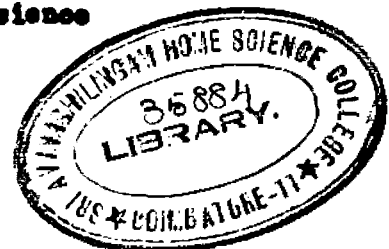


**IMPACT OF HOME SCIENCE EDUCATION ON THE FOOD PURCHASING
HABITS OF HOUSEMAKERS**

**By
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CONTENTS

Chapter		Page
	LIST OF TABLE	iii
	LIST OF FIGURES	iv
	LIST OF APPENDICES	v
I	INTRODUCTION	1
II	REVIEW OF LITERATURE	4
	A. Consumer Buyers and Buying	4
	B. Food Expenditure	5
	C. Buying Food for the Home	7
	D. Storage of Food	17
	E. Factors Affecting Food Purchasing Habits	17
	F. Educating Homemakers in Food Purchasing	19
III	EXPERIMENTAL PROCEDURE	22
	A. Selection of the Method of Study	22
	B. Selection of the Sample	22
	C. Preparation of the Questionnaire	23
	D. Pretesting and Modifying the Questionnaire	23
	E. Conducting the Survey	24
	F. Collection of Data	25
	G. Consolidating, Analysing and Presenting the Data	25
IV	RESULTS AND DISCUSSION	26
	A. General Background	26
	B. Money Expenditure Pattern of the Families	29
	C. Home Food Production	31
	D. Food Expenditure	32
	E. Place of Purchase	33

Chapter	Page
F. Frequency of Purchase	38
G. Person Purchasing	40
H. Mode of Payment	42
I. Storage of Food	43
J. Wastage of Food	46
K. Buying Habits	48
L. Problems Regarding Purchasing	49
M. Analysis of Purchases Made	51
V	
SUMMARY AND CONCLUSION	52
BIBLIOGRAPHY	vi
APPENDICES	xi

LIST OF TABLES

Table No.		Page
I.	NUMBER OF MEMBERS IN THE TWO SAMPLES	27
II.	AGE GROUPS OF THE SAMPLES	28
III.	MONTHLY INCOME OF THE SAMPLES	28
IV.	PERCENTAGE OF TOTAL INCOME SPENT ON VARIOUS ITEMS OF EXPENDITURE	29
V.	FOOD PRODUCED IN THE HOME AND FARM	31
VI.	EXPENDITURE ON VARIOUS FOOD ITEMS	32
VII.	PLACE OF PURCHASE OF VARIOUS FOODS	36
VIII.	REASONS FOR PREFERRED THE PLACE OF PURCHASE	37
IX.	FREQUENCY OF PURCHASE OF VARIOUS FOODS	38
X.	REASONS FOR FREQUENCY OF PURCHASE	39
XI.	PERSON PURCHASING THE FOODS	40
XII.	REASONS FOR PERSON PURCHASING	42
XIII.	MODE OF PAYMENT	43
XIV.	MANNER OF STORING THE FOOD ITEMS	44
XV.	PROBLEMS IN STORING FOODSTUFFS	45
XVI.	WASTAGE OF FOODS	46
XVII.	BUYING HABITS OF HOMEMAKERS	47
XVIII.	PURCHASING PROBLEMS	49
XIX.	PURCHASING SATISFACTIONS	50
XX.	ANALYSIS OF PURCHASES MADE	51

LIST OF FIGURES

Figure No.		Page
1.	PERCENTAGE OF TOTAL INCOME SPENT ON VARIOUS ITEMS OF EXPENDITURE	30
2.	EXPENDITURE ON VARIOUS FOOD GROUPS - SAMPLE A	33
3.	EXPENDITURE ON VARIOUS FOOD GROUPS - SAMPLE B	35

LIST OF APPENDICES

Appendix No.		Page
I.	QUESTIONNAIRE TO ELICIT INFORMATION REGARDING FOOD PURCHASING HABITS OF HOMEMAKERS	xii
II.	LETTER TO RESPONDENTS	xxvi
III.	CHI SQUARE TEST TO FIND OUT THE DIFFERENCE BETWEEN THE FOOD EXPENDITURE OF THE TWO SAMPLES	xxvii
IV.	ANALYSIS OF PLACE OF PURCHASE - F RATIO TEST	xxviii
V.	ANALYSIS OF FREQUENCY OF PURCHASE F RATIO TEST	xxix
VI.	ANALYSIS OF PERSON PURCHASING - F RATIO TEST	xxx
VII.	CHI SQUARE TEST - PURCHASING PROBLEMS	xxxii

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I. INTRODUCTION

Democracy has come to stay in Indian families too! There is a trend towards a greater sharing of household responsibilities by all family members. Making choices at a market place is one such responsibility. It is an important step in buying, especially when we consider today's market with its wide variety of consumer goods! The many items needed in differing quantities for home use makes it difficult for the buyer to be equally well-informed in the selection and purchase of all goods. Yet, wise purchasing is a significant way of increasing the real income of the family. Efficient buymanship and well-ordered consumption will make for a vigorous and intelligent people, who would provide optimum satisfaction for themselves and their children.

Food is the first of three fundamental necessities with which every family must be provided. Shelter can be improvised, clothing patched up a little, but food is absolutely essential for existence. What we want is food that is attractive, nutritious, tasty, easy-to-prepare and also economical.

Buying food involves the selection of different items for different age groups and conditions which increases the homemakers' problems. These problems are related to when and where to buy, how to recognise desirable qualities and quantities, how to obtain the qualities and quantities desired, how to pay for the foods, and how to maintain the quality of foods after purchase by providing proper storage.

To meet their buying problems satisfactorily, purchasers must be able to secure the best goods for the particular purpose for which

they are needed with the minimum expenditure of time, energy and money. For this, the buyer must be able to recognise and compare the goods offered for sale with reference to quality, quantity, prices, store at which purchased and identifying marks. In order to make such comparisons, consumer-education is essential.

The home today, due to a number of reasons, is not able to offer such intensive experiences to the younger members. Hence the education imparted in the schools and colleges must make the future homemakers more conversant with the assessing quality and choice-making. Home Science Education must be able to contribute in gaining such experiences.

Home Science Education includes Consumer-Buyer Education as well as Nutrition Education. Devadas (1958)¹ defining Home Science says that, it is an education for living. The Ministry of Education, Government of India (1958)² states that, "Home Science as a Programme of study at the college level is based on the proposition that the arts and sciences when brought to focus on homes and families, can help to solve some of their problems and can be used to make people healthier and happier and make home life more efficient and enjoyable". One of the major aims of Home Science Education is the acquiring of techniques and skills needed for personal and home living, learning to use one's resources to attain maximum values which are worth while.

Instruction in household and consumer economics as part of the study, helps the students to understand how families achieve goals of better living and economic security through wise planning and use of resources. In the field of nutrition they study how to

choose the best foods, how to preserve surplus food, how to change fads and superstitions and wrong habits about food and also what type of foods are required for different stages of growth.

Since the Home Science graduates are trained in these aspects, it is assumed that they will be better qualified in purchasing food than other graduates. This study is therefore undertaken to:

Compare the food purchasing habits of Home Science and non-Home Science Graduates, to assess the impact of Home Science Education

II. REVIEW OF LITERATURE

The literature for the study is reviewed under the following heads:

- A. Consumer-Buyers and Buying
- B. Food Expenditure
- C. Buying Food for the Home
- D. Storage of Food.
- E. Factors affecting Food Purchasing Habits
- and F. Educating Homemakers in Food Purchasing

A. Consumer Buyers and Buying

A consumer, as defined by Reid (1938)³, Shultz (1948)⁴ and Kelley (1958)⁵, is shown as a buyer and ultimate user of goods and services in the process of satisfying his wants. Wyand (1957)⁶ and Gordon (1961)⁷ also bring out the limitation of the consumers when they mention the price economy which to a very great extent limits the individual consumer's propensity to consume. Phillips and Schlink as quoted by Wyand (1957)⁶, Shultz (1948)⁴ and Henton (1967)⁸ emphasise the importance of buying 'quality' goods to optimise satisfaction. A consumer could therefore be defined as one who acquires and utilises quality goods and services, at a price, suitable to his taste and income, to give him maximum satisfaction.

The selection of items for the home is a large investment for most families and should be regarded as a precise act of purchasing. Therefore the average consumer may need either to seek professional assistance or to obtain further information on his own if he is to be gratified by his purchases. According to Kyrk (1935)⁹, good buying is the selection of the best articles available for the

purpose with a minimum expenditure of time, energy and money. Buying or purchasing is one of several household tasks.

Fitzsimmons (1961)¹⁰ says, buying food involves the selection of many different items, which according to Raines (1964)¹¹ may confuse us when we have to decide what to buy. Sweetman and MacKellar (1954)¹² define efficient food choices as those which bring relatively high satisfactions especially in terms of health in relation to their cost. Harap (1924)¹³ says, the wise selection of food is often limited by market conditions. The system of food distribution is complex affecting the quality of foods and their price. It makes necessary a consideration of the quantity to be purchased at one time, the form in which articles are to be purchased, purchasing of packaged goods and seasonal products and cash or credit payment plans.

B. Food Expenditure

The basic expenditure items such as food, clothing and shelter find a place in every family budget. Other items of expenditure are, household operation, fuel, transportation, personal expenditure, health, education recreation and savings.

Engel's laws of consumption as stated by Dodd (1961)¹⁴ say that as income increases, the proportion of income spent on food tends to decrease (although the absolute amount of money spent for food actually increases as income increases); and the proportion spent for 'sundries', for the cultural wants of education, health and reading increases as income increases. The proportions going to shelter, clothing, fuel and light in Engels' view, remain practically unchanged whatever be the income.

Nystrom (1929)¹⁵ summarizes the effects of family income, size and household production on food expenditure as follows:

- 1) Families with larger incomes spend more money for food than do families with smaller incomes, but their food expenditures represent a smaller percentage of their income.
2. As the size of the family increases, the amount spent for food increases, but the per capita expense for food decreases. As the size of the family increases, the proportion of the income increases less rapidly than does the size of the family.
3. As the opportunity for home production of food increases, the amount of food consumed increases, the expenditure on food is lower, but the retail cash value of the food consumed is more.

