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The Relationship Of Homemaker Attributes And Food Management Activities

Walter Franz Eberle

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THE RELATIONSHIP OF
HOMEMAKER ATTRIBUTES AND FOOD MANAGEMENT ACTIVITIES

by

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School of Business Administration

Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

Faculty of Graduate Studies
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ABSTRACT

Serious concern has been voiced by specialists in nutrition and home economics regarding the nutritional status of Canadians. As a consequence, increased importance is being ascribed to the application of managerial concepts in family food provisioning to ensure the proper nutritive quality of food consumption.

To improve the level of the homemaker's food management activities, it is felt that knowledge of her attributes related to the food management process is essential if consumer education efforts are to be fully effective. At present, however, little is known about these relationships. Thus the purpose of this thesis research was to gain a deeper understanding of family food management behaviour by identifying major factors associated with the degree of food management activities and measuring the strength of these relationships.

Nutrition knowledge has long been considered a major determinant of the home food management process but little theory existed to suggest what additional characteristics could further explain the degree of the homemaker's food management functions. It was therefore decided to draw upon theories developed in other fields of the behavioural sciences and thus include the homemaker's role orientation, the husband's expectations of the homemaker, her socioeconomic characteristics, and her personality traits in this exploratory thesis investigation.

The data for the study was collected from six hundred and sixteen homemakers in the city of London, Ontario, by means of a two-part questionnaire which was mailed during the months of November and December, 1970. Four hundred and seventy-six of these respondents were from a local consumer panel and the remaining survey participants were recruited personally by the researcher to balance the socioeconomic representation in the sample.

Where applicable, principal components analysis was used to condense the survey information into measures of higher abstraction. These and other variables reflecting homemaker characteristics were then employed in building a generalized predictor model of home food management behaviour.

Regression analysis revealed the homemaker's home management orientation to be the strongest estimator of family food management performance, followed by nutrition knowledge, socioeconomic classification, husband's expectations regarding food, and the homemaker's personality traits pertaining to change and achievement.

To test the explanatory qualities of those variables most relevant in the field of food management education, further exploration was carried out by employing a three-predictor variable regression which comprised the triad home management orientation, nutrition knowledge, and husband's expectations regarding food. The predictive strength of this regression model was only slightly reduced from that which also included socioeconomic and personality characteristics. Application of

this condensed food management behaviour model to four socioeconomic subgroups revealed that the three-predictor variable solution applied consistently across these four classifications, both in regard to the explanatory strength of the model as a whole and in its ability to measure the relative importance of each predictor variable. The socioeconomic comparison indicated that, irrespective of socioeconomic background, the homemaker's home management orientation and the husband's expectations regarding food were important complements to nutrition knowledge in predicting the degree of family food management activities.

These thesis research results strongly imply that, in addition to imparting food management knowledge, consumer educators should also be concerned with modifying the homemaker's home management orientation as well as the husband's expectations of the homemaker. The findings suggest that an integrated approach to food management education, with emphasis placed on the above three major determinants of food management practices, might render the food management education process more effective, especially with respect to homemakers from lower socioeconomic backgrounds.

ACKNOWLEDGMENTS

My feelings at the completion of this thesis parallel those of reaching a mountain peak. After enjoying the wide horizon of future opportunities which have now moved within close range, I look back at the arduous climb. The journey has been a good one, and I reflect upon the many friends who have assisted me along the way, without whose help I could not have made it to the top.

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CHAPTER I

INTRODUCTION

The concept of management has been in existence for centuries and has been utilized in many situations. Scientific studies and improvements in the managerial process, however, have taken place predominantly in the field of industry and business. Over the past two decades, an increasing number of home economists have both studied and suggested application of managerial concepts in the field of family food provisioning. Furthermore, it has been intimated in recent literature that an improvement should be made in the status ascribed to household activities and thus the term "housewife" has been replaced with higher status descriptions, such as homemaker, family manager, food manager, etc. This change in orientation is reflected in the importance now placed upon the skilful use of family resources and to research being undertaken in the field of home management.

It is believed that one of the most essential aspects of home management is food provisioning and, therefore, this research was conducted in order to gain a better understanding of the homemaker's food management behaviour. The investigation focussed particularly upon obtaining information on the level of the urban homemaker's food management activities, studying some of the major factors associated with food management processes, and exploring the nature and strength of these relationships.

Definition of Food Management

A general definition of food management is given by Nickell and Muir:

. . . meeting and solving the managerial problems that have to do with feeding the family. The goal of food management is to provide food that will ensure the physical and mental growth of the family for its social development and well-being with a reasonable expenditure of available resources.¹

Specifically, Nickell and Muir (1968) have defined the following as major food management dimensions:

- (1) the setting of nutritional standards;
- (2) planning meals to meet these nutritional standards;
- (3) planning the amount that can be spent on food;
- (4) planning for purchase;
- (5) food buying;
- (6) food preparation;
- (7) making food consumption pleasant.

The above definition has been adopted as a basis for discussing family food management throughout this thesis, and the term "degree of food management activities" is used when referring to the extent of the homemaker's involvement in food management functions. Information on how these activities are measured can be found on page 167.

Importance of Food Management Practices

For some time dietitians have pointed to the importance of proper food management by identifying and publicizing nutritional deficiencies

¹Paulena Nickell and Jean D. Muir (1968), Management in Family Living (New York: John Wiley and Sons), p. 502.

among selected segments of the population, especially the poverty groups. Home economists have pioneered on a broader scope by studying the use of resources (time, energy, money, etc.) in food management and by proposing standards relating to the food management process. They also stress the importance of skills in food management by suggesting that homemakers, on the average, spend more time on food provisioning activities than on any other task in the home except child care.² Moreover, with an increasing number of homemakers engaging in full-time or part-time employment, less time and energy is available for food management activities, placing a premium on efficient performance.

Consumer economists also point out that food is the largest single item of expenditure in a family budget. This proposition was supported by the recent and elaborate survey conducted by Statistics Canada regarding patterns in Canadian family expenditures, and their research findings revealed that Canadians, on the average, spend 18.7 per cent of their total income on food. This percentage varied substantially by income classifications and ranged from 13.4 per cent to 27.9 per cent for incomes over fifteen thousand dollars and less than three thousand dollars, respectively.³

Dietary and Nutrition Surveys

There has been compelling evidence from various dietary and

²Faye Kinder (1968), Meal Management (New York: The Macmillan Company), p. 80.

³Statistics Canada, Prices Division (1972), "Family Expenditure Survey, 1969," Service Bulletin, Volume I, No. 1, March, pp. 6 and 10.

nutrition surveys indicating that the food management practices of today's homemakers are inadequate. Nutrition research on a small scale and mainly with minority groups has been going on for a long time and, in recent years, the problem of malnutrition or under-nutrition among the general population has been receiving increased attention.

With regard to large scale and comprehensive dietary and nutritional surveys, the United States has been in the forefront. In the Spring of 1965, the United States Department of Agriculture completed a nationwide household food consumption survey and compared the changes in food consumption over a ten-year span, from the Spring of 1955 to the Spring of 1965. The results were real "eye-openers" and revealed that, despite increasing incomes and the opportunity to choose from a greater abundance of foods, a somewhat adverse shift occurred in the quality of the dietary levels of household food consumption during this ten-year period. According to these survey findings, 50 per cent of the households in the United States met the recommended dietary allowances set by the Food and Nutrition Board of the National Academy of Sciences - National Research Council (NAS-NRC) and their diets were rated good in the Spring of 1965. When the household food consumption provided less than two thirds of the allowance for one or more of the nutrients studied the respective diets were rated poor, and the survey results suggested that approximately 20 per cent of the households in the United States would fall into this category. The nutritive quality of the food intake of the remaining 30 per cent of the households was rated from good to poor. With respect to the households with incomes under three thousand dollars, the situation was considerably worse, with

nearly 40 per cent having poor diets. Furthermore, the comparison with the 1955 nationwide survey revealed that there were more diets rated poor in 1965 than there were ten years earlier.

In 1968, the United States Department of Health, Education and Welfare undertook an extensive National Nutrition Survey, comprising seventy thousand individuals from low-income households, with approximately 80 per cent of these families receiving an annual income of less than five thousand dollars. The preliminary findings were published in Nutrition Today (1969) and did not present statistics on the incidence of malnutrition. The authors (Drs. Arnold Schaefer and Ogden Johnson), however, did confirm that an unexpectedly large proportion of the sample population was suffering from malnutrition caused by multiple deficiency of nutrients, such as protein, vitamins, minerals, and calories.

The extremely high social cost of malnutrition is frightening. Not only does malnutrition affect the general health picture of the persons involved, but the directors of the national nutrition survey (Drs. Schaefer and Johnson) were also of the opinion that those experiencing periods of prolonged malnutrition may suffer permanent impairment of mental ability and performance. They further implied that malnutrition could well affect, permanently, the learning ability of children who survived impaired physical growth.⁴

Commenting on the effect of malnutrition upon the general population, Dr. Rudolph H. Kampmeier, another authority in this particular

⁴Dr. Arnold Schaefer and Dr. Ogden C. Johnson (1969), "Are We Well Fed? . . . The Search For The Answer," Nutrition Today, Volume IV, No. 1, Spring, pp. 2-11.

field, goes even further, stating:

. . . These are some of the psychiatric aspects of poverty and malnutrition the practitioner knows well. The 'floaters' of our society, the people with inadequate personalities, number in the millions. They are ill; they cannot hold a job! Mental illness looms so large as a cause of poverty and (indirectly) malnutrition that it must be faced realistically, not smothered under a blanket of welfare dollars. . . .⁵

Thus far, the discussion emphasized the dietary problems prevailing for the low-income population. However, it has been suggested by Dr. Cortez (1969) that there is a type of malnutrition prevalent in other segments of the population which is much less visible and talked about and which he calls "the malnutrition of affluence." He further commented on this subject:

. . . There are still other causes of malnutrition that we should be thinking about. One is the creeping decline in vigor of our food fortification programs. This is the result of our ever-changing food habits. It is a cause of malnutrition that affects the health of the rich and poor alike. It is probable that the kinds of dietary defects this creates are, in fact, even more apt to occur in people with money. The affluent are less dependent on staples and more free to indulge in a wide variety of ordinary and exotic foods. Such behavioral patterns are, in effect, the archenemies of food fortification concepts, because these are based on the assumption that the majority of people will consume certain foods at a constant rate, indefinitely. . . .⁶

⁵Dr. Rudolph H. Kampmeier (1969), "Mental Disease: A Cause of Malnutrition," Nutrition Today, Volume IV, No. 1, Spring, p. 12.

⁶Dr. F. Enloe Cortez, Jr. (1969), "The Malnutrition of Affluence," Nutrition Today, Volume IV, Spring, p. 14.

The incidence of malnutrition or under-nutrition thus need not be relegated to the lower income households necessarily; it may well extend to include families from any socioeconomic background.

With regard to Canada, much less is known about the dietary intake and nutritional status of Canadians. There is, however, a nagging suspicion that the nutritional levels may well be inadequate, as recent studies in this field have cast doubt regarding the widely-held belief that Canadians are "well-fed."

In supplying supportive evidence for the National Nutrition survey presently being undertaken in Canada, Campbell (1970) has reported on the most relevant research available regarding the Canadian nutrition situation and summarized these studies which were conducted by several nutrition specialists from various provinces in Canada.⁷

Campbell noted that, in surveys carried out in Newfoundland, Ontario, Nova Scotia, and eight senior citizen centres across the country, the results indicated a high incidence of poor diets. For example, Lin and Smith (1958) studied the diets of 128 school children in Newfoundland and found that 39 per cent of these children consumed diets which were considered "poor" in quality. In 1963, Trenholme and Milne investigated the diet intake of 2,436 Grade nine school children

⁷The studies which Campbell reported on were carried out by the following investigators: Lin and Smith (1958); Trenholme and Milne (1963); The Department of National Health and Welfare, Nutrition Division (1957-1963); Broadfoot and Trenholme, et al. (1966); The Department of Health, Nutrition Division, Nova Scotia (1965-1966); Hopper, et al. (1968, 1969); The Canadian Council of Nutrition (1968); and Carswell (1969).

in Ontario, over a seven-day period, and the results revealed that 39 per cent of the boys and 69.5 per cent of the girls consumed diets which were considered to be "poor." The findings of the study by these investigators also revealed that most of these Grade nine children tended to select food on a quantity basis rather than according to the nutritive quality of the food. During 1965-1966, the Department of Health in Nova Scotia reported that out of 1,700 school children, observed over a two-day period, only 20 per cent of these children's diets were rated as "good" in terms of nutritional quality. Unpublished reports from the Department of National Health and Welfare regarding a study of 780 senior citizens in eight centres, from 1957 to 1963, revealed that about 50 per cent of these people had dietary patterns which could well predispose to under-nutrition and poor health. Campbell also referred to another research conducted by Broadfoot, et al., (1966), in which the Vitamin D intake of 1,000 children in Ontario was investigated and the results showed that 20 per cent of these children received less than the daily Vitamin D requirement. Furthermore, evidence obtained by the Food and Drug Directorate from studies carried out by Hopper, et al., (1968, 1969), indicated that the incidence of serious Vitamin A deficiencies in this country may be much higher than was suspected. For instance, approximately 10 per cent of human liver samples, examined in an Ottawa hospital, showed no trace of Vitamin A. In comparison, similar investigations of human liver samples, examined in Vancouver and Montreal hospitals, showed the percentage to be 2 per cent and 22 per cent, respectively. It was Campbell's opinion that this evidence was strongly suggestive of inadequate intake of Vitamin A. Another study which

Campbell refers to is that done by the Canadian Council of Nutrition reporting on hospitalized cases of rickets, a children's disease indicating severe malnutrition. This study revealed that, during the period 1967 to 1969, there were four hundred such cases in three hospitals in Montreal and Toronto. In connection with this report, Carswell's (1969) investigation indicated that, in one Quebec hospital alone, the cost of hospitalization for this disease was estimated at one third of a million dollars per year.

Although few in number and regionally restricted, these studies have given some indications regarding the nutrition situation in Canada in general. As of today, however, knowledge on this subject is still incomplete and much less thorough than that in the United States. For this reason, the Canadian Department of National Health and Welfare are presently undertaking their own elaborate and very comprehensive nationwide nutrition survey. Expectations are that the results of this survey will, in many ways, support the findings of the major nutrition studies which have already been carried out in the United States.

Personal Field Experience

In addition to personally interviewing a cross-sectional sample of approximately twenty-five homemakers during the preliminary design phase of this study, the researcher also talked with welfare, children's aid, family service, and public health officials, as well as with home economists and consumer educators, with a view of gaining more insight into the food management practices and dietary habits of urban homemakers in general. In conversing with these specialists, it appeared

they were of the unanimous opinion that a cause and effect relationship existed between the degree of the homemaker's food management practices and the nutritive quality of family food consumption. This belief is shared by leading experts in nutrition and home economics and has been expressed in various textbooks on food management; for example, those by Champion (1964); Gross and Crandall (1963); Kinder (1968); and Nickell and Muir (1968). The same opinion has also been implied in numerous government publications on consumer education, such as "How to Plan Meals for Your Family." etc.

During interviews with officials from local agencies, another strong conviction was voiced, that of proper food management practices being required by any homemaker if she was to achieve the recommended dietary standards in her food provisioning activities. Moreover, the social workers interviewed appeared to be especially alarmed by the extremely high consumption rate of instant reward foods of low nutritive value (empty calories), such as candies, cookies, potato chips, coke, etc., among the low-income families. It would appear, in view of the financial constraints of low-income families, that they could ill-afford the "luxury" of such empty calorie foods. Personal field investigations, however, revealed that these families did "afford" these luxuries and at an excessively high rate, with the obvious result that the already tight food budget was strained even further. The social service officials interviewed further suggested that, in situations where the food budgets were extremely tight, only highly skilful food management practices would prevent the nutritive quality of the dietary intake from degenerating to unsatisfactory levels. They also indicated that, in their opinion, the

degree of food management practices, especially among homemakers with very tight budgets, was far short of the level deemed necessary to ensure nutritively adequate diets in the majority of cases.

In summary, nutrition experts, both in Canada and the United States, believed there was sufficient evidence to be seriously concerned about the nutritive quality of the dietary intake and the nutritional status of the population. Their concern was based on impressive evidence from dietary and nutrition studies which, for the most part, originated in the United States. It was suspected by Canadian nutrition specialists, however, that the nutrition situation in Canada would probably approximate that in the United States. It should likewise be noted that the incidence of poor diets and malnutrition need not be restricted to households from lower socioeconomic backgrounds. Poor diets appeared to be a problem for families and individuals from all walks of life, as evidenced in the 1965 ten-year comparative survey undertaken by the United States Department of Agriculture which rated only 50 per cent of the diets investigated as "good." Furthermore, as expressed in textbooks and consumer education publications on food management, nutrition and home economics experts appeared to be firmly convinced that there exists a cause and effect relationship between the homemaker's degree of food management activities and the nutritive quality of family food consumption. Moreover, personal observations and interviews during the exploratory field studies further confirmed the existence of such a causal link.

The above facts, therefore, illustrated the importance of home food management and strongly suggest that further research in the field

of family food management may well be worthwhile.

Objectives and Scope of Thesis

The research was exploratory in nature and was undertaken in order to generate new knowledge and to gain a deeper understanding of the homemaker's food management behaviour. It was felt that a major contribution to the already existing knowledge in this field would be that of identifying factors relating to the degree of the homemaker's food management activities and measuring the strength of these associations. Likewise, comprehensive knowledge obtained from a large sample population with respect to the homemaker's food management functions would also, in itself, provide further reliable insight into various aspects of home food management. Thus the specific objectives of this thesis research have been:

- (1) to develop a comprehensive measure of the degree of the homemaker's food management activities;
- (2) to identify and measure, with a large cross-sectional sample of urban homemakers, the relationships of knowledge, attitude, interpersonal, socioeconomic and personality factors, with the degree of home food management activities; and
- (3) to compare, among socioeconomic groups, the degree of the homemaker's food management activities and the major factors related to this process.

It was felt that results from this study might be helpful to government and private consumer education agencies in assigning

priorities and formulating goals and strategies with regard to home food management education and, possibly, also in other areas of consumer education. Moreover, social service agencies might benefit from the findings related to the motivational forces at play in food management behaviour of low-income homemakers, inasmuch as such information could well contribute to efficient use of resources in social work programs.

Two main considerations were taken into account when determining the scope of this thesis. The first was the necessity of using a comparatively large sample of homemakers to make the exploratory survey findings meaningful and also to render generalization possible to other populations with a fair degree of confidence. The second consideration was the availability of financial resources to fund the study. Given these constraints, it was decided to use a consumer panel of seven hundred homemakers in London, Ontario and to collect the survey findings by two mail questionnaires. Therefore, the general scope of the study was restricted to information that could be reliably solicited by mail questionnaire and the amount of survey information could not exceed two questionnaire mailings. With these specific restrictions in mind and in view of the exploratory nature of the research, more emphasis was placed upon investigating as many aspects of food management behaviour as possible, rather than upon a more indepth study of a smaller number of variables. Thus this enabled the researcher to cover most of the major food management dimensions as well as the factors which were suspected to be associated with home food management practices.

Organization of the Thesis

To delineate the specific areas of investigation of this thesis research, the literature on food management behaviour is examined first. Following this, the development of the measurement instrument is described and the sample characteristics of this study, the procedures for collecting the survey data, and a plan for the analysis of the data are discussed. The preliminary results of the survey responses are then enumerated, with special emphasis placed on the response distributions of the questionnaire items measuring the degree of the homemaker's food management activities and her level of nutrition knowledge. The development of major composite measures for a model of food management behaviour is described next. These measures include a comprehensive index summarizing home food management activities as well as composite indices representing the major independent variables of the investigation.

The development of a model of the homemaker's food management behaviour is then explained and the predictive power of the model is examined for the total sample population and for four socioeconomic subgroups. Subsequently, the analysis is extended to further measurements of food management activities and these findings are presented. Finally, the major research results are summarized and implications in the field of consumer education, together with suggestions for further research, are enumerated.

CHAPTER II

REVIEW OF THE LITERATURE

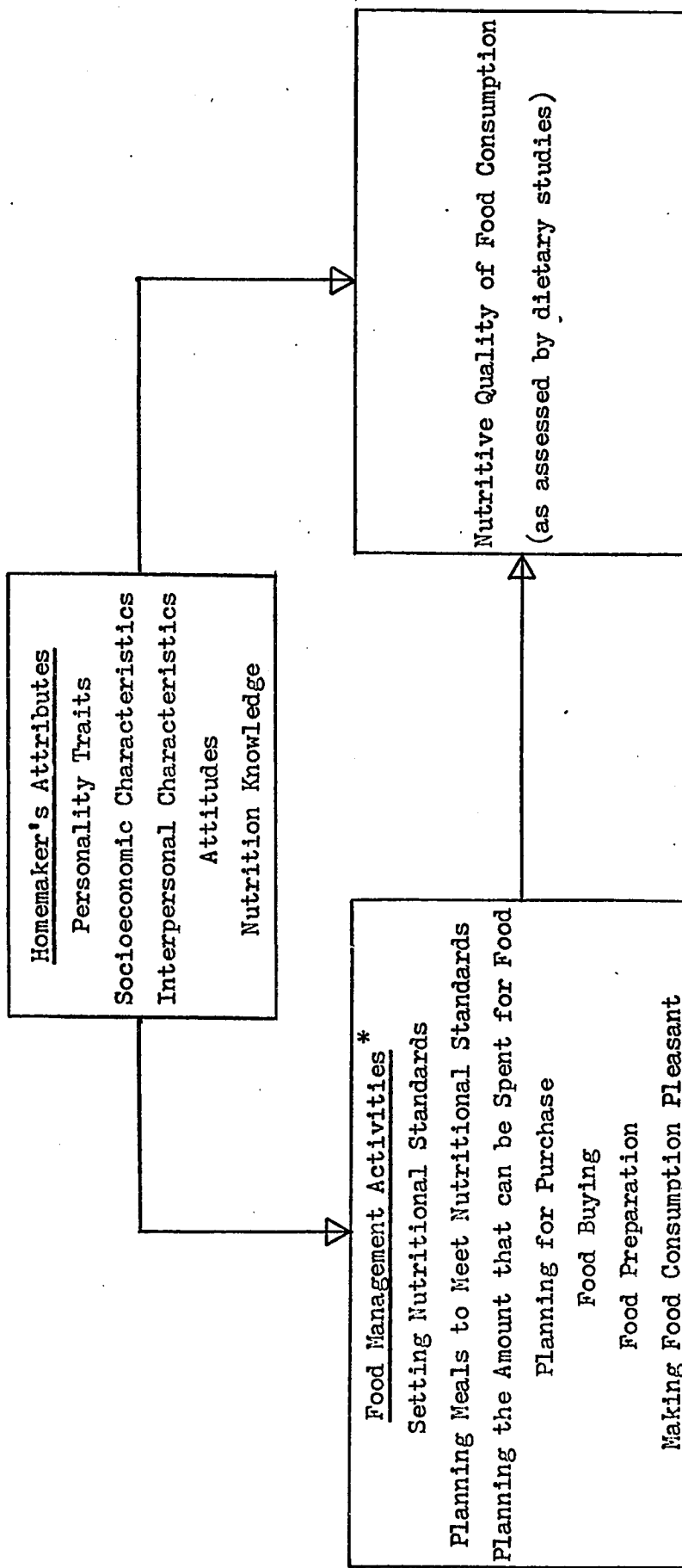
The review of the literature is conducted by following the model illustrated in Table 2.1. The discussion centers around the literature covering three specific areas:

- (1) research pertaining to relationships between family food management activities and the nutritive quality of food consumption;
- (2) literature regarding associations between the homemaker's attributes and the degree of food management activities;
- (3) studies investigating correlations between the homemaker's attributes and the nutritive quality of food consumption.

The first of these areas was investigated in order that further evidence might be found to support the proposition that a high degree of family food management activities leads to a high nutritive quality of food consumption. The second area of investigation was chosen to determine existing gaps in the literature on food management behaviour and, subsequently, to assist in delineating the depth and topics for this thesis research study. The last of the above listed sections in the literature was reviewed with the hope of generating new ideas regarding the homemaker's attributes which might possibly have a bearing

TABLE 2.1

FRAMEWORK FOR REVIEWING THE LITERATURE



* Paulena Nickell and Jean D. Muir (1968). Management in Family Living. New York: John Wiley and Sons, p. 502.

on food management behaviour. The reasoning behind this was that the homemaker's characteristics related to the nutritive quality of food consumption might also be associated with the degree of family food provisioning.

To focus the issues, the main conclusions derived from the literature are presented first, followed by a discussion of supporting research evidence.

At the time of this study, the investigator was not aware of any comprehensive and thorough research evidence confirming the existence of a cause and effect relationship between the homemaker's degree of food management activities and the nutritive quality of family food consumption. On the basis of the judgments of numerous authorities in nutrition and home economics, however, it was felt that the proposition "higher degree of food management leads to food consumption of higher nutritive quality" should be accepted with confidence.

With regard to associations between the homemaker's attributes and the degree of family food management activities, there was considerable literature available pertaining to the field of food buying. In the other dimensions of food management listed in Table 2.1, however, very few large scale studies have explored relationships with the homemaker's major characteristics other than those relating to socioeconomic background. Thus, at this time, there was insufficient knowledge to specify from empirical evidence whether and how a homemaker's attributes --education (knowledge), attitudes, interpersonal factors, and personality traits--influenced her food management activities.

Concerning relationships between the nutritive quality of food consumption and the homemaker's attributes, studies by dietitians and home economists have suggested that these characteristics positively affect the nutritive quality of food intake and their findings intimated that it might also be well worthwhile to investigate the homemaker's attributes in the context of family food management activities.

Relationships Between Family Food Management and the
Nutritive Quality of Food Consumption

Authors of well-known textbooks on food management have specified that the main goal of food management is to ensure nutritively adequate food consumption within the constraints of available resources. Thus they have implied a cause and effect relationship exists, linking the nutritive quality of food intake with the degree of family food management activities. Perhaps due to the common sense rationale underlying this proposition, there seemed to be little thorough and comprehensive empirical research available in the literature regarding this particular field of investigation. An example of research in this area was that carried out by Smith (1967). A cross-sectional sample of two hundred rural, non-farm and urban families was studied with regard to the level of selected planning activities in food provisioning and the nutritive quality of food consumption. The latter was determined by recall of foods served at home during the previous seven days and this was further supplemented by a four-day record of family food consumption. It was found that increases in the composite planning scores and increases in the dietary scores were associated with parallel progression

and Smith believed that sufficient evidence had been generated to support the hypothesis that the nutritive quality of food consumption was positively associated with the degree of planning for food provisioning.

Homemaker Attributes Related to Family Food Management Activities

Empirical research on aspects of food management has been going on simultaneously in the fields of marketing and home economics. In an exploratory sense, studies in the marketing field have been more comprehensive but have been mainly restricted to only one major food management dimension--food purchasing. The Reuben H. Donnelly Corporation (1965), Purdue University (1965), Bucklin, et al. (1967), Bauer (1968), and Lessig (1970) are examples of such studies.¹ These research results have emphasized the importance of the homemaker's personal attributes in explaining food purchasing behaviour.

Studies by dietitians and home economists tended to focus on food management functions other than food purchasing. For example, the previously mentioned study carried out by Smith (1967) also examined associations between the homemaker's socioeconomic characteristics and her food planning activities. A composite planning score summarized the homemaker's plans for kitchen durables, home production or quantity purchases of food, preservation of food, and short range food provisioning. The data showed that, during the accumulative grade school, high school

¹The following references discuss other research regarding food buying behaviour: Blackstone (1964); Bauer (1965), Frank (1967); Frank, et al. (1967a, 1967b, 1967c); Malone, et al. (1968); Marcus, et al. (1969); Carman (1970); Nichols (1970); E. I. DuPont De Nemours and Company, Inc. (1970).

and college periods, families did more planning for food provisioning than in earlier or later stages. The study likewise revealed positive associations of the homemaker's composite planning scores with her education and social class.

This investigation was typical of the general scope of other studies in the home economics literature regarding family food management practices. These studies appeared to focus on measuring particular food management dimensions but did not go beyond the analysis of the homemaker's socioeconomic characteristics when exploring factors related to the degree of food management activities. Thus, with the exception of the food purchasing function, there seemed to be a wide gap in the existing literature with respect to understanding the nature of the homemaker's attitude, interpersonal, and personality characteristics related to family food management practices.

Homemaker Attributes Associated with the Quality of Food Consumption

The importance of nutrition knowledge as a determinant of the nutritive quality of food consumption has been well-established. Young (1956) initiated the first large scale study of the homemaker's nutrition knowledge. Five hundred and thirty-one homemakers from various socioeconomic backgrounds in the cities of Rochester and Syracuse, New York were interviewed and the findings showed a positive association between nutrition knowledge and dietary adequacy of food consumption.

In another study reported by Jalso (1965), three hundred and forty urban homemakers were questioned regarding nutritional opinions and practices. Nutritional opinions were measured by thirty statements

concerning misconceptions in the areas of food and nutrition. The questionnaire on nutritional practices was composed of twenty questions designed to test practices with regard to the use of food supplements, the use of special "health" foods, the methods of weight control, special diets, and avoidance of certain foods. The high positive correlation (.63) which Jalso found between opinion scores and scores on practices, indicated that nutritional opinions were reflected in practice. Furthermore, a personality trait was measured, using the Rehfisch Personality Rigidity Test (1958), with a view to obtaining a better understanding of factors related to the nutritive quality of food consumption. This test was administered and interpreted for a subsample of one hundred and one subjects who were classified as "faddists" and "non-faddists," depending upon their nutritional opinion score. (Jalso defined a faddist as a person having misconceptions about the nutritional value of food.) The subjects who composed the faddist subsample were older, had less income, were less educated, and had more rigid personalities than their counterparts in the non-faddist group.

A particularly significant addition to the literature regarding the influence of the homemaker's attitudes on dietary levels was the research carried out by Fox, et al.² The sample consisted of two thousand households which had at least one preschool-aged child and the families were selected from rural areas, small towns, and larger communities. The study investigated relationships of the nutritive quality

²Hazel M. Fox, et al. (1970), "The North Central Regional Study of Diets of Preschool Children," Journal of Home Economics, Volume LXII, No. 5, May, pp. 327-332.

of food consumption by preschool children (dependent variable) with the homemaker's nutrition knowledge, her attitudes toward meal planning, food preparation and nutrition, and the homemaker's permissiveness (independent variables). The correlation results of this study are presented in Table 2.2. Attitudes toward meal planning and food preparation were as significantly related to the nutritive quality of the food as was nutrition knowledge, and the homemaker's permissiveness was negatively associated with the nutritive quality of the diets investigated. The study by Fox, et al. (1970) deserved particular mention in this thesis since it illustrated an attempt to explain the quality of nutrient intake by exploring associations with major attitude dimensions of the homemaker. The low degree of association between the independent and dependent variables might be explained by the fact that important intervening variables, among them the degree of food management activities, likewise affected the nutritive quality of food consumption.

Research elaborated upon under this section suggested the feasibility of utilizing nutrition knowledge, attitude and personality measures in predicting the nutritive content of food consumption. From this review of the literature, it followed that these variables may also be gainfully utilized in analyzing family food management behaviour.

Summarizing the findings of the literature, it was established that, with the exception of food purchasing, research with respect to other major dimensions of food management and their associated factors lacked depth and/or precision. Consequently, there appeared to be a need for further study regarding the food management behaviour of homemakers in order to explore additional main food management dimensions as

TABLE 2.2

CORRELATIONS OF HOMEMAKERS' ATTITUDES AND NUTRITION
KNOWLEDGE WITH DIETARY SCORES OF PRESCHOOL CHILDREN

Dependent Variables Dietary Component (Scores)	Independent Variables				
	Nutrition Knowledge	Attitudes Toward			
		Meal Planning	Food Pre- paration	Permis- siveness	Nutrition
Kilocalories	.058	.079	.064	-.061	
Protein	.077	.067	.090	-.089	.067
Fat			.065		
Carbohydrates		.098		-.059	
Calcium	.062		.077	-.092	
Phosphorus	.082	.073	.074	-.114	.068
Iron		.094		-.092	
Vitamin A Value				-.104	
Thiamin		.070		-.078	
Riboflavin	.069	.064	.090	-.114	
Niacin equivalent	.085	.079	.078	-.094	.068
Ascorbic Acid	.107	.091		-.059	

$P < .01$ for $r > .058$

SOURCE: Fox, et al., (1970). "The North Central Regional Study of Diets of Preschool Children." The Journal of Home Economics, Volume LXII, No. 5, May, page 327.

well as to investigate the relationships of the homemaker's major personal and interpersonal attributes to food management activities. It is thus hoped that the research which has been reported throughout this thesis will have made a considerable contribution toward fulfilling this need.

CHAPTER III

RESEARCH DESIGN

According to the literature, little is known about relationships between the homemaker's attributes and her degree of food management activities. Therefore, this research study was of an exploratory nature, aimed at discovering new knowledge and gaining a better understanding of the homemaker's food management behaviour. Consequently, much more information was required for this investigation, as compared to studies drawing on a well-founded theory and literature. Furthermore, it was essential that the sample size be relatively large to allow for various statistical procedures and permit inferences regarding the general population. Thus, when deciding upon the sampling and information-gathering procedures, the amount of information necessary, the sample size required, and the financial resources available all had to be taken into consideration.

The Sample

In the marketing field, consumer panels have been used extensively for data collection on homemakers' attitudes related to shopping behaviour and on consumption patterns (Bucklin, et al., 1967). A consumer panel, comprising seven hundred homemakers from various socio-economic backgrounds, was available in the City of London, Ontario (population approximately 216,000) and was operated by Canadian Family

Opinion of Toronto. This panel had been set up two years prior to this thesis research study. In order to obtain a cross-sectional sample of London households, the city area was divided into four quadrants and panel member quotas were set for each, based on the population census statistics for these areas. Approximately ten thousand addresses were then selected at random from the London city directory and application forms for participation in the panel were mailed to these homemakers. The number of qualifying applications received amounted to twelve hundred from which a further two hundred applicants were eliminated in order to conform with the quota specifications of each quadrant. Thus, the initial size of the panel representing a cross-section of households in the London area was one thousand. Panel members who ceased cooperating during the subsequent operation of the panel were not replaced and, therefore, the number of panel members was reduced to seven hundred homemakers by the time of this thesis investigation. The panel promised a fairly large sample of survey respondents at a reasonable cost and, for these reasons, the decision was made to use it as a base for this study.

There were only approximately fifteen per cent of households in the consumer panel that had total family incomes of less than six thousand dollars. On the other hand, according to the literature, the need for improving food management practices appeared to be most pressing for low-income homemakers. Therefore, in order to render the findings of this thesis investigation more applicable to families from this particular socioeconomic background, it was decided to aim for a higher representation of low-income households than was available from the

consumer panel. Consequently, the researcher recruited an additional one hundred and eighty homemakers from this social class. These homemakers were chosen at random from six low-income areas of the same urban population as that of the consumer panel and were widely spread in order to avoid communication among these respondents.

The additionally recruited homemakers increased the number of persons receiving a two-part questionnaire to a total of eight hundred and eighty. Sixty-eight per cent of the panel members and seventy-eight per cent of the locally recruited homemakers completed both parts of the questionnaire and, thus, the number of survey participants who could be included in the data analysis totalled six hundred and sixteen.

The possibility of projecting the results of this investigation beyond the survey population would depend mainly upon the degree of similarity between the sample characteristics of this study and those of larger populations. Data from the 1971 population Census of Canada would have been ideal for a comparison but, unfortunately, these statistics were not available in time to incorporate them into this thesis. Therefore comparisons were made with the recently released sample characteristics of the 1969 National Family Expenditure Survey, comprising a cross-section of 15,140 households.

A profile of the household characteristics of the respondents in this thesis survey compared with the broader populations in Ontario and Canada is presented in Table 3.1 and the results indicate that:

- (1) The survey respondents had more children and their family size was approximately one third larger than that for the average household

TABLE 3.1

PROFILE OF THESIS RESEARCH SAMPLE AS COMPARED TO THE SAMPLE CHARACTERISTICS OF THE
1969 NATIONAL FAMILY EXPENDITURE SURVEY

	Thesis Research Sample		1969 National Family Expenditure Survey	
	London, Ontario	Ontario	Ontario	Canada
Number of Families in Sample	616	3,469		15,140
Family Size	Average per Family		Average per Family	
	4.10	3.18		3.28
Number of Children	Average per Family		Average per Family	
	under 6 yrs. .63	under 5 yrs. .29	under 5 yrs. .30	
	6 - 12 yrs. .72	5 - 15 yrs. .78	5 - 15 yrs. .83	
	13 - 18 yrs. .52	16 - 17 yrs. .11	16 - 17 yrs. .13	
	under 19 yrs. 1.87	under 18 yrs. 1.18	under 18 yrs. 1.26	
Number of adults (including parents)	19 and over 2.23	18 and over 2.00	18 and over 2.02	
Age of Head of Household	42.8 yrs.	46.8 yrs.	47.2 yrs.	
Net Yearly Family Income before taxes	\$ 8,562	\$ 9,208	\$ 8,222	
Average Yearly Dollar Expenditure for Food	\$ 1,216 (14.2% of net income)	\$ 1,573 (17.0% of net income)	\$ 1,524 (18.5% of net income)	
Average Yearly Dollar Expenditure for Food per Family Member	\$ 297	\$ 495	\$ 465	
Homeowners	73.0%	61.7%	58.1%	
Car or Truck Owners	89.0%	74.6%	71.5%	
Wife Employed Full-time	17.0%	12.6%	10.0%	

in Ontario and Canada.

