as information about the type of meal planning the mothers used, mothers' feelings about various types of work associated with food (e.g., planning, shopping, preparation, etc.), and the amount and type of snacking done by their children. This type of information could not be determined from the initial recruiting contacts with

the mothers (before the mothers participated in the full, in-depth interview).

RECRUITING AND DATA COLLECTION

Subject recruitment for this study was conducted through the use of flyers distributed or posted in community locations such as local businesses and daycare centers and through the use of referrals. Of the 71 mothers who were told about the study, 50 were enrolled and participated to the completion of the study. Twenty-seven mothers were recruited from responding to flyers and 23 from referrals. Twelve women responded to flyers but were not enrolled in the study; 11 did not meet the inclusion criteria, and 1 declined to participate. Nine referrals were not enrolled because of scheduling problems or lack of interest.

Each mother participated in a one-on-one, flexible format interview with the primary investigator (Figures 3-4). The interview was designed to provide information about the child's meal and snack schedules, the mother's role in these schedules, and the mother's practices and attitudes about mealtime. Interviews typically lasted one hour and were audio taped. Most of the interviews took place in the homes of the participants to encourage comfort and convenience for the mothers. Additionally, before the interview began, subjects were encouraged to take time to think before answering questions and to answer honestly because the questions did not have right or wrong answers. The interviewer did not take notes during the

meeting to avoid distracting the subject. Shepherd and Achterberg[2] summarized the

reported impact on study participants of using recording equipment during

interviews as small, but the benefit was more complete and more accurate data

collection than manual note taking.   Using a flexible format script allowed mothers

to discuss issues of relevance to them and allowed for probing during the interview

when more detail was needed. Subjects received $20 for their participation.

DATA ANALYSIS

Early coding. The tape-recorded interviews were transcribed verbatim. At the

completion of the first 25 interviews (Figure 3), all of the transcriptions were read

multiple times to determine overall themes in the interviews. The themes identified

and the subsequent adaptations to the questionnaire format included the observation

that mothers were mentioning the 'clean plate' policy, listening to body cues of

hunger and fullness, and awareness of obesity issues for their children. This led to

the addition of the questions (Figure 4) to further explore this theme, called *body*

signals. *Do you have any policy to determine if your child has eaten the 'right'*

amount of food?, When do you use this policy?, Do you ever restrict your child's

snacking?, When?, How?, Do you do anything to encourage your child to eat more

or less if they have not eaten the 'right' amount?, How many eating occasions do

you (mother) typical have in a day?, How many eating occasions does your husband

typically have in a day?, Do you think that it is important for your child to eat on a regular time schedule?, Why or why not?, Do you yourself follow this same policy?, Why or why not? Because of the recognition that mothers were planning for food consumption and conducting other food work in different ways and at different times, more specific questions were added to the questionnaire format. *How do you plan the meals and snacks that you are responsible for?, When do you start thinking about it?, How do you decide what to have--what factors do you consider?*

At the completion of all 50 interviews with mothers, the transcriptions were reread until thematic areas emerged from the data (Table 8). Two main themes were identified from all 50 interviews. First, a theme of *food focus* was identified, meaning that different mothers emphasized different aspects of eating for their child, with some monitoring the food groups served and consumed at every eating occasion for their child, some mainly monitoring the dinner meal, and others not closely monitoring any eating occasion. The second was the continued observance of the planning theme identified from the first 25 mothers, or the importance of and differing styles of *planning* for meals and snacks. Three subsequent themes were identified from all of the interviews: *daycare* (whether or not the child attended daycare, how long they attended on how many days, and whether the daycare facility provided meals for them or their meals were packed from home), *event* (referring to the non-food aspects of eating, such as communication between family members and socialization of child into using manners and having routines, and the *nutrition*

awareness of the mother (her desire to know and apply basic nutrition concepts and the accuracy of her knowledge).

The themes identified from all 50 mothers were developed by reading the interviews multiple times in search of answers to the questions about the themes. Questions asked were, "What evidence is there that the mother had a focus for foods?" and "What was that focus?", "What evidence is there that planning took place?", and "What evidence is there that mothers emphasized something not related to food in eating occasions?" and "What was emphasized?" Once the evidence of the theme (quotes from the mothers) was gathered, the theme was described by dividing it into categories that represented a range of variation among mothers within that theme.

From the lists of direct quotes of the mothers, the following 3 categories were established to describe different types of *food focuses*: a focus on the child's daily food intake (mother showed evidence of monitoring all eating occasions and trying to accomplish a nutritional or other goal with all eating occasions; she had an overall strategy with feeding her child), a focus on the food contents of the dinner or evening meal, or limited food focus (the main importance of all eating occasions was to satisfying hunger). Categories within the theme of *planning* were identified, specifically, the timing when planning took place (advance, just prior to preparation, and at the time of preparation) and who would be present for the meal were identified as properties of that category. The categories within the theme of *event*

were family time and communication, manners and etiquette, and expressing gratitude.

The categories were verified by reading the quotes from each individual mother and using that information to classify her into one category based on her own comments. This classification was conducted by two researchers independently, and discrepancies were discussed until consensus was reached. At this point in the analyses, the categories of *food focus* were thought to be on a continuum rather than distinct groups. Endpoints of the continuum were identified as daily food focus (all eating occasions emphasized) and limited food focus (no eating occasion emphasized, rather emphasizing the satisfaction of hunger), and increasing numbers of eating occasions emphasized for the midpoints (e.g., focusing on dinner only). Mothers were classified with the group they most resembled. In the *food focus* theme, most of the mothers were near the daily food or dinner meal focus on the continuum, but a few mothers displayed limited food focus. As the sorting or classifying of mothers into food focus categories was taking place, one of the key discoveries was the concept of repetition or routines in meals. At first it was thought that repetition and routines resulted from lack of planning, but as the researchers carried on further discussion and analysis of interviews, it was decided that routines could be another form of focusing on, or emphasizing that meal as important.