According to Bigelow (1955)¹⁶, Sweetman and MacKellar (1954)¹², Cochrane and Bell (1956)¹⁷, Troelstrup (1957)¹⁸, Cerke (1960)¹⁹ and Davidson (1960)²⁰ food averages the largest single item among the family expenditures.

Leverson (1952)²¹, Bigelow (1955)¹⁶, Sweetman and MacKellar (1954)¹² Troelstrup (1957)¹⁸, Cerke (1960)¹⁹ and Oppenheim (1965)²² and Proudfit and Robinson (1967)²³ list the following as the factors affecting the amount actually spent for food by the family.

1. The amount of family income
2. Size of the family
3. Age of family members
4. Food produced at home
5. Season of the year
6. Location of the house

7. General price levels
8. Individual needs for food and how they are met
9. Proportion of meals eaten in commercial eating places.
10. Tastes, customs, preferences and habits of the family regarding food.
11. Menu planning and the application of nutritional knowledge, and the relative interest of the family in good food.
12. Use of left-overs, and
13. Proper food storage.

Oppenheim (1965)²² says that, with careful planning most families can cut down on food expenditures without impairing family health. It may be desirable or even necessary to reduce costs by planning to use alternate foods.

C. Buying Food for the Home

The quality and quantity of food purchased for the family depend mainly on the purchasing practices of the homemaker, her information and skill in choice-making, her willingness to shop at the stores where the 'best buys' are available and her actual selection of the food.

To make a wise food purchase, various steps are to be followed before and after purchasing food for the family. They are as follows:

1. Planning marketing
2. Planning for obtaining supplies
3. Gathering information
4. Making a shopping list
5. Estimating the funds available
6. a. Bargaining
b. Comparing food costs
7. Keeping records of expenditure and

3. Analysis; the purchases made.

1. Planning marketing: Starr (1956)²⁴ opines that when marketing is planned in advance, time, energy and money can be saved. According to Goldmann (1959)²⁵, a market order should be carefully organized. An inventory of the supplies on hand will indicate where replenishments and additions are needed. The group of foods should be arranged to conform with the set-up of departments within the market or store. Perishable and frozen foods should be planned and purchased taking storage facilities available in the home into consideration.

2. Planning for obtaining supplies: According to Reid (1954)²⁶, Sweetman and MacKellar (1954)¹², Troelstrup (1957)¹⁸, Fitzsimmons and White (1958)²⁷ and Wood (1961)²⁸ plans for obtaining supplies for use in a foods area involves decisions regarding--

- a. What to buy,
- b. When to buy,
- c. Who will do the buying,
- d. Where to buy,
- e. How to buy,
- f. How much to buy,

and g. How to pay.

a. What to buy

'What to buy' involves decisions as to whether to buy in bulk or in smaller units, whether packaged, canned or fresh, frozen or dehydrated foods, and also, what quality or grade to use for specific uses. Economy should be the keynote of all purchases.

In these days of rampant adulteration, in order to enable people to buy the best unadulterated food, the Government of India has taken steps to put the seal 'AGMARK' on certain agricultural commodities and food stuffs. The mark is a symbol of purity and a guarantee that the product bearing it ^{posses} a declared attribute of quality.

It is better not to buy prepared or cooked foods since they are distinctly uneconomical. In a comparative study of ready-made mixes versus homemade products, baked or otherwise made by the Hood College Home Economics students, Gross and Mackley (1950)²⁹ conclude that the mixes have a place on the emergency shelf of modern homemakers, but they should be used only when time is limited since homemade food is superior to any mix on the market. The 'mixes' when utilized resulted in the saving of very little energy and only three minutes of time. Ready-made mixes come in handy when unexpected demands arise. However, such mixes do not belong to the 'wise-budget grocery list.

b. When to buy: Fitzsimmons and White (1958)²⁷ classify food as staple or fresh and in constant or infrequent use. Supplies of staple foods can be purchased and may be stored. Infrequently used foods which are stable and do not spoil with standing may be bought with the staple items. Fresh foods and those used infrequently which spoil rather easily must be brought just before use.

Krause (1966)³⁰ recommends buying foods in season and those that are plentiful. Andrews (1955)³¹, Raines (1964)³¹, McWilliams (1966)³² and Peckham (1969)³³ are of the opinion that season does affect the price. Foods in season, they opin are usually less

expensive and may be of higher quality than those that are more difficult to obtain. Hurst (1947)³⁴ suggests buying foods in season for economy and for better flavour and quality. Hence, purchasing during season and preserving it for when there is a meagre supply will help to save money.

Economy of both time and energy is realized when purchases are made on the days and at the hours when business is the lightest. In some cases, marked savings can be realized by purchasing at special sales. In Chinthamani, the Cooperative Super Market, Coimbatore (1969)³⁵ special sale weeks are organized in the departments when popular and standard commodities are sold at rock-bottom prices.

c. Who will do the buying: According to Bane and Chapin, (1948)³⁶ the homemaker does the family buying. Goodyear and Klohr (1954)³⁷ are of the view that there is a trend towards more sharing of this responsibility by all family members. Hurst (1947)³⁴, Holt (1958)³⁸ and Sounderaraj (1968)³⁹ say, buying of food should be done by the housewife in person whenever possible.

d. Where to buy: The homemaker must decide from where the foods must be bought. Kyrk (1933)⁹ says, the buyer reduces her own time when she buys at a nearby store. To save money it behoves the buyer to search out the dealer offering the desired good at the lowest price. According to Kinder (1956)⁴⁰, prices are lower in cash - and carry markets than in those which provide delivery service and allow charge accounts. These services are costly to the store operator; therefore he passes the extra cost on to the

customer who pays for the service through higher prices.

In a study by Robertson (1953)⁴¹, three methods of grocery shopping were considered and tested to see which would be the most economical. The first method was to shop each week at one store. The same list of items was priced at each of three stores each week for 16 weeks. The second method was to buy all items at the same store but purchase in quantity those items that could be stored—staples, canned foods and frozen foods — at a time when the store offered a special price on the items that vary greatly in price. The third method was to price the same list of items as mentioned above as if each item would be purchased at the store that offered the lowest price — the 'shopping around' method. For the three chain grocery stores studied, the second method would afford the greatest price advantage only the customers of one store. For the other stores studied, the greatest advantage would be obtained by buying at the lowest price from any of the stores — the 'shopping around' method. The price advantage would not offset such transportation of time and energy used in between stores shopping.

Prerna (1968)⁴² opines, the homemakers who patronised the cooperative retail stores, spent less time on purchasing their requirements for the month, than those who went to private retail stores because of the quicker services they received. Needham and Strong (1954)⁴³ recommend buying at local shops and markets as far as possible to support home industries.

e. How to buy: The 'how' of buying can be decided as whether to order by telephone or letter or go to the store in person to buy and also whether to carry purchases from the store or to have them delivered. Kyrk (1935)⁹ and Holt (1958)⁵⁶ say, the buyer reduces her own time when she orders over the telephone or by mail, but orders given over the telephone, by mail or to the tradesman's boy are liable to be unsatisfactory and uneconomical.

Buying directly from the market is better than having food stuffs delivered at the house, since in the delivery system, the food supplied may not always be good, and the weights may not be correct.

f. How much to buy: 'How much to buy' will involve decisions as to the quantity of each food item to be purchased. This will be learned from buying and using the foods. According to Starr (1956)²⁴ it is often a good plan to buy relatively large quantities of staple foods and those constantly in use.

Needham and Strong (1954)⁴³ consider that the wise housekeeper will certainly buy in bulk - generally sufficient to last a month or two - such non perishable goods as the different varieties of grain and pulse, and also such things as sugar, coffee, beans, tea and certain kinds of nuts and spices, and also fruits and vegetables for preserving. Gilbreth, Thomas and Clymer (1960)⁴⁴ opine a considerable amount of both money and time may be saved by purchasing in bulk those foods which are non perishable, if there is adequate storage space. But the housekeeper must consider whether she has proper means of storage. Without these, she will lose instead of

gain. The very poor, buying from day today cannot afford to buy in bulk and so, though poor, they have to spend more for the value they receive than their richer neighbours.

g. How to pay: This involves the decisions as to whether to pay cash or to use credit. When a family knows the comparative cost of cash and credit and different forms of the latter, they are ready to decide whether or not credit is worth the price. In such decisions, the anticipated income and financial obligations during the time payments are to be made, are important.

The danger of not paying ready-cash for every thing is that, one may spend more than one realizes and more than one can afford, and then, when the day of reckoning comes, not have enough to pay the bill. If one gets into the habit of keeping running accounts greater than one can pay each month, one loses one's freedom of action. If one has a large account with one shop, one does not feel free to deal with another shop though the goods in the latter may be better and cheaper. Devadas (1968)⁴⁵ suggests not to buy on credit, since it is more economical to pay cash than to purchase on credit.

h. Gathering information: Prior to shopping the homemaker must gather information from the various sources available. Bondé (1944)⁴⁶ suggests the use of this information for wise purchasing. Choices must be made on the basis of the facts one has gleaned from previous experience. Conversation with neighbours and friends is another informal source of information. The reliability of the information gained from the sales person depends upon the policy of the store, the interest and intelligence of the individual salesman, and the

type of question asked by the consumer. Advertisements in magazines, newspapers, bill boards and over the radio are other sources of information. Through these media, new products are introduced and new uses for well-established items publicized. In addition, the consumer can learn the price of commodities, store at which they can be purchased and sometimes information on the quality of the items. Bulletins and pamphlets concerning the commodities sold are published by manufacturers, packers and distributors as another form of advertisement. Dodd (1957)⁴⁷ says, watching food advertisements helps to buy advantageously.

The label on merchandise is a readily available source of information to consumers. According to Dodd (1951)¹⁴, three kinds of labels may be used on consumers' goods. A brand label uses an emblem, picture, or name by which consumers may identify the product of a particular producer. A descriptive label sets forth the characteristics of the contents of the package such as the size and variety of the fruit, the style of pack or the nature of the material in the article. A grade label indicates a definite standard of quality. A label is required to contain the following information.

- a. Grade of product
- b. Name of product and brand
- c. Net contents of can in weight or fluid measures
- d. Name and address of manufacturer or distributor

In addition, labels may give price and recipes.

These readily available sources of information must be gathered and used by the consumers.