- (2) The age of the head of the household was approximately comparable to the Ontario and Canada average.
- (3) The yearly family income for the sample respondents tended to be somewhat lower than for families in Ontario but slightly above the national average.
- (4) For the survey participants, the percentage of family income spent on food was lower than that for the Ontario and Canadian average (14.2% versus 17.0% and 18.5%, respectively). When the yearly food dollar expenditure per family among the three sample populations was compared, the yearly average for households of the thesis survey was 23% lower than the comparable figure in Ontario and 20% lower than that for Canada. In view of the larger family size of the survey respondents, the differences in the yearly food expenditures per household member was even greater. For families in the thesis sample this figure was 40% less than the comparative amount for Ontario and 36% less than that for the average Canadian family. However, the discrepancies were partially due to differences in measurement procedures. The thesis survey assessed the weekly amount spent on groceries only (excluding non-food items), whereas the 1969 National Family Expenditure Survey included, in their measure of food expenditure, such items as carry-out food, party food, any food eaten away from home including between meal food (ice cream, snacks, etc.), food consumed while on vacation, and that food consumed by dependents away at school or college. It would be difficult to assess

how much the food expenditure reported by the thesis survey respondents would increase with the inclusion of such items. Nevertheless, it was believed that the average yearly food expenditure per family member would still be lower than the comparative figure for Ontario and Canada.

(5) Home and car ownership was slightly higher for the thesis sample population than for the average Ontario and Canadian family.

(6) The wives in the survey sample were more likely to be working full-time than those in the average household in Ontario and Canada.

It was concluded from the above that the goal of a strong representation of families from lower socioeconomic backgrounds has been achieved. This was reflected by the lower family income, the larger family size, and the lower average food expenditure per household member as compared to the average in Ontario and Canada. From this comparative analysis it appeared that the results of this investigation could be projected to other urban populations, especially those from lower socioeconomic backgrounds. More detailed information regarding the characteristics of the thesis sample is given in Appendix A.

Development and Choice of the Measurement Instruments

Further insight into the food management process was gained from personal conversations with persons responsible for disseminating food management knowledge to homemakers, particularly those consumer educators specializing in assisting families from the lower socioeconomic segments of the population. These discussions with public health nurses, dietitians, and officials of health, welfare and family services helped to

identify some of the difficulties which would be encountered in using a mail questionnaire to gather the survey data. Extensive personal interviews were conducted as well with approximately twenty-five homemakers from various socioeconomic backgrounds in order to collect preliminary information regarding the dimensions and degree of food management activities as perceived by homemakers. These interviews were also of particular value in generating ideas about the major factors which could be related to the food management process and for choosing appropriate measurement instruments.

In the course of this process, a predictive generalized model of family food management behaviour was formulated and used as a framework in the development of the two-part mail questionnaire:

$$\begin{array}{l} \text{Degree of Family} \\ \text{Food Management} \\ \text{Activities} \end{array} = f(\text{knowledge}) + (\text{attitudes}) + \text{interpersonal} \\ \text{factors}) + (\text{socioeconomic background}) + \\ (\text{personality characteristics})$$

Copies of the final questionnaire, together with accompanying letters, as well as reference lists to facilitate identification of the measurement dimension underlying each test item, are contained in Appendix B.

Measurement Instruments for the Dependent Variables

At the exploratory stage in the development of measures for the homemaker's food management functions, Nickell's (1968) classification scheme of family food management activities, listed in Table 2.1, was examined. Considering the maximum amount of survey information which could be collected by two mail questionnaires, it was thus decided to

restrict the study of family food management activities to fewer main classifications than those of Nickell. As a consequence, the homemaker's food buying and food preparation functions were excluded from this thesis investigation; the first in view of the considerable amount of literature already available and the second because the investigator had very little expertise in the study of this particular dimension of home food management.

As a next step in the process of generating measurements for the dependent variable, the reduced set of Nickell's classifications for major food management functions was more closely defined in this study.

<u>Nickell's Main Classifications</u>	<u>The Researcher's Main Classifications</u>
(1) Setting nutritional standards	(1) Using nutrition knowledge
(2) Planning meals to meet nutritional standards	(2) Serving a variety of food
	(3) Advance menu planning
(3) Planning the amount of money that can be spent for food	(4) Budgeting food expenditures
	(5) Economizing food expenditures
(4) Planning for purchase	(6) Searching for shopping information
	(7) Using a shopping list
(5) Making food consumption pleasant	(8) Setting an elaborate table
	(9) Making food look attractive and exciting
	(10) Making the main meal an enjoyable occasion

For the purpose of this thesis research, therefore, measures relating to the above ten food management classifications were used to determine the homemaker's degree of food management activities.

Finally, test items measuring these food management functions

were developed. Of particular help was Trier's Decision-making Battery, which consisted of an elaborate set of self-administered questions for the collection of information on the homemaker's decision making process with regard to food shopping.¹ Test items originating or adapted from Trier's test instrument for use in this survey are listed in Appendix B. All other measures describing the homemaker's degree of food management activities were developed for this study on the basis of information obtained during personal field interviews with numerous homemakers from various socioeconomic backgrounds. Altogether there were thirty test items that measured the dependent variables of this investigation, all of which were included in the first part of the survey questionnaire illustrated in Appendix B.

Measurement Instruments for the Independent Variables

General Approach. The choice criteria for the independent variables were twofold. First, either past research had intimated relationships with at least one of the dependent variables or there was good reason, in the investigator's opinion, to assume that such an association with the degree of the homemaker's food management activities could exist. Secondly, a better understanding of such a relationship was relevant to consumer education agencies when formulating goals and strategies for education programs in food management. Using the above criteria and

¹Louis P. Bucklin and James M. Carman (1967), "Trier Decision Making Battery," in The Design of Consumer Research Panels: Conception and Administration of the Berkeley Food Panel (Berkeley, California: Graduate School of Business Administration, University of California), p. 164.

applying the framework of the generalized predictor model as a boundary for the scope of this investigation, the opportunity for discovering new and relevant associations in the food management process was greatly increased. However, this approach also involved collecting a substantial amount of data which, in the final analysis, did not contribute significantly to the explanation of the homemaker's food management behaviour.

Nutrition Knowledge. This was considered a major independent factor related to family food management activities and several nutrition knowledge tests were evaluated regarding their potential use in this survey. The investigator was searching for a condensed set of non-technical questions which reflected the homemaker's practical nutrition knowledge without testing for the properties and functions of nutrients or the amount of nutrient intake required for persons of different age or sex groups, or with specific nutritive health requirements. This was deemed necessary in view of the considerable number of survey participants from lower socioeconomic backgrounds, many of whom would have been unable to answer nutrition questions of a highly complex nature. Thus, for the purpose of this survey, Dwyer's Practical Nutrition Questionnaire (1969), which comprised seventy questions on nutrition knowledge, was considered the most appropriate measurement instrument from which to choose nutrition test items. In view of the given limitations for the total amount of survey information, the space which could be allocated to the nutrition knowledge section of the questionnaire was quite restricted. Therefore, it was only possible to investigate some major elementary dimensions of nutrition knowledge. These were:

(1) concept of a well-balanced diet, (2) differences in nutritional value of foods, (3) meat substitutes, (4) food groups of Canada Food Guide, and (5) nutritional misbeliefs. In order to test these dimensions, twelve measurement instruments were chosen from Dwyer's Practical Nutrition Questionnaire and one question was developed by the researcher. These thirteen nutrition knowledge test items are included in questions 7 to 19, Part 2 of the survey questionnaire.

Bucklin's (1967) study on food shopping behaviour included a test instrument which identified role dimensions by measuring the importance ascribed by the homemaker to several major household tasks. For application in this thesis research, Bucklin's set of questions were modified by deleting and adding individual test items which, in revised form, measured the homemaker's role orientation regarding routine household tasks, special food provisioning, raising children, planning family functions, and participating in community activities (Questionnaire Part 2, question 2). Further readings on the above role dimensions were obtained by ascertaining the homemaker's likes or dislikes with respect to homemaking tasks. Test instruments which measured additional role orientation dimensions, such as the homemaker's attitudes to planning functions and importance of nutrition knowledge, were also developed. The related questionnaire items can be located by consulting the reference list in Appendix B.

Personality Traits. The feasibility of employing personality traits in predicting homemaking behaviour has been proven in the field

of marketing.² It was suspected that personality traits describing the homemaker's predisposition regarding nurturance, achievement, organization, change, and value orthodoxy would show significant associations with the dependent variables of this investigation and, therefore, they were included in the questionnaire design. A desirability scale was added for the purpose of determining respondent bias in questionnaire replies by homemakers from different socioeconomic backgrounds. The test instruments for measuring these personality traits were chosen from the Jackson Personality Inventory (1969) and Personality Research Form (1967), each trait being measured by sixteen to twenty self-administered true/false questions. A description of a high scorer for each of these scales is given in Appendix C.

Other Independent Variables. A considerable number of additional measures relating to further attitude dimensions of the homemaker, her interpersonal relationships and socioeconomic characteristics were included in the questionnaire design. These test items, together with the underlying measurement dimension, are noted in the reference list of Appendix B.

In summary, the major independent variables chosen for this investigation were: nutrition knowledge, food planning orientation, social orientation (family- and community-related activities), household task orientation, expectations of husband regarding food, expectations of

²The following sources discuss the application of personality traits as predictors of consumer behaviour: Brody and Cunningham (1968); Cohen (1968); Carman (1970); and Fry (1971).

husband regarding homemaking tasks, socioeconomic characteristics, and six personality traits.

Data Collection

All dependent measures of this investigation were included in the first part of the questionnaire and approximately ten days elapsed before the survey respondents received the second part. To balance the length of the first section of the questionnaire a number of independent variables, which did not appear to affect the response pattern for the dependent test items, were added. This procedure assured minimal conditioning effects by the dependent variables on the response pattern pertaining to the independent measurements of the study.

The questionnaires were pretested with fifteen low-income homemakers by this investigator, and with a cross-sectional sample of fifty homemakers by Canadian Family Opinion of Toronto. The questions were well-understood and, after minor revisions, the questionnaires were distributed to the survey sample.

Part 1 of the questionnaire was mailed to the panel members and delivered to the newly recruited respondents during the latter half of November, 1970, and Part 2 was sent out ten days later. This schedule avoided any holiday periods or influences which might disturb a homemaker's usual food management patterns, such as special attention to food provisioning during the Christmas season. The panel members returned their questionnaires by mail and those of the other respondents were collected personally.

The measurement instrument was quite long and only a small

incentive (a fifty-cent gift with each mailing) was used to solicit the homemaker's cooperation. Under these circumstances the rate of return, 68 per cent from panel members and 78 per cent from locally recruited homemakers, could be termed quite good. Thus the number of survey participants completing both parts of the questionnaire totalled six hundred and sixteen.

Plan for Analysis

For each valid test item, the distribution of responses for the total sample was evaluated and analysis of variance was applied to ascertain the significance of differences among the mean scores of four socioeconomic subgroups. Item by item correlation analysis was then employed to assess the feasibility of combining small numbers of single test items into composite indices. In more complex situations involving a large number of interrelated variables, principal components analysis was used to form constructs of higher abstraction. For the purpose of measuring intercorrelations among the major independent variables of the research study, as well as investigating their associations with the degree of the homemaker's food management activities, simple and partial correlation analysis was employed. Finally, multiple regression analysis was applied to examine the predictive power of the food management behaviour model developed in this thesis, and to determine the relative importance of the independent model components in predicting the homemaker's involvement in food management functions.

CHAPTER IV

PRELIMINARY ANALYSIS OF RESEARCH RESULTS

This chapter has two main objectives, the first of which is to present and elaborate upon the distribution of the survey responses. To facilitate presentation, composite scores were constructed for the homemaker's personality traits, nutrition and socioeconomic measures. The responses for all other test items were listed separately for each individual question. For ease of reference, these response distributions are noted in the copy of the survey questionnaire which is included in Appendix B. The second goal is to report the significance of differences in the mean scores of four socioeconomic subgroups. To achieve this, the analysis of variance technique was employed and the respective results are given in Appendix D.

In the discussion of the survey responses, particular emphasis has been placed upon those items measuring the degree of the homemaker's food management activities as it was felt they might provide useful benchmarks regarding present levels of food management activities among homemakers from various socioeconomic backgrounds.

Preliminary Data Processing

Personality Scores. Scores for the six personality traits describing achievement, organization, nurturance, change, value orthodoxy, and desirability were determined by answers to sixteen or twenty self-

administered true/false questions, and calculated following the procedures enumerated in Appendix E.

Nutrition Knowledge Score. Answers to the nutrition knowledge questions, numbers 7 to 19 in Part 2 of the Questionnaire, have been processed according to the scoring guide listed in Appendix F.

Socioeconomic Index. The rating for the homemaker's socioeconomic classification (SEC) was obtained by averaging her education, occupation, and total family income index. Further details of this procedure are explained in Appendix H. The total sample population of six hundred and sixteen homemakers was then divided into four subgroups. Using the distance between the mean of the SEC distribution and a homemaker's SEC score (in terms of fractions or multiples of the standard deviation of the SEC distribution) as a guideline, a homemaker was assigned to one of the four subgroups. The ranges of these groups were defined by their distance from the mean of the SEC distribution:

<u>Distance Between Homemaker's SEC Score and the SEC Mean of the Total Sample Expressed in Standard Deviation(s)</u>	<u>Socioeconomic Classification</u>	<u>Number of Homemakers</u>
-1.00s to -2.50s	I : High	101
-.00s to -.99s	II : Upper Middle	213
+.01s to +1.00s	III : Lower Middle	194
+1.01s to +2.50s	IV : Low	108

Thus, the typical profile of a homemaker in the high socioeconomic classification would be that of having completed high school or having a university education, reporting a total yearly family income of \$10,000 or

over, and having a husband whose occupational prestige rating would range from that of a building contractor to that of a physician. In contrast, a homemaker from the low socioeconomic classification would not have completed high school or would have attended public school only, would have a total yearly family income between \$3,000 and \$6,000, and would have a husband whose occupational prestige rating would range from that of a janitor to that of a truck driver.

Non-Responses for Other Questionnaire Items. For questionnaire items other than those already discussed, omitted answers were dealt with by the following decision rule:

- (1) If twenty or less non-responses (out of 616), those homemakers who gave incomplete information were assigned the mean score of the response distribution relating to the respective item.
- (2) For items with twenty-one or more incomplete answers, the non-responses were enumerated separately and, unless otherwise specified, were coded as NR (non-responses).

Preliminary Analysis of Variance Results

For each test item, mean values, excluding unadjusted non-responses, were calculated for the total sample and the four socioeconomic subgroups which have been previously defined. The analysis of variance technique was then used to determine the statistical significance of the difference in the test item means for each of the four subgroups and the

results are reported in Appendix D for all test items with an F-ratio still significant at the .05 level.

In the analysis of variance procedure, a significant F-ratio would indicate that the differences in the means of the categories tested could not have occurred by chance more often than the frequency implied by the level of significance corresponding to the respective F-ratio. These analysis of variance results, however, did not indicate which of the observed differences in the means of the subgroups were the main contributing factors of the level of the F-ratio. Such information was not required, since the major interest in this area of investigation was to determine, for each questionnaire item, whether a trend or pattern in the means of the four socioeconomic subgroups emerged and whether such findings were statistically significant.

Response Distribution of the Dependent Variables
(Family Food Management Activities)

A consistent pattern was used for coding items measuring the homemaker's food management functions, with a code of "1" indicating a high degree of food management activities and a higher number signifying a movement in the opposite direction. Unless otherwise stated, the comparisons among response categories always referred to the total sample size of six hundred and sixteen homemakers. A summary term "seldom to never" has been used when discussing survey responses for the questionnaire categories "seldom," "almost never," and "never."

The reference list of Appendix B was employed as a framework for the study of the survey responses. This list features the ten major food

management dimensions under investigation together with the corresponding questionnaire items and these areas of food management are enumerated below in the order in which they were listed.¹

Using Nutrition Knowledge (P1/17.3, 17.13, 17.17, 17.20)

All of the four test items measuring this food management dimension had a considerable number of respondents (18% to 46%) who fitted into the "seldom to never" range. Details of the percentage distributions and the analysis of variance results are shown in Table 4.1. Of the total sample, 28% of the homemakers "seldom to never" considered what kinds of foods the family ate at other meals or in between meals. This would imply that the approach to, or the quality of nutrition planning of such homemakers was deficient, inasmuch as they did not seem to take the family's daily food requirements into consideration as a guideline when planning the main meal. This appeared to be the case for all socioeconomic subgroups, as the analysis of variance results were not significant at the .05 level.

With regard to the frequency of using nutrition knowledge, 14% of the respondents "seldom to never" made full use of what they knew about nutrition and another 16% did so only "occasionally." Homemakers in the low socioeconomic classification tended to utilize their nutrition knowledge to a lesser extent than those of the other subgroups of the survey sample.

Nearly half of the survey participants (46%) "seldom to never"

¹P1, P2 refers to Part 1 and Part 2, respectively, of the survey questionnaire, and the numbers following refer to the questionnaire items.

TABLE 4.1

RESPONSE DISTRIBUTION: USING NUTRITION KNOWLEDGE

Code	Response Distribution						Analysis of Variance				Level of Significance	F-Ratio		
	1		2		3		4		5				6	
	Always %	Often %	Occasionally %	Seldom %	Never %	Almost Never %	Total Sample	Upper Middle	Lower Middle	Low			Level of Significance	F-Ratio
Classification	24	32	16	9	7	12	2.81						7.30	
Test Item														
When planning for the main meal I carefully consider what kinds of foods the family eats at other meals or in between meals. (P1/17.3)	28	42	16	9	2	3	2.23	2.03	2.01	2.37	2.57		.001	7.95
When I decide on what foods to serve my family I make full use of what I know about nutrition. (P1/17.13)	6	29	19	14	10	22	3.58	2.98	3.24	3.77	4.46		.001	20.57
My food decisions tend to follow nutrition recommendations, such as Canada Food Guide, or similar. (P1/17.17)	15	26	23	17	9	10	3.11							
I worry more about whether my family likes the food I serve than I worry about nutrition. (P2/17.20)														7.25

followed the recommendations of the Canada Food Guide or similar food management publications and another 19% used such guidelines only occasionally. Moreover, the incidence of not using such food management aides was markedly higher for homemakers from low socioeconomic backgrounds. There could be several reasons why this happened. For instance, the homemakers either might not have been familiar with the Canada Food Guide or, if they did know about it, they found it impractical to use, or they lacked the motivation to employ such techniques in their food management activities.

The remaining test item, relating to this particular food management dimension, measured the extent whereby taste would over-ride nutrition considerations. A rather large percentage of the homemakers (41%) indicated that they very often or always worried more about whether the family liked the food they served than they worried about nutrition. The socioeconomic classification of the participants did not have any bearing on the responses to this question.

In summary, the survey findings suggested that the homemaker's nutrition knowledge was, to some extent, an under-utilized resource in the food management process for all homemakers, but particularly for those in the lowest socioeconomic classification.

Serving a Variety of Food (Pl/6 and 7)

A consistent and strong pattern emerged. Homemakers in the highest socioeconomic class served the greatest variety of food, with the frequency rapidly decreasing for each lower classification. The average incidence of serving food variety was low, with 16% of the

respondents serving an unusual main dish only once a month, and 42% of them indicating a new main dish was prepared only once every six months or less often.

Advance Menu Planning (Pl/1a, 1b, 3, 17.1)

The response frequencies and analysis of variance results for this major food management dimension are presented in Table 4.2. Only 45% of the homemakers had their meals planned prior to doing their shopping. Similarly, an exceedingly small number of the survey participants (13%) decided on the main dish for their main meals more than one day in advance, and more than half of the homemakers (58%) planned less than one day in advance. The time period of advance planning varied by socioeconomic groups, with the low-income homemakers tending to use a shorter planning horizon. Ninety-one per cent of the homemakers very rarely or never used a written menu plan for the main meals of the week. With regard to decisions of food preparation for meat, fish or poultry prior to shopping trips, 41% of the respondents indicated that they would do so only occasionally or less frequently.

The responses to the aforementioned measurement instruments indicated that most of the homemakers appeared to have a rather short planning horizon regarding food provisioning.

Budgeting Food Expenditures (Pl/11a, 17.18)

Although most homemakers in the survey (95%) were able to give an approximate estimate of the amount spent per week on food, only 49% of the respondents indicated that they had a regular budget or amount

TABLE 4.2

RESPONSE DISTRIBUTION: ADVANCE MENU PLANNING

	Code	Responses	Analysis of Variance					Level of Significance	F-Ratio
			Total Sample	Sample Means			Lower Middle		
				High	Upper	Socioeconomic Subgroups			
<u>Main Meal Decision (Pl/1a)</u> Before going shopping In the store After buying food	(1) (2) (3)	45% 21% 34%	1.88	2.50	2.41	2.71	2.95	7.05	
<u>Advance Planning Time (Pl/1b)</u> Four hours or less Same day (more than 4 hours) One day in advance More than one day in advance	(4) (3) (2) (1)	17% 41% 29% 13%	2.61	2.50	2.41	2.71	2.95	.001	9.8
<u>Use of Printed or Written Menu (Pl/3)</u> One week in a month or less Very rarely Never	(1) (2) (3)	9% 32% 59%	2.50	2.40	2.44	2.54	2.62	.05	2.77
<u>Food Preparation Planning (Pl/17.1)</u> I decide how I will prepare any meat, fish or poultry before or as I buy it.	(1) (2) (3) (4) (5) (6)	27% 32% 18% 9% 5% 9%	2.59					7.85	
		always very often occasionally seldom almost never never							

of money allocated for food provisioning. This figure decreased progressively for other less important household items. Regarding the budgeting of food money prior to major shopping trips, 33% of the respondents indicated that they "seldom to never" decided what food they should buy for the money they could spend. For these two test items, no significant difference was found in the response distribution of the socioeconomic subgroups, as can be seen in Table 4.3.

Economizing Food Expenditures (Pl/17.5, 17.15)

No differences were found among the socioeconomic subgroups with regard to the frequency of using food management techniques aimed at economizing food expenditures. Moreover, the number of homemakers who rarely used such techniques was substantial. The respective response frequencies of these questionnaire items are also given in Table 4.3. Among the survey respondents, 37% "seldom to never" bought a food product on special if it was not their usual brand and 69% "seldom to never" figured out the cost per serving before or as they bought meat, fish or poultry. These findings validated, to some extent, the response pattern discussed under the previous heading with respect to the number of homemakers who had no regular budget for food provisioning.

Searching for Shopping Information (Pl/17.2, 17.7, 23)

Similar to the response pattern for test items regarding the economizing of food expenditures, no significant differences were detected among socioeconomic subgroups in the degree of activities related to this food management dimension. Seventy-eight per cent of the homemakers "seldom to never" listened to the radio in order to obtain

TABLE 4.3

RESPONSE DISTRIBUTION: BUDGETING AND ECONOMIZING FOOD EXPENDITURES

Code	Response Distribution						Sample Mean (N = 616)
	1 Always %	2 Very Often %	3 Occa- sionally %	4 Seldom %	5 Almost Never %	6 Never %	
<u>Budgeting Food Expenditures</u>							
Having a Food Budget*							
	Yes 301	No 315					
Before I go on a major shopping trip I figure which foods I should buy for the money I can spend. (Pl/17.18)	24	29	14	11	6	16	2.93*
<u>Economizing Food Expenditures</u>							
I buy a food product on special even if it is not my usual brand (Pl/17.5)	9	23	31	13	13	11	3.33*
I figure out the cost per serving before or as I buy meat, fish or poultry. (Pl/17.15)	6	15	10	10	15	44	4.43*

NOTE: * Analysis of Variance of the socioeconomic subgroup means was not significant at the .05 level.

shopping information. Newspapers were more often employed as a source for shopping information, with only 21% of the respondents reporting that they "seldom to never" read the newspaper to find out what specials the stores were offering. A more generalized question was asked in order to determine the frequency of obtaining information regarding specials and prices prior to shopping, and 31% of the homemakers reported that they did so only "occasionally" or less often.

Using a Shopping List (Pl/24, 25)

Of the survey participants, 21% did not use a shopping list regularly. Differences arose in the socioeconomic subsamples, with the homemakers from the lowest classification indicating lower frequencies of employing this food management technique. Of those respondents who used a shopping list, 85% included most or all of the items they purchased.

Setting an Elaborate Table (Pl/9)

The test item for this food management dimension measured the frequency a homemaker set the dinner table in a more elaborate fashion than usual. A large number of respondents did not seem to be concerned about this aspect of food management, as 60% reported that they performed this function only once a month or less often, and 23% indicated that they did this less than once every three months. A significant trend emerged among the means of the socioeconomic subgroups, with this function of food management being performed most frequently by those homemakers in the high socioeconomic classification.

Effort Spent Making Food Look Attractive and Exciting (Pl/17.19)

The majority of homemakers (79%) indicated that they "very often" or "always" made a special effort to make the food look attractive and exciting. Higher frequencies were again discovered for homemakers in the highest socioeconomic group.

Making the Main Mealtime an Enjoyable Occasion (P/8a, 8c, 10)

It was recorded by most of the homemakers (80%) that the family sat together for the main meal of the day five or more times a week. For 24% of the total survey respondents, the main meal lasted not longer than twenty minutes and 52% usually spent twenty-one to thirty minutes at the main meal. The duration of the main meal varied by socioeconomic classification, with homemakers from the lowest socioeconomic group spending less time. There was a considerable number of homemakers (26%) who apparently did not enjoy their main mealtimes and, among the socioeconomic subgroups, there were no significant differences detected for this test item.

In summary, the foregoing were the major food management classifications studied in this research. Of particular interest was the fact that the frequency of using those techniques which were specifically directed at keeping food costs low (budgeting, economizing food expenditures, search for shopping information) did not vary by the socioeconomic background of the homemakers. For the other food management dimensions of this study, the mean score for homemakers in the lowest socioeconomic classification consistently indicated the lowest

degree of food management activities among all the four socioeconomic subgroups. Of special importance were the findings regarding the use of nutrition knowledge, since about one-third of the survey participants did not use their nutrition knowledge to their full advantage (Pl/17.13).

Having presented these preliminary research results, the objective of measuring the degree of food management activities of urban homemakers was achieved. Some of these test items showed substantial intercorrelations and further analytical procedures are applied in the following chapter to summarize such variables into meaningful constructs.

Response Distribution of the Independent Variables

Discussion of preliminary results for the independent variables of the study has been restricted to the level of the homemaker's nutrition knowledge and her personality characteristics. The first variable is chosen because, according to the opinions of specialists in the field of nutrition and home economics, there were strong reasons to believe that nutrition knowledge is associated with the degree of the homemaker's food management activities. Information on personality traits has been included in the discussion in order to add to the understanding of the particular sample characteristics of this research study. With regard to the other independent variables describing the homemaker's attributes, an evaluation of the response pattern of individual test items appears to be premature prior to the process of measuring and understanding the relationships inherent in family food management behaviour.

The response frequencies of the individual independent items of

the questionnaire, as well as the analysis of variance results for the socioeconomic subgroups are all tabulated in Appendices B and D and are self-explanatory. For the convenience of interested readers, however, a summary commenting on these preliminary survey results concerning major independent questionnaire items not discussed in this chapter is presented in Appendix I.

Nutrition Knowledge (P2/7-19)

The maximum score possible was 40 points and, for reasons explained in Appendix F, a homemaker would have been able to earn a minimum of 11 points by checking all the "don't know" boxes (completely omitted answers, however, scored zero points). The mean of the homemaker's nutrition scores for the entire sample population was 26.1 points and for the four socioeconomic subgroups, starting with the highest classification, was 29.7, 27.5, 25.6, and 21.6 points, respectively. These differences in the mean scores were significant at the .001 level.

In view of the practical and rather elementary nature of the nutrition test items, as well as the scoring procedures involved, the homemaker's level of nutrition knowledge as measured by these questions was lower than expected.

The Homemaker's Personality Characteristics (P1/26 and P2/25)

The analysis of variance results for the six personality scales of this study (organization, desirability, achievement, value orthodoxy, nurturance, and change) are presented in Table 4.4. The personality scores have been standardized as explained in Appendix G, and a high

TABLE 4.4

THE HOMEMAKER'S PERSONALITY CHARACTERISTICS: ANALYSIS OF VARIANCE RESULTS

	Total Sample	<u>Socioeconomic Subgroups</u>				F-Ratio	Level of Significance
		High	Upper Middle	Lower Middle	Low		
<u>Organization</u>							
Mean	498.9	524	520	485	466	10.8	.001
Group Standard Deviation	101.5	99.2	102.5	100.0	90.3		
<u>Desirability</u>							
Mean	500.0	541	522	490	436	27.9	.001
Group Standard Deviation	100.0	88.8	94.9	91.8	100.5		
<u>Achievement</u>							
Mean	499.3	514	519	492	465	8.4	.001
Group Standard Deviation	100.0	108.6	97.9	94.6	94.7		
<u>Value Orthodoxy</u>							
Mean	500.0	479	489	518	509	5.0	.01
Group Standard Deviation	100.0	112.7	102.0	93.0	89.2		
<u>Nurturance</u>							
Mean	498.9	506	508	503	474	3.0	.05
Group Standard Deviation	101.9	88.2	100.5	103.0	105.8		
<u>Change</u>							
Mean	498.7	525	509	481	492	5.6	.001
Group Standard Deviation	101.9	98.4	103.4	97.1	93.1		

NOTE: A description of a high scorer has been given in Appendix C.

score reflected the personality traits of a high scorer as described in Appendix C. Significant F-values were found for all the personality traits measured. This confirmed the research findings by Ahmed, Fry and Jackson (1970) which identified associations between selected personality characteristics of the homemaker and her socioeconomic background.

With respect to the homemaker's predisposition for organization, achievement and change, a common trend emerged. On the average, the strongest motivation was reported for respondents from the highest socioeconomic classification, and the degree of motivation decreased progressively in the lower socioeconomic groups. For value orthodoxy, this pattern was reversed and respondents from the lowest socioeconomic background appeared to be the most traditional and the most conventional homemakers. The same socioeconomic groups reported the lowest mean score regarding nurturance and, for the other respondents, the nurturance mean score was higher but did not differ among the remaining three socioeconomic classifications.

The findings for the desirability measure deserved particular attention since they added to the understanding regarding response differences among the four socioeconomic subgroups. A respondent scoring high on the desirability scale tended to describe herself in terms which would be judged as desirable in responses to personality questionnaire statements. It was believed that the same would apply, to some extent, to questions similar in nature (having strong self-evaluation components) such as those concerning attitudes or the degree of food management activities, as the essential concept underlying many of these survey questions was to ask the respondent: "Are you a good homemaker?" The

analysis of variance results for the desirability scale were highly significant, with homemakers from the highest socioeconomic group scoring the highest average and the mean score markedly decreasing for each successively lower socioeconomic classification. Consequently, a homemaker from the highest socioeconomic group would, to a larger degree, tend to report a favourable picture of herself than would those respondents from a low socioeconomic background. Stated somewhat differently, these findings intimated that it was more important for respondents in the high socioeconomic class to be seen as a "good" homemaker than for those in the lower socioeconomic segments of the sample population. As a further extension of these findings, it is suggested that the actual differences in the mean scores among socioeconomic groups would be somewhat smaller due to the influence of the homemaker's desirability predisposition. This should be kept in mind when analyzing the analysis of variance findings reported throughout this thesis.

CHAPTER V

DEVELOPMENT AND SELECTION OF COMPONENTS FOR A MODEL OF FOOD MANAGEMENT BEHAVIOUR

Thus far the analysis has contributed toward improving the understanding of the present level of food management activities by homemakers from various socioeconomic backgrounds. Attention is now being focussed on the study of major factors suspected to be related to family food management activities. Stated more specifically, the aim of the subsequent analysis is to identify and obtain a better comprehension of the reasons underlying the differences in the degree of food management functions as reported by the survey participants. To accomplish this objective, the remainder of the thesis deals entirely with the development and evaluation of a generalized predictor model of food management behaviour which, henceforth, will be referred to as the FMB model.

As a first step in this direction, an examination of the individual dependent and independent questionnaire items is made, with a view to discovering common dimensions which would allow for the formation of meaningful constructs comprising several single test items.¹ This applied particularly to the large number of dependent variables measuring various aspects of family food management activities and it was hoped that these measurements could be

¹Composite indices of higher order abstraction are referred to as constructs throughout this thesis.

reduced to a few comprehensive constructs in terms of describing a smaller but more generalized set of food management dimensions. Similarly, it was desirable to reduce the number of test items which measured the homemaker's role orientation and to combine them into constructs of higher abstraction. This process of condensing individual variables into complex constructs is the principal purpose of this chapter.

Principal Method of Analysis

A decision had to be made regarding the basic analytical approach employed when forming the constructs concerning food management activities and the homemaker's role orientation. In both areas of investigation a large number of individual measurements was available, each measurement describing part of a more complex phenomenon, with a substantial portion of the items in each of these two categories being intercorrelated.

Principal components analysis appeared to be appropriate for the purpose of this study. This technique reduces a large number of variables to a smaller number of principal components. It also has the property of retaining, as principal component, even a single test item and thus allows for the possibility of overcoming weaknesses in the set of measurements used.

Plan of Analysis

Some further preliminary data processing was required to prepare the survey data prior to applying principal components analysis

and calculating major construct values. These preliminary procedures involved checking of the data with regard to invalid questionnaire items, processing of non-responses, standardization of item scores and correlation analysis between individual independent and dependent variables. This latter step was taken in order to eliminate independent questionnaire items for which no associations with any of the dependent variables emerged.

The main part of the analysis in this chapter centers around developing the constructs which reflected the homemaker's degree of food management activities and her role orientation. For the reasons elaborated upon above, principal components analysis was employed to form constructs of higher abstraction. Factor loadings were applied as a decision criterion in distinguishing the test items which were significantly related to the dimensions represented by each factor. Indices composing the scores of these grouped variables were then calculated by summarizing and averaging the standardized scores of the individual items which were clustered by the principal components analysis.³

Finally, as a basis for the selection of components for the FMB model, correlation analysis was once again applied to the dependent and independent constructs formulated in this chapter, as well as to other relevant variables not summarized by these new measures.

³Since factor loadings did not tend to distinctly polarize among the test items, it was decided not to use factor scores in determining the value of the predictor variable reflecting the dimension underlying each factor.

Preliminary Analysis

Fifteen questionnaire items had to be eliminated from further analysis because they were either invalid or had a large number of non-responses (over eighty missing observations). Non-responses for other test items were assigned the mean score of those respondents answering the question. There were fourteen test items with forty or less non-responses, and six test items in the category of forty-one to eighty missing observations. Subsequently, each respondent's scores were standardized using the transformation formula explained in Appendix G. Simple item by item correlation analysis was then employed to evaluate, for each independent variable, whether significant or relevant associations with any of the dependent variables existed. Independent test items which did not meet these criteria, or those for which other test items proved to be a better description of the measurement dimension investigated, were eliminated at this stage from the set of potential variables used in the development of the FMB model. Detailed information regarding the questionnaire items affected by this preliminary screening process are given in Appendix J.