In the *planning* theme, most (42%) of the mothers were classified as typically using advanced planning techniques, 36% typically planned just prior to dinner

preparation, and 22% relied mostly on planning decisions made at the time of food preparation. If fathers would not be present for the dinner meal, many mothers reported changes in planning, including simplification of preparation through increased reliance on convenience food, food prepared away from home, or eating out.

Under the *event* theme, it was found that families were most likely to be together for the dinner meal and that the non-food events of mealtimes were expected at dinnertime, even if they were not practiced at other eating occasions. Most of the mothers (62%) showed evidence of emphasizing at least the dinner meal as an event, meaning they arranged their schedules so that all family members could eat together, they felt that mealtime was an important family time, and they emphasized the look or setting of the table. By contrast, mothers who did not emphasize meals as an event (38%) displayed little concern for eating together as a family, with food being the more important component; the family was unable to eat together and subsequently changed the events that took place; or the family was not enforcing the mother's ideals for what should take place at dinner time.

For the theme of *daycare*, mothers were separated into three groups based on their responses to questions about their daily food patterns, including where the child consumed the food and who planned and prepared it. Mothers were classified according to whether the target child participated in daycare (or other childcare arrangement not provided by the mother or father) full time (30 hours or more per

week), part time (less than 30 hours per week), or they did not regularly participate in daycare. The theme of *nutrition awareness* was not developed but just acknowledged because the qualitative data collection techniques used in the study did not yield information that could be used to evaluate the mothers' nutrition awareness. Because mothers were giving open responses to interview questions, they were responding to the questions as they interpreted them, not systematically evaluating a standard list of foods and behaviors. Thus, it was difficult to measure or interpret the nutrition knowledge of the mothers, to classify them into groups, or to compare the mothers according to their level of nutrition awareness.

Initial readings of the interviews highlighted the idea that different mothers gave greater precedence to food as a part of their lives than did other mothers. Additionally, the amount of work mothers put into planning food differed among mothers. Food focus and planning did not work as a core category; however, the early coding in this study was a beginning application of the grounded theory technique. This early coding was similar in many regards to an inductive approach with content analysis. In a review of the use of content analysis in nutrition education, Kondracki et al[3] described the inductive content analysis approach as one in which the researchers do not enter the study with predetermined categories or key words. Rather, the researchers find possible categories and key words from the data they are analyzing. The early open coding in this study can also be compared to what Strauss[4] described as an "overview approach" to open coding. This is, to read

over all the data and generate an impression about what categories exist. Drawbacks

of this approach are limitations on the number of ideas that emerge, a lack of

conceptual density with the concepts that are identified, and the overlooking of key

ideas.[4]

The early categories of *food focus* and *planning* increased theoretical

sensitivity to variations in providing food by how much the moms seemed to care

about food, how it was provided, how that translated into their planning schemes,

and the role of repetition and routines in food practices. The early coding also

increased theoretical sensitivity to beginning category relationships, such as the

interactions between *planning*, *food focus*, and the non-food *events* of meals.

Theoretical sensitivity was concisely defined by Strauss and Corbin[5] as, "...a

personal quality of the researcher. It indicates an awareness of the subtleties of

meaning of data...Theoretical sensitivity refers to the attribute of having insight, the

ability to give meaning to data, the capacity to understand, and capability to separate

the pertinent from that which isn't."[5] Glaser[6] laid the foundation for the concept of

theoretical sensitivity in his book by the same title. Glaser described the impact of

theoretical sensitivity on all stages of grounded theory analysis, including sampling,

coding, memo writing, sorting, and writing of theory. The impact of the theoretical

sensitivity developed from the early (and subsequent) coding in this study will be

described as the research steps are outlined.

Theoretical sampling. In their book *The Discovery of Grounded Theory*, Glaser and Strauss[7] define theoretical sampling as, "the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges." With more detailed information about mothers and some theoretical sensitivity to differences between mothers, the researcher theoretically sampled from the 50 interviews for mothers whose feeding strategies were very different from each other. More detailed analyses and conclusions would have been possible if data had been collected from fathers or if observational data had been collected from mothers interacting with their children in food decision-making situations, but the only data available were mothers' reports of decision-making.

Because the *food focus* and *planning* categories from the early coding in this study were not sufficient for explaining the data, additional analyses were needed. Thus, after all data were collected, the researcher returned to a deliberate focus on open coding techniques applied to specifically chosen interviews as described above and used responses to interview questions as the unit of analysis. This is in contrast to the recommendations of Glaser and Strauss,[7] who described data collection, coding, and analysis as joint aspects of grounded theory. They contrast grounded theory from other forms of qualitative research by saying, "…the temporal aspects of [grounded theory] research are different from those characteristic of research where separate periods of work are designated for each aspect of the research. In the latter

case, only brief or minor efforts, if any, are directed toward coding and analysis

while data are collected. Research aimed at discovering theory, however, requires

that all three procedures go on simultaneously to the fullest extent possible…" (from

page 71). However, they do indicate that theoretical sampling can take place using

previously collected research data if the data set is large.[7]

Open coding. Open coding is the first type of coding done during a project, with the

goal of producing concepts that fit the data they come from.[4] Data are analyzed

closely, with questions being asked about each unit of data. Strauss[4] recommends

asking of each selection of data, "What study are these data pertinent to?" and "What

category or property of a category, or what part of the emerging theory, does this

incident indicate?" Answers to these questions can be compared to previous

instances of that category from one subject and compared to instances of that

category from other subjects in a study to generate the theoretical properties of the

category.[7] Labels are given to each category, and the names of the labels assigned

are chosen by the researcher either from the language used in the data (in vivo codes)

or codes which are formulated by the researcher based on previously documented

research results or new labels with descriptive power.[4]

Axial coding. Axial coding is so termed because it is analysis that "revolves around

the 'axis' of one category at a time."[4] It employs the paradigm model, which consists

of causal conditions, contextual conditions, the phenomena or category, intervening

conditions, action/interaction strategies, and consequences.[5] The purpose of this type

of coding is to develop the categories that emerged from open coding based on the

paradigm model.