4. Making a shopping list: Follard, Laiten and Miller (1964)⁴³ advise listing all the foods that will be needed before shopping. For purchasing food systematically, an orderly shopping list is the pre-requisite. By planning menus and shopping lists ahead, one may be able to shop when 'specials' are available.

Shopping lists will include: the quantity of each item needed; the probable price per unit; the quality desired where quality varies, the brand preferred, and the store from which different items are to be bought. The lists should indicate substitutes to be considered when there is a chance that the buyers first choice will not be found. To save time for the buyer as well as the seller, Raines (1964)¹¹ suggests planning of a shopping list in the order that food is displayed in the market. According to Sweetman and MacEallar (1964)¹² shopping with a list saves time at the store, makes unnecessary repeat trips to obtain items that were forgotten, ensure purchase of right amounts, and saves money by preventing 'impulse' buying - the purchase of what appeals at the moment rather than what is needed or can be afforded.

5. Estimating the funds available: The purchasing of food will depend upon the amount of money available on hand. The housewife should estimate how much money she can allot for food purchasing before shopping.

6. a) Bargaining: Krause (1966)³⁰ suggests to shop at several stores if bargains are available. Bargaining in the market and

shrewd buying will generally give one more for their money.

6.b) Comparing food costs: Peyton, (1957)⁴⁹, Raines (1964)¹¹ and Devadas (1968)⁴⁸ suggest comparing prices and qualities of foods in different shops to help in economical buying. Goodyear and Kiohr (1954)⁸⁷ say, comparison of food items in different shops, is an essential factor in wise choice-making. White (1961)⁵⁰ and Raines (1964)¹¹ suggest the comparison of price and quality of food in different forms to get the best for the money spent. Sweetman and MacKellar (1964)¹² suggest comparing prices of different brands on the basis of cost per unit. But it is a mistake to spend more of time and energy for this. Troelstrup (1957)¹⁸ suggests selecting stores dealing in certain kinds of merchandise and services and thus minimising shopping around.

7. Keeping records of expenditure: Needham and Strong (1964)⁴⁸ recommend making a note of the total cost when paying for groceries. The shopping list containing an estimate of what different items would cost, gives an idea of the amount of money we would need. Records of what we really pay will help with later plans for buying. Perhaps it will suggest changes to be made in the future.

8. Analysing the purchases made: According to Hickell and Dorsey (1967)⁵¹ the homemaker who wants to control food costs and get maximum nutritive value from the food she buys must analyse her own buying habits. She can evaluate her buymanship if she sees that she buys:-

- a) and gets her money's worth for the purchases;
- b) at the best time considering all factors at home and in the market;

- e) the optimal quality;
- d) using an economical method of payment for her food purchases;
- e) getting the quality she should for the money spent; and finally
- f) choosing suitable quality for each use and not using the highest grades for all purposes which may be extremely wasteful.

D. Storage of Food

Wise purchase of food alone will not help in economising money, energy and time of the homemaker. Money saved by making careful selections in food buying may be lost unless the food is properly stored before consumption. If food stuffs are carelessly stored, they will deteriorate and result in waste through withering, discolouration, mould, decay, and also lose their natural flavour, attractive appearance and vitamin content. Careful storing is therefore important. The homemakers must have a thorough knowledge about the manner of storage of different food items. Sunderaraj (1965)²⁹ suggests air-tight tins for cereals and pulses to avoid spillage. Peckham (1969)³⁰ says meat and fish should be kept in the coolest part of the refrigerator; and proper air circulation will ensure successful storage of fresh fruits and vegetables. According to Krause (1966)³⁰ condiments and spices should be kept away from heat and air, and hence a tightly covered container is a must.

E. Factors Affecting Food Purchasing Habits

1. Income of the family:

What one buys depends on the funds at his disposal. With increased income, better meals are introduced which are well

balanced and contain more protective foods. Sweetman and MacKellar (1954)¹² remark, as the amount of money assigned to the food budget rises, body needs can be met by choices which include more variety and larger amounts of preferred foods.

2. Efficiency of homemaker as a buyer

To supply her family needs, the housewife must turn first of all to the market. The abundance of goods and services enjoyed by the family depend to a large extent on her efficiency as a buyer. According to Reid (1954)¹⁶ an efficient buyer is one who secures the maximum of goods for the time energy and money expended".

3. Nutritional knowledge

Cochrane and Bell (1956)¹⁷ say, "Nutrition education has certainly influenced the shift in eating habits". Maintaining of one's health in the present state and realizing of optimum health and physical vigour throughout one's life span are generally agreed to be primary goals sought in the management of food. Knowledge of Nutrition is therefore essential if intelligent food choices are to be made for the purpose of realizing such goals.

4. Social and religious customs

Personal and social or cultural prejudices are also responsible for food choices. Intelligent decisions will be based on an open-minded attitude towards new ideas advanced by scientific studies.

5. Time and energy available to the homemaker

Choices made in food purchasing depends on the time and energy available to the homemaker. Purchasing makes many demands on the time and energy of the wife and mother.

G. Storage facilities

Storage facilities in the home influence the choices made in food purchasing. If there are proper storage facilities, one could save time, energy and money.

F. Educating Home makers in Food Purchasing

Management is the key to successful homemaking. Devadas (1959)⁵² views management as making the best use of the available resources - material and human - in order to derive the best values and conserve time, energy, money, space and labour. The home maker to be a good manager, must plan wisely.

For efficient consumption, purchasing is one of the most important activities. To purchase wisely, the home makers must be trained. Formerly, when women's education and employment outside home were not so widely prevalent, the potential homemakers used to be trained in household tasks by their mothers. But now, because of education and employment of women outside their home, this type of training is lacking or inadequate. This problem will become more acute as days go by. It is therefore essential that, girls must be trained to fulfill their dual responsibilities in the home and in the place of work.

In a number of states, the Departments of Education have made provision for the teaching of Home Science at the secondary level, either as an out-of-school or optional subject or as an examination subject. The Secondary Education Commission gave importance to Home Science as an independent group of subjects to be taught during the last four years of secondary school. Madras was the first state to introduce Home Science as a bifurcated

course in 1948. It is now possible for a girl to take Home Science completely as a diversified subject or as one of the many subjects in the optional groups such as the sciences, the humanities or the fine arts. Yet it is an optional subject only in most cases.

In the B.Sc., Home Science course as per the syllabus (1966)^{53,54} the girls are given training through the curricular courses in Household Economics and Foods and Nutrition.

Education on Household purchase is imparted to the students through Household Economics. At the graduate level this study includes, analysis of items of real income of the family, sources of wastage of food due to inefficiency in the household, comparison of wholesale and retail prices, cost of packaged foods, list of food materials purchased annually, monthly, weekly and daily, list of readymade foods available in the market - their advantages and disadvantages, advantages and disadvantages of cash and credit purchases, and wholesale and piece-meal purchase, comparison of the cost of homemade and ready made foods, advantages of consumers' cooperative stores, adulteration of foods and consumer action in abolishing adulteration practices and careful study of advertising methods through analysis of advertisements.

Education given in Foods and Nutrition includes adequate diet for an adult to meet the nutritional requirement, method of determining the adequacy of a diet planning, scientific methods of storing and preserving foods, the use of the kitchen garden in helping to provide an optimum food supply for the family, the use of supplementary foods such as powdered milk and all-purpose-food in the improvement of diets, and, food adulteration practices and methods of control.

Besides the theoretical aspect, the students get practical experience through the Home management House stay carrying full responsibility in the management of the house. Objectives of Home Management House are understanding the task of maintaining a home, understanding of expenditure of time and money and how it affects one's living. Here, the students get the opportunity to put into practice what they have learned in theory. They have the full responsibility of planning the menu considering the quality and quantity of foods to be included in the diet, making a market list according to the menu planned, marketing the food items periodically during the stay, maintaining accounts of all the items purchased and also storing them after purchasing.

III. EXPERIMENTAL PROCEDURE

The experimental procedure for this study consisted of the following steps:

- A. Selection of the Method of Study
- B. Selection of the Sample
- C. Preparation of the Questionnaire
- D. Pretesting and modifying the questionnaire
- E. Conducting the Survey
- F. Collection of Data

and G. Consolidating, Analysing and Presenting the Data.

A. Selection of the Method of Study

The Questionnaire method was selected for this study as it is an useful instrument for collecting information - Best (1965)⁵⁵.

B. Selection of the Sample

Two hundred Home Science graduates from the Madras and Kerala Universities were selected for this study to compare their food purchasing habits.

The samples for this study were selected as follows:

Addresses of two hundred Home Science and two hundred non-Home Science graduates were collected from the Alumni Associations of two colleges, one in Coimbatore and the other in Trivandrum. These samples included married and unmarried as well as employed and non-employed homemakers. Of these, one hundred and twenty five Home Science graduates, seventy five of Madras University and fifty of Kerala University, were staying in various parts of India. The rest of the addresses² were from Coimbatore and Trivandrum cities.

G. Preparation of the Questionnaire

Young (1983)⁵⁶ opines, the questionnaire is designed to collect data from large, diverse and widely scattered groups of people. It is used in gathering objective, quantitative data as well as in securing the development of information of a qualitative nature. Pope, quoted by Gee (1980)⁵⁷ defines a questionnaire as a set of questions to be answered by the informant without the personal aid of an investigator or enumerator, usually, the questionnaire is sent by mail, but it may be distributed in person, in either case it is filled out by the one supplying the information.

A questionnaire was prepared to get information regarding the family background, monthly expenditure pattern, monthly expenditure on various food items, home food production, place of purchase, frequency of purchase, person purchasing, mode of payment, storage of food stuffs, problems in storage of food stuffs, buying habits regarding food and problems regarding food purchasing.

D. Pretesting and Modifying the Questionnaire

According to Chaudhri (1989)⁵⁸, in matters where extant literature is scanty and doubtful, the procedure calls for a pilot study. For a final version of the questionnaire one or two pretests are essential.

The questionnaire prepared for this study was pretested with eight Home Science and eight non-Home Science graduates. The data was collected and consolidated. A seminar was conducted with this data, when the investigator got valuable suggestions for the

improvement of the questionnaire. The questionnaire was modified in the light of the pilot study and the suggestions received at the seminar. The modified questionnaire is given in Appendix I.