Development of Constructs: Dependent Variables

Principal components analysis was applied to the questionnaire items describing various aspects of family food management. An eleven-factor solution, illustrated in Table 5.1, produced five meaningful factor dimensions. Fifteen out of the original twenty-eight single test items were grouped along the major food management

TABLE 5.1
 ORTHOGONAL VARIANX MATRIX: SET OF 28 VARIABLES DESCRIBING FAMILY FOOD MANAGEMENT

Q/Item	Item Description	Factor #1	Factor #2	Factor #3	Factor #4	Factor #5	Factor #6	Factor #7	Factor #8	Factor #9	Factor #10	Factor #11
Fl/1a	Occasion main meal decided	-0.033	0.063	0.671	-0.141	-0.067	0.142	-0.072	0.228	0.106	-0.161	-0.029
Fl/1b	Advance planning period	-0.073	-0.071	0.630	0.022	0.103	0.075	0.091	-0.049	0.137	-0.061	-0.151
Fl/3	Following written menu plan	-0.305	-0.094	0.602	0.029	0.124	-0.128	0.041	-0.182	-0.101	0.002	0.097
Fl/6	Serving unusual main dish	-0.825	-0.014	0.110	0.017	0.046	0.084	-0.012	0.062	0.092	-0.053	-0.072
Fl/7	Serving new main dish	-0.828	-0.047	0.092	-0.078	0.088	0.006	-0.027	0.087	0.007	-0.046	-0.090
Fl/8a	Sitting together for main meal	-0.056	0.043	0.186	-0.102	-0.026	0.003	0.233	0.002	0.149	0.026	-0.676
Fl/8b	Watching TV during main meal	0.120	-0.020	-0.057	0.063	0.035	-0.007	0.767	-0.055	-0.063	-0.070	-0.151
Fl/8c	Length of mealtime	0.168	0.008	-0.011	0.055	-0.239	-0.156	0.001	0.070	-0.608	-0.051	0.012
Fl/9	Setting dinner table elaborately	-0.426	-0.029	0.067	-0.026	0.087	0.048	0.513	0.181	0.147	-0.067	0.076
Fl/10	Enjoying main mealtimes	0.008	0.004	0.154	0.246	-0.051	-0.111	0.007	0.241	0.700	0.013	-0.078
Fl/11	Having a budget for food	-0.137	0.088	0.002	0.014	-0.020	-0.119	0.216	0.107	-0.006	-0.674	0.223
Fl/15	Quality of meals	-0.008	-0.007	0.000	-0.730	-0.142	-0.102	-0.181	0.004	-0.105	-0.124	-0.033
Fl/17.1	Planning food preparation	0.015	0.016	0.633	0.018	0.076	-0.053	-0.099	0.399	-0.043	-0.068	0.042
Fl/17.2	Search for shopping information	-0.043	-0.337	-0.070	-0.024	-0.099	-0.096	-0.035	0.574	0.137	-0.038	0.112
Fl/17.3	Use of nutrition knowledge	-0.072	-0.116	0.192	-0.005	0.228	0.047	0.074	0.624	-0.029	0.055	0.022
Fl/17.5	Buying on special	-0.031	-0.533	-0.088	-0.268	0.109	-0.224	-0.176	-0.082	0.234	0.012	0.086
Fl/17.6	Main meal preparation time	-0.165	0.065	0.016	-0.045	0.010	0.743	-0.006	0.041	0.077	-0.063	0.115
Fl/17.7	Search for shopping information	0.032	-0.837	0.032	-0.008	0.005	0.090	0.036	0.160	-0.024	0.038	-0.017
Fl/17.11	Buying convenience foods	0.072	-0.117	0.037	0.117	0.036	0.685	0.022	0.021	-0.018	0.114	-0.072
Fl/17.13	Use of nutrition knowledge	-0.109	-0.086	0.139	0.006	0.674	0.077	0.035	0.231	0.016	-0.014	-0.145
Fl/17.15	Calculating cost per serving	-0.213	-0.344	0.134	-0.090	0.202	-0.136	0.020	0.281	-0.248	-0.056	0.007
Fl/17.17	Use of nutrition knowledge	-0.224	-0.100	0.262	-0.050	0.555	-0.119	0.183	0.211	-0.010	0.031	-0.017
Fl/17.18	Budgeting prior to food shopping	-0.003	-0.122	0.182	-0.245	0.201	-0.135	-0.051	0.289	-0.163	-0.539	0.051
Fl/17.19	Making food look attractive	-0.188	-0.018	0.040	0.008	0.192	0.207	0.026	0.533	0.097	-0.081	-0.363
Fl/17.20	Use of nutrition knowledge	0.040	0.021	-0.081	0.073	0.754	0.044	-0.026	-0.072	0.143	-0.156	0.064
Fl/23	Search for shopping information	-0.061	-0.836	0.065	-0.009	0.042	0.092	0.105	0.159	-0.068	-0.080	-0.043
Fl/24	Use of shopping list	-0.123	-0.278	0.272	0.124	0.071	0.058	-0.030	-0.168	-0.115	-0.611	-0.091
Fl/25	Completeness of shopping list	0.175	0.180	0.017	-0.166	0.090	0.182	-0.058	-0.149	0.246	-0.493	-0.243
	Conceptualized Underlying Factor Dimension	Serving Food Variety	Economizing Food Expenditures, Search for Shopping Information	Advance Planning	No Distinct Factor Dimension	Use of Nutrition Knowledge	Effort Expended on Food Preparation	No Distinct Factor Dimension	No Distinct Factor Dimension	No Distinct Factor Dimension	No Distinct Factor Dimension	No Distinct Factor Dimension
	Eigenvalues	4.09	2.13	1.77	1.49	1.37	1.28	1.16	1.11	1.06	1.02	0.98
							Sum of Eigenvalues: 17.46					

classifications of using nutrition knowledge, providing food variety, advance menu planning, and searching for shopping information/economizing food expenditures. Another factor clustered two further test items describing the degree of the homemaker's efforts expended on food preparation. Composite scores were calculated for the variables grouped under each factor by summarizing and averaging the standardized scores of the single test items in each cluster. This procedure reduced the previous twenty-eight dependent variables to sixteen, composing five composite indices and eleven single test items as shown in Table 5.2.

With a view to finding even more comprehensive but still meaningful measures describing the homemaker's food management functions, several additional principal components analyses were performed on the sixteen remaining dependent variables. A five-factor solution, shown in Table 5.3, proved to produce the most meaningful factor structure.

The single test item "QUAL" (quality of meals at beginning versus end of pay period) did not load distinctly on any of the factors and, therefore, was eliminated from further analysis. It was also decided to exclude factor #4 (frequency of watching television during main meal times) since a separate correlation analysis revealed that no meaningful associations existed with major independent variables of the study. Construct scores representing the conceptualized measurement dimensions underlying the remaining four factors were then calculated as explained in Table 5.3 and Appendix K.

TABLE 5.2

REDUCED SET OF FOOD MANAGEMENT VARIABLES: FIVE COMPOSITE INDICES AND ELEVEN SINGLE ITEMS

<u>Description of Variable</u>	<u>Variable Name</u>	<u>Questionnaire Items and/or Calculation Procedure</u>
Serving a Variety of Food	VARI	(Pl/6 + 7)/2
Economizing Food Expenditure and Searching for Shopping Information	EESI	(Pl/17.5 + 17.15 + 17.2 + 17.7 + 23)/5
Advance Menu Planning	ADPL	(Pl/1a + 1b + 3 + 17.1)/4
Using Nutrition Knowledge	NUTR	(Pl/17.3 + 17.13 + 17.17 + 17.20)/4
Effort Spent on Food Preparation	TC	(Pl/17.6 + 17.11)/2
Frequency of Sitting Together for Main Meal	SITT	Pl/8a
Frequency of Watching TV During Main Meal	WATC	Pl/8b
Length of Mealtime (not watching TV)	LENG	Pl/8c
Frequency of Setting Dinner Table in Elaborate Way	SETT	Pl/9
Degree of Enjoying Main Mealtimes	ENJO	Pl/10
Having Budget for Food	BUDG	Pl/11a
Quality of Meals at Beginning versus End of Pay Period	QUAL	Pl/15
Budgeting Food Expenditure Prior to Major Shopping Trip	BFFS	Pl/17.18
Effort to Make Food Look Attractive	ATTR	Pl/17.19
Using Shopping List	ULIS	Pl/24
Completeness of Shopping List	CLIS	Pl/25

TABLE 5.3

ORTHOGONAL VARIMAX MATRIX: CONDENSED SET OF 16 VARIABLES DESCRIBING FAMILY FOOD MANAGEMENT

Variable Code	Factor #1	Factor #2	Factor #3	Factor #4	Factor #5
VARI**	-0.5644	0.0821	-0.0082	-0.0038	0.1785
EESI**	-0.6353	0.0029	0.0991	-0.1346	-0.3585
ADPL**	-0.4422	0.4111	0.0195	-0.1153	0.2618
NUTR**	-0.6706	0.1522	-0.1264	0.0655	0.0737
TC**	-0.1478	-0.0231	-0.7353	-0.0285	-0.0770
SITT	-0.1232	0.0497	0.1185	0.3649	0.5177
WATC***	-0.0392	0.0294	-0.0254	0.8651	-0.1263
LENG	-0.1730	-0.0161	-0.3830	-0.0881	0.4271
SETT	-0.4969	-0.0609	-0.0305	0.2954	0.1513
ENJO	-0.1445	-0.0746	-0.0291	-0.1519	0.6871
BUDG	-0.0359	0.5937	0.2280	0.1521	0.0737
QUAL***	-0.0496	-0.2780	-0.3822	-0.2858	-0.1148
BFFS	-0.3297	0.6001	0.2403	-0.0821	-0.1566
ATTR	-0.5619	0.0191	-0.2022	0.0494	0.1685
ULIS	-0.1672	0.6264	-0.1500	-0.0417	-0.1174
CLIS	0.3061	0.5429	-0.4273	0.0765	0.1698
Factor Names	Thorough Food Manager (TFM)	Careful Budgeter (CB)	Traditional Cook (TC)	Non-TV Watcher***	Congenial Mealtime Manager (CMTM)
Eigenvalues	2.64	1.63	1.27	1.12	1.00

Sum of Eigenvalues for all Five Factors: 7.66

* Exact description of these variables is given in Table 5.2. ** Composite indices. *** Omitted from further analysis.

NOTE: Procedures for calculating the construct values pertaining to each of the above factors are given in Appendix K. ♀

The foregoing principal components analysis separated the food management activities into four categories which described a family food manager in terms of a thorough food manager, careful budgeter, traditional cook, and congenial mealtime manager.

Each of these categories is described below in order to further explain this particular factor structure in the context of food management behaviour.

Thorough Food Manager

This measure of food management activity was the most comprehensive of the four constructs. It consisted of seventeen individual questionnaire items and included the following measurements relating to seven of the ten major food management dimensions of this study:⁴

- advance menu planning (3);
- serving a variety of food (2);
- searching for shopping information (6);
- buying "specials" (5) and
- calculating cost per serving when buying meat, fish
or poultry (5);
- using nutrition knowledge (1);
- setting an elaborate table (8);
- making food look attractive and exciting (9).

⁴ Bracketed numbers after each of these measurements refer to the researcher's main classifications of food management activities as noted in Chapter III.

This particular input comprised most of the measures required for a summary description of the degree of the homemaker's food management activities. (In its entirety this construct was considered a proxy variable for measuring the level of the homemaker's major food management functions.)

Careful Budgeter

This construct described the techniques used by the homemaker in order to plan her food expenditures and was composed of the following four test items:

- having a budget for food (4);
- budgeting food expenditures prior to major shopping trips (4);
- using a shopping list (7);
- the completeness of shopping list (7).

The composite of these variables measured the degree of the homemaker's budgeting activities. It enumerated her "record keeping" techniques in food provisioning rather than the extent by which she economized her food expenditures, a dimension that was represented by the items with the bracketed number "5" under the construct "thorough food manager." The foregoing explains why these budgeting variables were identified as a separate construct.

Traditional Cook

The two single items combined by this construct measured:
the use of convenience foods, and
the time spent on meal preparation.

These items were employed as an index to describe the homemaker's efforts expended on food preparation.

Congenial Mealtime Manager

The results of the principal components analysis suggested that the following questionnaire items be grouped together:

frequency of the family sitting together for the main meal (10);

the length of time spent at the main meal (10);

the degree of enjoyment derived during the main meal (10).

The above items reflected the social atmosphere surrounding the main mealtime and, therefore, this construct was used to describe the degree of food management activity aimed at enhancing the social component of food consumption (in contrast to nutrition and taste).

The most comprehensive single measure describing the degree of the homemaker's food management activities was that of "thorough food manager." It included those food management functions which, it was felt, could apply to all homemakers involved in the process of food management to some extent, irrespective of their socioeconomic background. For this reason the construct "thorough food manager" only was employed in the development of the FMB model. Once this model was completed and evaluated for the entire sample, it was applied to the remaining constructs of lesser importance. Analysis of variance results pertaining to all four constructs are presented in Chapter VII, which explores the applicability of the FMB model to groups of homemakers from different socioeconomic backgrounds.

Development of Constructs: Independent Variables

The homemaker's attitudes and interpersonal characteristics had been measured by a multitude of variables in order to provide an adequate number of inputs for the development of comprehensive and meaningful constructs. In such complex situations, principal components analysis was used to create constructs of higher abstraction. The formation of these constructs measuring conceptualized attitude dimensions and interpersonal characteristics of the homemaker is discussed in the order of their complexity.

The Homemaker's Role Orientation

A preliminary principal components analysis was conducted with twenty-five test items measuring various aspects of homemaking attitudes, and the matrix for an initial nine-factor solution is illustrated in Table 5.4. The emerging factor structure was not too distinct but a grouping of test items along eight factor dimensions could be recognized. These dimensions reflected on the homemaker's role as a mother and wife, the importance she ascribed to homemaking, her home life orientation, community orientation, budget orientation, her attitude toward cooking and toward creative non-food management tasks. Moreover, the factor matrix revealed that items which measured her attitude to homemaking activities (liking/disliking) and the importance which she ascribed to them, loaded heavily on the same factor in several instances and, as a first step in reducing the complexity of the analysis, such tests were combined into composite indices. Two more items reflecting on the mother role dimension were also joined to form

TABLE 5.4

ORTHOGONAL VARIMAX MATRIX: SET OF 25 VARIABLES DESCRIBING HOME MAKER'S ROLE ORIENTATION

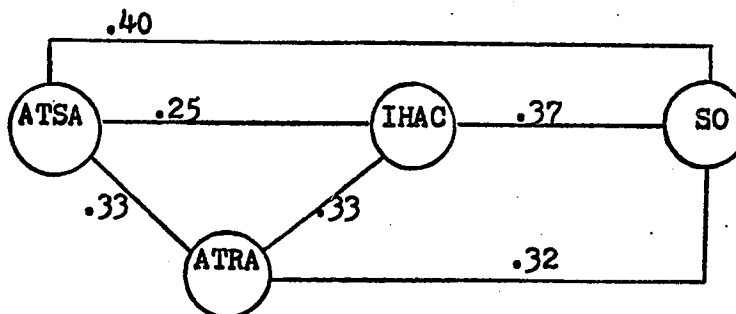
Q/Item	Item Description (Like/Dislike)	Factor #1	Factor #2	Factor #3	Factor #4	Factor #5	Factor #6	Factor #7	Factor #8	Factor #9
P2/1.1	Household cleaning	-0.152	0.121	0.026	0.050	-0.135	-0.237	0.012	-0.041	-0.690
P2/1.2	Special occasion cooking	-0.083	-0.014	-0.442	0.186	0.043	0.613	0.038	0.154	0.053
P2/1.3	General supervision and care of children	-0.815	0.105	-0.084	0.031	-0.091	-0.077	-0.072	0.060	-0.096
P2/1.4	Sewing	-0.038	-0.063	0.001	0.869	0.002	-0.130	-0.042	0.017	0.077
P2/1.5	Entertaining friends and acquaintances in the home	-0.036	0.023	-0.720	-0.025	-0.132	-0.207	-0.064	-0.080	0.020
P2/1.6	Everyday cooking	-0.117	0.232	-0.076	-0.025	-0.080	0.742	-0.094	-0.087	-0.215
P2/1.10	Planning family activities	-0.399	0.124	-0.525	0.085	-0.045	-0.087	-0.060	-0.278	0.144
P2/1.11	Participating in community activities outside the home	-0.093	-0.022	-0.161	0.046	-0.072	-0.114	-0.823	-0.127	0.076
P2/1.12	Setting dinner table for special occasions	-0.140	-0.053	-0.594	0.164	-0.034	-0.409	-0.066	-0.008	0.069
P2/1.13	Playing with children	-0.835	0.045	-0.109	0.037	-0.013	-0.131	-0.093	-0.074	-0.036
P2/1.14	Grocery shopping	-0.102	0.058	0.173	0.002	-0.049	-0.357	-0.094	-0.505	-0.394
P2/1.16	Keeping own appearance trim	-0.090	-0.020	-0.139	0.063	-0.802	-0.130	0.006	-0.120	-0.132
P2/1.17	Planning meals	-0.049	0.174	-0.172	0.032	-0.111	-0.770	-0.030	-0.185	-0.091
P2/1.19	Budgeting family finances	0.012	-0.003	-0.055	-0.011	-0.087	-0.111	-0.103	-0.814	-0.072
<u>Item Description (Ascribed Importance)</u>										
P2/2.2	Household cleaning	-0.016	0.587	-0.099	-0.030	-0.217	0.025	0.015	-0.041	-0.458
P2/2.3	Budgeting family finances	-0.095	0.478	-0.044	0.152	-0.036	0.172	0.079	-0.551	0.221
P2/2.4	Sewing	-0.032	0.189	-0.083	0.826	-0.077	0.026	-0.050	-0.073	-0.146
P2/2.5	Everyday cooking	-0.116	0.744	-0.018	0.035	-0.040	-0.308	-0.139	0.115	0.053
P2/2.7	Planning meals	-0.077	0.659	-0.188	0.041	-0.023	-0.336	-0.133	0.008	0.088
P2/2.9	Grocery shopping	-0.062	0.653	-0.061	0.056	-0.045	0.017	0.018	-0.225	-0.172
P2/2.10	Planning family activities	-0.388	0.225	-0.489	0.093	-0.019	0.072	-0.194	-0.179	0.002
P2/2.12	Keeping own appearance trim	-0.030	0.148	-0.152	0.029	-0.858	0.017	-0.071	-0.022	-0.039
P2/2.14	Entertaining friends and acquaintances in the home	0.033	0.225	-0.693	-0.091	-0.197	0.012	-0.200	0.001	-0.191
P2/2.15	Being a sexual companion to husband	-0.214	0.278	0.070	-0.067	-0.395	-0.152	-0.139	-0.022	0.410
P2/2.16	Participating in community activities	-0.116	0.166	-0.132	0.050	-0.019	0.006	-0.878	0.007	-0.045

Conceptualized Underlying Factor Dimension	Mother Role	Importance Ascribed to Homemaking Role	Home Life Orientation	Creative Non Food Management Tasks	Wife Role	Attitude toward Cooking	Community Orientation	Budget Orientation	No Distinct Factor Dimension
Eigenvalues	5.25	1.98	1.69	1.53	1.41	1.35	1.23	1.11	.96
Sum of Eigenvalues:	16.51								

a new summary index. This procedure reduced the number of test items to eighteen as listed in Table 5.5.

As further simplification, another principal components analysis was conducted. This produced a considerably tighter factor structure which separated the eighteen test items along four factor dimensions; viz., attitude to special homemaking activities (ATSA), importance of homemaking activities (IHAC), social orientation (SO), attitude to doing things with and for others), and attitude to routine homemaking activities (ATRA).⁵ The factor matrix supporting this phase of the analysis, together with calculation procedures for the formation of four constructs, is shown in Table 5.6.

When tested for interdependence, substantial intercorrelations were found among these four role orientation variables. The respective correlations have been indicated below, near the connecting lines.



These intercorrelations suggested additional simplification in the measurements describing the homemaker's role orientation. It was, therefore, decided to combine the constructs ATSA, IHAC and ATRA to form a new construct "household task orientation" (HTO). Despite the

⁵In order to facilitate discussion, important variables are assigned specific code names throughout the thesis.

TABLE 5.5

REDUCED SET OF ROLE ORIENTATION VARIABLES: SEVEN COMPOSITE INDICES AND ELEVEN SINGLE TEST ITEMS

<u>Variable Description</u>	<u>Variable Name</u>	<u>Questionnaire Items</u>
General Supervision and Care of Children/Playing with Children	CHIL	(P2/1.3 + 1.13)/2
Sewing	SEWI	(P2/1.4 + 2.4)/2
Keeping Own Appearance Trim	TRIM	(P2/1.16 + 2.12)/2
Participating in Community Activities Outside the Home	COMA	(P2/1.11 + 2.16)/2
Budgeting Family Finances	BFF	(P2/1.19 + 2.3)/2
Entertaining Friends and Acquaintances in the Home	ENTE	(P2/1.5 + 2.14)/2
Planning Family Activities	FAMA	(P2/1.10 + 2.10)/2
Household Cleaning	HHCL	P2/1.1
Special Occasion Cooking	SOCK	P2/1.2
Setting Dinner Table for Special Occasions	STSO	P2/1.12
Everyday Cooking	EVCK	P2/1.6
Grocery Shopping	GRSH	P2/1.14
Planning Meals	PLAM	P2/1.17
Importance of Household Cleaning	IHCL	P2/2.2
Importance of Everyday Cooking	IECK	P2/2.5
Importance of Planning Meals	IPLM	P2/2.7
Importance of Grocery Shopping	IGRS	P2/2.9
Importance of Being a Sexual Companion to Husband	ISEX	P2/2.15

TABLE 5.6

ORTHOGONAL VARIMAX MATRIX: CONDENSED SET OF 18 VARIABLES DESCRIBING ROLE ORIENTATION

Variable Code*	Factor #1	Factor #2	Factor #3	Factor #4	Factor #5
CHIL	-0.2258	0.0777	0.4489	0.0892	-0.2701
SEWI***	-0.1611	0.0474	0.5624	0.0424	0.2057
TRIM***	-0.0508	-0.0055	0.0678	0.3251	-0.6343
COMA	-0.1545	0.1183	0.4705	-0.1137	-0.3210
BFF	0.2393	0.2080	0.5858	0.3074	-0.0615
ENTE	-0.4353	0.0876	0.1609	-0.0572	-0.5537
FAMA	-0.2670	0.1236	0.5424	-0.0271	-0.4038
HHCL	-0.1431	0.0388	-0.0766	0.6853	-0.1677
SOCK	-0.7981	0.0539	0.0902	0.0154	-0.0200
EVCK	-0.5689	0.3338	0.0034	0.4719	-0.0356
STSO	-0.6688	-0.0556	0.2733	-0.0230	-0.2526
GRSH	-0.0377	0.0495	0.2853	0.7090	0.1209
PLAM	-0.6324	0.3132	0.0838	0.3990	0.0190
IHCL	0.1141	0.4315	-0.0367	0.4451	-0.3864
IECK	-0.1763	0.8109	0.0568	0.0227	-0.1450
IPLM	-0.2909	0.7340	0.1532	0.0025	-0.1187
IGRS	0.1577	0.6109	0.2738	0.2369	-0.0734
ISEX***	0.0029	0.2175	0.0314	-0.0378	-0.5401
Factor Names	Attitude to Special Homemaking Activities (ATSA)	Importance of Homemaking Activities (IHAC)	Social Orientation (Attitude to Doing Things for Others) (SO)	Attitude to Routine Homemaking Activities (ATRA)	**

TABLE 5.6 (continued)

	<u>Factor #1</u>	<u>Factor #2</u>	<u>Factor #3</u>	<u>Factor #4</u>	<u>Factor #5</u>
Input Variables for Calculation of Construct Values	ENTE SOCK STSO	IHCL IECK IPLM IGRS	CHIL COMA FAMA ISEX	BFF HHCL EVCK GRSH FLAM	**
Eigenvalues	4.40	1.73	1.40	1.12	1.06
			Sum of Eigenvalues for all Five Factors: 9.73		

* An exact description of these variables is given in Table 5.5.

** Omitted from further analysis.

*** NOTE: The clusters created by principal component analysis suggest formation of constructs for four factors. The variables SEMI and TRIM were eliminated from further analysis since they did not clearly approximate the conceptualized attitude dimensions underlying the other factors. The variable ISEX was included in the cluster of variables for the calculation of the construct pertaining to Factor #3. The reasoning behind this was based on the findings of a separate four-factor rotation whereby ISEX was grouped with some of the variables now clustered under Factor #3.

Calculation Procedures for Construct Values

Attitude to special homemaking activities	(ATSA) = (ENTE + SOCK + STSO)/3
Importance of homemaking activities	(IHAC) = (IHCL + IECK + IPLM + IGRS)/4
Social Orientation	(SO) = (CHIL + COMA + FAMA + ISEX)/4
Attitude to routine homemaking activities	(ATRA) = (BFF + HHCL + EVCK + GRSH + FLAM)/5
Three of the above four constructs were used to form a new measure describing the homemaker's household task orientation (HTO)	(HTO) = (ATSA + IHAC + ATRA)/3

interdependence of the homemaker's social orientation (SO) with the other three role orientation variables enumerated above, it was felt that SO should be treated separately until further understanding was acquired regarding the implications of her social orientation in the context of developing the FMB model. For the time being it thus appeared useful to work with measures which distinguished between the homemaker's household task and her social orientation.

In summary, the twenty-five test items of questions P2/1 and 2 were reduced, using principal components analysis, to two constructs describing the homemaker's household task orientation and her social orientation.

The construct "household task orientation" combined eighteen individual attitude measurements on the following:

routine activities: budgeting,
household cleaning,
everyday cooking,
grocery shopping,
planning meals;

special activities: entertaining,
special occasion cooking,
setting table for special occasions;

and the importance of several homemaking activities.

Thus this construct described the homemaker's attitude toward household tasks in general.

The seven questionnaire items included in the construct "social orientation" measured the homemaker's attitude toward child-, husband-, family-, and community-related activities. This construct, therefore, produced a reading of how the survey participants felt about

doing things for and with others when a personal relationship was involved.

In addition to the major role orientation dimensions described above, two more of the homemaker's attributes related to her role orientation were investigated in this thesis research. The first was the importance which the homemaker ascribed to nutrition knowledge and planning (NKPL; P1/18.1 to 18.4) and the second was her attitude regarding usefulness of planning (USFL; P2/6.1 to 6.6). Because the test items within each of these two groups were highly intercorrelated, indices were formed by summarizing and averaging the standardized scores pertaining to the variables in each set of measurements. Interdependence between the resulting composite indices (NKPL and USFL) was .32 and this suggested the formation of a new construct, that of "food planning orientation" (FPO), which was calculated by averaging the scores of the variables NKPL and USPL. The construct "food planning orientation" contrasted with "household task orientation" by focussing on specific food planning activities rather than on the more general food management and household tasks.

The development of measurements relating to the homemaker's role orientation has now been fully explained and discussed. A brief explanation follows concerning the homemaker's interpersonal characteristics, those of the husband's expectations regarding food and general homemaking.

Husband's Expectations (P1/17; P2/3.1 to 3.10)

Altogether there were eleven test items which described the

husband's expectations of the homemaker. Principal components analysis was used in order to sort these variables into relevant classifications and the results are given in Table 5.7. A two-factor structure evolved, reflecting the husband's expectations regarding food (HERF) and the husband's expectations regarding general homemaking activities (HERH). Scores for these two constructs were calculated following the previously explained procedures.

Other Variables

Another correlation analysis explored the associations of the remaining independent variables with the construct "thorough food manager." Some of these independent variables which previously had shown a statistically significant correlation ($r = .10$ or larger) with one or several dependent single test items emerged from this correlation analysis with r 's of less than $.10$, and were dropped from the set of independent measures employed in the development of the FMB model. The variables which were excluded from further analysis described the degree of the homemaker's happiness, her financial expectations, her level of energy, her age, a personality trait (value orthodoxy), years of cooking for others, number of household members on a special diet, and the number of children under eighteen years of age. There were two exceptions to this elimination procedure. Although the correlation between the husband's expectations regarding general homemaking and the dependent variable was less than $.10$, this independent variable was included in the development of the FMB model to illustrate its substantial association with the homemaker's role

TABLE 5.7

ORTHOGONAL VARIMAX MATRIX: SET OF 11 VARIABLES DESCRIBING HUSBAND'S EXPECTATIONS OF HOMEWAKER

Q/Item	Item Description	Factor #1	Factor #2	Factor #3
F1/17.4	Husband taking a keen interest in what the family eats	0.015	0.596	-0.511
F2/3.1	Provide variety in meals	-0.353	0.687	0.063
F2/3.2	Ensure meals are served on time	-0.478	0.413	0.247
F2/3.3	Have an attractive dinner table	-0.436	0.538	-0.083
F2/3.4	Have the house tidy at all times	-0.872	0.146	0.017
F2/3.5	Put clean laundry back in drawers	-0.789	0.167	0.166
F2/3.6	Clean the house frequently	-0.859	0.165	0.060
F2/3.7	Keep food costs down	-0.517	0.252	0.300
F2/3.8	Be a good cook	-0.258	0.631	0.211
F2/3.9	Do not go out too often in the evening*	-0.169	0.205	0.797
F2/3.10	Provide healthful food	-0.055	0.711	0.165
	Factor Names	Husband's Expectations Regarding Homemaking (HERH)	Husband's Expectations Regarding Food (HERF)	*
	Eigenvalues	4.34	1.3	.92
		Sum of Eigenvalues for all Three Factors: 6.56		

* Omitted from further analysis.

Calculation of Construct Values: HERF = (F1/17.4 + F2/3.1 + F2/3.3 + F2/3.8 + F2/3.10)/5

HERH = (F2/3.2 + F2/3.4 + F2/3.5 + F2/3.6 + F2/3.7)/5

orientation characteristics. On the other hand, the test item concerning the neighbours' influence on the homemaker's food decisions showed a high correlation with the construct "thorough food manager" (.26), but was no longer considered in the model building process since this particular measure did not appear to contribute to a better explanation of food management behaviour.

In summary, by using the statistical procedures described in this chapter, generalized measures were generated describing the degree of the homemaker's food management activities, her social, household task, and food planning orientation, as well as the husband's expectations of the homemaker regarding food and general homemaking. By abstracting and combining measurements and eliminating test items which did not contribute to the model building process, the number of variables considered for developing the FMB model was greatly reduced to a total of sixteen.

For a general orientation, the correlation matrix for these variables is presented in Table 5.8. Interdependence, especially among the independent variables still prevailed, and this problem is given special attention in the subsequent development of the FMB model. Also, a description of the distribution of the survey responses for these composite indices which formed the base data for later analytical procedures is illustrated in Table 5.9.

TABLE 5.8

CORRELATION MATRIX: FMB MODEL COMPONENTS

Variable Description	Code Name	TFM	CB	TC	CMTM	NK	FPO	SO	HTO	HERF	HERH	SEC	GFBU	ORGA	ACHI	NURT	CHAN	HMO
Thorough Food Manager	TFM	.31	.11	.23	.29	.47	.19	.23	.26	-.04	.23	-.01	.11	.25	.13	.20	.43	
Careful Budgeter	CB		.03	.07	.12	.20	.08	.13	.03	.03	.03	-.24	.07	.05	-.06	.06	.20	
Traditional Cook	TC			.16	.01	.02	.03	.20	.21	.14	-.05	.01	.07	.03	-.05	.13	.13	
Congenial Mealtime Manager	CMTM				.11	.18	.24	.27	.24	.07	.07	.16	.12	.17	.06	.03	.28	
Nutrition Knowledge	NK					.17	.08	-.04	.03	-.23*	.36	.10	.13	.20	.03	.12	.08	
Food Planning Orientation	FPO						.30	.33	.31	.11	.15	.00	.18	.24	.19	.19	.82	
Social Orientation	SO							.49	.32	.14	.07	.08	.04	.17	.31	.09	.48	
Household Task Orientation	HTO								.41	.33	-.09	.06	.18	.21	.26	.01	.82	
Husband's Expectations Regarding Food	HERF									.55	-.04	.08	.09	.17	.13	.07	.44	
Husband's Expectations Regarding Homemaking	HERH										-.28	-.10	.00	.04	.06	-.04	.27	
Socioeconomic Classification	SEC											.32	.23	.20	.10	.15	.04	
Generousness of Food Budget	GFBU												.14	.12	.03	.03	.04	
Organization	ORGA													.42	.06	.02	.22	
Achievement	ACHI														.21	.12	.28	
Nurturance	NURT															.14	.27	
Change	CHAN																.12	
Home Management Orientation	HMO																	

P < .05 for r > .07 **

NOTE: *The association between HERH and NK (-.23) appeared to be spurious and this was explained by the fact that SEC showed a strong positive association with NK (.36) while, at the same time, being negatively correlated with HERH (-.28).

**W. J. Dixon and F. J. Massey, Jr. (1969). Introduction to Statistical Analysis, p. 569.

***The formation of this construct is explained in Chapter VI.

TABLE 5.9

FMB MODEL COMPONENTS: DISTRIBUTION OF STANDARDIZED SCORES (N=616)

Model Components	Range of Scores										Stan. Dev.		
	Code	300.0	350.1	400.1	450.1	500.1	550.1	600.1	650.1	700.1		700.1	
Thorough Food Manager	TFM	9	27	63	99	110	127	87	44	29	21	498.6	102.0
Careful Budgeter	CB	0	47	58	126	88	97	89	67	33	11	498.8	101.9
Traditional Cook	TC	0	42	37	94	104	128	66	83	45	17	498.6	102.0
Congenial Mealtime Manager	CMTM	20	21	56	44	138	140	93	54	36	14	498.7	102.0
Nutrition Knowledge	NK	12	40	40	82	126	115	84	93	21	3	499.5	100.0
Food Planning Orientation	FPO	7	29	69	93	118	115	90	51	29	15	499.5	100.0
Social Orientation	SO	3	31	70	94	131	103	78	56	31	19	499.5	100.0
Household Task Orientation	HTO	11	27	60	101	115	111	98	50	26	17	499.5	100.0
Husband's Expectations Regarding Food	HERF	18	20	60	87	117	120	95	53	36	10	499.6	100.0
Home Management Orientation	HMO	22	24	44	83	122	129	99	60	21	12	500.0	100.0
Husband's Expectations Regarding Homemaking	HERH	30	23	32	100	113	82	133	65	38	0	499.5	100.0
Socioeconomic Classification	SEG	11	36	54	106	107	111	83	66	24	18	499.5	100.0
Generousness of Food Budget	GFBU	0	109	0	148	0	232	0	127	0	0	499.4	100.0
Organization	ORGA	21	39	60	51	99	131	116	67	30	2	498.9	101.5
Achievement	ACHI	15	22	39	137	56	181	51	89	14	12	499.3	100.0
Nurturance	NURT	28	31	32	110	84	106	131	58	36	0	498.9	101.9
Change	CHAN	9	41	48	131	86	75	135	39	41	11	498.7	101.9

NOTE: Each respondent's score was standardized using the formula explained in Appendix G.

CHAPTER VI

DEVELOPMENT OF THE FMB MODEL

In the preceding chapter, major model components relating to the family food management process were developed. The subsequent step in the analysis as described in this chapter is twofold: first, to assemble these components into a descriptive model reflecting as many aspects as possible of the homemaker's food management behaviour and, secondly, to construct a predictor model measuring the explanatory strength of individual factors as well as the whole set of variables associated with family food management activities.

The independent model components represented a fairly complex system of interdependencies which showed that associations between independent variables and measures of food management functions were not confined to mere two-variable relationships. Rather, several of the independent model components showed a direct correlation with the main dependent variable as well as indirect associations via one or several of the other independent variables of the FMB model. In view of the complexity of the task situation, it appeared advisable to use simple step-by-step procedures in the model building process. Moreover, this approach had the advantage of providing a framework in the subsequent regression analysis which tested the predictive power of the individual model components.

Plan for Analysis

The sequence of introducing the independent variables into the step-wise model building process depended on the proximity of each variable to the behavioural patterns of the homemaker. For example, nutrition knowledge and attitudes were considered to be "closer" to the behavioural reports which this investigator attempted to predict through the use of the FMB model, than were the homemaker's personality traits. Thus the independent components were incorporated into the model design, starting with central variables and then moving on to peripheral variables in terms of their proximity to the homemaker's behaviour being studied. Applying this decision criterion, the independent variables of the FMB model were grouped into three classifications, those composing:

- (1) nutrition knowledge and attitude variables,
- (2) interpersonal and socioeconomic characteristics,
- (3) personality traits.

They were introduced into the analysis in the above order, employing a three-stage procedure, with Stage I comprising the variables in the first classification, Stage II those of category one and two, and Stage III including the variables of all three classifications.

Simple and partial correlation techniques were applied to study the relationships of these three descriptive variations of the FMB model and multiple regression analysis was used to explore and measure the predictive capacity of the third stage of the model and its individual independent components.

When reporting survey results in this particular chapter, the .01 level of statistical significance has been chosen for simple correlations. However, this level of significance had to be lowered to .05 for partial correlations and regression coefficients in order to present a comprehensive picture of the research findings. (Throughout this study a one-tailed test was used.)

Description of Model Components

For this final stage in the model building process, eleven independent variables, plus the construct "thorough food manager," were selected. All these measures have been discussed in the foregoing chapters but, for the convenience of the reader, they are again briefly described. Unless otherwise mentioned, subsequent data analysis is based on the total sample of six hundred and sixteen homemakers.

Thorough Food Manager (TFM), the basic dependent variable, measured specific aspects of the homemaker's food management functions, such as those related to providing nutritious and tasty meals for her family, economizing food expenditures, and advance menu planning. In its entirety, this construct was considered a proxy variable for measuring the degree of the homemaker's major food management activities.

Nutrition Knowledge (NK) described the homemaker's basic nutrition knowledge, nutritional beliefs, and familiarity with the principal food groups of the Canada Food Guide. The respective questions dealt with the practical aspect of everyday nutrition management without

testing the homemaker's knowledge of the functions of nutrients or of specific daily nutrient requirements.

Household Task Orientation (HTO) described the homemaker's attitudes toward routine and special household activities and the importance ascribed to them. It provided a general reading of the homemaker's orientation to household tasks.

Food Planning Orientation (FPO) measured the importance attributed to nutrition planning and nutrition knowledge and the usefulness of food planning activities. This construct contrasted with the variable "household task orientation" (HTO) by focussing on specific food planning activities rather than on the more general household functions.

Social Orientation (SO) measured the homemaker's attitude toward child-, family-, husband-, and community-related activities; i.e., how she felt about doing things with and for others when a personal relationship was involved.