In this study, axial coding progressed in a series of steps. After each set of 5

interviews were analyzed with open coding in mind, the coding notes were reviewed

and generated concepts were compared to one another to ensure consistency and

accuracy in category labels. This also served as beginning verification of provisional

categories with their properties and dimensions. Findings were summarized through

sorting concepts into beginning relationship groups using the paradigm model, and

questions were developed to direct the coding toward recognizing relationships

between the categories using the paradigm model in the next set of interviews. This

also helped in the identification of criteria for selecting the next 5 interviews for

coding.

Selective coding. Selective coding is the "process of selecting the core category,

systematically relating it to other categories, validating those relationships, and

filling in categories that need further refinement and development."[5] (page 116)

While selective coding is presented as the final step in grounded theory analysis, the

three types of coding were, in truth, taking place simultaneously. While one type of

coding may have been emphasized at any given time, the other coding types were

also occurring. For example, during the period of focus on open coding, axial

coding was also taking place as the properties of the emerging categories were being

provisionally placed in the paradigm model. Likewise, theoretical notes were being

constructed to recognize and verify relationships among the emerging categories in

the paradigm model, which helped in the recognition and development of the core

category.

Theory development. Using open, axial, and selective coding, the analyses in this

study led to the development of a theory. Major steps in the analysis will be

summarized below, with key questions and decisions highlighted.

Five interviews were selected from the 50 participants to analyze. The focus

for theoretical sampling was variations in mothers and mothers who provided the

most information. Table 9 provides a brief profile of the participants whose

interviews were selected for this stage of analysis.

Selected interviews: set one. From the first set of five interviews selected for open

coding, the main category that emerged was given the label of *eating schedules*

(Table 8). It was a very broad category that included three subcategories of

approach to eating occasion, *feeding context*, and *feeding strategies*. The

relationships between the subcategories were suggested, but still provisional, as

indicated by the socially constructed labels given: *approach to eating occasion*

indicated causal conditions, *feeding context* indicated contextual conditions, and *feeding strategies* related to action/interaction centered around eating schedules.

Through comparing various incidents of the subcategories as described by the first five subjects in the analysis, different properties and dimensions were identified and associated with each subcategory. The subcategory *approach to eating occasion* included the properties (and their dimensions) of who initiates (mom, child, other), timing (scheduled - unscheduled), time boundaries (scheduled activities - no scheduled activities). The subcategory *feeding context* included the properties and dimensions of type of eating occasion (breakfast, lunch, dinner, snack), location (home, child care, out), mothers' responsibility for the eating occasion (full - shared - none), participants in the eating occasion (child alone - whole family), mothers' childcare responsibility (full - shared - none), and the intensity of the childcare responsibility (high - low intensity). In the subcategory *feeding strategies*, properties and dimensions also were identified: food availability (abundant - limited) and menu (known - unknown - routine).

Additional categories were identified and labeled from the first set of interviews coded, and they were classified as they fit in the framework of the category *eating schedules*. One of these categories was *juggling*, which referred to the observation that mothers encountered multiple responsibilities or demands. This category was provisionally coded as it appeared in various timeframes suggested by the subcategories of eating schedules. For example, at the *approach to the feeding*

context mothers reported *juggling* the schedules of multiple people so that they could come together at one time to eat. Within the *feeding strategies* category, mothers were *juggling* their own need to eat and their children's needs to eat and also *juggling* the individual needs of specific children to eat when there were multiple children involved.

Balance of power was a category label derived from the literature to describe the fact that mothers share the responsibility for feeding children with other caregivers and with the children themselves, who are ultimately responsible for deciding whether or not they will ingest a food and other behaviors displayed during eating occasions. According to the mothers, both mothers and children displayed behaviors that shifted the balance of power for feeding decisions to favor the mother or the child, and these behaviors were divided by the stages of the feeding process suggested in the subcategories of *eating schedules*. Based on mothers' reports of decision-making, children were observed to exert two types of powers that influenced the *approach to the feeding context*: repeated requests and poor behavior. Within the category of *feeding strategies*, mothers reported that children influenced the selection of foods through repeated requests or through their previously established food preferences, and mothers influenced the selection of foods through suggesting or restricting food choices. Also within the category of *feeding strategies*, power over food consumption decisions was reported by mothers to be in a balance. Mothers described influencing food consumption of the child through the

use of contingencies (if you eat this [or do not eat this], then...), and mothers

described children influencing food consumption through the amount consumed and

their willingness to consume the foods at the eating occasion.