E. Conducting the Survey

The survey was conducted using the questionnaire. The investigator approached the samples residing in Coimbatore and Trivandrum, explained the aim of the study, and gave the questionnaires to them. To the samples who were staying outside Coimbatore and Trivandrum who could not be approached individually, the questionnaires were mailed, along with a letter requesting the respondents to complete the questionnaire and return it within a week's time as shown in Appendix II and a reply paid envelope (so that the respondent is not put to any expenditure, but has merely to record his responses to the questions).

Croxton and Cowden (1955)⁵⁹ say sending schedules by mail rather than using enumerators is at the outset, a less expensive method of collecting data. There is also the added advantage that the person supplying the information can fill out the form at his convenience, instead of its being distributed by the enumerator perhaps at a busy or inconvenient time. Chaudhri (1969)⁶⁰ says, distribution of the questionnaire by mailing makes the range of responses considerably wider and more truly representative. When the questionnaire has to be distributed to persons who are literate, the work of distribution and collection can normally be undertaken with comparative ease and facility by mailing them.

F. Collection of Data

After one week, the Investigator approached the samples in

Coimbatore city and collected the filled questionnaires. The investigator had to approach some of these samples more than once to get back the questionnaires because they did not fill it up in time. The investigator got back the questionnaires from the samples residing in Trivandrum city after one month when she approached them again.

Out of 125 questionnaires which were mailed, the investigator got back only 26 questionnaires. Of these 26 samples, 19 were of Madras University and the rest of Kerala University. As the response of the samples when the questionnaires were mailed was very poor and it was difficult to contact the home science graduates, the investigator could gather data from 100 home science graduates, hence for parity, 100 non-home scientists were included in the sample for the study.

G. Consolidating, Analysing and Presenting the Data

The data collected from 100 home science and 100 non-home science graduates were consolidated, analysed and is presented in the next chapter.

IV. RESULTS AND DISCUSSION

The results of the study are discussed under the following major headings:

- A. General Background
- B. Money Expenditure Pattern of the Families
- C. Home Food Production
- D. Food Expenditure
- E. Place of Purchase
- F. Frequency of Purchase
- G. Person Purchasing
- H. Mode of Payment
- I. Storage of Food
- J. Wastage of Food
- K. Buying Habits
- L. Problems Regarding Purchasing
- M. Analysis of Purchases Made

In the discussion that follows, the sample of Home Science homemakers are referred to as sample 'A' and that of non-Home Science homemakers as sample 'B'.

A. General Background

There were 100 homemakers in sample 'A' and 100 homemakers in sample 'B'. Particulars regarding the samples such as employed and non-employed and vegetarian and non-vegetarian are given below.

<u>Particulars regarding the sample</u>	<u>Sample A</u>	<u>Sample B</u>
Employed	82	28
Non employed	68	72
Vegetarian	88	80
Non vegetarian	67	80

The figures reveal that more homemakers in sample 'A' (52%) are employed than in sample B (25%). Similarly, more families in sample A (67%) are non vegetarian than in sample B (50%).

Twenty eight percent of sample A and 24% of sample B belonged to the joint family system. The rest of the samples, 72% and 76% respectively, belonged to the nuclear family system.

Table I shows the number of members in the families of sample A and sample B.

TABLE I
NUMBER OF MEMBERS IN THE TWO SAMPLES

Number of family members	Sample A	Sample B
Upto 3 members	55	52
4 - 6 members	55	50
7 - 8 members	11	12
Above 8 members	3	6

There is not much difference in the family composition of the two samples. Maximum number of families (55 among sample A and 50 among sample B) have 4 - 6 members in their families.

Table II shows the age-group of the samples surveyed.

TABLE II
AGE GROUPS OF THE SAMPLES

Age of the homemaker	Sample A	Sample B
	Number	Number
Upto 25 years	50	29
26 - 35 years	39	40
36 - 45 years	7	21
46 - 55 years	4	11

The maximum number of homemakers was found in the age group of upto 25 years in the case of sample A, and in the age group of 26-35 years in the case of Sample B. Sample B belonged to a slightly older age group than sample A. The average age of the homemakers in sample A and sample B are 27.73 and 32.71 respectively. The average age of sample B being higher than those in sample A, the former could normally be expected to have greater experience in managing their homes than the latter. The homemakers in sample B would however have greater theoretic knowledge.

Income stratification of the sample is given below.

TABLE III
MONTHLY INCOME OF THE SAMPLES

Monthly income of the family	Sample A	Sample B
Below Rs. 750	23	29
Rs. 751 - Rs.1,000	30	34
Rs. 1,001 - Rs.1,500	31	25
Above Rs.1,500	16	16

The Table indicates that 77% of sample A and 71% of sample B belonged to the middle and upper income groups.

B. Money. Expenditure. Pattern of the Families

The money expenditure pattern of the families in sample A and sample B is given in Table IV.

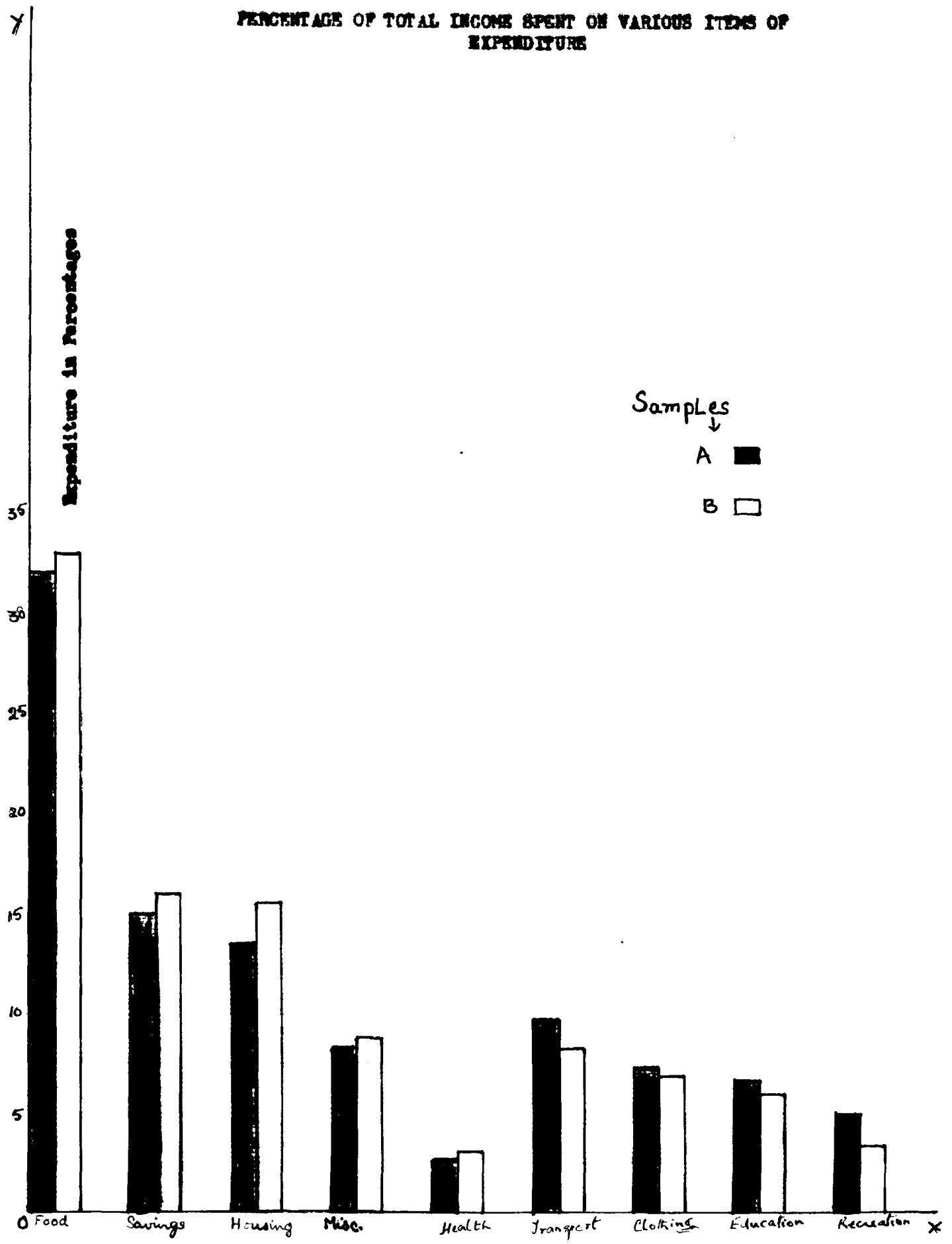
TABLE IV
PERCENTAGE OF TOTAL INCOME SPENT ON VARIOUS ITEMS OF EXPENDITURE

No.	Items of expenditure	Sample A	Sample B	Employed		Non-employed	
				A	B	A	B
1.	Food	32.04	32.64	30.18	36.24	34.10	36.22
2.	Clothing	7.35	6.67	7.62	8.18	7.67	8.17
3.	Housing	13.59	15.60	12.82	13.80	12.50	7.72
4.	Health	2.69	2.97	3.73	3.54	2.48	2.73
5.	Recreation	4.86	2.87	3.73	2.99	4.00	3.88
6.	Education	6.68	5.90	5.29	4.81	7.33	9.77
7.	Transportation	9.52	8.23	9.49	7.83	10.76	9.99
8.	Savings	14.94	15.97	19.74	15.36	12.10	12.77
9.	Miscellaneous	8.53	6.75	7.68	7.55	8.26	8.55

From the Table above and figure 1 it is evident that in the case of clothing, recreation, education and transport, sample A spends more than sample B.

Among the employed sample in both the groups, sample B spends more on food, clothing and shelter than the sample A and sample A spends more on all the other items.

Figure - 1
PERCENTAGE OF TOTAL INCOME SPENT ON VARIOUS ITEMS OF
EXPENDITURE



C. Home Food Production

Forty homemakers in Sample A and 35 homemakers in sample B produced food at home, through various means as indicated in Table V.

TABLE V
FOOD PRODUCED IN THE HOME AND FARM

No.	Items	No. of families	
		A	B
1.	Vegetables	18	12
2.	Fruits	7	4
3.	Rice	10	11
4.	Tapioca	1	-
5.	Coconuts	20	11
6.	Milk	21	11
7.	Milk products	11	3
8.	Pulses	1	4
9.	Eggs	1	2

From the Table it is clear that the homemakers who produced food items at home were greater in sample A than in sample B.