Husband's Expectations Regarding Food (HERF) assessed the husband's expectations of the homemaker regarding the provision of tasty and nutritive food.

Husband's Expectations Regarding Homemaking Activities (HERH) summarized variables concerning the husband's expectations with respect to the homemaker's performance in the areas of general homemaking.

Socioeconomic Classification (SEC) was a composite index comprised of measures of the homemaker's/husband's education, her and

her father's occupational background, occupation of the principal wage earner, and the total income of all household members.

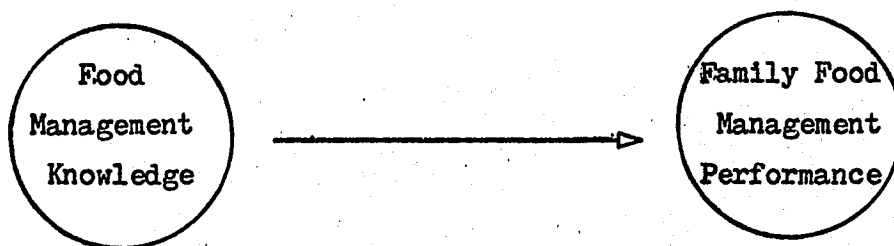
Personality Trait Variables included in the FMB model described the homemaker's enduring predisposition with regard to the following four personality dimensions, with a high score indicating:

- Organization - efficient; planful; systematic; makes effective use of time; completes work on schedule; is not easily distracted.
(ORGA)
- Achievement - aspires to accomplish difficult tasks; maintains high standards and willing to work toward distant goals; responds positively to competition; willing to put forth effort to attain excellence.
(ACHI)
- Nurturance - gives sympathy and comfort; assists others whenever possible; interested in caring for children, the disabled, or the infirm; offers a "helping hand" to those in need; readily performs favours for others.
(NURT)
- Change - likes new and different experiences; dislikes routine and avoids it; may readily change opinions or values in different circumstances; adapts readily to changes in environment.
(CHAN)

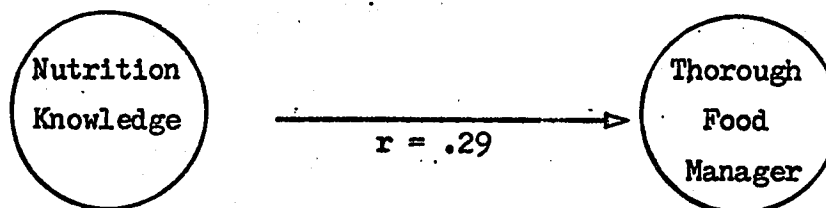
Development of FMB Model - Stages I to III

A Starting-Point Model of Food Management Behaviour

The simplest explanation of food management behaviour has traditionally been in the form of a two-variable relationship:



This proposition was validated by the survey results on the basis of the association:



The foregoing thus confirmed the hypothesis generally accepted by specialists in the food management education field, that there exists a statistically significant relationship between nutrition knowledge and family food management performance. It also reaffirmed the opinion of consumer educators regarding the importance of the homemaker's nutrition knowledge in the food management process.

Step-Wise Development of the FMB Model

By enlarging the initial model shown above three versions of the FMB model were formed. For ease of presentation, simple correlation coefficients which were not significant at the .01 level ($r < .10$)

are omitted from the tables presented in this chapter. However, a complete correlation matrix for all the variables of the FMB model can be found in Table 5.8, Chapter V.

FMB Model - Stage I

Three constructs reflecting the homemaker's household task, social, and food planning orientation (HTO, SO, FPO) were added to nutrition knowledge as explanatory factors of food management behaviour. Relationships among these variables and their associations with the construct "thorough food manager" are illustrated in Table 6.1.

Food planning orientation showed the strongest correlation with the dependent variable (.47), followed by nutrition knowledge (.29), household task orientation (.23), and social orientation (.19). These correlations suggested that the homemaker's attitudes concerning family, household task, and food planning were important complements to nutrition knowledge as predictors of the homemaker's degree of food management activities. No statistically significant association of nutrition knowledge with household task orientation or social orientation emerged, and there was only a moderate correlation with food planning orientation. This implied that it was possible to determine and separate three major attitude variables which were relatively unrelated to nutrition knowledge but which showed a moderate to high relationship with the degree of family food management functions.

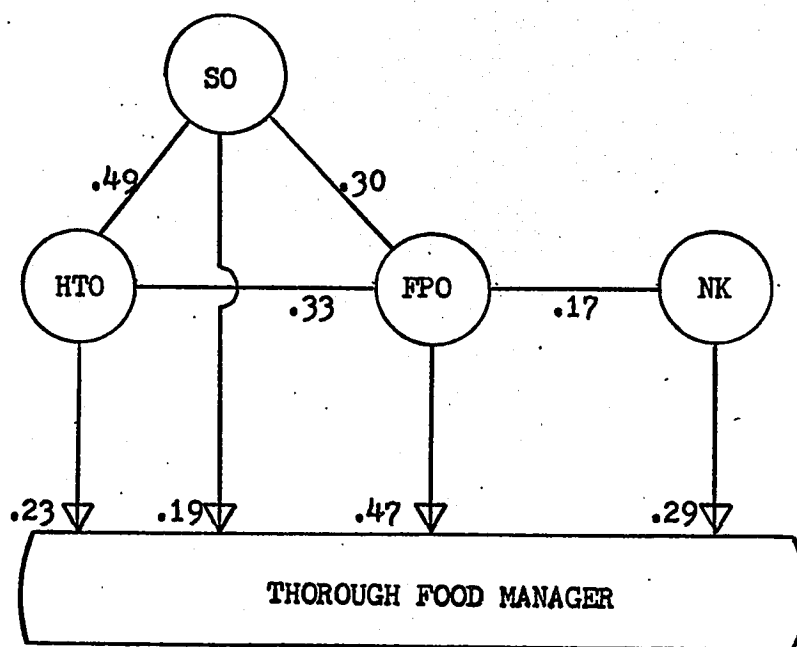
FMB Model - Stage II

In the second stage, another three independent variables, those

TABLE 6.1

FMB MODEL - STAGE I

Correlation of Attitude and Nutrition Knowledge
with the Construct "Thorough Food Manager"



NK = Nutrition Knowledge FPO = Food Planning Orientation
SO = Social Orientation HTO = Household Task Orientation

NOTE: $P < .01$ for $r > .10$

The figure nearest a connecting line represents the correlation between two linked variables.

of the husband's expectations regarding food (HERF), the husband's expectations regarding homemaking in general (HERH), and the homemaker's socioeconomic classification (SEC) were added. The relationships of this enlarged FMB model are illustrated in Table 6.2.

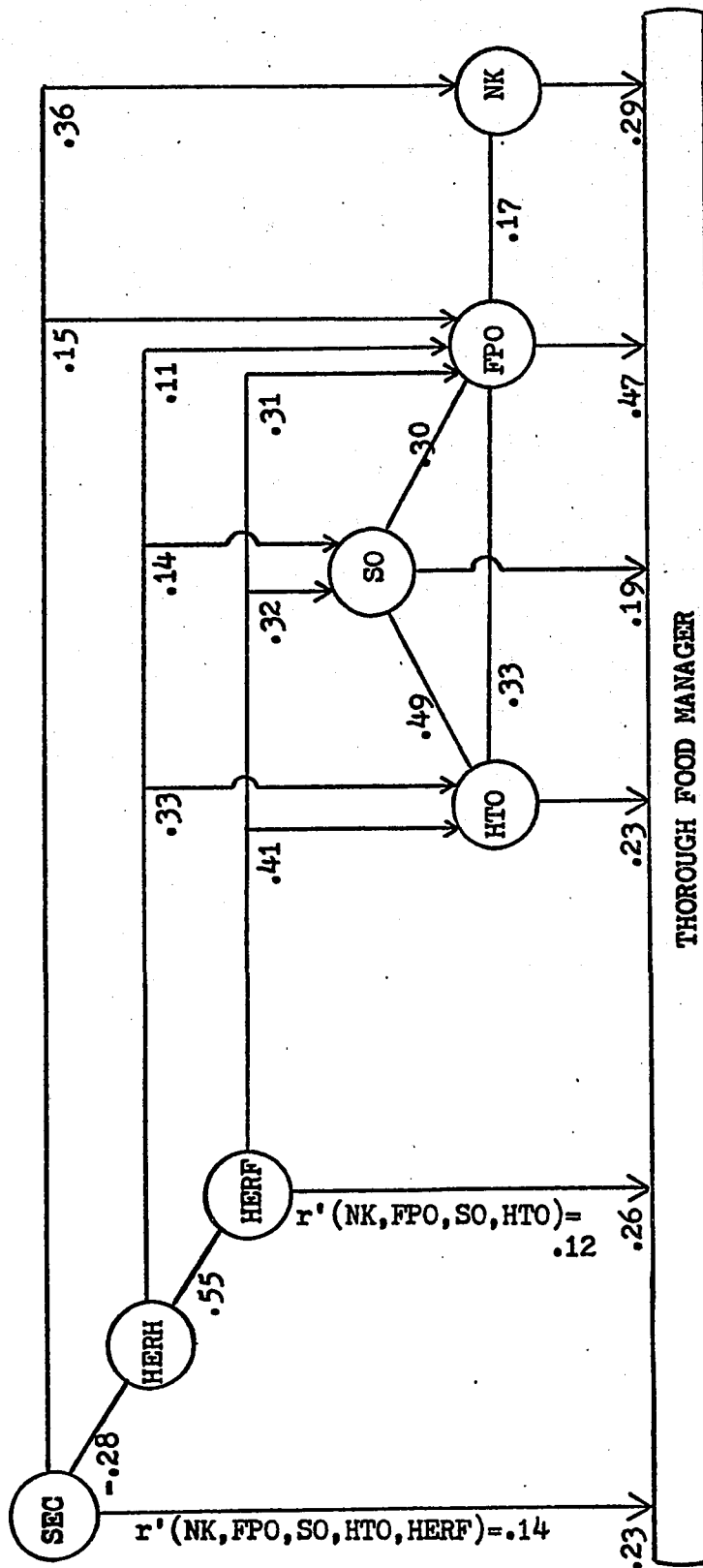
The husband's expectations regarding food and the homemaker's socioeconomic classification each showed substantial correlations with the dependent variable (.26 and .23, respectively). However, no statistically significant direct association emerged for the construct HERH, but this variable did show a high interdependence with the homemaker's household task orientation (.33). Despite the intercorrelation of SEC with HERH and that of HERF with HERH, these variables differed considerably with respect to their association with either the other independent variables or with the degree of food management activities. The variables HERF and SEC appeared to be related to the construct "thorough food manager" both directly and indirectly via the role orientation and nutrition knowledge variables. Thus, due to this two-way association, it was deemed advisable to calculate the partial correlation coefficients in order to determine the explanatory nature of HERF and SEC with regard to the dependent variable while controlling for the level of the previously introduced constructs shown in Table 6.2.

With respect to the correlations between HERF and the dependent variable, the difference between the simple and partial correlation coefficients (.26 and .12, respectively) could be attributed to the sizeable association of HERF with the three role orientation variables.

TABLE 6.2

FMB MODEL - STAGE II

Correlations of Seven Independent Variables with the Construct "Thorough Food Manager"



SEC = Socioeconomic Classification HERH = Husband's Expectations Regarding Homemaking
 HERF = Husband's Expectations Regarding Food

NOTE: Correlation between variables can be interpreted by either the figure nearest a connecting line or by the figure in the corner of two adjoining lines. Partial correlation coefficients for HERF and SEC with the dependent variable have been marked r^2 and the bracketed code names refer to those variables which were included in the correlation calculation for determining the r^2 value.

This dual association suggests some importance should be ascribed to the husband's expectations regarding food in both the direct and indirect relationship to family food management.

The husband's expectations regarding general homemaking (HERH) were of less importance since no direct relationship seemed to exist with the dependent variable. It should also be noted that HERH was negatively correlated (-.28) to the socioeconomic classification of the homemaker. One interpretation of this negative correlation was that husbands in families from a high socioeconomic background were perceived to expect less with regard to general homemaking tasks than husbands from the lower socioeconomic subgroups.

Concerning the correlation pattern surrounding the homemaker's socioeconomic classification, a simple correlation of .23 evolved. This contrasted with a partial r of .14 (controlling for the level of NK, FPO, SO, HTO, and HERF) and the difference between the simple r and the partial r found its explanation in the high association of SEC with nutrition knowledge (.36) and the moderate correlation between SEC and FPO (.15).

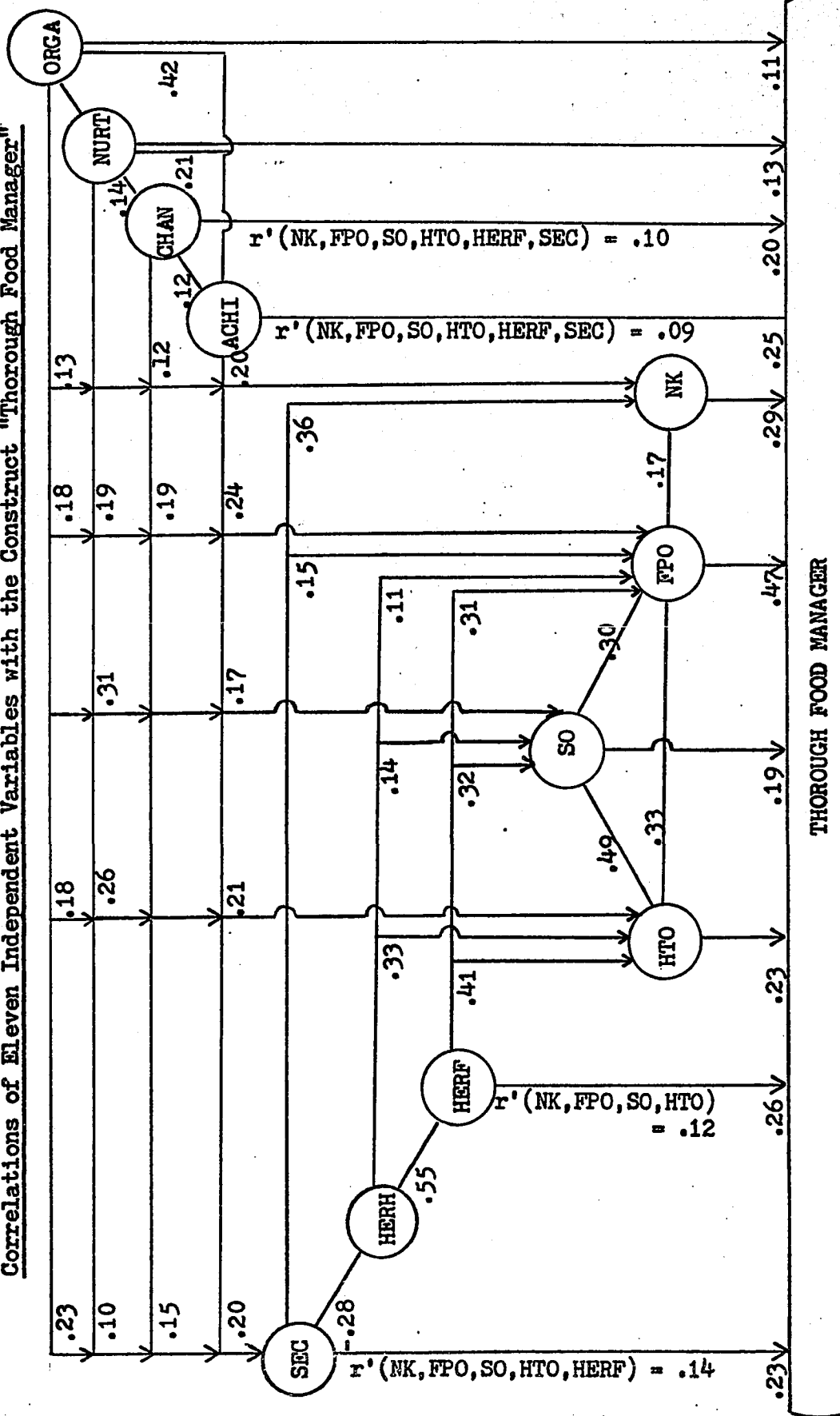
FMB Model - Stage III (Descriptive Phase)

The correlations of the third stage are presented in Table 6.3A. Four personality variables describing the homemaker's characteristics regarding achievement, change, nurturance, and organization were added to the analysis. The simple correlations for these variables amounted to .25, .20, .13, and .11, respectively. Only for achievement and change were the corresponding partial r 's (.09 and .10) significant

TABLE 6.3A

FMB MODEL - STAGE III

Correlations of Eleven Independent Variables with the Construct "Thorough Food Manager"



at the .05 level. From the low degree of these partial associations it therefore appeared that the homemaker's personality characteristics were more relevant as predictors when explaining the level of the other independent variables of the model than as explanatory factors of food management activities. For example, all four personality variables showed moderate to substantial correlations with the homemaker's food planning orientation as well as with her socioeconomic classification, and except for nurturance, the personality traits included in this study were likewise moderately related to the level of the homemaker's nutrition knowledge.

The above concludes the descriptive phase of the third stage of the FMB model. Relationships between major explanatory variables and family food management activities were revealed and these, together with the intercorrelations which were discovered, provided insight into the complex system of variables related to food management behaviour. However, no definitive statements could be made thus far regarding the relative predictive strength of each independent variable in the context of the complete set of FMB model components, nor were statistical measures formulated to describe the explanatory power of the model as a whole. These issues are dealt with in the subsequent discussion.

FMB Model - Stage III (Predictive Phase)

The researcher experimented with a series of regression equations in order to explore the predictive nature of the variables

contained in this third stage of the FMB model.

The relative importance of individual predictor variables of a regression equation may be assessed by their regression coefficients which measure the net effect of each independent variable on the dependent variable. But, since the size of each regression coefficient varies with the units in which each variable is stated, it is difficult to ascertain the relative importance of each independent measure of the predictor equation. However, a more meaningful comparison can be made by using beta coefficients which are merely regression coefficients adjusted by expressing each variable in units of its own standard deviation.¹ This adjustment eliminates the effects of the different measurement dimensions of variables and puts the regression coefficients on a more comparable basis. Therefore, for the purpose of presenting the findings of this thesis research, beta coefficients only are reported and discussed. Statements regarding statistical significance, however, are made with reference to the corresponding regression coefficients.

Three regression equations of particular interest emerged from the analysis of the third stage of the FMB model and are shown in Table 6.3B.

¹The computation of the beta coefficient and its relation to the regression coefficient are indicated by the following equation:

$$\text{where } \beta_{yi.j} = b_{yi.j} \frac{S_i}{S_y}$$

- β = beta coefficient (standardized regression coefficient)
- b = regression coefficient
- S = standard deviation
- y = dependent variable
- i = the specific independent variable studied
- j = all other independent variables

(SOURCE: Mordecai, Ezekiel and Karl A. Fox (1967), Methods of Correlation and Regression Analysis (third ed.; New York: John Wiley and Sons, Inc.), p. 196.

TABLE 6.3B

BETA COEFFICIENTS OF REGRESSION EQUATIONS FOR THE FMB MODEL - STAGE III (N = 616)

First Regression: Ten Independent Variables (sequence determined by step-wise regression procedure)

$$\text{TFM} = \text{Constant} + .34(\text{FPO}) + .17(\text{NK}) + .11(\text{HERF}) + .12(\text{SEC}) + .10(\text{ACHI}) + .08(\text{CHAN}) + .10(\text{HTO}) \\ - .07(\text{ORGA}) + .04(\text{SO})^* - .01(\text{NURT})^*$$

$$R = .56 \quad R^2 = .31$$

Second Regression: Seven Independent Variables (sequence specified)

$$\text{TFM} = \text{Constant} + .17(\text{NK}) + .33(\text{FPO}) + .07(\text{HTO}) + .11(\text{HERF}) + .10(\text{SEC}) + .08(\text{CHAN}) + .08(\text{ACHI})$$

$$R = .55 \quad R^2 = .31$$

Third Regression: Four Independent Variables (sequence specified)

$$\text{TFM} = \text{Constant} + .22(\text{NK}) + .37(\text{FPO}) + .07(\text{HTO}) + .11(\text{HERF})$$

$$R = .53 \quad R^2 = .28$$

*Regression coefficient was not statistically significant at the .05 level.

NOTE: Each R^2 was statistically significant at the .001 level.

First Regression. All variables of the third stage of the FMB model, with the exception of HERH, were forced into the regression estimate, but the sequence of variable entry was not specified. Thus, variable entry was ordered according to the sequentially determined predictive power and emerged as follows: FPO, NK, HERF, SEC, ACHI, CHAN, HTO, ORGA, SO, and NURT. The multiple R was .56, with the regression coefficients of the last two variables no longer being significant at the .05 level. Organization showed a positive simple r of .11. The regression analysis, however, proved a reverse relationship as evidenced by a negative beta coefficient of $-.07$. It therefore appeared that the simple r reflected a spurious association, but no explanation could be found for the occurrence of this negative beta coefficient. Nevertheless, with ORGA being the least important of the statistically significant variables and increasing the multiple R of the regression equation by .003 only, it could be argued that this seemingly unexplainable relationship between the homemaker's organization traits and her food management performance was of little relevance in predicting the dependent variable.

In the course of the analysis of this first regression model, a spurious correlation was also discovered for the variable describing the homemaker's social orientation. A simple r of .19 contrasted with a statistically insignificant beta coefficient of $+.04$. It thus appeared that social orientation could not be considered as a predictor variable for estimating family food management activities. An explanation for the spurious association, expressed by the size of the simple r ,

was the high interdependence between the constructs measuring the homemaker's social orientation and her food planning orientation.

The results of the first regression confirmed the previously advanced opinion that the homemaker's food planning and household task orientation as well as the husband's expectations regarding food were important complements to nutrition knowledge in predicting the degree of family food management activities. This proposition is further explored in two more regression equations relating to the third stage of the FMB model.

Second Regression. The predictor variables were forced into this regression using the same rationale as that for determining their rank order in the development of the FMB model. Thus entry into the regression equation was specified, beginning with central variables and then moving on to peripheral variables in terms of their proximity to the behavioural patterns of the homemaker.

This seven-predictor variable solution included the independent measures of the first regression minus those describing the homemaker's social orientation and her personality traits relating to "nurturance" and "organization". The first two variables were excluded because the corresponding regression coefficients were no longer statistically significant and the personality trait "organization" was omitted from further analysis since it did not contribute to an explanation of food management behaviour.

Comparing the explanatory strength of this second regression with that of the first, the multiple R's changed only marginally

($R = .55$ vs. $R = .56$). Furthermore, with regard to the predictive power of the individual independent model components, there was very little or no change in the size of the beta coefficients.

Third Regression. Independent measures which were considered of a peripheral nature were omitted altogether, leaving four variables to be included in the regression, the rank order for their entry being: NK, FPO, HTO, and HERF. The multiple R for the equation was .53 and thus its power was only slightly reduced by the elimination of the personality variables and socioeconomic classification of the homemaker. Again, "food planning orientation" emerged as a stronger predictor of the degree of the homemaker's food management functions than any of the other variables.

FMB Model - Stage IV

The previous regression analysis revealed that two major attitude constructs, those describing household task and food planning orientation, could be employed as predictors of the level of family food management functions. In order to generate a more concise measure facilitating a simple explanation of the association of the homemaker's attitudes with the construct "thorough food manager", the Stage III version of the FMB model was modified to represent a food management behaviour model of a higher level of abstraction. By combining the variable HTO, which measured the homemaker's role orientation concerning mainly non-managerial household activities with that of FPO, which described her attitude toward the managerial aspects of food provisioning,

a new construct "home management orientation" (HMO) was formed. This further conceptualization of the homemaker's attitudes was justified by the fact that the two separate role orientation measures of HTO and FPO were both associated with the dependent construct "thorough food manager" (TFM) and also showed a high intercorrelation with each other (.33), as revealed in Table 6.3A.

This new configuration of independent variables resulted in the fourth and final version of the FMB model. The interdependence of the independent model components as well as their simple and partial correlations with the dependent variable are noted in Table 6.4A. The simple r for HMO (.43) was only slightly lower than that for FPO (.47), which was the stronger of the two individual role orientation measures summarized by this newly formed construct. Moreover, intercorrelations of "home management orientation" with the other independent variables were approximately of similar magnitude as those of the separate role orientation constructs of the third stage of the FMB model, except for the association of HERF with HMO, which emerged even stronger (.44).

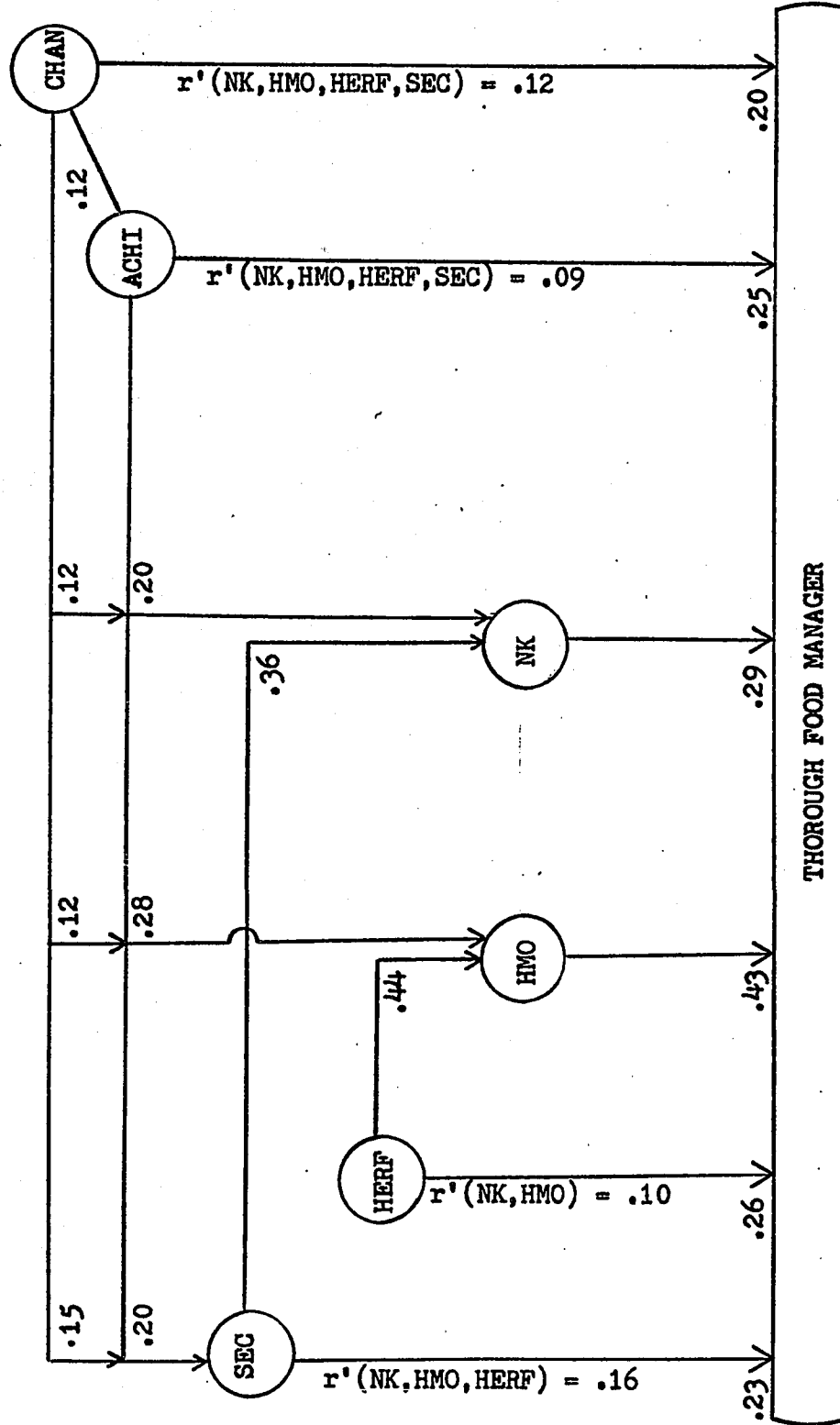
The predictive power of the individual components, as well as that of the complete FMB Stage IV model, was tested by various regression equations. From this analysis, two regressions of particular interest emerged and these are illustrated in Table 6.4B.

The personality variables "nurturance" and "organization" were excluded from the analysis for the same reasons as explained in connection

TABLE 6.4A

FMB MODEL - STAGE IV

Correlations of Six Independent Variables with the Construct "Thorough Food Manager"



NOTE: HMO combined the two role orientation variables FPO and HFO.
 Partial and simple correlations were significant at the .01 level.

TABLE 6.4B

BETA COEFFICIENTS OF REGRESSION EQUATIONS FOR THE FMB MODEL - STAGE IV (N = 616)

Six Independent Variables (sequence specified)

$$TFM = \text{Constant} + .18(NK) + .33(HMO) + .10(HERF) + .13(SEC) + .10(CHAN) + .07(ACHI)$$

$$R = .53 \quad R^2 = .29$$

Three Independent Variables (sequence specified)

$$TFM = \text{Constant} + .25(NK) + .36(HMO) + .09(HERF)$$

$$R = .50 \quad R^2 = .25$$

NOTE: All regression coefficients were significant at the .01 level and each R² was significant at the .001 level.

with the second regression of the FMB model, Stage III. This reduced the maximum number of independent variables of the predictor equation for the fourth stage of the model to six, and these were entered into the regression in specified order: NK, HMO, HERF, SEC, CHAN, and ACHI.

By applying the generalized attitude variable 'home management orientation' instead of the individual measures of food planning and household task orientation, the predictive nature of the regression equation was only slightly reduced. The multiple R for the regression, using all six independent variables of the fourth stage of the FMB model, was .53 compared to .55 for the corresponding equation relating to the FMB model, Stage III. Also of interest in this fourth stage was the finding that the equation which employed only three constructs (nutrition knowledge, home management orientation, and husband's expectations regarding food) produced a multiple R as high as .50. This implied that the homemaker's socioeconomic and personality characteristics contributed very little (increase of R by .03) to the predictive strength of the model. Thus, once again, these regression results have demonstrated the relevance of the homemaker's nutrition knowledge, her home management orientation, and her interpersonal characteristics in explaining family food management behaviour.

With regard to the explanatory strength of individual model components, the beta coefficients of the fourth stage of the FMB model revealed that home management orientation was the strongest predictor of the dependent variable, followed by "nutrition knowledge" and "husband's expectations regarding food".

Summary of the FMB Model Building Process

A construct "thorough food manager," summarizing seventeen measures which described major food management functions, was developed as the dependent variable for the FMB model. In the model building process, the independent measures employed were classified into three distinct categories:

- (1) nutrition knowledge (NK) and attitude variables (HTO, SO, and FPO);
- (2) interpersonal and socioeconomic characteristics (HERF and SEC);
- (3) personality traits (ORGA, ACHI, NURT, and CHAN).

These independent model components were incorporated into the FMB model design, starting with central variables and then moving on to peripheral variables in terms of their proximity to the behavioural reports being investigated. Employing this decision rule, the dependent model components were introduced into the analysis in the above order, using a three-stage procedure, with Stage I comprising the variables in the first classification, Stage II, those of categories one and two, and Stage III including the variables of all three classifications. By combining the two role orientation measures FPO and HTO into a single construct "home management orientation" (HMO), the FMB model, Stage IV was formed. The complexity of the model thus peaked in the third stage and the highest level of abstraction was reached in the fourth and final stage of the FMB model.

Stage I. Nutrition knowledge plus three role orientation variables (FPO, SO, HTO) were incorporated in this first stage of the FMB model. Interdependence among the latter three constructs was high but little association was found between nutrition knowledge and these attitude measures. Their low correlation with nutrition knowledge and high association with the dependent variable strongly intimated that the homemaker's attitudes were important complements to nutrition knowledge in predicting the degree of food management activities.

Stage II. Here, the model was enlarged by introducing the interpersonal and socioeconomic variables, viz., those of the husband's expectations regarding food (HERF), the husband's expectations regarding homemaking in general (HERH), and the homemaker's socioeconomic classification (SEC). Of these, the construct HERF proved to be of importance throughout the model building process. This construct not only showed large correlations with the three attitude measures, but also it was directly associated with the dependent variable (simple $r = .26$ and partial $r = .12$). Similarly, the homemaker's socioeconomic classification was related to the degree of family food management activities in two ways: indirectly via nutrition knowledge (.36) and directly, with the construct TFM (simple $r = .23$ and partial $r = .14$). The husband's expectations regarding homemaking in general (HERH) was of secondary value since no direct relationship was discovered with the dependent variable; however, HERH was still relevant as an explanatory factor of the three role orientation constructs.

Stage III. Four personality measures relating to "organization, achievement, nurturance, and change" were added to the independent variables already included in the FMB model. Their low partial correlations suggested that the homemaker's personality characteristics were of more interest as predictors with respect to the other independent variables than as explanations of the degree of the homemaker's food management activities. Regression analysis was used to determine the predictive power of ten independent variables which, altogether, produced a multiple R of .56. Food planning orientation emerged as the strongest explanatory variable, followed by nutrition knowledge, the husband's expectations regarding food, and socioeconomic classification. Although the correlation analysis revealed a simple r of .19 for the homemaker's social orientation, this association appeared to be spurious as the regression coefficient for SO was no longer statistically significant. Consequently, the construct "social orientation" was eliminated from the set of predictor variables.

Stage IV. By combining the two attitude variables of household task orientation and food planning orientation, a new construct "home management orientation" (HMO) was created. This single measure reduced the complexity of the third stage of the model and thus provided a simple but more concise explanation of the relationship between the homemaker's attitudes and her degree of food management activities. As a further simplification, the personality variables of "nurturance" and "organization" were excluded from the analysis in view of their insignificant contribution to an explanation of food management behaviour.

The predictive power of the regression for this fourth stage of the FMB model decreased slightly to a multiple R of .53. The analysis synthesized the findings discovered throughout this chapter; namely, that there were complements of importance to nutrition knowledge in predicting the degree of family food management functions, the most relevant being the homemaker's orientation concerning home management plus the husband's expectations regarding food.

In the process of building the fourth stage of the FMB model, the predictive power of the more important independent model components (NK, HMO and HERF) was determined and discussed. These findings were based on the total research sample of six hundred and sixteen homemakers. Thus far, however, the applicability of the FMB model as an explanation of food management behaviour of homemakers from different socioeconomic backgrounds remained untested. Therefore, the FMB model, Stage IV, was applied to the survey data pertaining to the four socioeconomic subgroups of the study and the resultant findings are discussed in the subsequent chapter.

CHAPTER VII

FMB MODEL, STAGE IV: SOCIOECONOMIC COMPARISON

An endeavour is made in this chapter to shed light on the question of whether or not the fourth stage of the FMB model would be applicable across the four socioeconomic subgroups of the thesis survey sample.¹

The analysis of variance findings for the corresponding model components are explained first. Following this, the correlation results which identified interdependence among the independent variables for each socioeconomic subgroup, as well as the simple correlations of the model, are evaluated. Finally, a comparative analysis by socioeconomic classification, comprising a five-predictor and a three-predictor variable regression solution, is presented.

In view of the smaller sample populations of the socioeconomic subgroups, the statistical precision related to the survey findings suffered and thus the scope for interpreting the research results is somewhat restricted as compared to findings based on the total survey data. With respect to the reporting of regression results, the beta coefficients only are discussed here; however, it should be kept in mind that any statements made regarding statistical significance refer solely to the equivalent regression

¹The four socioeconomic subgroups have been defined in Chapter IV.

coefficients. Their statistical precision varied by socioeconomic classification and, in some instances, beta coefficients are reported even though their corresponding regression coefficients were no longer significant at the .05 level. This procedure was adopted in order to render the equations comparable in terms of the number of variables comprising the regression models under study.

Analysis of Variance Results

These results are given in Table 7.1. Of particular interest is the fact that, for each major variable of the FMB model, the standard deviations concerning the response distributions of the socioeconomic subgroups were relatively similar and approximated that for the total sample. It can be said, therefore, that the associations emerging from the socioeconomic comparison of the FMB model are unlikely to be distorted by unusual differences in the characteristics of the response distributions relating to the variables which compose a relationship.

The analysis of variance results for each of the major model components are commented upon below.

Thorough Food Manager (TFM). Homemakers from the high socioeconomic group indicated the highest degree of food management activities. A significant and distinct trend evolved for this construct, with the level of food management functions decreasing for each successively lower socioeconomic classification.

TABLE 7.1

ANALYSIS OF VARIANCE STATISTICS FOR MAIN COMPONENTS OF FMB MODEL - STAGE IV

Variable Description	Statistics		Socioeconomic Subgroup Means						F-Ratio	Significance	Level of	Interpretation
	M = Mean	S = Group Standard Deviation	Total Sample (N=616)	High (N=101)	Upper Middle (N=213)	Lower Middle (N=194)	Low (N=108)	Mean Value				
Thorough Food Manager (TFM)	M		499	470	486	511	537	10.6	.001		High degree of food management activities	
	S		102	93	101	91	106					
Nutrition Knowledge (NK)	M		500	551	515	490	440	27.0	.001		Low level of nutrition knowledge	
	S		100	90	94	92	102					
Home Management Orientation (HMO)	M		500	509	501	503	486	1.05	>.35		High degree of motivation	
	S		100	81	94	107	113					
Husband's Expectations Regarding Food (HERF)	M		500	516	498	497	493	1.03	>.35		High degree of motivation	
	S		100	102	97	100	102					
Food Planning Orientation (FPO)	M		500	483	491	508	520	3.4	.05		High degree of motivation	
	S		100	92	100	101	101					
Household Task Orientation (HTO)	M		500	526	498	492	495	2.8	.05		High degree of motivation	
	S		100	82	98	105	106					

NOTE: Analysis of Variance Results for the Personality Traits have been given in Table 4.4.