From the initial coding done on food focus and meals as events, several

examples of the category *purposes of eating occasions* had already been observed:

family time, behavior control, religious reinforcement, satisfy perceived hunger

needs, and satisfy perceived nutrition needs. Additionally, a category about what

mothers were perceiving about foods and their contribution to satisfying hunger and

nutrition needs was identified and labeled *food properties*, and a category was also

identified and labeled *mother's perceptions* to include how mothers were making the

assessments of food properties. These properties included taste (as judged by the

mothers for themselves, for their children, and for others), perceived nutrition

content (based on perceptions of energy/fat content, food group, and sugar content of

the food), speed of preparation, and ease of preparation. Of particular interest in

theoretical sampling for the second set of 5 interviews was how mothers formed

perceptions and expectations about meeting the purposes of eating occasions (i.e.,

were these processes routine, or were they debated anew each time a feeding

decision was needed), so theoretical sampling was based on differences in mothers'

planning and eating schedules. Mothers were purposefully selected because they

were either routine or spontaneous with meal planning and eating schedules. Table

10 provides a brief profile of these mothers.

Selected interviews: set two. In coding the second set of five interviews, the categories of *eating schedules* and *food properties* were altered and developed as the data were analyzed. The new ideas were recognizing how decisions were made and the role of routines in decisions. In summarizing the coding from the second set of five interviews, an organizational framework for the *stages of decision-making* was developed to include all types of feeding decisions, which were food planning, food acquisition, timing of eating occasions, food preparation, and food consumption. The framework *stages of decision-making* replaced the category of *eating schedules* because this idea included more of the background elements of child feeding (e.g., early planning and food acquisition) than did *eating schedules*, which presented early planning and food acquisition as peripheral information rather than major decisions in the feeding process and did not account for decisions being made during food consumption.

For the category of food properties, an additional property of foods was identified and labeled *appropriate* to represent the mother's expectations about what foods were acceptable for the particular eating occasion. For example, soup was not appropriate to serve for the dinner meal because it was a lunch food. In addition, each food property was observed to exist in a sort of continuum of acceptable to unacceptable (labeled *range of acceptance*) for the mothers, meaning that an individual food or group of foods were 'rated' or assessed for each of the properties

of food. Mothers included a food as a possible food to offer their child if the food

was rated as at least acceptable on all of the food properties. Mothers balanced the

importance of different food properties and prioritized the properties differently at

different times, and their ideas about appropriate foods for each type of eating

occasion differed. This led to the category of *types of eating occasions* (which

included breakfast, lunch, dinner, and snacks) and the adaptation of the category

juggling (which referred to the balancing of ideas about 'appropriate' within the

context of various situations). Every mother mentioned the four types of eating

occasions and reported the same time frame for them.

Mothers were observed to reject a food if it was perceived to be unacceptable

in one of the food properties, such as not serving Brussels sprouts even though they

were perceived to be nutritious because they had an unacceptable taste rating.

However, mothers were not necessarily looking for foods with the highest composite

rating of properties. Rather, mothers often selected a food because it excelled in one

property without being out of the range of acceptance for the other properties.

Indeed, some mothers even seemed to lower their range of acceptance for one food

property to accommodate a food with an exceptionally high rating in the taste or

convenience property. For example, a mother described a very low nutrition rating

for ramen noodles, but would serve it to her young son when she was really in a

hurry because it was fast and he loved it. The exceptional convenience and taste

properties resulted in altering her perception of acceptability for the nutrition

property.

With the change in emphasis from eating schedules to stages of decision-making and the change in emphasis from individual food properties to finding a range of acceptance for those properties, provisional relationships between the categories were altered to work with the data. The various parts of food work or food decision-making (food planning, food acquisition, timing of eating, food preparation, and food consumption) were viewed as each requiring the setting of boundaries or expectations for food properties or behaviors, and this could be accomplished either through making an evaluation of the situation at the time the decision was needed or developing a routine so that an evaluation was not required each time the decision was needed.

Questions that were defined at that point in the analysis to be expanded in the next set of five interviews revolved around the development of the provisional category of setting boundaries, which was labeled *mother's expectations*. Provisional coding indicated that mothers had a variety of experiences that led to the formation of expectations. Additionally, the consequences of meeting or not meeting mother's expectations needed to be explored. Provisional subcategories of consequences of mother's experiences were *conscious decision to change, letting go or modifying, modeling, disappointment*, and *guilt*. Additional questions were identified, including how routines were formed, the types of routines that existed (for which types of food work and food decisions), barriers that interfered with meeting

mother's expectations for various decisions, and how and why the barriers were different for different types of eating occasions.

Thus, the rationale for the selection of the third set of five interviews to be coded focused again on routines and how they occurred. Mothers were selected to represent a range of making decisions at the time of eating occasions vs. making them ahead of time through routines. Characteristics of the selected mothers are presented in Table 11.

Selected interviews: set three. During the coding of the third set of interviews with an emphasis on the questions described above, several categories were defined and verified. A routine was defined as, "a decision made in advance of an eating occasion and repeated regularly. *Routines* involved time of eating, place of eating, style of eating, or food choices. Established routines may bypass the need for decision making." *Decision-making* was defined as, "a process of reviewing mother's expectations for the needed decision, identifying available options within those expectations, and then making a choice. Decision-making may be replaced with a routine." *Boundaries* were defined as, "limitations placed on the acceptability and/or feasibility of a choice, including time, location, food availability, and mother's expectations." *Juggling* was defined as, "techniques for managing multiple needs."

The categories of *properties of foods, stages of decision-making, balance of*

power, and *range of acceptance* remained in place. One of the *properties of foods*

mentioned above, *appropriate*, was also still in place, which fact must be

emphasized here because it became more important as the study progressed. A new

category was identified and provisionally labeled as *mother's ideals*, which referred

to her "sense of the way food work 'should' be done or the way in which meals and

mealtimes 'should' turn out, whether or not they actually worked that way." This

new concept resulted from the observation that a mother thought that her family

should all be together for the dinner meal, but the reality was that her husband

worked long hours and rarely did eat with the family. Thus, eating together was not

one of the mother's expectations (because she knew it was not going to happen), but

she still thought it should happen.