This may be due to the fact that the homemakers in sample A have been influenced by the Home Science Education received. It may also be due to the fact that more homemakers (77%) in the sample A belong to the upper income groups than sample B (71%).

D. Food Expenditure

The various food items are grouped under the four major classifications given by Devadas and Krishnamurthy (1968)⁶⁰ as

- Group I - Milk and its products
 Group II - Meats - meat, poultry, fish and eggs
 Group III - Vegetables and fruits
 Group IV - Cereals

The item condiments and spices is given separately since it has not been included in this classification.

The monthly food expenditure is shown in Table VI and figure 2.

TABLE VI
 EXPENDITURE ON VARIOUS FOOD ITEMS

No.	Food items	Sam- ple A	Sam- ple B	Sample A		Sample B	
				Vege- tari- an	Non Ve- getari- an	Vege- tari- an	Non-Vege- tarian
1.	Milk and its products *	21.00	23.36	25.60	17.47	25.11	25.11
2.	a) Pulses	5.67	5.74	7.13	3.68	5.95	5.53
	b) Nuts & Oil seeds	4.69	5.30	4.25	5.30	5.27	5.53
	c) Meat, Fish and *SU*	11.03	7.63	0.71	18.06	0.43	14.60
		21.59	18.67	12.09	27.04	11.67	25.66
3.	a) Vegetables	7.70	7.15	8.12	7.56	8.01	6.24
	b) Fruits	7.28	5.03	8.71	7.86	5.60	4.47
		14.98	12.18	16.83	15.22	13.61	10.73
4.	a) Cereals	20.91	22.49	20.92	20.44	23.15	21.64
	b) Roots & tubers	2.72	2.65	2.74	3.16	2.84	2.47
	c) Fats & oils	9.68	11.54	11.71	8.21	12.94	9.73
	d) Sugar & Jaggery	6.23	6.81	7.17	5.84	7.66	5.74
		39.54	43.29	42.54	37.67	46.79	39.78
5.	Condiments & spices	3.09	2.50	2.67	2.60	2.82	2.19

* Expenditure is given as percentages of total food expenditure

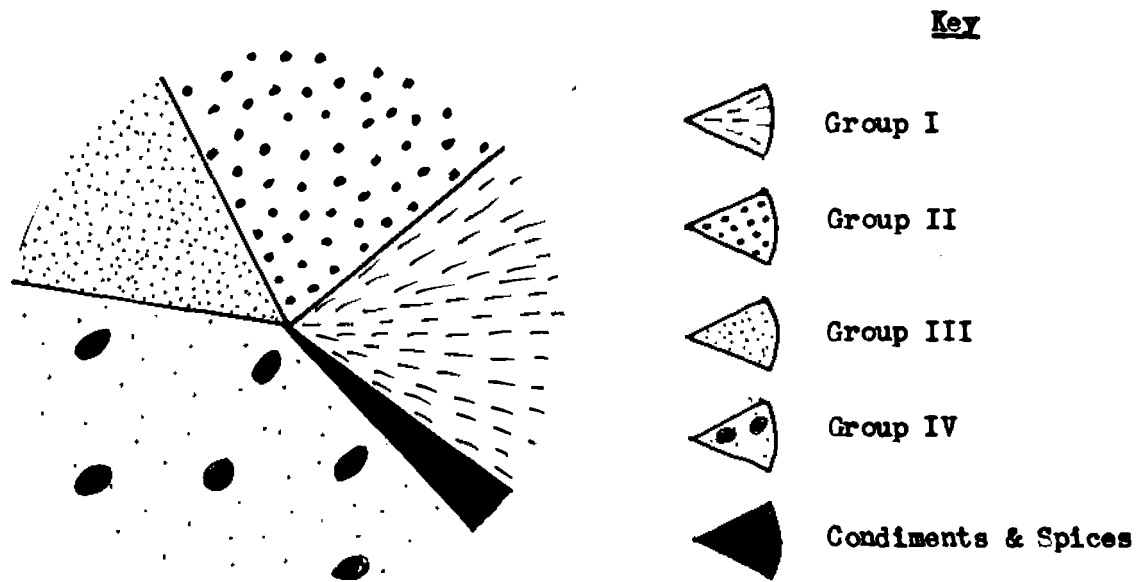


Figure - 2

EXPENDITURE ON VARIOUS FOOD GROUPS - SAMPLE A

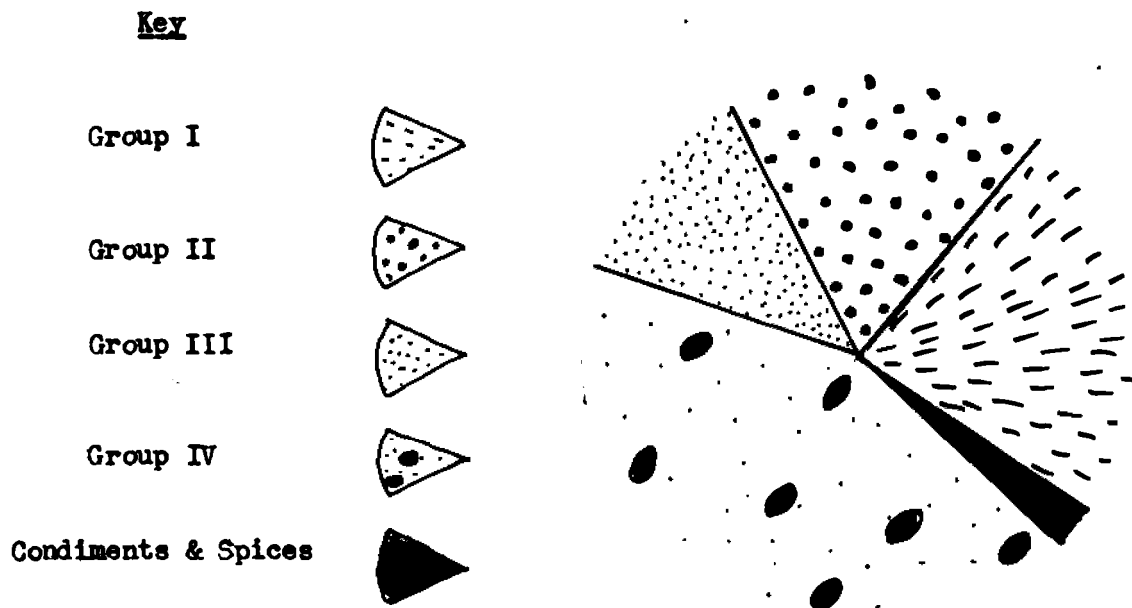


Figure - 3

EXPENDITURE ON VARIOUS FOOD GROUPS - SAMPLE B

Looking at the picture as a whole, it is seen that sample B spends more on the milk, and cereals groups. In the other three groups sample A spends more.

Group I: Sample B spends more in terms of money on milk and its products. But it is seen that in sample A, 21 households spend nothing significant on this item since they have cows of their own which help in the production of milk thus increasing their real income and the actual consumption of milk and its products. The vegetarians spend more than the non vegetarians in both samples on this item.

Group II: On the whole sample A spends more on this item which may be due to the fact that, meat, fish and eggs are included under this head and sample A has more non vegetarians (67%) than sample B (50%). The expenditure incurred on pulses is more or less similar, but under nuts and oil seeds sample B spends more. Here again, household production is greater in the case of sample A who grow coconuts at home.

Group III: Sample A spends more on vegetables and fruits than sample B. What is purchased is supplemented to a greater extent by producing these at home in the case of sample A (18 homemakers in sample A and 12 in sample B). When the sum total of consumption is reckoned, more is consumed by way of vegetables and fruits by sample A than sample B than is evident in the Table.

Group IV: In this group of energy yielding foods, sample A spends less than sample B. The latter spends more on cereals, fats and oils as well as on sugar and jaggery than sample A. As is to be expected, vegetarians spend more on these items than the nonvegetarians in both the samples.

Condiments and spices: For condiments and spices, sample B spends less than sample A. When the vegetarian and non-vegetarian groups in both the samples are compared, it is seen that, the vegetarians in both the samples spend more than the non-vegetarians.

Summing up, it is seen that though there is no apparent significant difference in the pattern of spending by the two samples, (Vide the statistical analysis using chi square test given in Appendix III) there are some inherent differences between the two samples. The homemakers in sample A consumed more of milk and its products, nuts and oil seeds, and also fruits and vegetables than would be evident by a glance at Table VI. This table will have to be studied after estimating the total household production, the value of which alone will give the correct picture.

E. Place of Purchase

The place of purchase of various food items by both the samples is given in Table VII.

TABLE VII
PLACE OF PURCHASE OF VARIOUS FOODS

No.	Food groups	Vendor		Super market		Other market	
		A	B	A	B	A	B
1.	Cereals	8	10	44	51	53	39
2.	Pulses	2	7	45	55	53	57
3.	Vegetables	39	15	22	44	39	41
4.	Roots & Tubers	21	15	29	45	50	59
5.	Fruits	31	24	26	52	43	44
6.	Nuts and oilseeds	6	5	41	55	53	42
7.	Milk	40	38	10	11	29	40
8.	Milk Products	9	9	20	45	41	28
9.	Meat, Fish	15	15	8	7	45	30
10.	Eggs	20	19	17	27	35	9
11.	Fats and oils	-	5	35	55	64	59
12.	Sugar & Jaggery	-	-	40	52	60	45
13.	Condiments & spices	-	-	35	55	64	42

The homemakers in sample A prefer other private retail stores as compared to sample B who prefer to make their purchases in the super market or other cooperative stores.

For the food items, fruits and meat, both the samples prefer other private retail stores to the super market or vendors. In the case of milk, the supermarket refers to the milk cooperatives, other market refers to the private dairy units and vendors refers to the small retail suppliers. Sample A preferred the small retailers,

private dairies, and milk cooperatives in the descending order. Sample B preferred making their milk purchases from private dairies, small retailers and lastly milk cooperatives.

The super market does not supply flesh foods, and milk other than in the processed forms.

The pattern of purchase with reference to the place of purchase were statistically analysed. From the statistical analysis (F-ratio test three way classification vide Appendix IV) it is seen that there is no significant difference between the samples A and B. There are extraneous factors affecting the samples purchasing at different places. The interaction between the samples and places of purchase is significant at 5% level.