Nutrition Knowledge (NK). The pattern which emerged for the variable "nutrition knowledge" was similar to that for the dependent construct "thorough food manager." However, the differences among the socioeconomic group means were larger, with homemakers from the low socioeconomic classifications indicating the least amount of nutrition knowledge.

Home Management Orientation (HMO). This construct did not appear to be related to the homemaker's socioeconomic background. In order to give a clearer picture of the characteristics underlying this model component, the analysis of variance results for its input measures (FPO and HTO) are also presented in Table 7.1. The variables FPO and HTO showed trends in the group means which were significant at the .05 level. Homemakers in the high socioeconomic group reported the highest degree of food planning orientation but, with respect to household task orientation, a reverse pattern emerged, with respondents from a low socioeconomic background manifesting the highest degree of task orientation. With the trend in the socioeconomic mean values for FPO and HTO being in the opposite direction, the moderate differences in the mean of these subgroups cancelled each other and were lost when forming the construct "home management orientation." However, as the regression equations in the previous chapter illustrated, the predictive capacity of the construct HMO was not reduced by the particular socioeconomic characteristic of its component variables.

Husband's Expectations Regarding Food (HERF). This construct, which measured an interpersonal attribute of the homemaker, did not vary by socioeconomic classification.

In summary, patterns in the socioeconomic subgroup means were found to be statistically significant for two of the major components of the FMB model, Stage IV. These two components were those measuring the degree of the homemaker's food management activities and her nutrition knowledge. In contrast, the homemaker's home management orientation and the husband's expectations regarding food did not appear to be related to socioeconomic classification. With respect to the personality variables which were included in the fourth stage of the FMB model, the corresponding analysis of variance results have already been evaluated and discussed in Chapter IV.

Correlation Analysis

The interdependence between the major independent model components measuring nutrition knowledge (NK), home management orientation (HMO), and the husband's expectations regarding food (HERF) differed only slightly amongst the four subgroups of the thesis survey population.

Larger differences emerged with respect to the interdependence among the homemaker's personality traits and their association with nutrition knowledge and home management orientation. As discussed earlier these personality variables were not highly and directly related to family food management behaviour. For this reason their intercorrelations with the other independent model components

are not elaborated upon in the text; they are, however, reported in Appendix L.

A comparison, by socioeconomic subgroups, of the correlation coefficients of the fourth stage of the FMB model is presented in Table 7.2. A trend evolved for the variable "nutrition knowledge," with the high socioeconomic classification showing the strongest association and the simple r 's decreasing for each subsequent lower socioeconomic group. The difference in the correlation coefficients for the highest and lowest categories was .25 and was statistically significant at the .05 level.²

Regarding the differences in the correlation coefficients for HMO, they were not sufficiently significant ($P > .05$) to justify comparative conclusions, but it should be noted that HMO showed high correlation coefficients in each of the four socioeconomic subgroups.

Correlations of HERF with the dependent variable were lower than those for HMO but they were still substantial. Again, no statistically significant differences emerged for HERF among the socioeconomic classifications.

The simple r 's for the personality traits were statistically insignificant in several instances and, therefore, made group comparisons less meaningful. Nevertheless, it could be said that selected personality traits showed moderate to substantial associations with the construct "thorough food manager" in all socioeconomic

²For this calculation, McNemar's formula was applied. McNemar, Quinn (1966), Psychological Statistics (third edition); New York: John Wiley and Sons, Inc.), p. 139-140.

TABLE 7.2

FMB MODEL - STAGE IV: SOCIOECONOMIC COMPARISON OF CORRELATION COEFFICIENTS

Socioeconomic Classification	Sample Size	Correlations (simple r) of Independent Variables with TFM							Statistical Significance
		NK	HMO	HERF	ORGA	ACHI	NURF	CHAN	
High	101	.41	.38	.23	.24	.21	.13	.16	P < .05 for r > .165
Upper Middle	213	.30	.44	.32	.00	.22	.18	.28	P < .05 for r > .120
Lower Middle	194	.13	.42	.29	.10	.28	.23	.23	P < .05 for r > .120
Low	108	.16	.50	.35	.20	.13	.00	.15	P < .05 for r > .165
Total Sample	616	.29	.43	.26	.11	.25	.13	.20	P < .01 for r > .10

subgroups. Partial correlations, however, were much lower, as is shown in Appendix L.

Regression Results

A five and a three-predictor variable solution has been investigated and these two regression models are discussed in this order.

Five-Predictor Variable Solution

In Table 7.3, the beta coefficients for NK, HMO, HERF, as well as those pertaining to the two strongest personality traits are shown for each of the socioeconomic classifications. The predictive power of the equations for these subgroups approximated and, with the exception of the lower middle socioeconomic group, slightly surpassed that of the equivalent equation for the total sample population. Therefore, it could be argued that the FMB model applied consistently across the socioeconomic categories even though some of the regression coefficients lacked statistical precision due to the smaller size of the subsamples.

The personality trait "nurturance" did not appear as a significant predictor variable in any of the four sample populations. With regard to "organization," a negative but still significant (.05 level) regression coefficient emerged which corresponded to a beta coefficient of $-.11$. In this particular instance, no qualifying reason could be discovered for the occurrence of this negative relationship. The motives pertaining to "achievement" had a bearing on

TABLE 7.3

SOCIOECONOMIC COMPARISON OF THE BETA COEFFICIENTS FOR THE FMB MODEL - STAGE IV
(Five-Predictor Variable Solution: NK, HMO, HERF, + Two Personality Variables; Dependent Variable = TFM)

Socioeconomic Classification	Sample Size	NK	HMO	Beta Coefficients					R	R ²
				HERF	ORGA	ACHI	NURT	CHAN		
High	101	.34	.30	.11**	.17			.14	.58	.34
Upper Middle	213	.25	.33	.14	-.11			.17	.56	.21
Lower Middle	194	.08*	.29	.12*		.11*		.17	.49	.24
Low	108	.17	.43	.15*			-.07**	.08**	.55	.31
Total Sample	616	.18	.33	.10	.13	.07		.10	.53	.29

NOTE: R² were significant at the .001 level.

Corresponding Regression Coefficients were significant at the .05 level except where marked by asterik.

* Significant at the .10 level.

** No longer significant at the .10 level.

family food management performance for homemakers from a lower-middle socioeconomic background but none at all for those in the other socioeconomic classifications. Only the variable "change" emerged as having predictive qualities in all four subgroups.

In order to compare the incremental effect of the personality measures on the predictive strength of the regression equations, a condensed regression model comprising the variables NK, HMO and HERF is illustrated in Table 7.4.

Three-Predictor Variable Solution

The multiple R in the three-predictor variable regression was reduced very little, the difference not exceeding .05 when compared with the five-variable solution reported in Table 7.3.

Substantial variations were discovered regarding the beta coefficient pertaining to nutrition knowledge, with its predictive power being strongest for homemakers in the highest socioeconomic classification and lowest for those from the lower-middle and low socioeconomic backgrounds. It could be argued that the reduced predictive quality of nutrition knowledge in the low socioeconomic group was due to the fact that all these homemakers knew very little about nutrition. This was not the case, however, as the standard deviation of nutrition knowledge for the low socioeconomic group revealed that there was a difference among these homemakers regarding the reported level of nutrition knowledge. As shown in Table 7.1, the standard deviation for this variable approximated that for the other three socioeconomic categories as well as that for the total sample.

TABLE 7.4

SOCIOECONOMIC COMPARISON OF THE BETA COEFFICIENTS FOR THE FMB MODEL - STAGE IV
(Three-Predictor Variable Solution: NK, HMO, HERF; Dependent Variable = TFM)

Socioeconomic Classification	Sample Size	Beta Coefficients				R	R ²
		NK	HMO	HERF			
High	101	.38	.31	.11**	.55	.30	
Upper Middle	213	.24	.34	.15	.52	.27	
Lower Middle	194	.10*	.36	.11*	.44	.19	
Low	108	.17	.43	.15*	.54	.29	
Total Sample	616	.25	.36	.09	.50	.25	

NOTE: R² were significant at the .001 level.

Corresponding Regression Coefficients were significant at the .05 level except where marked by asterik.

* Significant at the .10 level.

** No longer significant at the .10 level.

For nutrition knowledge, the regression coefficient in the highest and lowest socioeconomic groups showed a difference which was statistically significant at the .10 level.³ For the constructs HMO and HERF, however, this group difference was no longer significant at the .10 level. Based on the foregoing, the following relevant findings emerged.

- (1) The three-predictor variable solution of the FMB model, Stage IV, applied consistently across the four socioeconomic classifications of the survey sample, not only regarding the predictive strength of the model as a whole, but also with respect to its ability to measure the relative importance of each predictor variable.
- (2) A statistically significant trend emerged for the variable "nutrition knowledge," the predictive power being strongest in the high socioeconomic group and lowest for the homemakers from the lower-middle or low socioeconomic backgrounds.
- (3) When comparing the size of the beta coefficients within individual equations, nutrition knowledge emerged as the strongest predictor variable for the high socioeconomic group and was among the weakest in the two lower classifications.
- (4) For homemakers in the low and lower-middle socioeconomic groups, home management orientation was more than twice as powerful an estimator of the degree of food management activities than was

³McNemar's formula, op. cit., p. 143.

nutrition knowledge.

(5) With regard to those survey respondents in the lowest socioeconomic classification, the husband's expectations regarding food was of equal strength as nutrition knowledge in estimating the degree of the homemaker's food management functions.

(6) Concerning the husband's expectations regarding food, moderate beta coefficients emerged for all socioeconomic subgroups. The statistical significance of the corresponding regression coefficients was low ($P > .05$) for three of the four subsample populations. It can be argued, however, that the range of the beta coefficients for HERF (.11 to .15) was validated to some extent by the findings of the total survey sample which revealed a beta coefficient of .09 for the equivalent regression equation.

(7) The multiple R's for all four subgroup regressions of the three-predictor variable solution varied from .44 to .55 as compared to the equation based upon the total sample which showed a multiple R of .50. Moreover, the predictive power of the regression models as measured by the multiple R^2 values was highly significant for all the subgroups as well as for the total survey sample ($P < .001$).

In summary, the above socioeconomic comparison of the fourth stage of the FMB model suggested that, irrespective of socioeconomic background, the homemaker's home management orientation and her husband's expectations regarding food were important

complements to nutrition knowledge in predicting the degree of family food management activities. The three-predictor variable solution identified the separate and combined effects of the three central independent model components and the analysis culminated in some rather interesting discoveries. The most pertinent of these was the magnitude of the predictive power of the homemaker's home management orientation in the two lower socioeconomic groups when estimating the degree of her food management functions as measured by the construct "thorough food manager." Another highly relevant finding was that of the predictive effect of the construct "husband's role expectations regarding food" in the two lower socioeconomic groups, its estimating power being as strong as that of nutrition knowledge.

In the next chapter, the application of the fourth stage of the FMB model to secondary measures of the homemaker's food management functions is discussed and the implications pertaining to major research results are submitted in the final chapter of the thesis.

CHAPTER VIII

FMB MODEL, STAGE IV: APPLICATION TO SECONDARY MEASUREMENTS OF FOOD MANAGEMENT ACTIVITIES

In addition to the main dependent variable "thorough food manager," three secondary dependent constructs were also developed in this study, those of "careful budgeter," "traditional cook," and "congenial mealtime manager." These additional constructs described some of the more special techniques which the homemaker might employ in her food management functions. They have not yet, however, been considered in connection with the FMB model building process. Thus the question of whether or not the fourth stage of the FMB model was applicable still remained and in this chapter, therefore, an attempt is made to clarify this issue.

The results of the analysis of variance procedures which tested differences in the socioeconomic subgroup means pertaining to the secondary dependent model components are submitted first, followed by a discussion of three regression models.

Although descriptions of the above noted constructs have been given previously in Chapter V, they are again briefly outlined below for ease of reference.

The Careful Budgeter (CB) ascertained the techniques used by the homemaker in order to budget her food expenditures. This construct

reflected her "record keeping" activities rather than the extent by which she endeavoured to economize her food expenditures.

The Traditional Cook (TC) described the homemaker's efforts devoted to food preparation by combining measures regarding the frequency of using convenience foods and the time spent on meal preparation.

The Congenial Mealtime Manager (CMTM) summarized the test items relating to the frequency of the family sitting together for the main meal, the length of time spent at the main meal, and the degree of enjoyment experienced during the main mealtime. This construct, therefore, measured the degree of food management activities which were directed toward enhancing the social component of food consumption (in contrast to nutrition and taste).

Analysis of Variance

The analysis of variance results relating to the aforementioned secondary constructs are listed in Table 8.1. Of particular interest was the fact that no significant socioeconomic differences emerged for any of these measurements of food management activities.

Regression Results

The statistical precision of the regression coefficients was generally low and, in order to still present a comprehensive picture of the set of predictor variables, the cut-off point for reporting the beta coefficients of the most elaborate regression model was set at the .10 level of statistical significance. For each individual beta coefficient

TABLE 8.1

ANALYSIS OF VARIANCE STATISTICS: CAREFUL BUDGETER, TRADITIONAL COOK, CONGENIAL MEALTIME MANAGER (N = 616)

Variable Description	Statistics		Total Sample	Socioeconomic Subgroups						F-ratio	Level of Significance	Interpretation of a low mean score
	M	S		High	Upper Middle	Lower Middle	Low					
The Careful Budgeter (CB)	M		500	489	499	509	496					
	S		102	92	104	102	94			1.0	>.10	Engages in a high degree of budgeting activities
The Traditional Cook (TC)	M		500	519	495	494	502					
	S		102	105	98	99	98			1.5	>.10	Spends a lot of time and effort on meal preparation.
The Congenial Mealtime Manager (CWMM)	M		500	495	494	498	517					
	S		102	97	99	99	106			1.4	>.10	Enhances the social component of food consumption.

in turn, this cut-off point was calculated on the basis of the corresponding regression coefficients. A new independent variable was introduced into the analysis, that of the generousness of the homemaker's food budget (GFBU). This variable was substituted for the homemaker's socioeconomic classification (SEC) whenever GFBU proved to be a stronger estimator than SEC. As a result, the SEC variable could therefore be excluded altogether from the analysis presented in this chapter because it either had no predictive qualities or because it could be replaced by the variable GFBU.

For each of the three secondary dependent constructs, three regression solutions were generated and are presented in Table 8.2. The first equation encompassed the maximum number of significant regression coefficients, the second excluded the personality measures, and the third represented a condensed three-predictor variable solution which comprised the variables NK, HMO, and HERF.

With the exception of the personality trait "change," which showed a negative beta coefficient (-.15) for the construct "traditional cook," none of the other three personality measures of the study emerged as predictor variables of any importance.

The variable GFBU showed moderate to considerable strength as an estimator for the constructs "congenial mealtime manager" and "careful budgeter," and it therefore appeared that the tightness of "food dollars" did have a bearing on the level of food budgeting as well as that of enhancing the social component of food consumption. This result contrasted with the analysis of variance findings commented upon earlier, which revealed no differences among socioeconomic subgroups regarding the

TABLE 8.2

FMB MODEL - STAGE IV: APPLICATION TO THREE SECONDARY MEASURES OF FOOD MANAGEMENT ACTIVITIES

Variable Code	Beta Coefficients										R	R ²	Number of Variables in the Regression		
	NK	HMO	HERF	GFBU	ORGA	ACHI	NURT	CHAN							
<u>First Regression</u>															
Traditional Cook (TC)		.07*	.18										.26	.07	3
Careful Budgeter (CB)	.13	.19		-.27	.05*								.35	.12	4
Congenial Mealtime Manager (CMTM)	.06*	.19	.13	.13		.07*							.35	.12	5
<u>Second Regression</u>															
Traditional Cook (TC)		.05**	.18										.21	.05	2
Careful Budgeter (CB)	.13	.21		-.26									.35	.12	3
Congenial Mealtime Manager (CMTM)	.07	.21	.13	.13									.34	.12	4
<u>Third Regression</u>															
Traditional Cook (TC)		.05**	.18										.21	.05	2
Careful Budgeter (CB)	.10	.20											.23	.05	2
Congenial Mealtime Manager (CMTM)	.08	.21	.14										.32	.10	3

NOTE: R² were significant at the .001 level.

Corresponding Regression Coefficients were significant at the .05 level except those marked by asterik.

* Significant at the .10 level

** No longer significant at the .10 level.

level of food management activities as measured by these two dependent constructs. However, due to the substitution of the homemaker's socioeconomic classification by a more precise income measure (GFBU) which related income to family size and cost of food provisioning, a relationship emerged between the homemaker's financial situation and the degree of using these particular food management techniques.

When the FMB model was applied to those measures of food provisioning functions that were closely related to food consumption (TC and CMTM), the husband's expectations regarding food evolved as a predictor variable of some strength, whereas no relationship was found with respect to the degree of the homemaker's budgeting activities.

Home management orientation developed substantial explanatory power in the equations which employed the constructs "careful budgeter" and "congenial mealtime manager" as dependent model components. However no statistically significant regression coefficient resulted from the analysis to suggest an association with the construct "traditional cook."

Nutrition knowledge did not appear to be related to the construct TC and showed little predictive qualities for CMTM. Only in the model which estimated the level of budgeting activities did the homemaker's nutrition knowledge develop some moderate predictive strength.

The multiple R's of the regression models pertaining to the three secondary dependent constructs was very low (.26 to .35). Therefore, in view of the low predictive quality of these secondary regression equations, it is suggested that caution be exercised when drawing conclusions based on these survey findings.

Within the socioeconomic classifications, further regression analysis, which employed these secondary measures of family food management functions as the dependent variable, revealed no statistically significant differences among the beta coefficients across the socioeconomic subgroups. Due to the fact that these regression results did not add any relevant information to the findings elaborated upon in this chapter, they were omitted from the analysis.

In summary, the predictive qualities of the fourth stage of the FMB model weakened considerably when the model was applied to the three secondary dependent constructs which focussed on special techniques of family food management. Thus it appeared that the FMB model, Stage IV, was a poor estimator of the level of food management functions as measured by the constructs TC, CB and CMTM. Nevertheless, despite the poor fit of these regression models in explaining the variance of the three secondary measures of food management performance, the magnitude of the individual beta coefficients tended to support the earlier advanced proposition concerning the relevance of home management orientation as well as that of the husband's expectations regarding food in predicting the degree of the homemaker's food management activities in general. Therefore, it could well be argued that, from the findings presented in this chapter, additional evidence has been generated to validate the feasibility of using the FMB model as an explanation of general food management behaviour. It should be pointed out, however, that due to the low multiple R's of these regression results, other deductions regarding factors associated with the homemaker's food management behaviour should not be made based on the research results

presented in this chapter.

The major conclusions which evolved from this study were consequently based solely upon the FMB model which employed the construct "thorough food manager" as the main dependent variable. These conclusions as well as their pertinent implications are elaborated upon in the next and final chapter of this thesis research investigation.

CHAPTER IX

SUMMARY AND IMPLICATIONS

A review of the conceptual approach underlying the research design is presented in this chapter, together with a summary of the major results of the thesis investigation. This discussion comprises the main conclusions derived from the analysis of the fourth stage of the FMB model as well as a summarized description of relevant findings regarding the level of family food management activities of the homemakers represented by this survey. Finally, suggestions are advanced concerning possible implications which this study may have with respect to the field of food management education and future research.

Research Approach

The overall goal of this thesis research was to generate new knowledge and a deeper understanding of the homemaker's food management behaviour. Since there was relatively little available information concerning the family food management process, it was necessary that this investigation be of an exploratory nature, and the main endeavour was directed toward identifying the major factors related to the degree of the homemaker's food management activities and toward measuring the strength of these associations. The framework followed throughout the study was that of a generalized predictor model describing the

homemaker's food management behaviour:

Degree of Family = f(knowledge) + (attitudes) + (interpersonal
 Food Management factors) + (socioeconomic background) +
 Activities (personality characteristics)

Research Design

The objective underlying the development and choice of the dependent test items was to measure major home food management dimensions and, from these measurements, to derive a comprehensive index reflecting the degree of the homemaker's food management activities in general. With this intention in mind, major food management functions were studied with two exceptions, those pertaining to food buying and food preparation. Food buying was excluded because a considerable amount of literature was already available concerning this function, and food preparation was omitted due to the fact that the researcher possessed little expertise in the study of this particular aspect of family food management.

The choice criteria was twofold regarding the independent variables. First, either past research had intimated relationships with at least one of the dependent variables or, in the researcher's judgment, there was good reason to assume that such an association with the degree of the homemaker's food management activities could exist. Secondly, a better understanding of such a relationship was relevant in the field of consumer education.

The survey data was collected by means of two mail questionnaires during the latter half of November and the beginning of December

1970. The sample population included seven hundred homemakers comprising a consumer panel in the city of London, Ontario, and one hundred and eighty additionally recruited respondents from low socioeconomic backgrounds who resided in the same urban area. Six hundred and sixteen respondents completed both parts of the questionnaire and the responses of these homemakers formed the final data base for this research study.

Data Analysis

Prior to becoming involved in the model building process, individual test items were summarized (whenever statistically justified) into more meaningful constructs of higher abstraction. The analytical techniques employed in the formation of composite measures of high complexity was that of principal components analysis, and the resulting generalized constructs described the degree of the homemaker's food management activities, her social, household task and food planning orientation as well as the husband's expectations of the homemaker. By abstracting and combining measurements and eliminating test items which did not contribute to the model building process, the number of variables considered for developing the FMB model was reduced to sixteen.

The construct "thorough food manager" was chosen as the main dependent variable of the FMB model. With respect to the independent model components, these represented a rather complex system of interdependencies which showed that associations between independent variables and measures of home food management functions were not confined to mere two-variable relationships. Therefore, in view of the complexity of the task situation, simple step-by-step procedures were used in the model

building process, starting with central variables and then moving on to peripheral variables in terms of their close proximity to the behavioural patterns of the homemaker. As a result, the independent model components were introduced, employing a three-stage procedure, with Stage I comprising the variables reflecting the homemaker's nutrition knowledge and attitudes, Stage II, those of the first stage, plus interpersonal and socioeconomic measures, and Stage III, the variables which were included in the second stage as well as the homemaker's personality characteristics. By combining the variable HTO, which measured the homemaker's role orientation concerning mainly non-managerial household activities, with that of FPO, which described her attitude to the managerial aspects of food provisioning, a new construct "home management orientation" (HMO) was formed. Using this more comprehensive role orientation measure and eliminating the construct SO from the set of independent variables, the Stage III version of the FMB model was modified to represent a higher level of abstraction which resulted in the FMB model, Stage IV. This culminated in the final version of the FMB model from which the major findings of this thesis investigation were derived. Multiple regression analysis was then employed to determine the predictive power of the complete model and also its individual independent components.

Major Research Findings

The most relevant results, based on the total sample population are summarized first. Next, additional information is presented which was obtained from the application of the fourth stage of the FMB model to the socioeconomic subgroups of the survey. Following this, individual

test items and summary indices measuring particular aspects of family food management activities are discussed.

FMB Model, Stage IV: Total Sample

1. A single construct (HMO) was formed which reflected the homemaker's home management orientation in general. This construct was independent of nutrition knowledge and was the strongest estimator of the dependent variable.

2. A seven-predictor variable solution identified the major independent components of the FMB model and their predictive strength is described by the beta coefficients of the regression equation:

$$\begin{aligned} \text{TFM} = & \text{Constant} + .18(\text{NK}) + .33(\text{HMO}) + .10(\text{HERF}) \\ & + .13(\text{SEC}) + .10(\text{CHAN}) + .07(\text{ACHI}) \\ & (R = .53) \end{aligned}$$

The homemaker's achievement and change motives showed substantial simple correlations with the construct "thorough food manager" ($r = .25$ and $.20$, respectively). Their beta coefficients, however, were considerably lower. In the context of the FMB model, therefore, it appeared that the homemaker's personality traits were more relevant as predictors of other independent model components than as explanatory factors of the degree of family food management activities.

3. A three-predictor variable solution included those independent model components which were considered to be closest in proximity to the behavioural pattern of the homemaker. These variables formed the triad nutrition knowledge, home management orientation, and the husband's

expectations of the homemaker regarding food, and their predictive qualities are illustrated by the beta coefficients of the regression model:

$$\text{TFM} = \text{Constant} + .25(\text{NK}) + .36(\text{HMO}) + .09(\text{HERF})$$

$$(\text{R} = .50)$$

The multiple R of this equation was only .03 smaller than that of the regression which also comprised the homemaker's socioeconomic classification and her personality characteristics.

4. The husband's expectations of the homemaker regarding food (HERF) was highly intercorrelated with the home management orientation construct (.44) and still showed a partial correlation coefficient of .10 while controlling for the level of nutrition knowledge (NK) and home management orientation (HMO). This two-way association made HERF a fairly important variable with respect to predicting the homemaker's degree of food management activities as well as her home management orientation.

In summary then, the findings resulting from the analysis of the fourth stage of the FMB model revealed that there were important complements to nutrition knowledge in explaining the degree of the homemaker's food management functions. The most relevant of these complementary predictor variables in terms of their proximity to food management behaviour were those reflecting home management orientation and the husband's expectations of the homemaker regarding food.

FMB Model, Stage IV: Socioeconomic Comparison

Since the homemaker's personality traits added very little to the explanatory power of the equations, only the three-predictor variable

regression solution (NK, HMO, HERF) is discussed. The following major findings emerged from the socioeconomic comparison of this particular regression model.

1. The three-predictor variable solution applied consistently across the four socioeconomic subgroup classifications, both in regard to the explanatory strength of the model as a whole, and in its ability to measure the relative importance of each predictor variable. The multiple R's for the four regressions ranged from .44 to .55 as compared with .50 for the equivalent regression using the total sample as the data base.
2. A trend which was statistically significant at the .10 level emerged for the regression coefficients pertaining to the construct "nutrition knowledge," with its estimating power being strongest for the high socioeconomic group and lowest for the homemakers from lower socioeconomic backgrounds.
3. For homemakers in the low socioeconomic group, home management orientation was more than twice as powerful an estimator of the dependent variable than was nutrition knowledge, their respective beta coefficients being .43 and .17.
4. In the lowest socioeconomic classification, the beta coefficient for HERF was of approximately similar magnitude as that for nutrition knowledge (.15 versus .17).

Measures of Food Management Activities

With the thought in mind that specific knowledge concerning the

present degree of the homemaker's food management functions would perhaps provide consumer educators with a deeper insight into the level of family food management activities, some of the related survey results are summarized briefly.

Thorough Food Manager. There were differences among the four socioeconomic subgroups with regard to the level of food management activities reflected by this construct. Homemakers from the high socioeconomic classification indicated the highest level of activities, with this level decreasing for each successively lower socioeconomic group. Moreover, the F-ratio of the analysis of variance test for this subgroup comparison was highly significant (.001).

Careful Budgeter/Traditional Cook/Congenial Mealtime Manager. None of these measures which portrayed some of the more particular family food management techniques showed any statistically significant F-ratios (level of significance $>.10$) for the socioeconomic subgroup means.

Using Nutrition Knowledge. Of the total sample of homemakers, one fourth (28%) "seldom to never" considered what kinds of foods the family ate at other meals or in between meals, and another 16% indicated that they did so only "occasionally." It could be argued, therefore, that the approach to nutrition planning of nearly half of the homemakers was deficient to some extent, as they did not appear to take the family's daily food requirements into consideration when planning the main meal. This seemed to be the case for all the socioeconomic subgroups because the analysis of variance results showed no significant group differences

at the .05 level.

With regard to the test item measuring the frequency of using nutrition knowledge (Pl/17.13), 14% of the respondents indicated that they "seldom to never" made full use of what they knew about nutrition, and another 16% stated that they did so only "occasionally." Furthermore, homemakers in the low socioeconomic classification tended to utilize their nutrition knowledge to a lesser degree than those of the other subgroups of the survey sample (level of significance .001).

The above findings, therefore, suggested that the homemaker's nutrition knowledge was a somewhat under-utilized resource in the food management process for a fairly large number of homemakers and particularly for those in the low socioeconomic classification.

Advance Menu Planning. Of the total number of survey respondents, only 42% stated that they planned their main meals one day or more in advance, with those homemakers from the low socioeconomic group tending to use an even shorter planning horizon.

Having a Food Budget. The survey indicated that half of the homemakers (51%) had no regular budget or amount of money allocated for food provisioning. Moreover, no significant differences were found in the response pattern among the socioeconomic subgroups.

Economizing Food Expenditures/Searching for Shopping Information. The distribution of responses for the test items pertaining to these measures did not differ by socioeconomic classification.

In summary, the aforementioned survey results suggested that, with regard to food management activities in general, as reflected by the construct "thorough food manager," homemakers from low socioeconomic backgrounds tended to engage in these activities to a markedly lesser extent than did their counterparts in the other three subgroups. Moreover, the frequency of using those techniques which could assist in "stretching" the food dollar (having a food budget, economizing food expenditures, searching for shopping information) did not vary by the socioeconomic background of the homemaker.

Implications for Family Food Management Education

The foregoing research results are associative in nature. The findings were developed from the analysis of behavioural reports of a cross-section of urban homemakers at a point in time and do not represent a rigorous proof reflecting the existence of a cause and effect relationship. All that has been found is the phenomenon that, among the sample population and at a given point in time, Y was reported to occur at a higher degree in the presence of a high level of X than was the case when X was reported to be at a low level. However, since the findings were based on a cross-sectional sample rather than on experimentation over time involving the same homemakers, no evidence has been supplied that the increase of an individual homemaker's X score over a period of time would be accompanied by an increase in the activities reflected by her Y score, or that the magnitude of this increase would be equivalent to that postulated by the regression equation of the FMB model. Furthermore, no guarantee can be given that some "third" factor would not explain the associations investigated by this thesis research. How then is it valid to suggest implications if these are

backed by findings which are basically of an associative and probabilistic nature? The justification of moving beyond a statement of results to intimating a causal relationship might best be supported by the following operational definition of causation:

A statement shall be called 'causal' if the relationship is close enough to be useful or interesting, if it does not require so many statements of side conditions as to gut its generality and importance; if enough possible third factor variables have been tried to provide some assurance that the relationship is not spurious; and if the relationship can be deductively connected to a larger body of theory. . . .¹

Each individual reader will have to decide for himself how well the research evidence presented meets the above criteria. However, it is felt that:

- (1) the research design was rigorous enough to assure a fair degree of internal and external validity;
- (2) the emerging relationships were strong and clear-cut;
- (3) by the use of appropriate analytical techniques, the likelihood of spurious correlations was reduced to a minimum;
- (4) the results fit into the larger theories on motivation in work performance;²
- (5) the findings are supported by the "common belief" among food management educators that a causal link exists between nutrition knowledge and the degree of family food management activities and that attitudes also influence the homemaker's food management functions.

Furthermore, the value of empirical research to generate proof

¹Julian L. Simon (1969), Basic Research Methods in Social Science (New York: Random House), p. 454.

²Victor H. Vroom (1964), Work and Motivation (New York: John Wiley and Sons), Chapter 7, pp. 191-210.

regarding the causal links intimated by the FMB model may be doubtful. First, it might be rather difficult to provide and control environmental conditions and to conduct experiments which would produce reliable results and, secondly, it is strongly believed that such undertakings would serve no other purpose than that of confirming the already existing theories on work motivation. It is therefore suggested that the thesis research findings be accepted under the assumption of causal links existing for the major associations portrayed by the FMB model. The investigator, however, acknowledges that the study provides less than perfect information for the policy decision maker in the field of food management education. Nevertheless, under present circumstances, it is felt that this research information might well be the most there is available to assist him in formulating medium term policies regarding particular aspects of family food management education.

Based on the above, the research findings are now evaluated with a view of generating ideas as to how the degree of home food management practices might be improved by applying the concepts of the FMB model to the field of consumer education.

For the purpose of discussing research implications, the variable "nutrition knowledge," as assessed by the thesis survey, is being considered a proxy measure for food management knowledge in general. This generalization is justified due to the fact that, in itself, nutrition knowledge was already a major food management knowledge dimension. Throughout the remainder of this chapter therefore, the terms "nutrition knowledge" and "food management knowledge" are used interchangeably.

The findings of the FMB model, Stage IV, revealed that the homemaker's home management orientation, nutrition knowledge, socioeconomic classification, selected personality traits, and her husband's expectations regarding food constituted significant determinants of the degree of her food management activities. Some of these attributes, however, are fixed and not open to change by consumer education schemes. For instance, in the short run, it would be impossible under the best of circumstances to change a homemaker's personality traits, and long term efforts to achieve this would probably require specialized personal treatment of the homemaker and would be beyond the scope of consumer education endeavours. Likewise, there is little potential for modifying the homemaker's socioeconomic attributes by means of consumer education programs. For these reasons the key target variables in food management education are represented by the triad knowledge, home management orientation, and the husband's expectations regarding food.

The relative importance of the above three-predictor variables in estimating family food management activities has been established by this research study. Based on the respective findings, it is therefore intimated that food management knowledge, although an important factor in the food management process, alone does not suffice. Rather, it seems that food management education should be viewed in a wider context and it appears that an integrated approach would contribute toward deriving optimal results from efforts aimed at raising the level of the homemaker's food management activities. The suggestion is thus offered that, in addition to imparting food management knowledge, consumer

educators should also be concerned with modifying the homemaker's home management orientation as well as the husband's expectations of the homemaker. Furthermore, it is felt that this suggestion should be considered, irrespective of the homemaker's socioeconomic classification.

Attempts to modify the homemaker's and the husband's attitudes will necessitate involvement in change processes of highly interrelated and complex social systems. This investigator acknowledges the fact that there will likely be numerous obstacles accompanying any such undertaking. Nevertheless, based on the thesis research results, it is felt that the proposed approach to food management education might well be essential if the use of education funds is to produce the utmost in results.

Government and private consumer education agencies have been expending considerable effort on disseminating food management information to homemakers from all walks of life. Evidence to this effect can be found in the vast amount of food management education material which is available from or being distributed by various organizations, such as the Department of National Health and Welfare, Canada Department of Agriculture, various provincial government departments, the Consumers' Association of Canada, and other private and government supported consumer education agencies.¹

¹Food management education material is listed in the bibliography under the heading: Educational Material on Family Food Management from Canadian Sources.

A further example which reflects the emphasis currently being placed upon the distribution of consumer information to the public was given on May 31, 1972, in the form of a press release by the Department of Consumer and Corporate Affairs. Under the caption "Storefront Advertisers," recommendations of the twenty-member consumer council were published:

. . . Storefront centers, where the public could easily drop in or phone in for information, were recommended in the report as one measure to help fill the education needs.²

Following similar pursuits, the Consumers' Association of Canada is presently conducting a study of community information centres across Canada.³

The above testifies to the fact that a substantial effort is being made to disseminate food management information with the goal of helping homemakers to stretch their "food dollars" and improve the nutritive quality of their food consumption.

Setting Priorities for Family Food Management Education

Against the aforementioned background, the discussion now centres on the problem of setting priorities for family food management education. To facilitate this discussion, the socioeconomic differences for the major FMB model components are summarized:

²News Item in The London Free Press, May 31, 1972.

³The Consumers' Association of Canada (1972), "Study of Community Information Centers Across Canada," Canadian Consumer, January-February, pp. 17-21.

Socioeconomic Classification	Average Mean Scores for Major Variables of the FMB Model				Husband's Expectations Regarding Food
	Thorough Food Manager	Nutrition Knowledge	Home Management Orientation		
High and Upper Middle	High	High	No Difference	No Difference	
Lower Middle and Low	Low	Low	No Difference	No Difference	

High and Upper-Middle Socioeconomic Groups

At first sight, it looks as if homemakers from the upper-middle and high socioeconomic classifications need not be considered as target populations in food management education. This impression, however, is deceiving. What the survey results actually revealed was the fact that these homemakers operated at a higher level with regard to their food management activities and had a better knowledge of nutrition than their counterparts in the lower socioeconomic brackets. The question of whether or not these levels are adequate enough to enable homemakers from upper-middle and high socioeconomic backgrounds to achieve the goals of food management has not been answered by these research findings. It is therefore recommended that the results of this investigation be evaluated by specialists in the field of family food management in order to decide to what extent homemakers from higher socioeconomic categories require assistance to improve their level of food management activities.

Not only should there be concern about improving home food management practices for this population group, but it is believed that concentrated effort is also required to prevent the present level of

family food management functions from future deterioration. This is especially true for the more affluent homemaker, for whom the nutritive quality of family food consumption is being eroded in two ways: (1) the changing dietary habits of family members (more snacking, reduced control over what the family eats, etc.) and, (2) a gradual lessening of home management orientation due to social pressures (opinion movements regarding status of women, etc.), which, in turn, negatively affects the degree of her food management activities. With regard to these homemakers, therefore, it is indicated that continued consumer education endeavours should also be channelled into programs designed to help her sustain the present degree of her food management activities.