The questions developed after coding and summarizing the third set of five

interviews reflected the need for more information about the newly emerged

category of mother's ideals and gaps in the existing categories. Questions identified

to focus on in the next set of coding regarded how mothers determined their ideals,

why mothers compromised their boundaries and ideals sometimes, what

characteristics of moms left them more susceptible to compromising their boundaries

and ideals, and how sharing responsibilities with others influenced the setting of

boundaries and ideals. In addition, sharing of responsibilities with others needed to

be viewed as it influenced the category of balance of power between the mother and

child.

With these questions in mind, mothers were theoretically sampled to show a range of routines and decision-making, but there was also interest in the setting of and functioning of ideals and boundaries and how they were influenced by sharing responsibilities. Profiles of the mothers selected for this stage of analyses are found in Table 12.

Selected interviews: set four. From the coding of the fourth set of interviews came further modifications and expansions to the category of *stages of decision-making*. At this point, the subcategory *mother's expectations* was incorporated in the *stages of decision-making* as the first step in decision-making. The other subcategories of *stages of decision-making* fell into approximate chronological order as *food planning*, *food acquisition*, *approach to the eating occasion*, and the *eating occasion*. *Stages of decision-making* was not necessarily viewed as a category at that time, but rather as an organizing scheme for thinking through all other categories. The other categories were individually expressed in terms of their causal conditions, contextual conditions, intervening conditions, action/interaction strategies, and consequences.

At that stage in the analyses, it was determined that the deliberate focus on open coding was no longer the most productive approach because no new categories were identified in that coding set. This was a type of "theoretical saturation," which Glaser and Strauss defined as, "no additional data are being found whereby the sociologist can develop properties of the category (p. 61)."[4] Because no new

categories or properties and dimensions of the existing categories had emerged from

the fourth set of interviews, it was determined that a stronger focus on further axial

coding and selective coding would be more productive. However, because of the

limitations placed on the sample selection at the beginning of the study, it is

questionable whether true saturation of categories could occur with these data.[6] For

example, no data were available for comparison from groups who did not have

enough food, did not have a home with a kitchen to prepare food, or mothers who

could not share responsibilities with a spouse because they were not married or other

even more extreme comparisons, such as mothers feeding children through a tube

because of health conditions, mothers who themselves could not move because of

health conditions, or the feeding of elderly individuals (who have become more

childlike because of the effects of aging on their ability to provide food for

themselves). The group studied here was quite similar in many aspects, as

predetermined at the outset of the study. Differences in subgroups of the sample

were identified only after becoming theoretically sensitive to their methods of food

provision. Although the methods of food provision in the group varied dramatically

and these differences were maximized, the similarity of the sample overall limited

the amount of variation that could be observed.

Thus, with some sense of theoretical saturation, the focus for the next phase

of coding turned to sorting of the coding notes and memos that had accumulated

from the in-depth analysis of the twenty interviews in sets one through four. From

the summary of ideas after coding the fourth set of five interviews, a revised list of

codes to use for sorting was drawn from those in the paradigm model for each of the

categories above: *mother's expectations, food planning, food acquisition, approach

to the eating occasion*, and the *eating occasion*. Several other categories were

viewed as subcategories of these categories because they appeared as a part of some

or all of the chronological stages in decision-making. The category *balance of

power* was viewed as a subcategory of the categories within the stages of decision-

making, as were *routines, sharing responsibilities*, *purposes of eating occasions*,

properties of food, and *mother's ideals*. The category *juggling* was presented as

strategies at each stage of decision-making that were used to deal with multiple

pressures or goals mothers were trying to balance at each stage of decision-making.

Mother's perceptions and feelings was the label assigned to the intervening

conditions at each stage of decision-making, loosely defined as what the mothers

thought they needed to be doing or accomplishing at that stage of decision-making

and how they felt about that. Categories that were not specifically incorporated into

the summary of ideas after coding the fourth set of five interviews under the *stages

of decision-making* heading but that were still being used in the coding process were:

food work, food rules, and *experimenting*.

Theoretical sorting. The process of sorting can refer to the sorting of data or, as is

critical in grounded theory analysis, the sorting of theoretical memos. Glaser[6]

termed the sorting of theoretical memos as theoretical sorting, and he described several benefits to theoretical sorting which made it critical to grounded theory research, including the complex integration that resulted as linkages between categories and properties were outlined and formed a first draft for a manuscript of the research project. Glaser pointed out that the process of theoretical sorting forced a 'commitment' to only one purpose for the memos (which could be resorted for a different manuscript at a different time).[6]

Using the categories from the summary of ideas after coding the fourth set of five interviews as listed above, all coding and theoretical memos to that point were physically sorted into piles according to the category to which they were most pertinent. The physical sorting process resulted in piles of data and memos that were used as the basis for outlines of each category using the paradigm model. During the outlining process, the number of categories dropped from 16 to 5 main categories as relationships between categories were solidified. The five main categories that resulted from the outlining process were *stages of decision-making*, *mother's expectations*, *mother's perceptions*, *juggling*, and *balance of power*.