TABLE VIII
REASONS FOR PREFERRING THE PLACE OF PURCHASE

No.	Reasons	Vendor		Super market		Other Market	
		A	B	A	B	A	B
1.	Easy to purchase	31	18	11	22	12	20
2.	Can select the commodities	38	21	13	12	40	31
3.	Payment is easy	3	9	-	4	12	18
4.	Credit is available	-	2	-	-	1	-
5.	Near the house	-	-	24	28	8	16
6.	Fixed price	-	-	16	24	14	9
7.	Fair price	-	-	21	38	32	17
8.	Good quality	28	12	32	29	31	41
9.	Can get all items from one place	-	-	31	42	12	23
10.	Can bargain	32	18	-	-	32	36

The reasons given by homemakers regarding the places of purchase, is shown in Table VIII.

It is clear that the homemakers in sample A are more conscious of purchasing by the very fact that they have mentioned more reasons and also that they look for quality in the commodities purchased, selection in goods available and bargaining. They prefer other retail markets to make their food purchases where they can shop around. Such intelligent shopping makes retailers gauge consumer needs better. Sample B look for ease in purchasing, availability of all goods in one place, selection of goods, nearness of the shop to the house and price of the commodities while making their purchases.

Sample A is conscious to a greater extent as to what a consumer should look for while purchasing than sample B.

F. Frequency of Purchase

Frequency of purchase of various foods by both the samples is given in Table IX.

TABLE IX
FREQUENCY OF PURCHASE OF VARIOUS FOODS

No.	Food groups	Monthly		Fortnightly		Weekly		Daily	
		A	B	A	B	A	B	A	B
1.	Cereals	98	77	2	15	-	8	-	-
2.	Pulses	97	78	8	18	-	9	-	-
3.	Vegetables	-	-	-	8	19	18	81	84
4.	Roots and tubers	80	8	18	12	48	48	9	38
5.	Fruits	-	-	-	4	20	55	80	81
6.	Nuts and oilseeds	69	84	16	20	15	46	-	-
7.	Milk	-	-	-	-	-	-	79	89
8.	Milk products	40	9	14	80	16	25	-	19
9.	Meat and fish	1	1	2	2	18	32	46	18
10.	Eggs	6	8	17	18	39	11	11	18
11.	Fats and oils	94	78	6	18	-	9	-	-
12.	Sugar and Jaggery	95	79	5	14	-	7	-	-
13.	Condiments spices	98	77	2	15	-	8	-	-

More homemakers in sample A buy on a monthly basis (the food items such as cereals, pulses, roots and tubers, nuts and oilseeds, milk products, fats and oils, sugar and jaggery and condiments and spices) than those in sample B, though both the samples prefer to buy these items on a monthly basis as against fortnightly, weekly or daily purchases. More homemakers in sample A buying on a monthly basis may be due to the fact that they are aware of better techniques of storing and also know the advantages of buying staple food in large quantities.

In the case of perishable foods like vegetables, fruits and milk, both the samples, follow the same pattern in frequency of purchase, that is, daily purchase.

The statistical analysis for the frequency of purchase is given in Appendix V. (F-ratio test analysis of variance, three way classification). Though there is no significant difference between the two samples in the frequency of purchase, the interaction between samples and frequency of purchase is significant at 5% level.

The reasons for the frequency of purchase of the different foods given by the homemakers in both the samples is shown in Table I.

TABLE I
REASONS FOR FREQUENCY OF PURCHASE

No.	Reasons	Monthly		Fortnightly		Weekly		Daily	
		A	B	A	B	A	B	A	B
1.	Use daily	-	-	-	-	-	-	81	89
2.	Spoilage in storing	-	-	-	2	20	37	79	89
3.	Use weekly	-	-	4	19	33	42	-	-
4.	Inadequate storage space	-	-	2	4	22	31	49	52
5.	The food items will not spoil	98	79	13	15	11	4	-	-
6.	There is adequate storage space	98	79	13	15	10	2	-	-

More homemakers in sample A than in sample B have adequate storage facilities and knowledge of techniques of storing the different food items and hence they buy monthly so as to save their time, Money and energy resources. For making daily and weekly purchases, more homemakers in sample B than in sample A have mentioned about problems in storage and inadequacy of storage space.

G. Person Purchasing

Table XI shows the person purchasing the various food items in both the samples.

TABLE XI
PERSON PURCHASING THE FOODS

No.	Food Groups	Homemaker		Husband		Homemaker & husband		Child- ren		Servant	
		A	B	A	B	A	B	A	B	A	B
1.	Cereals	62	20	8	24	9	8	2	5	19	45
2.	Pulses	66	20	4	24	8	8	3	5	19	45
3.	Vegetables	72	41	3	5	8	3	1	5	16	46
4.	Roots and tubers	71	41	3	5	8	3	2	5	16	46
5.	Fruits	70	41	5	5	8	3	2	5	15	46
6.	Nuts and ^{oil} seeds	66	20	4	24	7	8	2	5	21	45
7.	Milk	51	30	3	11	5	-	2	9	18	39
8.	Milk products	42	26	7	16	6	3	2	1	15	37
9.	Meat & fish	44	12	3	3	5	2	-	-	15	31
10.	Eggs	37	8	3	9	6	-	-	-	25	39
11.	Fats and oils	65	37	6	8	5	2	2	-	22	33
12.	Sugar & Jaggery	67	37	6	8	5	2	2	-	20	33
13.	Condiments & spices	67	37	3	6	5	2	2	-	21	33

Most of the purchases are made in sample A by homemakers, servants, both husband and wife, husbands alone and lastly children in the descending order. In the case of sample B, the descending order of persons purchasing is, servants, homemakers, husbands, both husband and wife, and lastly children.

On an average, 60% of homemakers in Sample A and 26% in sample B make their food purchases themselves. It is however seen that, 52% of sample A and 28% of sample B are employed gainfully. Hence the difference in person purchasing must be due to the fact the the homemakers in sample A are more conscious of making the purchases themselves since they know how to choose and also want to use that knowledge.

The statistical analysis however (F ratio test - Analysis of variance, three way classification - Vide Appendix VI) shows that the overall difference in the person purchasing between the two samples is not significant. The interaction between samples and person purchasing is insignificant at 5% level, showing that there are extraneous factors affecting the person purchasing in the samples. Table XII gives details of the reasons for person purchasing.

TABLE XII
REASONS FOR PERSON PURCHASING

No.	Reasons	Homemaker		Husband		Both		Children		Servant	
		A	B	A	B	A	B	A	B	A	B
1.	Homemaker is interested	71	41	-	-	5	6	-	-	-	-
2.	Homemaker makes the time possible	71	41	-	-	-	6	-	-	-	-
3.	No servant	14	19	-	-	-	4	-	-	-	-
4.	Homemaker has no time	-	-	8	24	-	4	-	-	-	-
5.	Shops are near the house	18	29	8	17	4	2	2	8	-	2
6.	Shops are far away from the house	-	-	-	-	-	-	-	-	11	48
7.	Homemaker can select well	48	8	-	-	8	-	-	-	-	-
8.	No need to select the commodities	-	-	-	-	-	-	-	-	20	4

The reasons given by the homemakers reveal that more homemakers in sample A than in sample B are both interested in and confident of making better selections of the best foods available than if anybody else were to purchase. This shows the influence of home-science education on the homemakers in the confidence, that they possess in wise purchases.

H. Mode of Payment

Table XIII shows the mode of payment for the foods purchased by both the samples.

TABLE XIII
MODE OF PAYMENT

Food items	Cash		Credit	
	A	B	A	B
Cereals	99	99	1	1
Pulses	96	96	4	2
Vegetables	97	98	3	2
Roots and Tubers	97	99	3	1
Fruits	99	99	1	1
Nuts and oilseeds	96	99	4	1
Milk	63	72	16	17
Milk products	70	62	-	-
Meat Fish	65	48	2	2
Eggs	69	50	4	5
Fats and oils	98	98	2	2
Sugar & Jaggery	97	96	3	2
Condiments and spices	97	98	3	2

From the Table it is evident that the majority of the homemakers in both the samples purchased their food items on a cash basis. This preference for cash purchase, as pointed out by the homemakers is because it is easy, avoids unnecessary trouble and confusion and having adequate money to pay immediate cash.

I. Storage of Food

The manner of storage of food items by both the samples is shown in table XIV.

TABLE XIV

MANNER OF STORING THE FOOD ITEMS

	Tins		Bags		Plastic Basket cover		Veg. tray		Refrigerator		Meat safe		Bottle		Fruit Bowl		Egg rack		Vessel		
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
1. Cereals	91	62	6	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Pulses	99	89	1	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Vegetables*	-	-	4	7	3	1	50	23	14	15	16	5	7	-	-	-	-	-	-	-	-
4. Roots & tubers	-	-	-	10	5	9	72	60	14	4	-	4	13	-	-	-	-	-	-	-	-
5. Fruits*	-	-	-	-	8	7	4	55	55	10	2	15	16	-	14	-	15	1	-	-	-
6. Nuts & Oil seeds	47	43	7	12	12	4	22	31	-	-	-	-	-	-	22	34	-	-	-	4	8
7. Milk*	-	-	-	-	-	-	-	-	-	15	16	-	-	23	12	-	-	-	-	46	42
8. Milk products	3	8	-	-	-	-	-	-	-	15	16	-	-	24	28	-	-	-	-	21	53
9. Meat Fish*	-	-	-	-	-	-	-	-	-	9	6	4	3	-	-	-	-	-	-	3	-
10. Eggs	7	-	-	-	6	-	15	4	-	17	10	10	7	-	-	-	-	11	4	-	-
11. Oils	30	53	-	-	-	-	-	-	-	-	-	-	-	63	41	-	-	-	-	4	6
12. Sugar & Jaggery	59	62	-	2	-	-	-	-	-	-	-	-	-	41	29	-	-	-	-	-	7
13. Condiments & spices	53	66	-	2	-	1	-	-	-	-	-	-	-	42	26	-	-	-	-	-	3

* Vegetables, fruits, milk, meat and fish are not stored in all the families

Homemakers in both the samples show similarity in the manner of storage of all food items except in the case of oils where their preferences differ. Tins are preferred for storing dry provisions, baskets, vegetable tray and refrigerator for vegetables, roots and tubers and fruits, vessels with lids for milk and refrigerator for eggs. In the case of oils, tins are preferred by the homemakers in sample B and bottles by the homemakers in sample A.