A great deal is already being done to disseminate food management knowledge to these homemakers and it is thus suggested that emphasis be placed upon maintaining her degree of motivation, i.e., to prevent deterioration of and, if possible, improve her home management orientation. Likewise, their husbands should also be addressed in the context of food management education schemes directed toward this particular population group.

Lower-Middle and Low Socioeconomic Groups

With respect to the families from lower socioeconomic segments of the survey population, the study illustrated that their degree of food management activities was markedly lower than that of the higher socioeconomic subgroups. This fact was particularly accentuated for homemakers from the lowest socioeconomic category of the survey. This research evidence, as well as personal field experience were both

instrumental in formulating the suggestion that high priority should be given to improving the food management function level of low-income homemakers.

In view of difficulties which are often encountered during the process of educating low-income homemakers, the concepts underlying the FMB model, as they apply to education efforts aimed at this particular target population, are discussed in more detail. However, these suggestions will also apply, at varying degrees, to food management education programs directed at homemakers from higher socioeconomic backgrounds.

For low-income homemakers, the analysis of the FMB model revealed that it was not nutrition knowledge but rather home management orientation which was, by far, the most powerful predictor of the degree of their food management activities. Furthermore, the husband's expectations regarding food was as relevant as nutrition knowledge in estimating the dependent variable. How do the foregoing facts contrast with what is presently being accomplished regarding improvement in the food management practices of these homemakers? The researcher suspects that the main endeavours in this field have been directed at imparting food management knowledge and that relatively little has been done to modify the homemaker's and/or the husband's attitudes toward family food management. For this particular population segment, therefore, a situation has apparently arisen in which only a minor portion of the overall education effort is spent on modifying the homemaker's home management orientation, the most important determinant of the degree of her food management activities. Consequently, it is felt that this apparent "low-income

consumer education paradox" should be rectified if education funds are to be used effectively in the food management education process involving low-income homemakers. Some specific suggestions are now presented as to how the approach underlying the FMB model could be employed in food management education programs directed toward this particular target population. The proposed food management education scheme is designed for homemakers whose motivational level is so low that they are unwilling to accept or utilize food management information. This assumption does not appear to be unreasonable in the case of low-income homemakers, as personal field experience and discussions with welfare and social workers revealed that this was the case for a considerable portion of the low-income population.

A Model of the Food Management Education Process for Low-Income Homemakers

An application of the FMB model's approach to family food management education is portrayed in Table 9.1. This suggested step-wise educational process is now explained for two of the primary consumer education target variables, those representing the homemaker's home management orientation and the husband's expectations regarding food.

The Homemaker's Home Management Orientation

This measure is a composite of two major role orientation dimensions and, in the context of the food management education model, both input variables are discussed separately.

TABLE 9.1

A MODEL OF FOOD MANAGEMENT EDUCATION

Role Orientation and Attitude Variables	
<u>Household Task Orientation</u>	<u>Food Planning Orientation</u> <u>Husband's Expectations Regarding Food</u>
Phase 1 creating awareness of the overall importance and relevance of homemaking roles	creating an overall awareness of nutrition
Phase 2 creating awareness of specific personal benefits resulting from efficiently executed homemaking functions (saving time, energy and money, making household tasks more pleasant, etc.)	creating awareness concerning specific benefits derived from the use of food planning techniques
Phase 3 teaching homemaking techniques	stimulating the husband's interest in the food provisioning activities of the homemaker creating awareness of the importance of his role in emotionally supporting the homemaker's endeavours in the field of food provisioning

The Homemaker's Food Planning Orientation

It is suggested that the educational process begin with the creation of a profound nutrition awareness. After completing this first phase, a homemaker should then progress to the second phase wherein awareness is developed concerning specific benefits derived from the use of food planning techniques. Once this has been accomplished, the homemaker's motivational resources will be adequately increased to a level whereby she has a genuine interest in obtaining, absorbing and employing food management information which will be of assistance in improving her degree of food management activities. Dividing the educational process into two preconditioning phases, plus a subsequent information supply or teaching phase, is essential as the dissemination of food management knowledge can only be fully productive if the homemaker is sufficiently motivated to receive such information. If she is unaware of the importance of nutrition or cannot see the benefits of planning functions in food provisioning, she is unlikely to absorb and put to beneficial use any new food management information. An example supporting this fact is the remark often made by low-income homemakers: "Worrying about nutrition or engaging in food planning activities is useless for me since I don't have enough money anyway."

Phase 1: Nutrition Awareness. It is suggested that this phase concentrate on portraying the importance of proper nutrition but without imparting nutrition knowledge. This can probably best be achieved by dramatizing the effects of malnutrition or under-nutrition on physical and mental growth. The television media would be especially ideal for

fostering this primary awareness level. Furthermore, to support such a primary awareness campaign, it is felt that seminars, complete with film documentaries, should be conducted in low-income neighbourhoods.

Phase 2: Awareness of the benefits of food planning techniques.

The aim of this phase is to convince homemakers of the specific benefits of food planning techniques. It is suggested that emphasis be placed on contrasting the nutritional quality of food consumption of a typical "Mrs. Planner and Mrs. No-Planner" from a low socioeconomic background, but no food management techniques should be taught during this second awareness phase. The difference in time, energy and financial resources expended by such homemakers should also be illustrated. One way in which this educational goal could be achieved would be to use a discussion group approach under the guidance of a skilled moderator. However, this moderator should be careful not to impose her own opinions; her main objective should be to assist the homemakers in finding their own answers and solutions regarding the benefits of food planning techniques. It is believed that, in fostering this awareness phase, group therapy should be initiated rather than individual counselling. The reasoning underlying this suggestion is that low-income homemakers are more apt to listen and accept ideas or advice from members of their own peer group than from a social worker whose socioeconomic background, in all likelihood, will be vastly different from that of the person being counselled. Again the use of the television media would be appropriate in this second phase of awareness creation as long as a "soft sell" approach is used. For example, a one-minute film illustrating the tension, frustration, chaotic

environment, plus the unbalanced diet provided by Mrs. Non-Planner, climaxed by a thought-provoking question could be very effective. Later, the awareness level could be reinforced by having another message televised, featuring the same low-income homemaker but acting the role of Mrs. Planner.

It is felt that the homemaker, having moved up through these two awareness levels, would then be sufficiently motivated to seek and effectively use the large amount of food management information currently being distributed or made available by government and private consumer education agencies.

The Homemaker's Household Task Orientation

The educational approach suggested for modifying the homemaker's household task orientation follows similar lines to those given for food planning orientation.

Phase 1: Awareness of the importance of homemaking roles. For too long, the homemakers have been under the influence of commercial advertising which depicted her homemaking functions as drudgery, monotony, and implicit slavery. How can she be expected to perform well as a homemaker when she has been conditioned to dislike homemaking tasks and to belittle their importance? The time has come when concentrated efforts ought to be made to let the homemaker gain back her self-esteem! Consequently, the educational goal in this primary awareness phase is to convince her of the importance and relevance of her homemaking functions, to illustrate the many ways she is contributing to the emotional and physical

well-being of her family by simply being a "good housewife." To achieve this objective, television and radio would be ideal communication media. By centering around a theme such as "What would your family do without you," it is believed that very effective messages could be created for dissemination to the otherwise hard to reach low-income households.

Phase 2: Awareness of rewarding aspects of homemaking functions.

The educational focus here should be placed upon depicting the specific personal benefits derived from the efficient execution of household tasks. The saving of time, energy and money, making the task performance more pleasant, are examples of such personal benefits. Skillfully arranged group discussions would be most effective in creating awareness with respect to the rewarding aspects of homemaking.

By increasing the awareness levels as explained in phase one and two, the homemaker will be sufficiently preconditioned that phase three (teaching homemaking techniques) of the educational process will become fully operational.

The Husband's Expectations of the Homemaker Regarding Food

Husbands from low socioeconomic backgrounds are difficult to reach in the context of consumer education. Thus, in view of this constraint, group discussions would likely have to be ruled out since husbands in the low-income bracket generally lack motivation to attend evening group sessions. Probably the best way of approaching him is in his living room via the television media.

A three-phase education approach is suggested. In phase 1

nutrition awareness is fostered, phase 2 is directed at stimulating the husband's interest in the homemaker's food provisioning activities, and phase 3 emphasizes the importance regarding his role in emotionally supporting and rewarding the homemaker's endeavours in the area of food provisioning.

To sum up, examples have been submitted as to how the concepts underlying the FMB model might contribute toward making the family food management education process more effective. It is hoped that they have provided the groundwork for generating further ideas for the improvement of consumer education in general.

Survey Information on the Present Degree of Family Food Management Activities

This thesis research also provided a comprehensive reading of the urban homemaker's present level of food management activities. These findings may be useful in phase three (supplying information and teaching food management techniques) of the aforementioned food management education model. It is suggested, therefore, that the results of this study be analyzed by experts in the field of home economics and nutrition with a view to identifying those home food management dimensions which, in their judgment, need improvement in order that homemakers may be in a better position to more closely attain the goals of family food management.

Suggestions for Further Research

The consumer education concept which emerged from the analysis of the fourth stage of the FMB model might be employed in areas beyond that of food management education and encompass other fields of family management. For example, the approach suggested for improving the food management education process could well be useful in educational schemes directed at bettering and increasing the homemaker's activities with regard to health-protecting practices, child care, the planning of family functions, and building a happy home environment. The investigator thus proposes that further exploratory behavioural research be carried out concerning these and other related areas in order to test the applicability of the concepts underlying the FMB model in such diverse fields of consumer education.

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APPENDIX A

SOCIOECONOMIC PROFILE OF THESIS RESEARCH SAMPLE (N=616)

<u>Age Groups</u>	Age of	
	<u>Homemaker (Percentage)</u>	<u>Husband (Percentage)</u>
Under 30	22	16
30 to 40	31	30
41 to 50	26	25
50 and over	21	24
		5 (families without husbands)
	100	100

<u>Classification</u>	Education of	
	<u>Homemaker (Percentage)</u>	<u>Husband (Percentage)</u>
Some/all public school	13	20
Some high school	39	34
All high school	39	27
Some/all university or college	9	13
		6 (families without husbands)
	100	100

<u>Ranking</u>	<u>Occupation of Principal Wage Earner Occupational Prestige Rating (NORC Scale*)</u>	
	<u>Percentage</u>	
High	11	
Upper Middle	11	
Middle	33	
Lower Middle	27	
Low	10	
Omitted	8	
	100	

APPENDIX A (continued)

<u>Classification</u>	<u>Family Size</u> <u>Percentage</u>
Children under 6 years	41
Children from 6 to 12	44
Children from 13 to 18	33
Adults 19 and over (excluding parents)	22

<u>Number of Children</u> <u>(1 to 18 years)</u>	<u>Family Size</u> <u>Percentage</u>
One Child	19
Two Children	24
Three Children	15
Four Children	10
Five Children	4
Six or more Children	3

Yearly Income Before Taxes

<u>Amount of Income</u>	<u>Principal</u> <u>Wage Earner</u> <u>(Percentage)</u>	<u>All Members</u> <u>of Household</u> <u>(Percentage)</u>
Under \$4,000	8	9
\$4,000 to \$4,999	8	7
\$5,000 to \$5,999	15	9
\$6,000 to \$6,999	18	13
\$7,000 to \$9,999	26	25
\$10,000 and over	<u>25</u>	<u>37</u>
Yearly Average Income	<u>100</u> <u>\$ 7,785</u>	<u>100</u> <u>\$ 8,562</u>

* NORC Scale (National Opinion Research Center Scale), James F. Engel et al. (1968). Consumer Behaviour. Toronto: Holt, Rinehart and Winston, pages 269 to 271.

The occupational prestige classifications of the NORC Scale were grouped into five categories by the researcher, and their upper and lower limits have been described as follows:

APPENDIX A (continued)

Occupational Prestige Classifications
as Applied in the Thesis Research

<u>Classification</u>	<u>Upper Limit</u>	<u>Range</u>	<u>Lower Limit</u>
High	Supreme Court Justice	Building Contractor	
Upper Middle	Railroad Engineer	Reporter on a daily newspaper	
Middle	Radio Announcer	Plumber	
Lower Middle	Automobile Repairman	Truck Driver	
Low	Clerk in a store	Janitor	

APPENDIX B

THE MEASUREMENT INSTRUMENT

	Page
Reference Index	167
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Questionnaire, Part 1	171
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REFERENCE INDEX

Dependent Variables Measuring the Homemaker's Food Management Activities

<u>Main Classifications of Food Management Activities</u>	<u>Questionnaire Items*</u>
1. Using Nutrition Knowledge	Pl/17.3, 17.13, 17.17, 17.20
2. Serving a Variety of Food	Pl/6 and 7
3. Advance Menu Planning	Pl/1a, 1b, 3, 17.1
4. Budgeting Food Expenditures	Pl/11a, 17.18
5. Economizing Food Expenditures	Pl/17.5, 17.15
6. Searching for Shopping Information	Pl/17.2, 17.7, 23
7. Using Shopping List	Pl/24, 25
8. Setting Elaborate Table	Pl/9
9. Making Food Look Attractive and Exciting	Pl/17.19
10. Making the Main Meal an Enjoyable Occasion	Pl/8a, 8c, 10

Sundry Measures of Food Management Activities

	<u>Questionnaire Items</u>
Regular serving of main dishes	Pl/4
Frequency of serving regular main dish	Pl/5
Frequency of watching television during main meal of the day	Pl/8b
Quality differences in the food at the beginning and end of a pay period	Pl/15
Time spent on preparing main meal of the day	Pl/17.6
Use of convenience foods	Pl/17.11

*Pl, P2 refers to Part 1 and Part 2, respectively, of the survey questionnaire.

Independent Variables

<u>Major Independent Variables</u>	<u>Questionnaire Items</u>
Nutrition Knowledge	P2/7 to 19
<u>Attitudes</u>	
<u>Food Planning Orientation</u>	
Importance of nutrition knowledge and nutrition planning	P1/18.1, 18.2, 18.3, 18.4
Usefulness of planning in food provisioning	P2/6.1, 6.2, 6.3, 6.4, 6.5, 6.6
<u>Social Orientation</u>	
Attitudes toward child, family and community oriented activities	P2/1 and 2
<u>Household Task Orientation</u>	
Attitudes toward general household tasks	P2/1 and 2
<u>Interpersonal Characteristics</u>	
Husband's Role Expectations of Homemaker	P1/17.4; P2/3.1 to 3.10
<u>Socioeconomic Characteristics</u>	
<u>Occupation</u>	
Homemaker's present occupation	P2/23b
Homemaker's past occupation	P2/24a
Father's occupation	P2/24b
Principal wage-earner's occupation	P2/30
Principal wage-earner	P2/29
<u>Education</u>	
Homemaker's formal education	P2/28
Husband's formal education	P2/28
<u>Income (before taxes)</u>	
Annual income of all household members	P2/32
Annual income of principal wage-earner	P2/31
Generousness of food budget	P1/13

Independent Variables (continued)

<u>Socioeconomic Characteristics</u>	<u>Questionnaire Items</u>
<u>Personality Traits</u> (definition of a high scorer is described in Appendix C)	
Organization (20 true/false questions)	P1/26
Desirability (16 true/false questions)	
Achievement (16 true/false questions)	
Value Orthodoxy (20 true/false questions)	P2/25
Nurturance (16 true/false questions)	
Change (16 true/false questions)	
<u>Secondary Independent Variables</u>	<u>Questionnaire Items</u>
Parent's influence on food served	P1/17.9
Neighbour's influence on food decisions	P1/17.12, 17.16
Degree of homemaker's happiness	P2/4.1, 4.2, 4.3
Degree of homemaker's financial expectations	P2/5
Level of energy	P2/26
Amount spent on food and household items	P1/16a
Amount spent on food	P1/16b
Tightness of budget to provide healthful food	P1/14
Length of pay period	P1/12
Number of household members on special diet	P1/21
Amount of cooking done herself	P1/20
Amount of grocery shopping done herself	P1/22
Years of cooking for others	P1/19
Age of homemaker	P2/27
Number and age of other household members in the family	P2/27
Additional education other than formal schooling	
Homemaker	P2/21
Husband	P2/21
Hours homemaker working part-time	P2/22, 23
Languages spoken at home	P2/20
Type of dwelling and ownership	P2/33
Car ownership	P2/34
Homemaker's influence on how much money spent for food	P1/17.10
Husband's influence on how much money spent for food	P1/17.14

Explanations of Coding and Response Distribution

The codes for classification of responses have been noted to the left of the answer boxes or, if arranged differently, are self-explanatory. Brackets were utilized throughout the questionnaire to indicate that two or more answer categories were summarized to form a new classification.

A consistent pattern was used for coding items measuring the degree of the homemaker's food management activities, her attitudes, and the husband's role expectations of the homemaker. For items in these categories, a code of "1" indicated either a high degree of food management activities, a strong positive attitude, or high role expectations, with the higher numbers indicating a movement in the opposite direction.

The number of homemakers answering each response category have either been listed to the right of the answer boxes or, again, are self-explanatory. Unadjusted non-responses were coded "NR". For each question, the sum of the coded answers amounted to 616 which was the size of the total sample population of this research study.

In the questionnaire sections which dealt with the homemaker's personality characteristics, the trait measured by each true/false question was indicated by means of a letter between the pair of answer boxes. The codes used were: O = Organization; D = Desirability; A = Achievement; V = Value Orthodoxy; N = Nurturance; and C = Change. An "x" in either of the boxes defined the answer which increased a respondent's respective personality score by one point. A description of a high scorer has been given in Appendix C.

PART 1, QUESTIONNAIRE



160 Bloor Street East, Toronto 5
Ontario. Telephone (416) 929-3158

Dear homemaker:

I have a questionnaire for you today which is "different" - I think, and hope, you will find it interesting to answer.

It is in two sections - the first asks about meals, and about shopping; the second is a series of phrases, and for each one I'd like you to check "True" or "False" - don't spend too much time on this section - just give your "first reaction" answer.

Because this questionnaire is a little longer than usual, I am sending you a little gift to thank you for helping I hope it will be useful.

Yours sincerely,

Carole

Carole Adam

70050-1

QUESTIONNAIRE

ABOUT THE MAIN DISH

1. a) When you do your major grocery shopping, have you decided what main meals you will be serving during the period for which you are shopping?

DECIDE ON MAIN MEALS: BEFORE GOING SHOPPING 279
 IN THE STORE 129
 AFTER BUYING FOOD 208

b) How far in advance do you usually decide on what main dish you will serve for your main meals?

1 HOUR OR LESS IN ADVANCE 103
 2 - 4 HOURS IN ADVANCE
 SAME DAY (MORE THAN 4 HOURS IN ADVANCE) Skip to Question 3 ²⁵⁴/₁₇₇
 1 DAY IN ADVANCE 2
 MORE THAN ONE DAY IN ADVANCE 1 → how many days in advance, usually? _____ 82

2. For the main dishes which you usually plan ahead, do you decide on the order in which they will be served?

YES invalid responses NO

3. How often, if at all, do you follow a printed or written menu plan for the main meals of the week?

ALMOST ALWAYS
 TWO WEEKS IN A MONTH 56
 ONE WEEK IN A MONTH
 ONE WEEK IN EVERY TWO MONTHS 198
 VERY RARELY
 NEVER 362

4. Because of personal preferences, special diets, or just habit, many people follow a fairly regular pattern in the main dishes they serve - for example, they have roast beef most weekends; they have chicken legs at least once a week; macaroni and cheese most Fridays - that sort of thing. Are there any main dishes which you serve regularly, that is, once a week or more often?

YES 412 NO ²⁰⁴ → Skip to Question 6

5. Under (a) below please describe the main dishes which you serve regularly; under (b) please tell me how many times a week, on the average, you serve it.

(a) MAIN DISHES SERVED REGULARLY

(b) HOW MANY TIMES A WEEK DO YOU SERVE THIS?

_____	_____
invalid responses	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

6. How often do you serve an unusual main dish for the main meal of the day? (An "unusual main dish" is one which you may have served before, but not often.)

ONCE A WEEK OR MORE OFTEN 1 43
 ABOUT 2 - 3 TIMES A MONTH 2 166
 ABOUT ONCE A MONTH 3 189
 ABOUT ONCE EVERY 2 - 3 MONTHS 4 101
 ABOUT ONCE EVERY SIX MONTHS 5 75
 LESS OFTEN, NEVER 6 42

7. How often do you serve a new main dish for the main meal of the day? (A "new main dish" is one which you have never served before.)

ONCE A WEEK OR MORE OFTEN 1 60
 ABOUT 2 - 3 TIMES A MONTH 2 118
 ABOUT ONCE A MONTH 3 176
 ABOUT ONCE EVERY 2 - 3 MONTHS 4 150
 LESS OFTEN, NEVER 5 112

8. a) In an average week, how many times does the family sit together at the table for the main meal of the day?

1 always 328
 2 5-6 times 160
 3 3-4 times 56

- b) When the family sits down for the main meal of the day and eats together, at how many of these meals do you watch television in an average week?

2 or less 72
 never 457
 2 1-2 times 86
 3 more often 73

- c) When the family sits down and eats together for the main meal of the day, and does not watch television, how long does such a meal take, on the average?

1 40+ m. 80 4 11-20m. 136
 2 31-40m. 42 5 10 or less 10
 3 21-30m. 319 NR omitted 29

9. There are occasions when homemakers set the dinner table in a more elaborate way than usual, to make it look a special occasion. How often do you do this?

ONCE A WEEK OR MORE OFTEN 1 138
 ABOUT 2 - 3 TIMES A MONTH 2 111
 ABOUT ONCE A MONTH 3 137
 ABOUT ONCE EVERY 2 - 3 MONTHS 4 88
 LESS THAN ONCE EVERY THREE MONTHS 5 142

10. Thinking in terms of relationships in the family, I'd like to know how enjoyable your main meal times are. To explain what I mean: some families find mealtimes relaxing - a chance for the family to be together, to talk over the day, etc. In other families main meal times are not quite so relaxing - perhaps there are young children who are at a boisterous age; children who are "difficult" about eating; perhaps it is a struggle to get everyone together on time, or the meal is often rushed because some family members have to go out.

Thinking about the main meal times in your family, how enjoyable would you say they are?

VERY ENJOYABLE 1 107
 ENJOYABLE 2 347
 NEITHER ENJOYABLE NOR UNPLEASANT
 NOT TOO ENJOYABLE 3 162
 NOT ENJOYABLE AT ALL

ABOUT FOOD EXPENSES

11. a) For which of the following items, if any, do you have a regular budget or amount of money allocated in order to buy them? Please check as many as apply.

	<i>Budget</i>	<i>No Budget</i>	
THE FAMILY'S FOOD	<input type="checkbox"/> 301	<input type="checkbox"/> 315	
HOUSEHOLD & LAUNDRY PRODUCTS	<input type="checkbox"/> 177	<input type="checkbox"/> 439	
MEDICINE CUPBOARD ITEMS	<input type="checkbox"/> 86	<input type="checkbox"/> 530	DON'T HAVE REGULAR BUDGET <input type="checkbox"/>
CHILDREN'S CLOTHING	<input type="checkbox"/> 69	<input type="checkbox"/> 547	
MY OWN SMALL PERSONAL ITEMS	<input type="checkbox"/> 76	<input type="checkbox"/> 540	
MY DRESSES AND CLOTHING	<input type="checkbox"/> 55	<input type="checkbox"/> 561	
OTHER:	<input type="checkbox"/> 54	<input type="checkbox"/> 562	

12. How often do you receive/withdraw money for food shopping?

MORE THAN ONCE A WEEK	<input type="checkbox"/> 1	<input type="checkbox"/> 341
ONCE A WEEK	<input type="checkbox"/> 2	<input type="checkbox"/> 208
EVERY TWO WEEKS OR TWICE A MONTH	<input type="checkbox"/> 3	<input type="checkbox"/> 67
ONCE A MONTH		
OTHER (How often?)		

13. Thinking of the amount of money you have to spend on food, would you say it is:

EXTREMELY GENEROUS	<input type="checkbox"/> 1	Skip to Question 15	<input type="checkbox"/> 109
VERY GENEROUS	<input type="checkbox"/> 2		<input type="checkbox"/> 148
FAIRLY GENEROUS	<input type="checkbox"/> 3		<input type="checkbox"/> 232
ADEQUATE	<input type="checkbox"/> 4		<input type="checkbox"/> 127
SOMEWHAT TIGHT	<input type="checkbox"/> 5		
VERY TIGHT	<input type="checkbox"/> 6		
EXTREMELY TIGHT	<input type="checkbox"/> 7		

14. How adequate is the amount you spend on food to provide your family with the food which is needed for good health?

MUCH MORE THAN ADEQUATE	<input type="checkbox"/> 1	<input type="checkbox"/> 265
SLIGHTLY MORE THAN ADEQUATE	<input type="checkbox"/> 2	<input type="checkbox"/> 295
ADEQUATE	<input type="checkbox"/> 3	<input type="checkbox"/> 56
SLIGHTLY LESS THAN ADEQUATE	<input type="checkbox"/> 4	
MUCH LESS THAN ADEQUATE	<input type="checkbox"/> 5	

15. Some homemakers find that they run short of money near the end of a pay period and that they must spend less on food. How do your main meals at the beginning of a pay period compare with those at the end?

MEALS AT THE BEGINNING OF A PAY PERIOD ARE:	MUCH BETTER	<input type="checkbox"/> 1	<input type="checkbox"/> 134
	SLIGHTLY BETTER	<input type="checkbox"/> 2	<input type="checkbox"/> 482
	ABOUT THE SAME	<input type="checkbox"/> 3	

16. Please tell me under (a) below how much you usually spend per week on groceries and household items such as detergents, toothpaste, etc. Under (b) please tell me how much you spend on food alone (not including household items). As I know it is difficult to give a precise figure, the answer space allows room for you to write in a price range - for example, you might spend between \$15 and \$17 on food per week.

(a) AMOUNT SPENT
PER WEEK ON FOOD
AND HOUSEHOLD ITEMS

\$ _____ to \$ _____

(b) AMOUNT SPENT
PER WEEK ON FOOD
ALONE

\$ _____ to \$ _____

1	- 20	233
2	21-30	256
3	30+	100

ABOUT MEAL PREPARATION AND FOOD SHOPPING

17. Below is a series of statements - I'd like to know whether each statement applies, or does not apply, to you and your family, by writing in a number:
Code

Response distribution for this question has been given on the following page.

- | | |
|----|----------------|
| 1 | Always |
| 2 | Very often |
| 3 | Occasionally |
| 4 | Seldom |
| 5 | Almost never |
| 6 | Never |
| NR | Does not Apply |

1. I decide how I will prepare any meat, fish or poultry before or as I buy it. . . . _____
2. I listen to the radio to find which specials the stores are offering _____
3. When planning for the main meal I carefully consider what kinds of foods the family eats at other meals, or in between meals _____
4. My husband takes a keen interest in what the family eats _____
5. I buy a food product on special even if it is not my usual brand _____
6. I spend less than 30 minutes in preparing the main meal of the day _____
7. I read the newspapers to find which specials the stores are offering _____
8. When I decide on what foods to serve my family I am able to make full use of what I know about nutrition _____
9. The meals that my family eats are very similar to those my parents served _____
10. I decide how much money our family can or will spend for food _____
11. For the main meals of the day I buy ready-made foods or other convenience foods that can be prepared easily _____
12. I discuss ideas about food buying with friends or neighbours _____
13. When I decide on what foods to serve my family I make full use of what I know about nutrition _____
14. My husband tells me how much money can be spent for food _____
15. I figure out the cost per serving before or as I buy meat, fish or poultry _____
16. Conversations with friends or neighbours influence the food I serve _____
17. My food decisions tend to follow nutrition recommendations such as Canada Food Guide, or similar _____
18. Before I go on a major shopping trip I figure which foods I should buy for the money I can spend _____
19. When serving my main meals I make an effort to make the food look attractive and exciting _____
20. I worry more about whether my family likes the food I serve than I worry about nutrition _____

Response Distribution of Question 17

Question	Always 1	Very Often 2	Occasionally 3	Seldom 4	Almost Never 5	Never 6	Does Not Apply NR
17.1	167	196	113	56	29	55	
17.2	24	37	71	69	91	324	
17.3	146	195	99	56	45	75	
17.4	178	112	106	68	45	67	40
17.5	55	141	191	78	79	72	
17.6	12(6)	99(5)	170(4)	137(3)	100(2)	98(1)	
17.7	280	126	84	36	33	57	
17.8			invalid responses				
17.9	15	187	209	125	52	28	
17.10	330	144	34	22	25	61	
17.11	9(6)	30(5)	145(4)	144(3)	170(2)	118(1)	
17.12	7	107	210	102	76	114	
17.13	171	262	101	54	11	17	
17.14	41	32	39	44	62	364	34
17.15	38	96	62	59	91	270	
17.16	3	15	116	98	123	261	
17.17	39	177	117	88	62	133	
17.18	148	177	91	67	36	97	
17.19	222	266	96	23	5	4	
17.20	87(6)	160(5)	144(9)	106(3)	57(2)	62(1)	

18. Some people feel it is important to know precisely how individual foods contribute to good health; others think this does not matter at all as long as the family likes the food which is served. How important do you think it is that:

	Codes →				
	1 EXTREMELY IMPORTANT	2 VERY IMPORTANT	3 FAIRLY IMPORTANT	4 NOT TOO IMPORTANT	NOT IMPORTANT AT ALL
1. A homemaker knows which foods contain mainly protein, carbohydrates, etc.	<input type="checkbox"/> 172	<input type="checkbox"/> 252	<input type="checkbox"/> 163	<input type="checkbox"/> 29	<input type="checkbox"/>
2. All family members eat an adequate breakfast	<input type="checkbox"/> 231	<input type="checkbox"/> 252	<input type="checkbox"/> 97	<input type="checkbox"/> 36	<input type="checkbox"/>
3. There is a variety of foods at each meal	<input type="checkbox"/> 124	<input type="checkbox"/> 280	<input type="checkbox"/> 166	<input type="checkbox"/> 46	<input type="checkbox"/>
4. A homemaker plans the day's meals considering individual nutrition needs, rather than treating everyone the same	<input type="checkbox"/> 66	<input type="checkbox"/> 169	<input type="checkbox"/> 210	<input type="checkbox"/> 171	<input type="checkbox"/>

19. For how many years have you been cooking regularly for others?

YEARS	Years				
	1	2	3	4	
1-5	45				102
6-10	114				80
11-15	106				169
				26+	

20. How much of the cooking do you do in your household?

ALL OF IT	1	<input type="checkbox"/> 407
MOST OF IT	2	<input type="checkbox"/> 209
SOME OF IT		<input type="checkbox"/>
VERY LITTLE OF IT		<input type="checkbox"/>

21. I'd like to know if anyone in your family is on a diet of any kind - to lose weight, to gain weight, or for a physical condition such as diabetes, high blood pressure, ulcers, etc.

PERSON WHO IS ON DIET (Write in relationship to yourself) NO-ONE IS ON A DIET

TYPE OF DIET		
1	two or more persons	44
2	one person	124
3	no one	448

22. How much of the major grocery shopping do you yourself do?

ALL OF IT	1	<input type="checkbox"/> 412
MOST OF IT	2	<input type="checkbox"/> 164
SOME OF IT	3	<input type="checkbox"/> 40
VERY LITTLE OF IT		<input type="checkbox"/> -- Skip to Question 26.

23. When you do your major grocery shopping, how often do you obtain information on specials and prices before going to the store?

ALWAYS	1	<input type="checkbox"/>	128
ALMOST ALWAYS	2	<input type="checkbox"/>	161
QUITE OFTEN	3	<input type="checkbox"/>	138
OCCASIONALLY	4	<input type="checkbox"/>	86
HARDLY EVER	5	<input type="checkbox"/>	56
NEVER	6	<input type="checkbox"/>	47

24. How often do you use a shopping list for your major grocery shopping?

ALWAYS	1	<input type="checkbox"/>	226
ALMOST ALWAYS	2	<input type="checkbox"/>	124
QUITE OFTEN	3	<input type="checkbox"/>	77
OCCASIONALLY	4	<input type="checkbox"/>	81
HARDLY EVER	5	<input type="checkbox"/>	59
NEVER	6	<input type="checkbox"/>	49 → Skip to Question 26.

25. When you use a shopping list, how many of the items you buy are on the list?

ALL OF THEM	1	<input type="checkbox"/>	175
MOST OF THEM	2	<input type="checkbox"/>	349
SOME OF THEM	3	<input type="checkbox"/>	47
JUST A FEW OF THEM	4	<input type="checkbox"/>	45
DO NOT USE SHOPPING LIST	NR		45

26. PERSONAL DESCRIPTION LIST ©

Below is a list of statements .. some of them may be true for you, some may not be true for you; in some cases you may not be sure what to check. When this happens try to decide whether you tend more to true, or false.

Work through the list quite rapidly, checking "True" or "False" - don't spend a lot of time thinking about them. As we are all different, there are no right or wrong answers.

	<u>TRUE</u>	<u>FALSE</u>
I often have a task finished sooner than necessary.	<input checked="" type="checkbox"/> O	<input type="checkbox"/>
I am never able to do things as well as I should.	<input type="checkbox"/> D	<input checked="" type="checkbox"/>
People should be more involved with their work.	<input checked="" type="checkbox"/> A	<input type="checkbox"/>
Little things usually slip my mind.	<input type="checkbox"/> O	<input checked="" type="checkbox"/>
I am quite able to make correct decisions on difficult questions.	<input checked="" type="checkbox"/> D	<input type="checkbox"/>
I seldom set standards which are difficult for me to reach.	<input type="checkbox"/> A	<input checked="" type="checkbox"/>
I prefer to complete a task before resting, rather than taking a "break" in the middle.	<input checked="" type="checkbox"/> O	<input type="checkbox"/>
I believe people tell lies any time it is to their advantage.	<input type="checkbox"/> D	<input checked="" type="checkbox"/>
I enjoy difficult work.	<input checked="" type="checkbox"/> A	<input type="checkbox"/>
I sometimes have trouble finding things when I need them.	<input type="checkbox"/> O	<input checked="" type="checkbox"/>
My life is full of interesting activities.	<input checked="" type="checkbox"/> D	<input type="checkbox"/>

	<u>TRUE</u>	<u>FALSE</u>
I have rarely done extra studying in connection with my work.	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B
It is unusual for me to fall behind in my work.	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D
I would be willing to do something a little unfair to get something that was important to me.	<input type="checkbox"/> D	<input checked="" type="checkbox"/> B
I will not be satisfied until I am the best in my field of work.	<input checked="" type="checkbox"/> A	<input type="checkbox"/> C
I prefer starting a new task without detailed plans.	<input type="checkbox"/> C	<input checked="" type="checkbox"/> B
If someone gave me too much change I would tell him.	<input checked="" type="checkbox"/> D	<input type="checkbox"/> C
I try to work just hard enough to get by.	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B
My time is too valuable to be wasted unnecessarily.	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D
I did many very bad things as a child.	<input type="checkbox"/> D	<input checked="" type="checkbox"/> B
I would work just as hard whether or not I had to earn a living.	<input checked="" type="checkbox"/> A	<input type="checkbox"/> C
I can't be bothered making lists of all the things I have to do.	<input type="checkbox"/> C	<input checked="" type="checkbox"/> B
I get along with people at parties quite well.	<input checked="" type="checkbox"/> D	<input type="checkbox"/> C
I do not let my work get in the way of what I really want to do.	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B
I think a high degree of organization is important in anyone's life.	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D
I often question whether life is worthwhile.	<input type="checkbox"/> D	<input checked="" type="checkbox"/> B
My goal is to do at least a little bit more than anyone else has done before.	<input checked="" type="checkbox"/> A	<input type="checkbox"/> C
I do not need a neat desk in order to work well.	<input type="checkbox"/> C	<input checked="" type="checkbox"/> B
I am glad I grew up the way I did.	<input checked="" type="checkbox"/> D	<input type="checkbox"/> C
In my work I seldom do more than is necessary.	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B
Before I start a task, I like to determine the most efficient way of doing it.	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D
My daily life includes many activities I dislike.	<input type="checkbox"/> D	<input checked="" type="checkbox"/> B
I often set goals that are very difficult to reach.	<input checked="" type="checkbox"/> A	<input type="checkbox"/> C
I like to keep my work organized loosely, so that I am not tied down by elaborate plans.	<input type="checkbox"/> C	<input checked="" type="checkbox"/> B
I am always prepared to do what is expected of me.	<input checked="" type="checkbox"/> D	<input type="checkbox"/> C
I sometimes start to write letters without finishing them.	<input type="checkbox"/> C	<input checked="" type="checkbox"/> B
As a child I worked a long time for some of the things I earned.	<input checked="" type="checkbox"/> A	<input type="checkbox"/> C
I don't feel it is important to make good use of every minute in the day.	<input type="checkbox"/> C	<input checked="" type="checkbox"/> B
I am one of the lucky people who could talk with my parents about my problems.	<input checked="" type="checkbox"/> D	<input type="checkbox"/> C
When people visit me unexpectedly, I usually have to apologize for my state of disorder.	<input type="checkbox"/> C	<input checked="" type="checkbox"/> B
I don't mind working while other people are having fun.	<input checked="" type="checkbox"/> A	<input type="checkbox"/> C
I am in such a rush in the morning that I often forget to do something.	<input type="checkbox"/> C	<input checked="" type="checkbox"/> B
I am careful to plan for my distant goals.	<input checked="" type="checkbox"/> D	<input type="checkbox"/> C
I do not like to leave things until the last possible moment.	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D

I am sure people seldom think of me as a hard worker.