Two of the major decisions that resulted in the collapsing of data under those five main categories were first, that the *stages of decision-making* concept was finally recognized as a category, not just an organizing principle for viewing the data. Secondly, a commitment was made to follow the story of *mother's expectations* and *mother's perceptions*, rather than bringing the categories of

properties of food and *purposes of eating occasions* to the front. This decision was made because the concepts of *mother's expectations* and *mother's perceptions* were broader and, therefore, more easily accommodated the range of decisions beyond food choice that were involved in feeding the children. Additionally, because of the way in which the data were collected, with mothers giving free responses to interview questions, mothers were answering questions according to what interested them in the question. Therefore, not all mothers were giving the same level of detail or scope to the interview questions, especially those that involved properties of foods. Mothers were not systematically asked what properties of foods were important to them for each decision, so some mothers gave more detail than others and mentioned more properties of foods than did other mothers, even though those other mothers may have considered the same properties but did not mention them. Incorporation of the methodology of Kirk and Gillespie[8] in data collection was viewed to be more amenable to a manuscript following the story of *properties of foods* and *purposes of eating occasions* through the *stages of decision-making*. They used a combination of focus groups and individual probing following the focus groups to identify salient factors in mothers' food choice processes. In the individual probing, mothers were asked to list five considerations for making food choices in rank order, then describe two reasons why each of the five considerations were important, then give two reasons why each of those reasons were important.[8] By incorporating this type of data collection into the study reported here, more

complete and consistent information about the mothers would have been available for following the other story. By committing to the story of expectations and perceptions, the categories *properties of foods* and *purposes of eating occasions* became subcategories, with more general presentation than they otherwise would have had.

Glaser described another benefit of theoretical sorting as the accumulation of additional theoretical notes on a higher and more abstract level.[6] After the main categories were individually outlined, additional theoretical notes were stimulated by applying an integrative diagram to the data. In the balance of power category, a diagram of conditions by action/interaction strategies was developed to tighten connections between subcategories and recognize other action/interaction strategies. Through the process of creating and testing that diagram with the data, more complex connections were made toward the identification and development of the core category and the overall theory. During these coding sessions the interaction (at that time termed *juggling*) of perceptions and expectations was identified as a factor at every stage of decision-making, and further clarification and development of those categories was needed. Modifications were made to the developing outline with the *stages of decision-making* as contextual conditions and some relationship of *mother's expectations*, *mother's perceptions*, and *juggling* as the action/interaction strategies in the emerging theory.

Because of the gap discovered while testing data to the diagram for balance

of power, the categories *mother's expectations* and *mother's perceptions* were again

reviewed and outlined for clarification. *Mother's expectations* were defined as,

"preconceived notions about properties of the general feeding decision; how the

decision will and/or 'should' proceed." *Mother's perceptions* were defined as,

"assessments made at the time of a feeding decision specific to the conditions of that

decision."

The story. Once an outline and clear definitions of the main categories were in

place, the focus shifted to determining the core category, or the central phenomenon

in the study. Much of the axial coding was leading to the discovery of the core

category as relationships between the main categories were being explored.

However, through the distinctively selective coding technique of identifying the

story, then conceptualizing that story, all other categories can be systematically

related to the core category.[5] The story identified in this study was:

Based on their experiences, mothers approached the feeding of young children with

preconceived, general expectations for properties of foods and feeding at each level

of decision making and for each type of eating occasion. Faced with the need for a

specific feeding decision, mothers assessed properties of their current situation to

form perceptions and juggled the perceptions with their expectations to define

appropriate choices and offer a solution to the feeding situation. Mothers' feeding

solutions were in a balance of power with the child and others who may vie for

control over feeding decisions. Mothers' and others' sources of power may be exerted or may be influential at any point in the process of defining choices, or a dispute can arise after the mother had already asserted her feeding solution. The power balancing that took place resulted in the type of feeding decision employed.

From this story, the main category was determined to be a combination of *mother's perceptions* and *juggling*. The core category was first given the label of *defining choices* to indicate its relationship to the category of *range of acceptance* of food properties, but this was later renamed *managing expectations and perceptions* to acknowledge the contribution of both in the process of making broader feeding decisions, beyond just food choice. Using the outline and the core category, the process of *managing expectations and perceptions* was developed as a core category through diagramming relationships between categories and returning to the data for specific examples to maximize and minimize variations in mothers for comparisons. Through theoretical sampling of all of the interviews, the story was conceptualized as follows: *mother's expectations* were either high or low, and *mother's perceptions* of the potential for meeting expectations was either difficult easy. This resulted in four potential contexts for decision-making at any stage.

1) High expectations, difficult perceptions

2) High expectations, easy perceptions

3) Low expectations, difficult perceptions

4) Low expectations, easy perceptions

WRITING

Writing of the manuscript represented a continuation of the integration of the

grounded theory. Janesick[9] used the dance as an extended metaphor for qualitative

research design, and in so doing, she referred to writing as "cooling down" in the

research process. The outline developed from axial and selective coding served as a

basis for writing the manuscripts, and theoretical sampling for additional

comparisons from the data led to further expansions and clarifications of the theory.

As with most writing, the writing of a grounded theory manuscript involves multiple

drafts, with the first being quite rough. Glaser[6] described writing and rewriting as a

"division of labor process, requiring different jobs of English, conceptual and

scholarly editing." (from page 135) Some of the major conceptual editing that took

place during the writing of manuscripts involved explaining the differences between

action/interaction strategies used in the four different decision-making contexts.

While the strategies themselves had already been identified and developed, they had

not been systematically linked to specific contexts. For example, in the context of

high expectations-difficult perceptions, mothers employed two strategies to manage

differences between their expectations and their perceptions: they either maintained

their expectations (meaning, they implemented their preconceived notion of what

they should do for that situation, even though it was difficult), or they planned ahead

to prevent some of the barriers they perceived in the situation the next time they

encountered it.

CONCLUSIONS

Grounded theory, or the constant comparative method, was the basic research

method employed in the analysis of data for this study. A theory was developed of

how mothers provide food for young children from the data that were collected.