With reference to the place of storage, both the samples prefer to store cereals, pulses and condiments and spices in the store room and, milk, meat and fish in the kitchen. In the case of vegetables, roots and tubers, fruits, nuts and oil seeds, milk products, eggs, oils and sugar and jaggery, sample A prefers to store in kitchen and sample B in the store room.

Table IV shows the problems faced by the homemakers in both the samples regarding the storage of food items.

TABLE IV
PROBLEMS IN STORING FOOD STUFFS

No.	Problems	Sample A	Sample B
1.	Inadequate storage space	14	19
2.	Gets infested with insects	20	38
3.	Spoilage due to moisture	5	21
4.	Spoilage due to high temperature	6	10

The problems in storing food stuffs are noted by more homemakers in sample B than in Sample A. The techniques of proper storage is known and obviously applied to a greater extent,

by sample A than sample B as seen from the problems enumerated by them, as also because of the fact that, more homemakers in sample A purchase on a monthly basis which necessitates better storing if spoilage is to be avoided.

J. Wastage of Food

Table XVI shows the number of homemakers in both the samples mentioning wastage of foods.

TABLE XVI
WASTAGE OF FOODS

No.	Reasons of wastage of foods	Sample A	Sample B
1.	Cooking too much leading to left overs	14	36
2.	Improper or inadequate storage	7	14
3.	Purchasing more than needed	3	19
4.	Buying wrong type of food article	2	15

As in problems faced while purchasing and storing, so also in the utilisation of food, 84 instances of wastage are mentioned by sample B and only 28 in sample A. This indicates the practice of greater economy in the case of sample A.

K. Buying Habits

The buying habits of the homemakers in both the samples are given in Table XVII.

TABLE XVII
BUYING HABITS OF HOMEMAKERS

No.	Buying habits	Always		Sometimes		Rarely		Never	
		A	B	A	B	A	B	A	B
1.	Plan menu and buy								
	Groceries	58	51	29	27	7	11	6	10
	Vegetables	53	55	30	32	14	8	5	7
	Other food items	55	48	27	31	16	13	2	8
2.	Purchase and plan menu	22	23	30	22	30	23	18	32
3.	Have a list in terms of:								
	Quality	75	62	21	19	4	6	-	13
	Quantity	94	85	6	15	-	-	-	-
4.	Purchase from same shop	48	59	31	35	13	4	8	4
5.	Shop around in other places	34	19	28	31	34	35	4	15
6.	Compare prices in different shops	45	30	40	40	12	20	3	10
7.	Consider only the price	5	3	24	31	38	27	35	39
8.	Consider quality rather than price	33	35	17	41	-	2	-	2
9.	Substitute when prices are high	52	26	35	37	10	19	5	13
10.	Refuse foods for bidden by religion	20	44	14	26	14	10	32	20
11.	Consider tastes and preferences of family members	67	74	11	22	2	2	-	2
12.	Consider needs of family members	36	72	12	19	2	5	-	4

Continued

No.	Buying habits	Always		Sometimes		Rarely		Never	
		A	B	A	B	A	B	A	B
13.	Buy newly advertised foods	11	17	51	57	26	34	12	12
14.	Seek for labels	67	42	28	27	5	17	2	14
15.	Buying in large quantity during season	52	29	32	45	14	15	2	13
16.	Buy scientifically enriched foods	15	28	56	36	27	23	2	13
17.	Buy prepared condiments	4	20	30	28	32	18	34	34
18.	Buy ready made mixes	1	7	17	34	30	18	52	41
19.	Buy ready made foods	8	19	50	56	23	17	19	8

It is found from Table XVII that more homemakers in sample A than in sample B consider quality more than price, substitute commodities when prices are high, seek labels for buying commodities, purchase in bulk so as to economize, compare prices after shopping around, consider the needs of family and tastes and preferences of individuals while buying and prepare marketing lists in terms of quality.

More homemakers in sample B than in sample A, refuse foods forbidden by religion, buy prepared condiments and scientifically enriched foods and also purchase from the same shop.

There is not much of a difference between the two groups who plan and buy the commodities and those who purchase and plan their menus. On the whole, very few homemakers in either samples

buy newly advertised foods, consider only price while purchasing or buy ready made mixes and foods. More homemakers in sample A have better buying habits than in sample B.

L. Problems regarding Purchasing

Purchasing problems of both sample A and sample B are given in Table XVIII.

TABLE XVIII
PURCHASING PROBLEMS

No.	Problems	Sample A	Sample B
1.	Non availability of food items listed	36	27
2.	High price for required quality	39	23
3.	Adulteration of food items	21	18
4.	Non-availability of specified quality	30	19
5.	Cannot recognise the required quality	10	17
6.	Do not know the substitute which can be used for the product in short supply	4	13
Number of homemakers mentioning problems		59	47

As can be seen from the Table, less than 53% of the homemakers have mentioned having problems while purchasing. Fifty nine percent of sample A and 47% of sample B have mentioned problems. Problems from 1 to 4 are mentioned by more homemakers in sample A than in sample B whereas in the case of problems

5 and 6, it is the other way round. This shows the inability of the homemakers in sample B to recognise the required quality and to substitute for the product in short supply.

The chi square test was applied to find out the difference between the two samples regarding their problems while purchasing- Appendix VII. There was a highly significant difference between the two groups, which corroborated the findings mentioned above.

Table XIX shows the number of homemakers in both the samples who are satisfied with their purchases.

TABLE XIX
PURCHASING SATISFACTIONS

No.	Satisfied with	Sample A	Sample B
1.	Quality of foods	98	95
2.	Price of foods	86	63
3.	Quantity of foods	95	94
4.	Place of purchase	98	96
5.	Person purchasing	84	92
6.	Frequency of purchase	97	96
7.	Mode of payment	99	99
8.	Place of storage	86	91
9.	Manner of storage	91	94

Both samples are equally satisfied with the food purchases which they have made though more homemakers in sample A are satisfied than in sample B. It is seen that homemakers in sample A purchased on a monthly basis more items of food than

was done by the homemakers in sample B, hence normally they should have had more storage problems. The fact that this is not so shows the fact that they are better able to cope with the situation.

M. Analysis of Purchases Made

Table XI shows the number of homemakers in both the samples who analyse their purchases.

TABLE XI
ANALYSIS OF PURCHASES MADE

No.	Analyse to see whether they are:	Sample A	Sample B
1.	Getting the best for their money	97	93
2.	Buying at the best time	94	82
3.	Buying in the most economical way	96	93
4.	Using the cheapest method in paying for their commodities	89	88
5.	Getting quality in relation to money	93	92
6.	Selecting specified quality for specified uses	95	96

Homemakers in both the samples analyse the purchases made to more or less the same extent, though more have mentioned it in sample A than in sample B. Sample B do not consider the time element in making purchases as much as sample A.



V. SUMMARY AND CONCLUSION

The study on the impact of Home Science education on the food purchasing habits of homemakers can be summarized as follows:

1. The two samples of homemakers 100 in each of Home Science and non-Home Science groups belonged to more or less the same income groups—77% of sample A and 71% of sample B being in the middle and upper income brackets.

2. The average age of sample B was higher at 33 years than sample A at 28 years. Hence the former are likely to have more practical experience and the latter more theoretic knowledge in the management of households.

3. Sample B spent more on the food groups milk and cereals and sample A on pulses, vegetables and condiments and spices, the former have more vegetarians than the latter.

Though the expenditure pattern of food items are similar in both the samples, it was found that the homemakers in sample A (90 instances mentioned) recognised the importance of household production to a greater extent than those in sample B (58 instances mentioned).

4. Sample A preferred other private retail stores and sample B preferred supermarkets to make their food purchases. Sample A are more conscious of purchasing than sample B, as seen in the number of reasons mentioned and also because they look for quality, and the possibility of having a wide range of goods to select from when they shop. Sample B however, look for ease in purchase and price of the commodities.

5. More homemakers in sample A bought dry provisions on a monthly basis than in sample B, though both the samples preferred monthly purchases to any other type. Sample A seems to be better equipped to make monthly purchases since they have less problems in storing than sample B.

6. The impact of Home Science education was seen when the person making the food purchases was considered. More homemakers in sample A (60%) than in sample B (28%) made their own food purchases, though more homemakers in the former are employed gainfully (32%) than in the latter (26%). Sample B however was helped in their food purchases to a greater extent by servants and husbands than sample A. The homemakers in sample A are more confident about their capacity to make wise purchases than sample B.

7. Homemakers in both the samples preferred to pay cash for the goods purchased rather than to purchase on a credit basis.

8. The manner of storage in both the samples was similar except in the case of oils.

9. Problems in storing food stuffs were not as keenly felt by the homemakers in sample A as by those in sample B. The impact of Home Science education is seen in that the homemakers in sample A were able to apply the techniques of proper storage of various food items in their everyday life.

10. Fewer homemakers in sample A (26) than in sample B (34) mentioned wastage of foods, since they are more conscious of economising in food.

11. More homemakers in sample A than in sample B have better buying habits.

12. There was a highly significant difference between the two samples with reference to their problems while purchasing. The homemakers in sample A are better able to recognize quality and substitute products in short supply and are more conscious in pinpointing their purchasing problems.

13. Both the samples were equally satisfied with the purchases they made.

14. Both the samples analyzed their purchases though it was done by more homemakers in sample A than in sample B.

From the study it is clear that there is a fair impact of Home Science education on the food purchasing habits of homemakers. But for a greater impact, more emphasis must be given in the Home Science course with particular reference to the practical aspects of the selection of foods, shopping surveys for different food items, and the importance of frequency of purchase and type of food purchased.