I seldom misplace things.

Many things make me feel uneasy.

I am very regular in my habits.

It doesn't really matter to me whether or not I become one
of the best in my field.

I become annoyed with people who are disorganized.

I find it very difficult to concentrate.

I am not really very certain what I want to do or how to go
about doing it.

TRUE FALSE

A

O

D

O

A

O

D

A

PART 2, QUESTIONNAIRE



160 Bloor Street East, Toronto 5
Ontario. Telephone (416) 929-3158

Dear homemaker:

A couple of weeks ago I sent you a questionnaire about food shopping - I also enclosed a little gift to say "thank you" for helping. If you haven't yet had a chance to answer that questionnaire, could you try to do so soon? If you wish, you can send both questionnaires in together.

Now I have some further questions on food, as well as some on various homemaking activities. As before, there is a series of "True/False" statements at the end of the questionnaire, which I'd like you to answer fairly quickly, just giving your "first reaction" reply.

I know that this questionnaire, too, is a little longer than those I usually send so, once again, I am sending a little token of my appreciation.

Thank you!

Yours sincerely

A handwritten signature in cursive script that reads "Carole".

Carole Adam

70050-2

QUESTIONNAIRE

SECTION I

1. Today's women have many activities in the home, and outside the home. Below is a list of activities, and I'd like you to tell me how much you like or dislike each of them, given your present financial and family situation. Here's how you answer.

Beside each activity
Response Distribution
for this question
has been given on
the following page.

write a number	- 1	like very much
	2	like quite a bit
	3	like a little
	4	neither like nor dislike
	5	dislike a little
	6	dislike quite a bit
	7	dislike very much
or the letters	NR	Not applicable to me

- | | | | |
|--|-------|---|-------|
| 1. Household cleaning | _____ | 10. Planning family activities | _____ |
| 2. Special occasion cooking | _____ | 11. Participating in community activities outside the home | _____ |
| 3. General supervision and care of children | _____ | 12. Setting dinner table for special occasions | _____ |
| 4. Sewing | _____ | 13. Playing with children | _____ |
| 5. Entertaining friends and acquaintances in the home | _____ | 14. Grocery shopping | _____ |
| 6. Everyday cooking | _____ | 15. Having a full-time job if adequate child-care can be arranged | _____ |
| 7. Helping children with school work | _____ | 16. Keeping own appearance trim | _____ |
| 8. Having a part-time job if adequate child-care can be arranged | _____ | 17. Planning meals | _____ |
| 9. Doing things to help husband in his job | _____ | 18. Participating in Home & School Association (PTA) | _____ |
| | | 19. Budgeting family finances | _____ |

2. Here is another list of activities. What I'd like you to do this time is give each activity a number to describe the IMPORTANCE that you place on each of the activities listed.

Beside each activity
Response Distribution for
this question has been
given on the subsequent
page

write a number	1	Extremely important
	2	Very important
	3	Fairly important
	4	Somewhat important
	5	Not very important
	6	Hardly important at all
or the letters	NR	Not applicable to me

- | | | | |
|--|-------|---|-------|
| 1. Doing things to help husband in his job | 10. | Planning family activities | _____ |
| 2. Household cleaning | _____ | 11. Having a full-time job if adequate child care can be arranged | _____ |
| 3. Budgeting family finances | _____ | 12. Keeping own appearance trim | _____ |
| 4. Sewing | _____ | 13. Earning an outside income to help support the family | _____ |
| 5. Everyday cooking | _____ | 14. Entertaining friends and acquaintances in the home | _____ |
| 6. Bringing up children (General care, playing, help with school work, etc.) | _____ | 15. Being a sexual companion to husband | _____ |
| 7. Planning meals | _____ | 16. Participating in community activities | _____ |
| 8. Having a part-time job if adequate child-care can be arranged | _____ | | |
| 9. Grocery shopping | _____ | | |

Response Distribution of Question 1

Question	Like Very Much	Like Quite a Bit	Like a Little	Neither Like Nor Dislike	Dislike a Little Quite a Bit Very Much	Does Not Apply
	1	2	3	4	5	NR
1.1	59	115	100	198	144	
1.2	200	195	129	41	51	
1.3	165	195	82	50	44	80
1.4	226	137	102	39	73	39
1.5	291	199	90	20	16	
1.6	122	218	110	110	47	
1.7	82	116	98	82	47	191
1.8	129	69	56	30	76	256
1.9	158	118	60	37	13	230
1.10	239	204	72	56	14	31
1.11	101	121	156	111	67	60
1.12	245	192	101	51	27	
1.13	215	180	104	43	21	53
1.14	107	153	133	123	100	
1.15	79	36	27	26	186	262
1.16	305	211	55	40	5	
1.17	108	192	151	116	49	
1.18	39	57	88	100	90	242
1.19	106	89	62	171	128	60

Response Distribution of Question 2

Question	Extremely Important	Very Important	Fairly Important	Somewhat Important	Not Very Hardly Important	Does Not Apply
	1	2	3	4	5	NR
2.1	165	140	60	19	20	212
2.2	106	224	209	66	11	
2.3	203	236	101	29	15	32
2.4	73	108	177	133	91	34
2.5	143	296	141	26	10	
2.6	343	128	21	4	1	119
2.7	109	249	192	54	12	
2.8	33	43	73	64	148	255
2.9	142	255	157	41	21	
2.10	97	183	193	83	23	37
2.11	30	35	37	45	181	288
2.12	226	260	97	22	11	
2.13	88	70	84	84	125	165
2.14	61	135	226	121	73	
2.15	301	180	58	19	18	40
2.16	28	97	191	162	104	34

3. What do you know or think your husband's attitude would be regarding the following? (For each item below check one of the five possible answers.) If you have no husband check here and skip to Question 4.

Code NR = no husband Code → 1 2 3 4

HOW IMPORTANT TO YOUR HUSBAND IS IT THAT YOU:	EXTREMELY IMPORTANT	VERY IMPORTANT	FAIRLY IMPOR- TANT	NOT TOO IMPOR- TANT	NOT IMPORTANT AT ALL	NR
1. Provide variety in meals	<input type="checkbox"/> 93	<input type="checkbox"/> 194	<input type="checkbox"/> 207	<input type="checkbox"/> 84	<input type="checkbox"/> 38	
2. Ensure meals are served on time	<input type="checkbox"/> 75	<input type="checkbox"/> 111	<input type="checkbox"/> 200	<input type="checkbox"/> 192	<input type="checkbox"/> 38	
3. Have an attractive dinner table	<input type="checkbox"/> 25	<input type="checkbox"/> 81	<input type="checkbox"/> 270	<input type="checkbox"/> 202	<input type="checkbox"/> 38	
4. Have the house tidy at all times	<input type="checkbox"/> 60	<input type="checkbox"/> 151	<input type="checkbox"/> 249	<input type="checkbox"/> 118	<input type="checkbox"/> 38	
5. Put clean laundry back in drawers	<input type="checkbox"/> 96	<input type="checkbox"/> 195	<input type="checkbox"/> 203	<input type="checkbox"/> 84	<input type="checkbox"/> 38	
6. Clean the house frequently	<input type="checkbox"/> 80	<input type="checkbox"/> 182	<input type="checkbox"/> 224	<input type="checkbox"/> 92	<input type="checkbox"/> 38	
7. Keep food costs down	<input type="checkbox"/> 99	<input type="checkbox"/> 187	<input type="checkbox"/> 196	<input type="checkbox"/> 96	<input type="checkbox"/> 38	
8. Are a good cook	<input type="checkbox"/> 87	<input type="checkbox"/> 252	<input type="checkbox"/> 202	<input type="checkbox"/> 37	<input type="checkbox"/> 38	
9. Don't go out too often in the evening	<input type="checkbox"/> 61	<input type="checkbox"/> 86	<input type="checkbox"/> 192	<input type="checkbox"/> 239	<input type="checkbox"/> 38	
10. Provide healthful food	<input type="checkbox"/> 141	<input type="checkbox"/> 219	<input type="checkbox"/> 177	<input type="checkbox"/> 49	<input type="checkbox"/> 38	

4. How happy are you most of the time about the following?

Code → 1 2 3

	VERY HAPPY	FAIRLY HAPPY	NEITHER HAPPY NOR UNHAPPY	FAIRLY UN-HAPPY	VERY UN-HAPPY
1. Relations with immediate family (i.e. those you live with)	<input type="checkbox"/> 356	<input type="checkbox"/> 220	<input type="checkbox"/> 40	<input type="checkbox"/>	<input type="checkbox"/>
2. Your financial situation	<input type="checkbox"/> 103	<input type="checkbox"/> 296	<input type="checkbox"/> 217	<input type="checkbox"/>	<input type="checkbox"/>
3. Your homemaking activities	<input type="checkbox"/> 165	<input type="checkbox"/> 318	<input type="checkbox"/> 133	<input type="checkbox"/>	<input type="checkbox"/>

5. In the next five years or so, do you think your financial situation will improve, change for the worse, or remain about the same?

IN THE NEXT FIVE YEARS, OUR FINANCIAL SITUATION WILL PROBABLY:

IMPROVE GREATLY	1	<input type="checkbox"/> 68
IMPROVE QUITE A BIT	2	<input type="checkbox"/> 184
IMPROVE SLIGHTLY	3	<input type="checkbox"/> 186
STAY ABOUT THE SAME		<input type="checkbox"/>
WORSEN SLIGHTLY	4	<input type="checkbox"/> 178
WORSEN QUITE A BIT		<input type="checkbox"/>
WORSEN GREATLY		<input type="checkbox"/>

6. Thinking now about making food decisions, how useful do you think it is to plan - please read over the five phrases below, and for each, tell me whether you think planning is helpful.

Code → 1 2 3

	VERY HELPFUL	QUITE HELPFUL	NOT TOO HELPFUL	NO HELP AT ALL
1. Providing variety in meals	<input type="checkbox"/> 303	<input type="checkbox"/> 277	<input type="checkbox"/> 36	<input type="checkbox"/>
2. Providing good nutrition	<input type="checkbox"/> 316	<input type="checkbox"/> 252	<input type="checkbox"/> 48	<input type="checkbox"/>
3. Keeping food costs down	<input type="checkbox"/> 311	<input type="checkbox"/> 233	<input type="checkbox"/> 62	<input type="checkbox"/>
4. Saving time in meal preparation	<input type="checkbox"/> 215	<input type="checkbox"/> 280	<input type="checkbox"/> 121	<input type="checkbox"/>
5. Making mealtimes happy occasions	<input type="checkbox"/> 242	<input type="checkbox"/> 225	<input type="checkbox"/> 149	<input type="checkbox"/>
6. Saving time in grocery shopping	<input type="checkbox"/> 243	<input type="checkbox"/> 237	<input type="checkbox"/> 136	<input type="checkbox"/>

(The distribution of the aggregate nutrition scores has been listed under question 19)

Below is a series of statements and questions relating to food and nutrition. Please check the appropriate box or, where a line is provided, write your answer.

7. Vegetarians or people who don't eat meat are bound to be in poor health.

TRUE FALSE DON'T KNOW

8. A pound of the most expensive cuts of meat is always higher in proteins, vitamins and minerals than a pound of a cheaper cut.

TRUE FALSE DON'T KNOW

9. Please read over this menu for a day - assume the food is served in restaurant-sized portions.

<u>Breakfast</u>	<u>Lunch</u>	<u>Dinner</u>
orange juice	hamburger	meat stew with vegetables
scrambled eggs	enriched bun	cole slaw
enriched toast	tomatoes and lettuce	biscuit
margarine	french-fried potatoes	jam
coffee	lemonade (real lemons)	tea
	banana	apple pie

Is this a well-balanced menu for a day for an adult?

YES NO DON'T KNOW

What do you think is missing? _____

10. Milk can be substituted for fruits or vegetables in the diet, and the nutritional value of the diet will remain the same.

TRUE FALSE DON'T KNOW

11. There are several protein-rich foods which can be substituted for meats like beef, pork, veal, etc., without changing the nutritional value of the diet. Please write in below as many protein-rich foods which you think can be substituted for meats.

12. Please read over this menu for a day - assume the food is served in restaurant-sized portions.

<u>Breakfast</u>	<u>Lunch</u>	<u>Dinner</u>
stewed prunes	baked beans	tomato juice
poached eggs	cole slaw	meat pie of beef, biscuit
milk	whole wheat bread	crust
toast	margarine	potatoes
margarine	baked apple	buttered cabbage
coffee	milk (1 glass)	raw-carrot salad
		fruit tapioca
		bread, margarine
		milk (1 glass)

Is this a well-balanced menu for a day for an adult?

YES NO DON'T KNOW

What do you think is missing? _____

13. Most canned vegetable products have almost no nutritive value compared to most fresh cooked vegetables.

TRUE FALSE DON'T KNOW

14. The federal meat grades, "Canada Choice (red brand) and Canada Good (blue brand)" refer to the nutritional value of the meat.

TRUE FALSE DON'T KNOW

15. Please read over this menu for a day - assume the food is served in restaurant-sized portions.

<u>Breakfast</u>	<u>Lunch</u>	<u>Dinner</u>
cornflakes	clear soup -(beef bouillon)	spaghetti and meat balls
milk	deviled eggs on whole	jelly
toast	wheat toast	Italian bread and butter
jam	milk	ice cream
coffee	chocolate cake	iced tea

Is this a well-balanced menu for the day for an adult?

YES NO DON'T KNOW

What do you think is missing? _____

16. Non-fat dry milk is not as good a source of minerals and protein as fresh skim milk.

TRUE FALSE DON'T KNOW

17. Taste is an excellent measure of high nutritional value.

TRUE FALSE DON'T KNOW

18. Please read over this menu for a day - assume the food is served in restaurant-sized portions.

<u>Breakfast</u>	<u>Lunch</u>	<u>Dinner</u>
orange juice	baked beans and	fish sticks
pancakes	whole wheat toast	mashed potatoes
syrup	carrot sticks	cole slaw
milk	rice pudding with	whole wheat bread
	raisins	coffee
	milk	

YES NO DON'T KNOW

What do you think is missing? _____

19. An adult requires certain foods each day, to maintain good nutrition or a balanced diet. Please write in below all the food groups from which you think an adult should choose foods each day.

	Lowest Score = 0	Scores		Highest Score = 40
NUTRITION	36 - 40: 35	21 - 25: 150	31 - 35: 134	16 - 20: 78
KNOWLEDGE	26 - 30: 179	0 - 15: 40		

ABOUT YOURSELF

20. What language(s) are spoken in your home? 1 = English: 602
2 = Others: 14
Responses to Questions 21 to 24 (a,b) are listed on following page.

21. If you or your husband received formal schooling OTHER THAN public school, high school or university, please write it in below. (For example: trade school, technical school, secretarial school, etc.)

YOURSELF _____ NONE
HUSBAND _____ NONE

22. Do you yourself earn any money?

YES NO → Go to Question 24.

23. To earn this money:

a) How many hours a week do you usually work? _____
b) What is your occupation? _____

24. What was your former occupation? _____ DID NOT WORK

What was your father's occupation? _____

Answers to Question 21

		<u>Other Schooling</u>	<u>No Other Schooling</u>
Receiving formal schooling	Homemaker	202	414
other than public school, high school or university.	Husband	163	453

Answers to Question 22

	<u>Yes</u>	<u>No</u>
Do you yourself earn money:	240	376

Answers to Question 23

(a) Hours worked per week:	(1) 31 hours or more	110
	(2) 21 - 30 hours	32
	(3) 11 - 20 hours	49
	(4) 10 or less hours	47
	(5) does not work to earn an income	378

(b) Present occupation of homemaker.	<u>Occupational Prestige Classification*</u>	<u>Number of Homemakers</u>
	High	21
	Upper Middle	21
	Middle	68
	Lower Middle	50
	Low	80
	NR	376

*Rankings based on classification of NORC occupational prestige scale.

Answers to Question 24

	<u>Occupational Prestige Classification</u>					<u>Did not Work</u>
	<u>High</u>	<u>Upper Middle</u>	<u>Middle</u>	<u>Lower Middle</u>	<u>Low</u>	
(a) Homemaker's former occupation	47	45	165	148	99	112
(b) Father's occupation	48	122	170	129	106	41 NR

*An interpretation of these occupational prestige classifications is given in Appendix A.

PERSONAL DESCRIPTION LIST ©

25. Below is a list of statements .. some of them may be true for you, some may not be true for you; in some cases you may not be sure what to check. When this happens try to decide whether you tend more to true, or false.

Work through the list rapidly, checking "True" or "False" - don't spend a lot of time thinking about them. As we are all different, there are no right or wrong answers.

- | | <u>TRUE</u> | <u>FALSE</u> |
|---|---------------------------------------|-------------------------------------|
| Some of the current women's fashions are too indecent to be worn in public | <input checked="" type="checkbox"/> V | <input type="checkbox"/> |
| I feel no great concern for the trouble of other people | <input type="checkbox"/> N | <input checked="" type="checkbox"/> |
| The main joy in my life is going new places and seeing new sights | <input checked="" type="checkbox"/> C | <input type="checkbox"/> |
| A person should be allowed to take his own life if the circumstances
justify it | <input type="checkbox"/> V | <input checked="" type="checkbox"/> |
| I would rather have a job serving people than a job making something..... | <input checked="" type="checkbox"/> N | <input type="checkbox"/> |
| When I find a good way to do something, I avoid trying new ways | <input type="checkbox"/> C | <input checked="" type="checkbox"/> |
| My values might seem a little old-fashioned by modern standards | <input checked="" type="checkbox"/> V | <input type="checkbox"/> |
| It doesn't affect me one way or another to see a child being spanked | <input type="checkbox"/> N | <input checked="" type="checkbox"/> |
| I would not like to work at the same job all of my life | <input checked="" type="checkbox"/> C | <input type="checkbox"/> |
| I often reject the beliefs that older people expect me to have | <input type="checkbox"/> V | <input checked="" type="checkbox"/> |
| Babysitting would be a rewarding job for me | <input checked="" type="checkbox"/> N | <input type="checkbox"/> |
| I like to go to stores with which I am quite familiar | <input checked="" type="checkbox"/> C | <input type="checkbox"/> |
| Cheating and lying are always wrong, no matter what the situation | <input checked="" type="checkbox"/> V | <input type="checkbox"/> |
| I have never done volunteer work for charity | <input type="checkbox"/> N | <input checked="" type="checkbox"/> |
| I believe the more hobbies I have, the better | <input checked="" type="checkbox"/> C | <input type="checkbox"/> |
| People should be allowed to take certain drugs if they enjoy it and
harm no-one else | <input type="checkbox"/> V | <input checked="" type="checkbox"/> |
| I often take young people under my wing | <input checked="" type="checkbox"/> N | <input type="checkbox"/> |
| Changes in routine bother me | <input type="checkbox"/> C | <input checked="" type="checkbox"/> |
| Our censorship laws have proven to be for our own good | <input checked="" type="checkbox"/> V | <input type="checkbox"/> |
| Caring for plants would be a waste of my time | <input type="checkbox"/> N | <input checked="" type="checkbox"/> |
| I am always looking for new routes to take on a trip | <input checked="" type="checkbox"/> C | <input type="checkbox"/> |
| The discoveries of science may someday show that many of our most
cherished beliefs are wrong | <input type="checkbox"/> V | <input checked="" type="checkbox"/> |
| Sometimes when a friend is in trouble, I cannot sleep because I want
so much to help | <input checked="" type="checkbox"/> N | <input type="checkbox"/> |
| I see no reason to change the colour of a room once I have painted it | <input type="checkbox"/> C | <input checked="" type="checkbox"/> |
| If I had to choose, I would prefer to live my life according to
traditional values rather than the principles of science | <input checked="" type="checkbox"/> V | <input type="checkbox"/> |
| If someone is in trouble, I try not to become involved | <input type="checkbox"/> N | <input checked="" type="checkbox"/> |
| If I had the chance, I would like to move to a different part of the
country every few years | <input checked="" type="checkbox"/> C | <input type="checkbox"/> |
| People who will never get well should have the choice of being put to
death painlessly | <input type="checkbox"/> V | <input checked="" type="checkbox"/> |
| People like to tell me their troubles because they know I will help
them | <input checked="" type="checkbox"/> N | <input type="checkbox"/> |
| I would be content to live in the same town for the rest of my life | <input type="checkbox"/> C | <input checked="" type="checkbox"/> |

- | | <u>TRUE</u> | <u>FALSE</u> |
|--|---------------------------------------|-------------------------------------|
| Young people would have fewer problems if they listened to their parents more | <input checked="" type="checkbox"/> V | <input type="checkbox"/> |
| If I could, I would hire a nurse to care for a sick child rather than do it myself | <input type="checkbox"/> N | <input checked="" type="checkbox"/> |
| I get annoyed with people who never want to go anywhere different | <input checked="" type="checkbox"/> C | <input type="checkbox"/> |
| Married people who no longer love each other should be given a divorce | <input type="checkbox"/> V | <input checked="" type="checkbox"/> |
| It is very important to me to show people I am interested in their troubles | <input checked="" type="checkbox"/> N | <input type="checkbox"/> |
| I like to return to the same vacation spot year after year | <input type="checkbox"/> C | <input checked="" type="checkbox"/> |
| People today don't have enough respect for authority | <input checked="" type="checkbox"/> V | <input type="checkbox"/> |
| I don't like it when friends ask to borrow my possessions | <input type="checkbox"/> N | <input checked="" type="checkbox"/> |
| People should be able to refuse to fight for their country without fear of punishment | <input type="checkbox"/> V | <input checked="" type="checkbox"/> |
| I would like my husband to have the type of work which would keep us constantly on the move | <input checked="" type="checkbox"/> C | <input type="checkbox"/> |
| The legal drinking age should be lowered | <input type="checkbox"/> V | <input checked="" type="checkbox"/> |
| Seeing an old or helpless person makes me feel that I would like to take care of him | <input checked="" type="checkbox"/> N | <input type="checkbox"/> |
| No-one has the right to take his own life | <input checked="" type="checkbox"/> V | <input type="checkbox"/> |
| My friends can almost always tell what I'm going to do in a situation .. | <input type="checkbox"/> C | <input checked="" type="checkbox"/> |
| It is wrong to spend money on things you can't afford | <input checked="" type="checkbox"/> V | <input type="checkbox"/> |
| I am not always willing to help someone when I have other things to do . | <input type="checkbox"/> N | <input checked="" type="checkbox"/> |
| Many people are too hasty in trying to change our laws | <input checked="" type="checkbox"/> V | <input type="checkbox"/> |
| It would take me a long time to get used to living in a foreign country | <input type="checkbox"/> C | <input checked="" type="checkbox"/> |
| I think that religious institutions should pay taxes on their property just like everyone else | <input type="checkbox"/> V | <input checked="" type="checkbox"/> |
| I feel most worthwhile when I am helping someone who is disabled | <input checked="" type="checkbox"/> N | <input type="checkbox"/> |
| People respect tradition more than necessary | <input type="checkbox"/> V | <input checked="" type="checkbox"/> |
| I like to change the pictures on my walls frequently | <input checked="" type="checkbox"/> C | <input type="checkbox"/> |

26. Some people always feel full of energy, other people often feel tired. How do you feel most of the time?

FULL OF ENERGY	1	<input type="checkbox"/>	51
FAIRLY ENERGETIC	2	<input type="checkbox"/>	322
NEITHER ENERGETIC NOR TIRED	3	<input type="checkbox"/>	143
FAIRLY TIRED	4	<input type="checkbox"/>	100
VERY TIRED		<input type="checkbox"/>	

27. Would you list below the age and sex of all family members living at home; begin with yourself.

	<u>AGE</u>	<u>SEX</u> <u>M F</u>	<u>AGE</u>	<u>SEX</u> <u>M F</u>
Response distributions	_____	<input type="checkbox"/> <input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/>
pertaining to questions	_____	<input type="checkbox"/> <input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/>
27 and 30 are given on	_____	<input type="checkbox"/> <input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/>
the following page.	_____	<input type="checkbox"/> <input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/>
	_____	<input type="checkbox"/> <input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/>
	_____	<input type="checkbox"/> <input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/>

28. Would you please tell me about your education, and your husband's education - under "Public School" and "High School" write in the last grade completed, and write in the courses taken or degrees obtained at university or college, if any.

	<u>4=some/all</u>	<u>3=some high</u>	<u>2=all</u>	<u>1=</u>
	<u>PUBLIC SCHOOL</u>	<u>school</u>	<u>HIGH SCHOOL</u>	<u>UNIVERSITY OR COLLEGE,</u> <u>Graduate Studies</u>
YOURSELF	<u>79</u>	<u>239</u>	<u>238</u>	<u>60</u>
HUSBAND	<u>125</u>	<u>208</u>	<u>169</u>	<u>78</u>

29. Who is the principal wage earner in your household?

HUSBAND 1 541
 YOURSELF 2 38
 OTHER 3 (who?) 37 _____

30. What is the occupation of the principal wage earner in your household? (Not the company he or she works for, but what the person does.)

_____ NO PRINCIPAL WAGE EARNER
 LIVING IN HOUSEHOLD Go to Question 32.

31. Would you please check below the total annual income (before taxes) of the principal wage earner in your household.

Under \$3000		<input type="checkbox"/>
\$3000 - 3999	6	<input type="checkbox"/> 50
\$4000 - 4999	5	<input type="checkbox"/> 31
\$5000 - 5999	4	<input type="checkbox"/> 89
\$6000 - 6999	3	<input type="checkbox"/> 113
\$7000 - 9999	2	<input type="checkbox"/> 160
\$10,000 and over	1	<input type="checkbox"/> 153

Answers to Question 27

		<u>Homemaker</u>	<u>Husband</u>
<u>Age:</u>	Less than 30 years	136	100
	31 - 40 years	190	183
	41 - 50 years	162	153
	50+ years	128	145
	NR	-	35

Family Characteristics

Average number of persons per family		4.10
Average number of children per family	under 6 years	.63
	6 - 12 years	.72
	13 - 18 years	.52
Average number of adults per family (including parents)	under 19 years	1.87
	19 years and over	2.23

Answers to Question 30

Occupation of Principal wage earner	<u>Occupational Prestige Classification*</u>
	High 65
	Upper Middle 67
	Middle 201
	Lower Middle 170
	Low 62
	NR 51

*Rankings based on classification of NORC occupational prestige scale. An interpretation of these occupational prestige classifications is given in Appendix A.

32. Would you please check below the total annual income (before taxes) of all members of your household.

Under \$3000	6	<input type="checkbox"/>	59
\$3000 - 3999	5	<input type="checkbox"/>	41
\$4000 - 4999	4	<input type="checkbox"/>	55
\$5000 - 5999	3	<input type="checkbox"/>	78
\$6000 - 6999	2	<input type="checkbox"/>	152
\$7000 - 9999	1	<input type="checkbox"/>	231
\$10,000 and over			

33. Would you tell me whether you live in a house or apartment; then whether you own or rent your home.

HOUSE, TOWNHOUSE, DUPLEX	1	<input type="checkbox"/>	554	OWN	1	<input type="checkbox"/>	449
APARTMENT OR FLAT	2	<input type="checkbox"/>	62	RENT	2	<input type="checkbox"/>	
OTHER (what?)				OTHER (what?)			167

34. How many cars are there in your household? NUMBER: _____ NONE

1 = 2 or more	165
2 = one	388
3 = no car	63

MEASUREMENT INSTRUMENTS TAKEN OR ADAPTED FROM OTHER SOURCES

Questionnaire Items

Source

Part 1, Question 17. All items
except Question 17.1, 17.3,
17.5, 17.13, 17.17, 17.19

Bucklin, Louis P. and Carman, James M. (1967). "Trier Decision Making Battery," in The Design of Consumer Research Panels: Conception and Administration of the Berkeley Food Panel. Berkeley, California: IBER Special Publications, Institute of Business and Economic Research, Graduate School of Business Administration, University of California, Page 164.

Part 1, Question 26 Personal
Part 2, Question 25 Description
Lists

An exact description of personality traits measured and their source can be found in Appendix C

Part 2, Question 1 and 2

Bucklin, Louis P. and Carman, James M. (1967). "Women's Roles," in The Design of Consumer Research Panels: Conception and Administration of the Berkeley Food Panel. Berkeley, California: IBER Special Publications, Institute of Business and Economic Research, Graduate School of Business Administration, University of California, Appendix J Page 160.

Part 2, Question 7 to 13, 15,
16, 18

Dwyer, Professor J. T. (1969). Practical Nutrition Questionnaire. Boston, Massachusetts: School of Public Health, Harvard University.

APPENDIX C

DESCRIPTION OF PERSONALITY CHARACTERISTICS

<u>Personality Trait</u>	<u>Description of High Scorer</u>	<u>Measurement Instrument Source</u>
Organization	Efficient; planful; systematic; makes effective use of time; completes work on schedule; is not easily distracted.	Jackson Personality Inventory by: Dr. Douglas N. Jackson, Professor of Psychology, University of Western Ontario, London, Ontario. (1969)
Value Orthodoxy	Traditional; moralistic; conventional; values traditional customs and beliefs; takes a rather conservative view regarding contemporary standards of behaviour.	Source as Above
Achievement	Aspires to accomplish difficult tasks; maintains high standards and is willing to work toward distant goals; responds positively to competition; willing to put forth effort to attain excellence.	Personality Research Form Dr. Douglas N. Jackson, Professor of Psychology, University of Western Ontario, London, Ontario. (1967)
Nurturance	Gives sympathy and comfort; assists others whenever possible; interested in caring for children, the disabled, or the infirm; offers a "helping hand" to those in need; readily performs favours for others.	Source as Above
Change	Likes new and different experiences; dislikes routine and avoids it; may readily change opinions or values in different circumstances; adapts readily to changes in environment.	Source as Above
Desirability	Describes self in terms judged as desirable; consciously or unconsciously, accurately or inaccurately, presents favourable picture of self in responses to personality questionnaire statements.	Source as Above

APPENDIX D

ANALYSIS OF DIFFERENCES AMONG SOCIOECONOMIC SUBGROUP MEANS

Analysis of Variance
Sample Means and Group Standard Deviations**

Test Item	Range of Scores*		Total Sample	Socioeconomic Subgroups				Level of Significance	F-ratio
	High or Positive	Low or Negative		High	Upper Middle	Lower Middle	Low		
2	1	4	2.61	2.48 (.88)	2.42 (.86)	2.70 (.87)	2.97 (1.01)	.001	10.6
3	1	3	2.50	2.41 (.65)	2.44 (.69)	2.55 (.63)	2.61 (.62)	.05	2.7
6	1	6	3.20	2.69 (1.01)	3.11 (1.30)	3.33 (1.32)	3.64 (1.46)	.001	10.2
7	1	5	3.22	2.71 (1.05)	3.04 (1.22)	3.46 (1.17)	3.61 (1.27)	.001	14.3
8c	1	5	2.92	2.93 (.09)	2.83 (.92)	2.90 (1.0)	3.15 (.96)	.03	3.0
9	1	5	2.98	2.64 (1.42)	2.77 (1.33)	3.13 (1.55)	3.41 (1.46)	.001	7.2
12	as coded		1.56	1.64 (.24)	1.45 (.53)	1.51 (.67)	1.77 (.82)	.001	6.3
13	1	4	2.61	2.32 (.94)	2.36 (.97)	2.73 (.98)	3.17 (.91)	.001	21.2
14	1	3	1.66	1.38 (.51)	1.48 (.56)	1.74 (.57)	2.14 (.70)	.001	39.6
15	1	2	1.78	1.83 (.37)	1.82 (.39)	1.78 (.41)	1.67 (.47)	.01	3.9
17.10	as coded		2.11	1.85 (1.36)	2.31 (1.75)	2.03 (1.62)	1.96 (1.60)	.02	3.3
17.12	as coded		3.77	3.76 (1.39)	3.72 (1.28)	3.64 (1.41)	4.11 (1.54)	.04	2.8
17.13	1	6	2.23	2.03 (1.03)	2.01 (.99)	2.37 (1.15)	2.57 (1.44)	.001	7.9
17.16	as coded		4.80	4.50 (1.20)	4.80 (1.20)	4.91 (1.28)	4.86 (1.36)	.03	2.6

* In terms of degree of engagement in food management activities, or degree of positive/negative attitudes, or criterion implied by the test item.

**Bracketed numbers represent group standard deviations.

NOTE: Analysis of variance results no longer significant at the .05 level have been omitted.

APPENDIX D (Continued)

Analysis of Variance
Sample Means and Group Standard Deviations

Q./Part 1	Range of Scores		Total Sample	Socioeconomic Subgroups				Level of Significance	F-ratio
	High or Positive	Low or Negative		High	Upper Middle	Lower Middle	Low		
17.17	1	6	3.58	2.98 (1.59)	3.24 (1.56)	3.77 (1.55)	4.46 (1.61)	.001	20.6
17.19	1	6	1.92	1.78 (.77)	1.83 (.78)	1.98 (.99)	2.13 (1.09)	.01	3.7
18.1	1	4	2.08	1.82 (.80)	1.86 (.75)	2.24 (.85)	2.47 (.89)	.001	19.2
18.3	1	4	2.22	2.12 (.80)	2.12 (.84)	2.30 (.84)	2.36 (.90)	.03	3.1
18.4	1	4	2.79	2.66 (.96)	2.69 (.96)	2.91 (.94)	2.88 (1.02)	.04	2.7
19	as coded		3.92	3.65 (1.60)	3.97 (1.66)	4.13 (1.68)	3.68 (1.69)	.04	2.7
24	1	6	2.63	2.26 (1.4)	2.46 (1.63)	2.87 (1.73)	2.88 (1.73)	.001	4.7
<u>Q./Part 2</u>									
1.1	1	5	3.41	4.05 (1.10)	3.38 (1.30)	3.26 (1.28)	3.13 (1.23)	.001	11.4
1.5	1	5	1.82	1.61 (.81)	1.70 (.85)	1.90 (1.04)	2.08 (1.14)	.001	5.8
1.11	1	5	2.86	2.55 (1.11)	2.90 (1.26)	2.94 (1.31)	2.96 (1.30)	.05	2.5
1.14	1	5	2.93	3.50 (1.14)	3.05 (1.34)	2.69 (1.30)	2.59 (1.37)	.001	11.6
1.18	1	5	3.39	3.54 (1.12)	3.50 (1.28)	3.10 (1.40)	3.53 (1.19)	.04	2.8
2.2	1	5	2.44	2.87 (.89)	2.52 (.91)	2.27 (.94)	2.17 (.98)	.001	13.1
2.4	1	5	3.10	3.49 (1.17)	3.04 (1.20)	3.13 (1.20)	2.83 (1.34)	.001	5.1
2.8	1	5	3.7	4.02 (1.15)	3.97 (1.30)	3.38 (1.43)	3.46 (1.33)	.001	5.7
2.9	1	5	2.26	2.61 (.92)	2.30 (.96)	2.14 (.96)	2.07 (1.10)	.001	6.7
2.11	1	5	3.95	4.38 (1.15)	4.14 (1.31)	3.61 (1.45)	3.73 (1.47)	.001	5.2

APPENDIX D (Continued)

Analysis of Variance
Sample Means and Group Standard Deviations

Q./Part 2	Range of Scores		Total Sample	Socioeconomic Subgroups				Level of Significance	F-ratio
	High or Positive	Low or Negative		High	Upper Middle	Lower Middle	Low		
2.13	1	5	3.20	3.86 (1.41)	3.27 (1.47)	3.01 (1.43)	2.80 (1.47)	.001	7.8
2.14	1	5	3.02	2.85 (.90)	2.90 (1.04)	3.14 (1.22)	3.19 (1.29)	.03	3.1
3.2	1	4	2.88	3.10 (.95)	2.95 (.99)	2.79 (1.00)	2.68 (1.10)	.01	3.6
3.4	1	4	2.74	3.01 (.87)	2.82 (.86)	2.64 (.90)	2.44 (.93)	.001	7.7
3.5	1	4	2.48	2.81 (.90)	2.55 (.90)	2.36 (.91)	2.17 (.96)	.001	9.3
3.6	1	4	2.57	2.99 (.90)	2.69 (.85)	2.41 (.89)	2.17 (.91)	.001	17.0
3.7	1	4	2.50	2.86 (1.01)	2.64 (.88)	2.40 (.93)	2.01 (.94)	.001	15.2
3.8	1	4	2.33	2.47 (.85)	2.40 (.76)	2.25 (.80)	2.14 (.82)	.01	3.8
3.9	1	4	3.05	3.24 (.93)	3.20 (.89)	2.96 (.99)	2.72 (1.16)	.001	6.7
4	as coded		2.19	1.89 (.66)	1.99 (.67)	2.31 (.65)	2.62 (.59)	.001	31.7
5	as coded		2.77	2.75 (.96)	2.68 (.94)	2.22 (1.05)	3.06 (.94)	.01	4.1
6.5	1	3	1.85	2.06 (.77)	1.89 (.81)	1.76 (.75)	1.72 (.72)	.01	4.4
7 to 19	40	0	26.17	29.54 (5.92)	27.19 (6.18)	25.49 (6.11)	22.23 (6.76)	.001	27.0
21 (Homemaker)	as coded		1.67	1.50 (.50)	1.61 (.49)	1.74 (.44)	1.82 (.38)	.001	11.2
12 (Husband)	as coded		1.74	1.73 (.44)	1.68 (.47)	1.74 (.44)	1.84 (.37)	.02	3.5
23a	as coded		3.89	3.83 (1.67)	3.75 (1.64)	3.78 (1.59)	4.44 (1.19)	.001	5.3
23b	1	8	5.84	4.32 (1.22)	5.35 (1.36)	6.57 (1.31)	7.38 (.85)	.001	43.3

APPENDIX D (Continued)

<u>Analysis of Variance</u>									
<u>Sample Means and Group Standard Deviations</u>									
Q./Part 2	Range of Scores		Total Sample	Socioeconomic Subgroups				Level of Significance	F-ratio
	High or Positive	Low or Negative		High	Upper Middle	Lower Middle	Low		
24	1	8	5.56	4.18 (1.00)	5.18 (.97)	6.12 (1.21)	6.87 (1.28)	.001	102.2
24b	1	8	5.35	4.28 (1.60)	5.14 (1.40)	5.61 (1.36)	6.37 (1.60)	.001	36.3
28 (Homemaker)	1	4	2.55	1.56 (.55)	2.30 (.61)	2.88 (.65)	3.37 (.57)	.001	185.7
28 (Husband)	1	4	2.66	1.36 (.60)	2.41 (.67)	3.15 (.71)	3.53 (.56)	.001	225.9
30	1	8	5.21	3.41 (1.32)	5.00 (.90)	5.87 (1.01)	6.58 (1.14)	.001	166.2
31	1	6	2.80	1.32 (.58)	2.15 (1.16)	3.27 (1.23)	4.61 (1.24)	.001	185.2
32	1	6	2.51	1.11 (.31)	1.64 (.93)	2.88 (1.31)	4.89 (1.21)	.001	296.7
33 (Dwelling)	as coded		1.10	1.05 (.22)	1.07 (.26)	1.10 (.30)	1.20 (.40)	.001	6.1
33 (Own or Rent)	as coded		1.27	1.14 (.35)	1.17 (.37)	1.29 (.46)	1.56 (.50)	.001	24.0
34	as coded		1.83	1.54 (.50)	1.68 (.51)	1.92 (.56)	2.25 (.61)	.001	38.7

APPENDIX E

CALCULATION PROCEDURES: PERSONALITY SCORES

There were six personality traits investigated in this thesis research: organization, desirability, achievement, value orthodoxy, nurturance, and change. The first three of these personality scales were included in Question 26, Part 1, and those relating to the latter three, in Question 25, Part 2 of the survey questionnaire. The personality traits related to organization and value orthodoxy were each measured by the homemaker's answers to twenty self-administered true/false statements, and scores for those traits concerning desirability, achievement, nurturance, and change were each determined by sixteen true/false items. The highest score attainable for each of the six scales was 20 and 16 points, respectively. Non-responses of personality statements were treated as explained below:

<u>Scale</u>	<u>Decision Rule</u>	<u>Calculation of Respondent Score</u>
Organization (20 items)	If five or less non-responses	$\frac{\text{Respondent Score} \times 20}{\text{Number of Items Answered}}$
Value Orthodoxy (20 items)	If six or more of the items unanswered	Mean of the distribution of responses of all the other homemakers of the total sample
Desirability (16 items)	If four or less non-responses	$\frac{\text{Respondent Score} \times 16}{\text{Number of Items Answered}}$
Achievement (16 items)		
Nurturance (16 items)	If five or more of the items unanswered	Mean of the distribution of responses of all the other homemakers of the total sample
Change (16 items)		

Out of the total survey population of six hundred and sixteen respondents, the number of homemakers with four or more non-responses did not exceed 19 for any of the six personality scales. Further details regarding omitted answers to personality questions have been given in the attached table.