However, as pointed out previously, the theory was limited by the fact that data

collection was completed well in advance of data analysis. With a large data set of

fifty interviews to draw upon for theoretical sampling, that problem was partially

overcome to still produce a theory that was conceptually dense enough to fit the data.

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APPENDIX

FROM THE FOOD RECORDS:
Were any of these days unusual or atypical in any way?

FOR MEALS IN GENERAL:
1.   Is grace said before the meal?
2.   Who is served first?
3.   Does everyone wait until all are served before they begin eating?
4.   If not, who eats first
5.   Do children ask permission to leave the table?
6.   Who and how frequently does someone leave the table during the meal?
7.   Do all family members sit at the table until the meal is finished?
8.   If not, who leaves the table first at the end of the meal?
9.   Who clears the table?

FOR WEEKDAYS:
How many eating occasions does your child typically have during a weekday?
Please give the name and time of each occasion
How is it decided that this is the time for this eating occasion?
Who plans the food for this occasion?
What are the food components of each eating occasion?

Are weekend days different from weekdays in your family?
        If yes,

FOR WEEKEND DAYS:
How many eating occasions does your child typically have during a weekend day?
Please give the name and time of each occasion
How is it decided that this is the time for this eating occasion?
Who plans the food for this occasion?
What are the food components of each eating occasion?
On a daily basis, which meals do you all eat together (if any)?
How do you feel if one family member can't be there for a meal?
What do you do if they can't be there?
Which (if any) meals of the week are special?
        Why?

Figure 3. Questionnaire guide used to conduct interviews with first 25 mothers.

How important is it to you that meals or meal times take place in a certain way in your home?

What is important and why?

What is unimportant and why?

How often do your meals reflect this?

Are there any places in your home where eating is off limits?

Do you have a regular place or places for eating?

If yes, where?

How do you feel about the time you spend with meal production?

Amount of time: Excessive……adequate……..insufficient

Attitude: Enjoyable……indifferent……burdensome

What benefits do you gain from preparing meals?

Do you feel any frustrations with meal production?

Do you use any convenience foods that can be purchased at the store, such as box mixes, frozen foods, meal kits, etc.? What are some of you favorites? Least favorites?

How do you rate their taste quality from excellent to unacceptable?

How do you rate their convenience from excellent to unacceptable?

How do you rate their nutrition quality from excellent to unacceptable?

Same questions for fast food restaurant food

Table service restaurants

Take out food from restaurants or delis

Do you have any distinctions between "ordinary" and 'formal' meals?

How is the distinction made?

Are these practices ever used just for family? (extended or nuclear?)

Are these practices ever used for ordinary days?

How do your expectations for family meals compare to those of your

Spouse?

Children?

Where does meal preparation and family meal time fall in your list of priorities for each day?

Why?

As a parent, what aspects of meal time do you think are important for your child?

Why?

How would you rank the importance of your answers?

How do you encourage this?

What is the importance of meal time to your family life?

Figure 3. Continued.

Is family meal time different in your family than it was in the family you grew up in? (Think back to your childhood).

> If yes, how?
>
> If yes, what are the implications of this in your opinion?

Was this pattern consistent while you were growing up, or were there events that changed things?

Does the way meal time was conducted when you were growing up influence the meals you serve now?

> Your expectations
>
> Foods you serve
>
> Actual meal practices (e.g., rules, manners, responsibilities)

What do you remember as being the most important aspect of meal time when you were growing up?

What do you most want to do differently with your family than was done with family meals when you were growing up?

What would happen if you did nothing with food planning, production, service, or clean up in your household for one full day? How would your family have to compensate?

Figure 3. Continued.

FROM THE FOOD RECORDS:
Were any of these days unusual or atypical in any way?

FOR MEALS IN GENERAL:
1.   Is grace said before the meal?
2.   Who is served first?
3.   Does everyone wait until all are served before they begin eating?
4.   If not, who eats first
5.   Do children ask permission to leave the table?
6.   Who and how frequently does someone leave the table during the meal?
7.   Do all family members sit at the table until the meal is finished?
8.   If not, who leaves the table first at the end of the meal?
9.   Who clears the table?

FOR WEEK DAYS:
How many eating occasions does your child typically have during a week day?
Please give the name and time of each occasion
How is it decided that this is the time for this eating occasion?
Who plans the food for this occasion?
If you prepare the food, how much time do you spend with preparation (both average and range)?
What are the food components of each eating occasion?

FOR WEEKEND DAYS:
Are weekend days different from week days in your family?
If yes, how?
        Number of eating occasions?
        Name and time of eating occasions?
        How time of occasion is decided?
        Who plans the food?
        Food components?

Do you think it is important for your child to eat on a regular time schedule, and why?
Do you follow the same schedule for yourself? Why or why not?
How many eating occasions do you typically have each day?
How many does your spouse typically have?

Figure 4. Modified questionnaire guide used to conduct interviews with second 25 mothers.

How do you feel if one family member can't be there for a meal?

Do you do anything differently if they can't be there?

Which (if any) meals of the week are special? Why?

Do you have a policy about manners at meal time for your child?

    How do you enforce or encourage this?

Do you have any policy to determine if your child has eaten the 'right' amount?

    When do you use this?

    Do you do anything to encourage your child to eat more or less if you think
    your child has not eaten the 'right' amount?

Do you ever restrict your child's snacking (time, content, amount)?

    Why?

Is there anything about your child's eating that bothers you?

Are there any places in your home where eating is off limits?

Do you have a regular place or places for eating? If yes, where?

How do you feel about the time you spend with the following aspects of meal
production?