Following the above adjustment procedures, each respondent's scores were standardized using the transformation formula explained in Appendix G. The response distribution of these standardized scores has likewise been shown in the attached table. For a description of a high scorer, see Appendix C.

DISTRIBUTION OF PERSONALITY SCORES

Frequencies of Non-Responses

Personality Scales	Number of Non-Responses										Total Number of Respondents		
	1	2	3	4	5	6	7	8	9	10		11 or more	
Organization (20 items)	42	9	10	3	0	3	0	0	1	0	8	540	616
Value Orthodoxy (20 items)	56	22	14	4	2	3	3	1	1	4	5	501	616
Desirability (16 items)	41	18	4	4	1	0	2	0	0	3	5	538	616
Achievement (16 items)	58	14	11	3	2	4	0	1	0	3	6	514	616
Nurturance (16 items)	53	7	7	2	3	3	1	0	0	3	3	534	616
Change (16 items)	59	7	3	2	0	2	1	0	0	2	3	537	616

NOTE: The scores of the respondents to the left of the vertical dividing line were adjusted by multiplying the ratio of the respondent score by the total number of items in a scale. Respondents number of items answered

classified to the right of this dividing line were assigned the mean of the distribution of responses of all the other homemakers in the total sample.

DISTRIBUTION OF ADJUSTED AND STANDARDIZED PERSONALITY SCORES

Model Components	Code	Range of Scores										Stan. Mean Dev.	
		300.0	350.0	400.0	450.0	500.0	550.0	600.0	650.0	700.0	750.0		
Organization	ORGA	21	39	60	51	99	131	116	67	30	2	498.9	101.5
Achievement	ACHI	15	22	39	137	56	181	51	89	14	12	499.3	100.0
Nurturance	NURT	28	31	32	110	84	106	131	58	36	0	498.9	101.9
Change	CHAN	9	41	48	131	86	75	135	39	41	11	498.7	101.9
Desirability	DESI	22	15	74	64	155	75	69	114	28	0	500.0	100.0
Value Orthodoxy	VALU	25	16	55	86	146	75	122	63	18	10	500.0	100.0

APPENDIX F

CALCULATION PROCEDURES: NUTRITION KNOWLEDGE INDEX

The items measuring the homemaker's nutrition knowledge were questions 7 to 19 in Part 2 of the Questionnaire.

<u>Questions 9, 12, 15, and 18 : Nutritional Value of Menus</u>	<u>Points</u>
Correct answer with correct reasons	4
Correct answer with partly correct reasons	2
"Don't know" answers	1
Incorrect answer or correct answer with incorrect reasons	0
 <u>Question 11 : Substitutes for Meats</u>	
One point for each correct item (maximum)	4
 <u>Question 19 : Knowledge of Canada Food Guide</u>	
One point for each correct item (maximum)	6
 <u>Other True/False Statements: Questions 7, 8, 10, 13, 14, 16, 17</u>	
Correct answer	2
"Don't know" answer	1
Incorrect answer	0

With the exception of Questions 11 and 19, "don't know" answers were assigned one point in order to differentiate between "false" and "don't know" responses, since it was assumed that a person who was not knowledgeable with regard to a nutrition dimension tested would still

tend to make better nutrition decisions than a person with wrong nutritional beliefs. Completely omitted answers did not score any points. The maximum score possible for the thirteen questions testing nutrition knowledge was 40 points. The correct answers for the nutrition knowledge test used in this thesis research can be found on the following pages of this appendix.

NUTRITION KNOWLEDGE ANSWERS

Below is a series of statements and questions relating to food and nutrition. Please check the appropriate box or, where a line is provided, write your answer.

7. Vegetarians or people who don't eat meat are bound to be in poor health.

TRUE FALSE DON'T KNOW

8. A pound of, the most expensive cuts of meat is always higher in proteins, vitamins and minerals than a pound of a cheaper cut.

TRUE FALSE DON'T KNOW

9. Please read over this menu for a day - assume the food is served in restaurant-sized portions.

Breakfast

orange juice
scrambled eggs
enriched toast
margarine
coffee

Lunch

hamburger
enriched bun
tomatoes and lettuce
french-fried potatoes
lemonade (real lemons)
banana

Dinner

meat stew with vegetables
cole slaw
biscuit
jam
tea
apple pie

Is this a well-balanced menu for a day for an adult?

YES NO DON'T KNOW

What do you think is missing? Dairy Products (Milk)

10. Milk can be substituted for fruits or vegetables in the diet, and the nutritional value of the diet will remain the same.

TRUE FALSE DON'T KNOW

11. There are several protein-rich foods which can be substituted for meats like beef, pork, veal, etc., without changing the nutritional value of the diet. Please write in below as many protein-rich foods which you think can be substituted for meats.

Fish, eggs, cheese dried beans or peas poultry peanut butter

12. Please read over this menu for a day - assume the food is served in restaurant-sized portions.

Breakfast

stewed prunes
poached eggs
milk
toast
margarine
coffee

Lunch

baked beans
cole slaw
whole wheat bread
margarine
baked apple
milk (1 glass)

Dinner

tomato juice
meat pie of beef, biscuit
crust
potatoes
buttered cabbage
raw-carrot salad
fruit tapioca
bread, margarine
milk (1 glass)

Is this a well-balanced menu for a day for an adult?

YES NO DON'T KNOW

What do you think is missing? _____

13. Most canned vegetable products have almost no nutritive value compared to most fresh cooked vegetables.

TRUE FALSE DON'T KNOW

14. The federal meat grades, "Canada Choice (red brand) and Canada Good (blue brand)" refer to the nutritional value of the meat.

TRUE FALSE DON'T KNOW

15. Please read over this menu for a day - assume the food is served in restaurant-sized portions.

<u>Breakfast</u>	<u>Lunch</u>	<u>Dinner</u>
cornflakes	clear soup -(beef bouillon)	spaghetti and meat balls
milk	deviled eggs on whole	jelly
toast	wheat toast	Italian bread and butter
jam	milk	ice cream
coffee	chocolate cake	iced tea

Is this a well-balanced menu for the day for an adult?

YES NO DON'T KNOW

What do you think is missing? Yellow and green vegetables, fruits

16. Non-fat dry milk is not as good a source of minerals and protein as fresh skim milk.

TRUE FALSE DON'T KNOW

17. Taste is an excellent measure of high nutritional value.

TRUE FALSE DON'T KNOW

18. Please read over this menu for a day - assume the food is served in restaurant-sized portions.

<u>Breakfast</u>	<u>Lunch</u>	<u>Dinner</u>
orange juice	baked beans and	fish sticks
pancakes	whole wheat toast	mashed potatoes
syrup	carrot sticks	cole slaw
milk	rice pudding with	whole wheat bread
	raisins	coffee
	milk	

YES NO DON'T KNOW

What do you think is missing? _____

19. An adult requires certain foods each day, to maintain good nutrition or a balanced diet. Please write in below all the food groups from which you think an adult should choose foods each day.

<u>Milk</u>	<u>Fruits (Juices)</u>	<u>Vegetables</u>	<u>Cereals - Bread</u>
<u>Meat/fish/poultry</u>	<u>(or substitutes: cheese or eggs; dried</u>	<u>beans or peas)</u>	<u>400 Units Vitamin D</u>

ABOUT YOURSELF

20. What language(s) are spoken in your home? _____

21. If you or your husband received formal schooling OTHER THAN public school, high school or university, please write it in below. (For example: trade school, technical school, secretarial school, etc.)

YOURSELF _____ NONE

HUSBAND _____ NONE

22. Do you yourself earn any money?

YES NO → Go to Question 24.

23. To earn this money:

a) How many hours a week do you usually work? _____

b) What is your occupation? _____

24. What was your former occupation? _____ DID NOT WORK

What was your father's occupation? _____

APPENDIX G

STANDARDIZATION FORMULA

Whenever test item scores were standardized the following formula was applied:

$$\left[\left(\frac{x_{ij} - \bar{x}_j}{s_j} \right) \times 100 \right] + 500$$

where x_{ij} = score of individual homemaker (i) for questionnaire item (j)
 \bar{x}_j = mean of distribution of responses of questionnaire item (j)
 s_j = standard deviation of distribution of responses of questionnaire item (j)

The transformation by multiplication and addition was for purely technical reasons in order to facilitate data handling.

APPENDIX H

CALCULATION PROCEDURES: SOCIOECONOMIC INDEX

Prior to calculating the socioeconomic classifications (SEC), the inputs making up this index were standardized by the formula given in Appendix G.

Inputs: Education Score (EDUC)
 Occupation Score (OCCU)
 Total Family Income (before taxes) (INCO)

Calculation of Input Scores

EDUC = Average score of homemaker's education + husband's education.

There were no missing responses regarding the homemaker's education and where the husband's education was not known, only the homemaker's score was used to form this index.

OCCU* = Average score of homemaker's present or former occupation (whichever was higher) + husband's occupation + father's occupation.

Missing answers were not considered when calculating this average.

INCO = Total family income before taxes.

Information for this index was complete.

Calculation of SEC Index

SEC = Average of EDUC + OCCU + INCO

There were a few respondents for whom no information was available to form an occupation index. In such cases, SEC was calculated by taking the average of EDUC and INCO only.

* An interpretation of these occupational prestige classifications is given in Appendix A.

APPENDIX I

SUMMARY COMMENTS: RESPONSE DISTRIBUTIONS OF MAJOR INDEPENDENT QUESTIONNAIRE ITEMS

Importance of Nutrition Knowledge and Nutrition Planning (P/18.1, 18.2, 18.3, 18.4)

There were four test items which measured the degree of importance of nutrition knowledge and nutrition planning: (1) knowledge of nutrients in the food; (2) all family members eating an adequate breakfast; (3) having a variety of food at each meal; and (4) consideration of individual nutrition needs in daily food provisioning. With a few exceptions, homemakers indicated, for the first three items, a positive predisposition regarding these attitude dimensions, with only 8% or less answering the categories "not too important" or "not important at all." However, the homemakers distinctly differentiated with regard to the degree of their positive attitudes, as evidenced by their response patterns in the classifications of "extremely, very, and fairly important." With respect to the relevance of considering individual nutrition needs of the family in their daily food provisioning, the response pattern was less positive, as 28% of the survey participants indicated that this nutrition dimension was either not too important or not important at all.

Responses to the test item pertaining to the importance of family members eating an adequate breakfast revealed no significant differences in attitude among the socioeconomic subgroups. For the remaining items, a regular pattern emerged. Homemakers from the highest socioeconomic group, on the average, consistently reported higher levels of importance;

the degree of importance decreasing with each of the next lower socioeconomic subgroups.

Usefulness of Planning in Food Provisioning (P2/6.1 to 6.6)

Approximately 90% of the homemakers indicated that planning was either quite helpful or very helpful in the process of providing variety in meals, providing good nutrition, and keeping the food costs down. When answering whether planning was helpful or not in saving time in meal preparation, grocery shopping, or making mealtimes a happy occasion, this percentage decreased to 74%. The response pattern of homemakers in the lowest socioeconomic classification revealed that for these respondents planning was more helpful in making the mealtimes a happy occasion than for those of the higher socioeconomic groups. The usefulness of planning in order to save time in meal preparation, however, showed an exact reverse pattern.

The Homemaker's Role Orientation (P2/1 and 2)

Thirty-five test items were employed to measure the homemaker's degree of liking or disliking household-, child-, husband-, family-, and community-related activities, as well as the level of importance ascribed to them. For the most part, the number of homemakers expressing positive attitudes was substantially larger than that of those voicing indifference or dislike. Nevertheless, respondents who reported positive attitudes clearly differentiated with regard to the intensity of their feelings. Analysis of variance results have been reported in Appendix D and revealed significant differences in the means of responses for socioeconomic subgroups for fifteen of the thirty-five questionnaire items.

Husband's Expectations Regarding Food (P2/3.1, 3.3., 3.8, 3.10; P1/17.4)

There were five main test items which measured this interpersonal characteristic. Four of these items reflected the level of importance ascribed by the husband with regard to the homemaker: (1) providing variety in meals, (2) setting an attractive dinner table, (3) being a good cook, and (4) providing healthful food. The fifth item indicated the husband's degree of interest in what the family ate.

Respondents expressed their answers in varying degrees. Nearly all of the homemakers mentioned that their husbands had expectations, at differing levels, regarding her role performance in the food provisioning process. Of the survey participants with husbands, approximately 85% reported that, to him, it was fairly, very, or extremely important that they provide food variety, healthful food, and be good cooks. However, a substantially lower proportion of husbands (65%) occasionally, very often, or always took a keen interest in what the family ate. This percentage difference appeared to indicate that some husbands tended to be more interested in their own food intake rather than in what their family ate. Also, husbands appeared to care less about having an attractive dinner table than they did for the homemaker's performance regarding food provisioning and cooking. Thirty-five per cent of the survey participants answered that having an attractive dinner table was not too important or not important at all to their husbands.

Significant differences in the response distribution of the socio-economic subgroups were found in only one of the five test items; that of

the husband's expectations of the homemaker being a good cook. Homemakers in the lowest socioeconomic bracket, on the average, perceived their husband as expecting somewhat more concerning this particular aspect of food management, with the degree of such expectations slightly decreasing for respondents in the higher socioeconomic classifications.

APPENDIX J

NON-RESPONSES AND VARIABLES EXCLUDED AS FMB MODEL COMPONENTS
PRIOR TO PRINCIPAL COMPONENT ANALYSISAdjusted Non-Responses

<u>Questionnaire Item</u>	<u>Number of Non-Responses</u>	<u>Questionnaire Item</u>	<u>Number of Non-Responses</u>
P1/8c	33	P2/1.19	60
P1/16a	19	P2/2.3	32
P1/16b	28	P2/2.4	34
P1/17.4	40	P2/2.10	37
P1/25	45	P2/2.15	40
P2/1.3	80	P2/2.16	34
P2/1.4	39	P2/3.1 to 3.10	38
P2/1.10	31	P2/27 (age of husband)	35
P2/1.11	60	P2/28 (education of husband)	36
P2/1.13	53	P2/30	51

NOTE: These test items were assigned the mean score of those respondents answering the question.

Excluded Non-Responses

P2/1.7; 1.8; 1.9; 1.15; 1.18; P2/2.1; 2.6;
P2/2.8; 2.11, 2.13; P2/23a.

NOTE: These test items had more than eighty missing observations.

TEST ITEMS WITH NO SIGNIFICANT OR RELEVANT ASSOCIATIONS
WITH THE DEPENDENT VARIABLES

<u>Questionnaire Items</u>	<u>Description of Items</u>
P2/22, 23	Hours homemaker working part time
P1/12	Length of pay period
P2/34	Car Ownership
P1/17.9	Parent's influence on food served
P1/20	Amount of cooking done herself
P1/22	Amount of grocery shopping done herself
P2/20	Languages spoken at home
P2/33	Type of dwelling and ownership
P1/26	Desirability Personality Trait*

* This test instrument was included in the study to measure respondent bias among the four socioeconomic subgroups of the study.

TEST ITEMS FOR WHICH OTHER QUESTIONNAIRE ITEMS PROVED TO BE
BETTER MEASUREMENTS FOR THE VARIABLE UNDER INVESTIGATION

<u>Questionnaire Item</u>	<u>Description</u>	<u>Substituted by Variable</u>
P1/16b	Amount spent on food	} SEC (socioeconomic classification) or generousness of food budget (P1/13)
P1/16a	Amount spent on food and other household items	
P1/14	Tightness of budget to provide healthful food	Generousness of food budget (P1/13)
P2/21	Additional education other than formal schooling	Formal schooling (P2/28)
P1/17.10	Homemaker's influence on how much money is spent on food	} Husband's role expectations of homemaker (P1/17.4; P2/3.1 to 3.10)
P1/17.14	Husband's influence on how much money is spent on food	
P2/31	Income of principal wage earner	Annual income of all household members (P2/32)

TEST ITEMS OMITTED FOR OTHER REASONS

<u>Questionnaire Item</u>	<u>Description</u>	<u>Reasons for Omissions</u>
P1/17.8	Use of Nutrition Knowledge	Printing error in test instruments.
P1/2	Order of serving planned main dishes	Incomplete; instructions pertaining to P1/lb were not followed by all respondents.
P1/4	Regular serving of main dishes	This was a "lead in" to question P1/5a and b. Furthermore, P1/6 and P1/7 were much better indicators of food variety.
P1/5	Frequency of serving regular main dish	Respondents, especially those from the low socio-economic groups, had difficulty reporting their regular meal pattern.

APPENDIX K

CALCULATION OF DEPENDENT CONSTRUCT VALUES

Thorough Food Manager

$$\frac{[(PI/6+7)+(PI/17.5+17.15+17.2+17.7+23)+(PI/1a+1b+3+17.1)+(PI/17.3+17.13+17.17+17.20)+(PI/9)+(PI/17.19)]}{17}$$
 VARI EESI ADEL NUTR SETT ATTR

The Careful Budgeter

$$\frac{[(PI/11a) + (PI/17.18) + (PI/24) + (PI/25)]}{4}$$
 BUDG BFFS ULIS CLIS

The Traditional Cook

$$\frac{[(PI/17.6 + 17.11)]}{2}$$

The Congenial Mealtime Manager

$$\frac{[(PI/8a) + (PI/8c) + (PI/10)]}{3}$$
 SITT LENG ENJO

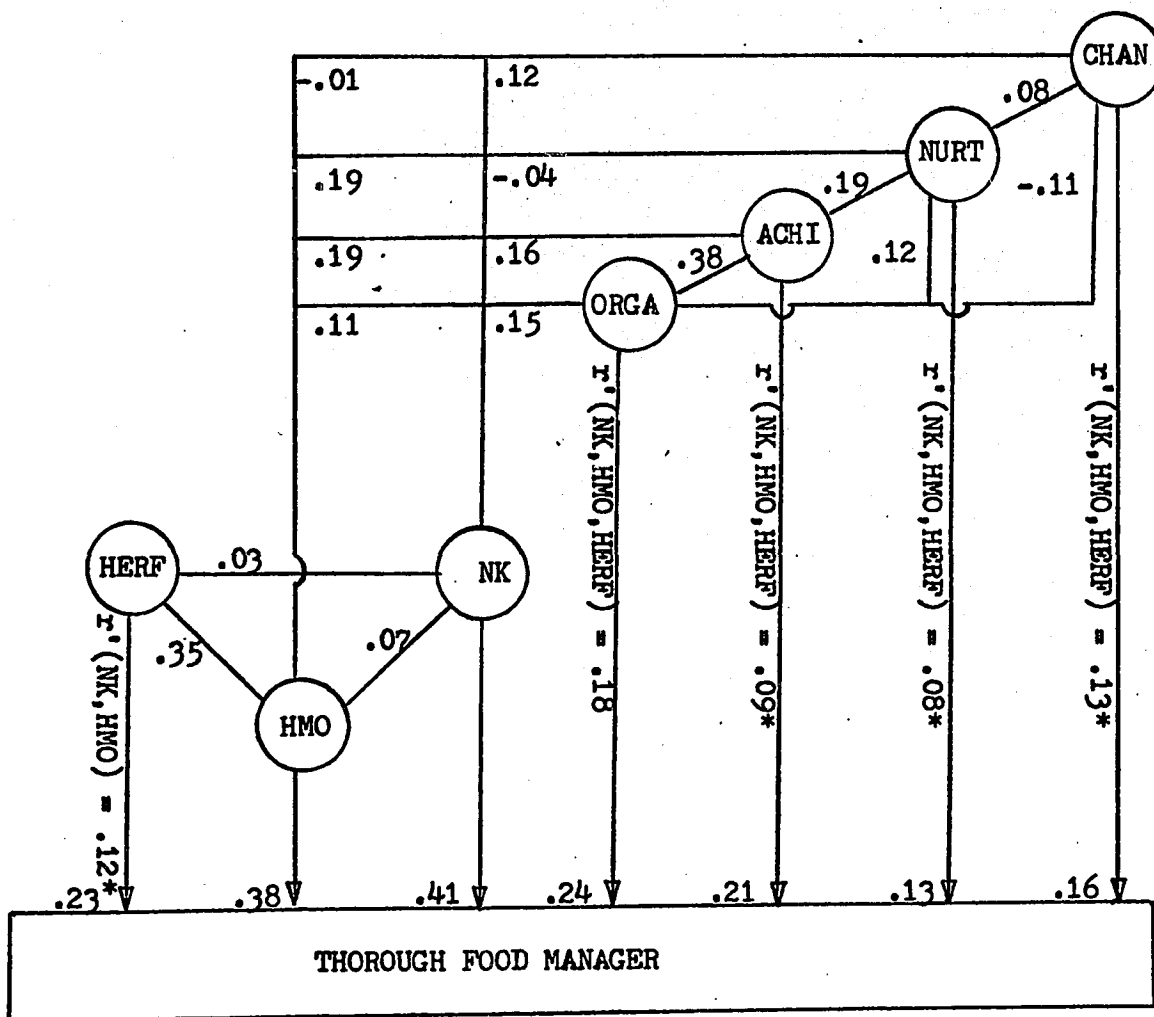
NOTE: The bracketed numbers represent individual questionnaire items and the code letters indicate the food management dimensions as described in Table 5.2.

APPENDIX L

FMB MODEL - STAGE IV

CORRELATIONS FOR THE FOUR SOCIOECONOMIC SUBGROUPS

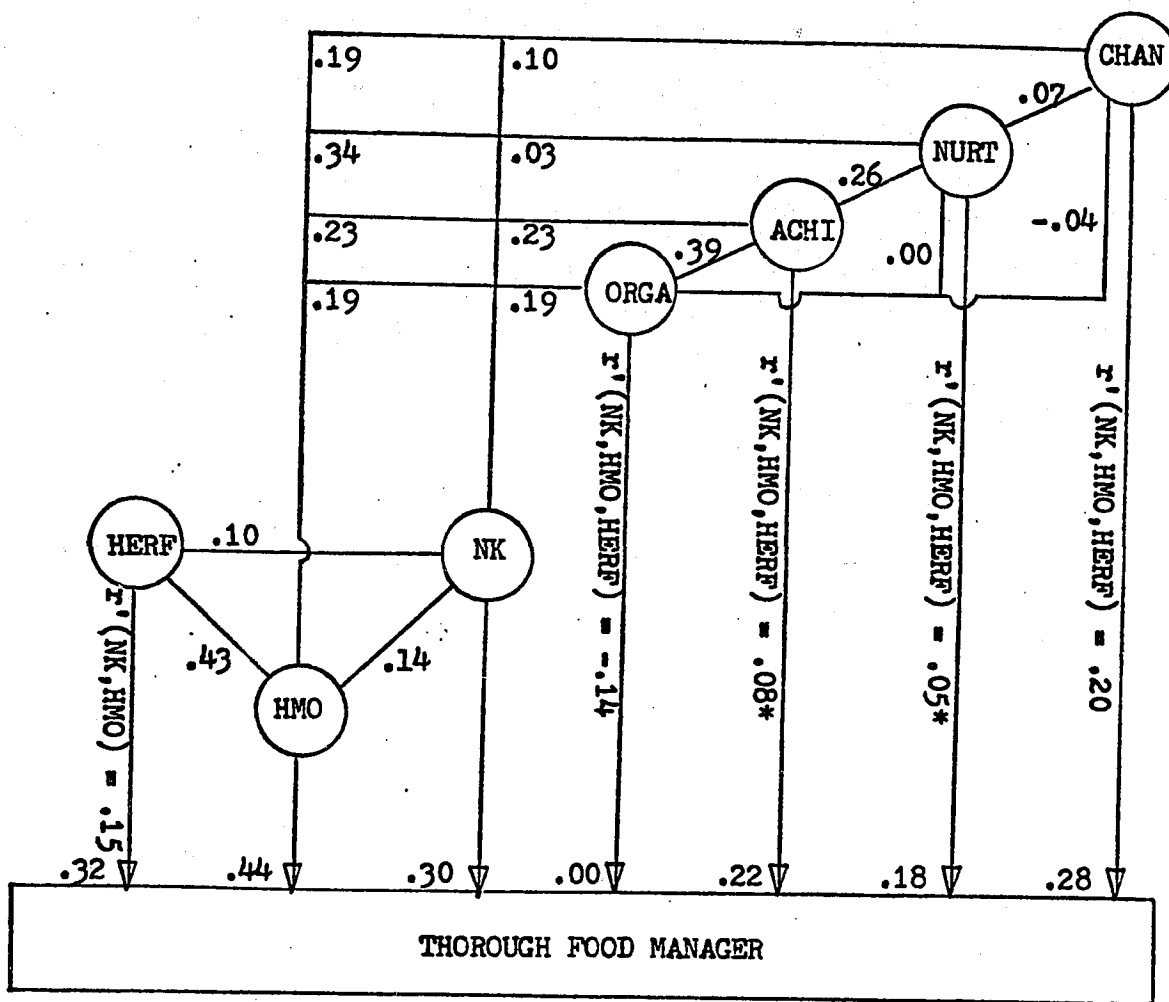
CORRELATIONS FOR THE HIGH SOCIOECONOMIC SUBGROUP (N = 101)



* Not significant at the .05 level.

NOTE: $P < .05$ for simple $r > .165$

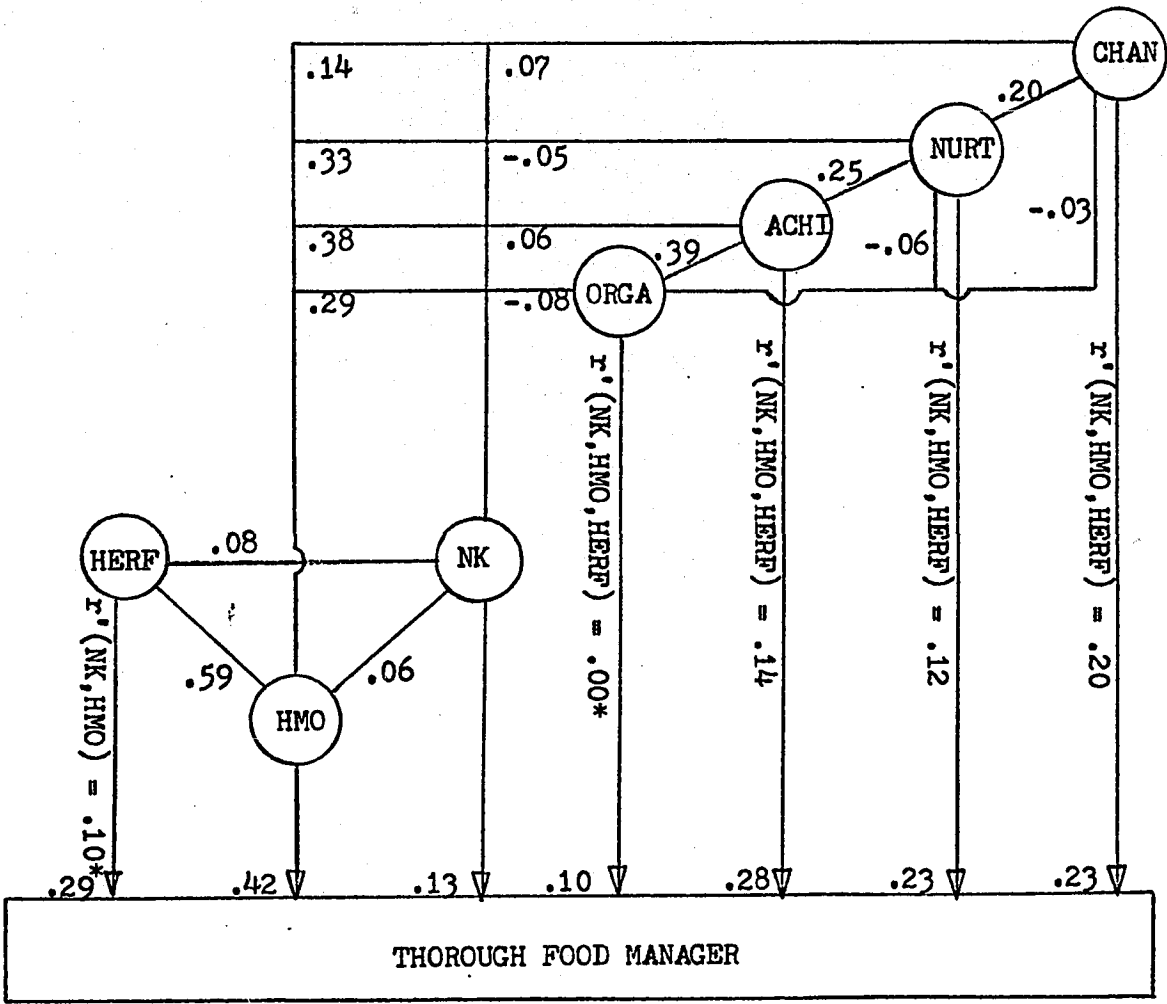
CORRELATIONS FOR THE UPPER MIDDLE SOCIOECONOMIC SUBGROUP (N = 213)



* Not significant at the .05 level.

NOTE: P < .05 for simple r > .165

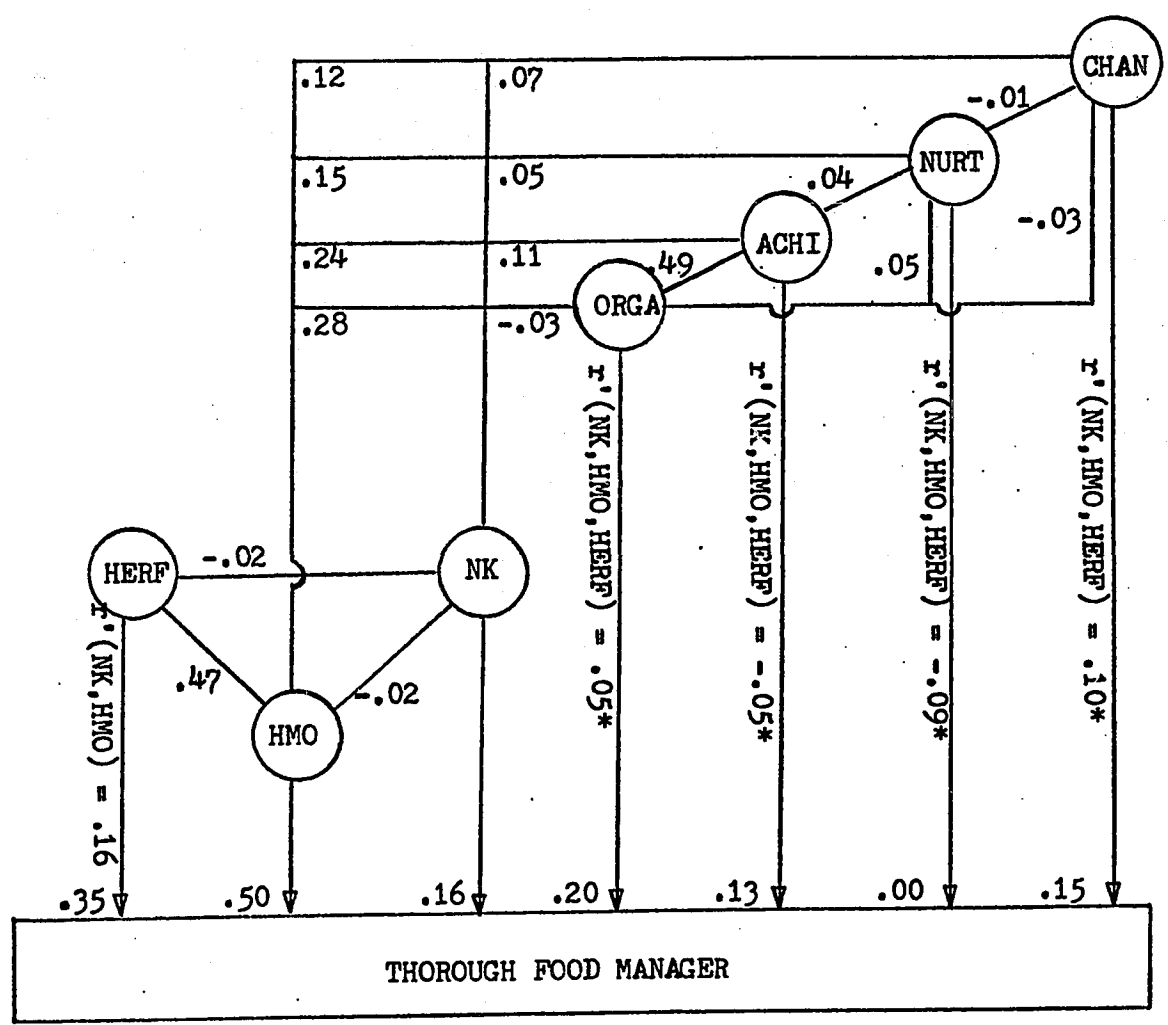
CORRELATIONS FOR THE LOWER MIDDLE SOCIOECONOMIC SUBGROUP (N = 194)



* Not significant at the .05 level.

NOTE: $P < .05$ for simple $r > .165$

CORRELATIONS FOR THE LOW SOCIOECONOMIC SUBGROUP (N = 108)



* Not significant at the .05 level.

NOTE: P < .05 for simple r > .165