    Planning meals

    Grocery shopping

    Preparing meals

    Eating meals

    Cleaning up after meals

        Who typically does each of these tasks?

Do you and your spouse have similar ideas about how these tasks should be
conducted?

How do you plan the meals and snacks for your child that you are responsible for?

    When do you start thinking about it?

    How do you decide what to have? What factors do you consider?

How often does your family grocery shop?

    Who does the shopping?

    What prompts a trip to the grocery store?

Do you use any convenience foods that can be purchased at the store, such as box
mixes, frozen foods, meal kits, etc.?

    How do these products compare to foods from scratch (define scratch)?

        -convenience

        -taste

        -nutrition

Figure 4. Continued.

How often do you eat out, and what type of places do you eat at?

What keeps you from eating out more often?

What do you think about the nutrition quality of restaurant food?

Do you have any distinctions between "ordinary" and 'formal' meals?

     How is the distinction made?

     Are these practices ever used just for family? (extended or nuclear)

     Are these practices ever used for ordinary days?

Where does meal preparation and family meal time fall in your list of priorities for each day? Why?

As a parent, what aspects of meal time do you think are important for your child(ren)? Why?

     How would you rank the importance of your answers?

     How do you encourage this?

What is the importance of meal time to your family life?

Is family meal time different in your family than it was in the family you grew up in?
 (Think back to your childhood).

       If yes, how?

       If yes, what are the implications of this in your opinion?

       Was this pattern consistent while you were growing up, or were there events that changed things?

       Were there activities that interfered with these patterns?

Does the way meal time was conducted when you were growing up influence the meals you serve now?

Have your eating patterns as a single adult influenced the way you conduct meals now?

How much time do you think your mother spent with meal preparation?

    Did you ever feel like she was spending too much or too little time with meal preparation?

What (if anything) have you most want to do differently with your family than was done with family meals when you were growing up?

What would happen if you did nothing with food planning, production, service, or clean up in your household for one full day? How would your family have to compensate?

Figure 4. Continued.

Table 8. Lists of emergent codes from various points in analyses of mothers'

responses to interview questions.

Stage of Coding	Emergent Codes
Early Coding (25 interviews)	Planning Body signals
Early Coding (50 interviews)	Food focus Planning Meal as an event Daycare Nutrition awareness
Selected Interviews: set one	Eating schedules Approach to eating occasion Feeding context Feeding strategies Juggling Balance of power Purposes of eating occasions (adapted from event) Food properties Mothers' perceptions
Selected Interviews: set two	Stages of decision-making (from eating schedules) Appropriate Range of acceptance Types of eating occasions Mothers' expectations
Selected Interviews: set three	Routines Decision-making Boundaries Juggling Properties of foods Stages of decision-making Balance of power Range of acceptance Appropriate Mothers' ideals

Table 8. Continued.

Stage of Coding	Emergent Codes
Selected Interviews: set four	Stages of decision-making
	*Food planning
	*Food acquisition
	*Approach to the eating occasion
	*Eating occasion
	Mothers' expectations
	Balance of power
	Routines
	Sharing responsibilities
	Purposes of eating occasions
	Properties of food
	Mothers' ideals
	Juggling
	Mothers' perceptions and feelings
	Food work
	Food rules
	Experimenting
Theoretical Sorting	Stages of decision-making
	Mothers' expectations
	Mothers' perceptions
	Juggling
	Balance of power

Table 9. Rationale for selection of the first set of 5 interviews to be coded.

Subject	Characteristics
005	Interested in teaching good health habits to children. Wants children to eat. Willing to fix alternate foods. Past history of obesity. Works part time.
006	Family is very busy (especially dad, who works 80 hrs/week). Past history of obesity in mom. Only planning = grocery shopping, all other control goes to children. Mom very fat/sugar conscious.
032	Part-time work. Delegates much to husband. Very frustrated with picky eater child. Different diet (zone) for self/husband.
040	Stay-at-home mom. Picky eater child, but mom doesn't worry about it much. Has an infant.
047	Stay-at-home mom. Simple meals. Very health conscious, knowledgeable, disciplined. Does all work herself and likes it.

Table 10. Rationale for selection of the second set of 5 interviews to be coded.

Subject	Characteristics
001	Works part-time. Acceptance of homemaker role.
004	Works full-time. Lots of effort to plan menus to be a part of the feeding process even when she is not at home.
014	Stay-at-home mom. Little support from husband, feels like she 'disappoints' husband with meals. Last-minute planning and shopping.
020	Works full-time. Extremely routine behavior for dinner. Limited selection.
054	Hates homemaker role. Many food issues and lots of bitterness about food work. Little to no participation from husband.

Table 11. Rationale for selection of the third set of 5 interviews to be coded.

Subject	Characteristics
2	No routines. Not responsible for much with food–husband and day care primarily responsible. Works full time
27	No routines. Doesn't want to impose food rules on children that may lead to obesity. Mom stays at home.
30	Repetitive menu. Mom works full time.
35	Weigh-down workshop–no time routines. Big planner. Works part-time from home.
46	Strict time routines. B, L routines, D planner. Mom stays at home.

Table 12. Rationale for selection of the fourth set of 5 interviews to be coded.

Subject	Characteristics
017	Feels conflict between food prep/time with child. Ideals set in comparison to colleagues?
019	Spends lots of time. Shares responsibility with husband. Ideals imposed by health?
024	Experimenting. Boundary change after change in work status.
043	Experimenting. New time routine shifts balance of power to her. No sharing of responsibilities.
052	Hates food prep/planning. Routines to minimize decisions. No sharing of responsibilities.

VITA

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