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APPENDIX I

SRI AVINASHILINGAM HOME SCIENCE COLLEGE,
COIMBATORE.11.QUESTIONNAIRE TO ELICIT INFORMATION REGARDING THE FOOD PURCHASING
HABITS OF HOOMEMAKERS

Serial Nos:

Date:

I General Backgrounds

1. Name of the homemaker :
2. Address of the homemaker:
3. Graduate in arts Science Home Science
Postgraduate in arts Science Home Science
4. Occupation of the homemaker:
5. Vegetarian Non vegetarian
6. Type of Family: Joint Nuclear

II Family Background

S.No.	Name of the family members	Relation-ship to the homemaker	Age	Sex	Edu- ca- tion	Occu- pa- tion	Monthly income		T o t a l
							Main	Sub- si- diary	

III. Monthly Expenditure Pattern

S.No.	Items of Expenditure	Amount Rs.P.
1.	Food	
2.	Clothing	
3.	Housing	
4.	Health	
5.	Recreation	
6.	Education	
7.	Transportation	
8.	Savings	
9.	Miscellaneous	

IV. Home Production of Foods

Do you produce foods items in your home? Yes No

If 'yes', give the items, quantity produced daily/weekly/monthly/yearly and the money value of the product

S.No.	Items produced	Quantity produced per month	Frequency of production	Money value if you can give it

V. Expenditure on Food items per month

S.No.	Food items	Quantity purchased	Money spent Rs.P.
1.	Rice (a) Raw (b) Parboiled		
2.	Wheat		
3.	Ragi		
4.	Oats		
5.	Green gram		
6.	Bengal gram		
7.	Red gram		
8.	Leafy vegetables		
9.	Black gram		
10.	Roots and tubers		
11.	Other vegetables		
12.	Fruits		
13.	Coconut		
14.	Other nuts & oil seeds		
15.	Milk		
16.	Butter		
17.	Cheese		
18.	Ghee		
19.	Butter-milk		
20.	Meat		
21.	Fish		
22.	Eggs		

S.No.	Food items	Quantity purchased	Amount spent Rs. P.
23.	Coconut oil		
24.	Groundnut oil		
25.	Gingelly oil		
26.	Dalida		
27.	Sugar		
28.	Jaggery		
29.	Condiments and spices		
30.	Any other-specify		

VI. Place of Purchase (Kindly tick in the column which applies, and mention the number of the reasons given in the foot note).

S.No.	Food items	Vendor	Super Market	Other Markets
1.	Rice			
2.	Wheat			
3.	Ragi			
4.	Oats			
5.	Green gram			
6.	Bengal gram			
7.	Red gram			
8.	Black gram			
9.	Leafy vegetables			
10.	Roots and tubers			
11.	Other vegetables			
12.	Fruits			
13.	Coconuts			
14.	Other nuts and oil seeds			
15.	Milk			

S.No.	Food items	Vendor	Super Market	Other markets
16.	Butter			
17.	Cheese			
18.	Ghee			
19.	Curd			
20.	Butter Milk			
21.	Meat			
22.	Fish			
23.	Eggs			
24.	Coconut oil			
25.	Groundnut oil			
26.	Gingelly oil			
27.	Dalda			
28.	Sugar			
29.	Jaggery			
30.	Condiments and spices			
31.	Any other - specify			

Foot note:

- (1) Easy to purchase; (2) Can select the commodities;
 (3) Payment is easy; (4) Credit is available;
 (5) Near the house; (6) Fixed Price;
 (7) Fair price; (8) Good quality;
 (9) Can get all items from one place; (10) Can bargain;
 (11) Any other specify

VII. Frequency of Purchase (Tick the appropriate column and mention the number of the reason given in the foot note)

S.No.	Food items	Daily	Weekly	Fort- night- ly	Month- ly	Year- ly
1.	Rice					
2.	Wheat					
3.	Jagi					
4.	Oats					
5.	Green gram					
6.	Bengal gram					
7.	Black gram					
8.	Red gram					
9.	Leafy vegetables					
10.	Roots and tubers					
11.	Other vegetables					
12.	Fruits					
13.	Coconut					
14.	Other nuts and oil seeds					
15.	Milk					
16.	Butter					
17.	Cheese					
18.	Ghee					
19.	Curd					
20.	Batter milk					
21.	Meat					
22.	Fish					
23.	Eggs					
24.	Coconut oil					
25.	Groundnut oil					

S.No.	Food items	Daily	Weekly	Fort- night- ly	Month- ly	Year- ly
26.	Gingelly oil					
27.	Dalda					
28.	Jaggery					
29.	Sugar					
30.	Condiments and spices					
31.	Any other - specify					

Foot note: (1) Use daily; (2) By storing it will spoil; (3) Money is not enough to buy in bulk and store; (4) Use weekly; (5) Storage space is not adequate; (6) The food items will not spoil; (7) There is adequate storage space; (8) Any other reasons - (specify.)

VIII. Person Purchasing and Mode of Payment

(Tick the appropriate column and mention the number of the reasons given in the foot note).

S.No.	Food items	Person purchasing				Mode of payment		
		Home- maker	Hus- band	Ser- vant	Child- ren	Cash	Credit	Both
1.	Rice							
2.	Wheat							
3.	Agri							
4.	Oats							
5.	Green gram							
6.	Bengal gram							
7.	Black gram							
8.	Red gram							
9.	Green leafy vegetables							

S.No.	Food items	Person purchasing				Mode of payment		
		Home- maker	Husband	Ser- vant	Child- ren	Cash	Credit	Both
10.	Roots and tubers							
11.	Other vegetables							
12.	Fruits							
13.	Coconut							
14.	Other nuts and oil seeds							
15.	Milk							
16.	Butter							
17.	Cheese							
18.	Ghee							
19.	Curd							
20.	Buttermilk							
21.	Meat							
22.	Fish							
23.	Eggs							
24.	Coconut oil							
25.	Groundnut oil							
26.	Gingelly oil							
27.	Isida							
28.	Sugar							
29.	Jaggery							
30.	Condiments and spices							
31.	Any other - specify							

Foot Note: Person purchasing - reasons: (1) Homemaker is interested; (2) Homemaker has time; (3) No servant; (4) Homemaker has no time; (5) Shops are near the house; (6) Any other - (specify)

Mode of Payment: Reasons: (1) Credit is not available; (2) Cash Payment is easy; (3) Have enough money to pay immediate cash; (4) Credit is available; (5) Credit is easy; (6) Any other - (specify.)

IX. Storage of Food

A. Manner and Place

S.No.	Food items	Manner of storing e.g.: Tins, bags, Heat-safe etc.	Place of storage e.g.: Kitchen, store room etc.
1.	Rice		
2.	Wheat		
3.	Maize		
4.	Oats		
5.	Green gram		
6.	Bengal gram		
7.	Black gram		
8.	Red gram		
9.	Leafy vegetables		
10.	Roots and tubers		
11.	Other vegetables		
12.	Fruits		
13.	Coconut		
14.	Other nuts and oil seeds		
15.	Milk		
16.	Butter		
17.	Cheese		
18.	Ghee		
19.	Curd		
20.	Buttermilk		
21.	Meat		

S.No.	Food items	Manner of storing e.g: Tins, bags, meat safe	Place of storage e.g: Kitchen, store room etc.
22.	Fish		
23.	Eggs		
24.	Coconut oil		
25.	Groundnut oil		
26.	Gingelly oil		
27.	Dalida		
28.	Sugar		
29.	Jaggery		
30.	Condiments and spices		
31.	Any other - specify		

B. Problems in storing food stuffs

1. Inadequate storage space
2. Gets infested with insects
3. Spillage due to moisture
4. Spoilage due to high temperature
5. Any other - specify

C. If the storage facilities are improved, could you save money, time and energy in purchasing food stuffs?

Yes No

If 'yes', how would you improve storage facilities?

X. Do you have any wastage of foods due to:

Yes No

- 1) Cooking too much which leads to left overs?
- 2) Improper or inadequate storage?
- 3) Purchasing more than is needed to meet your need?
- 4) Buying the wrong type of food articles?
- 5) Any other - specify

II. Buying Habits

S.No.	(A) While marketing <u>Do you</u>	Always	Some- times	Rarely	Never
1.	(a) Have the menu planned and purchase according to that plan with reference to <ol style="list-style-type: none"> i) Groceries ii) Vegetables iii) Other food items 				
	(b) Purchase the articles and then plan the menu.				
2.	Have a list of articles to be purchased in terms of <ol style="list-style-type: none"> (a) Quality (b) Quantity 				
3.	(a) Purchase the food articles from the same shop every time?				
	(b) 'Shop around' in other places also.				
4.	Compare the price of the food articles in different shops?				
5.	(a) Consider only the price of the food articles?				
	(b) Consider the quality of the food articles?				
6.	Substitute one article of food for another when prices are high?				
7.	Refuse foods which are forbidden by religious customs				
8.	Consider the tastes and preferences of other members of the family				

S.No.	(A) WHILE MARKETING <u>Do you</u>	Always	Some-	Rare-	Never
			times	ly	

9. Consider the needs of the various family members, especially, if there are infants, sick and old people?
10. Buy food articles, that have been newly advertised?
11. Seek for labels to ensure the quality of the commodity?
12. Buy food articles in large quantities during season?
13. Buy scientifically enriched foods?
e.g., Modern bread.
14. Buy prepared condiments?
- a) Red chilli powder
 - b) Coriander powder
 - c) Turmeric powder
 - d) Any other - specify
15. Buy ready-made mixes?
- a) Vadai mix
 - b) Dosa mix
 - c) Idli mix
 - d) Adai
 - e) Jilebi mix
 - f) Gulab Jamm mix
 - g) Ice Cream mix
 - h) Any other - specify
16. Buy ready-made foods?
- a) Jam
 - b) Pickles
 - c) Squash
 - d) Chips
 - e) Any other - specify
-

B. Do you have any problem while purchasing food articles?

Yes

No

If 'yes' give the problems

1. Food items listed are not available
2. Price is high for the required quality
3. Cannot distinguish between good quality and poor quality
4. The foods are adulterated
5. Do not find the specified quality of food
6. Do not know the substitute which can be used for the product which is in short supply
7. Any other - specify

C. Are you satisfied with the way you purchase foods:

	Yes	No
1. Quality of foods ..		
2. Price of foods ..		
3. Quantity of foods ..		
4. Place of purchase ..		
5. Person purchasing ..		
6. Frequency of purchase ..		
7. Mode of payment ..		
8. Place of storage ..		
9. Manner of storage ..		

If 'no' what suggestions would you like to give to improve purchasing habits?

D. Do you analyse your buying habits to see whether you are:

- | | Yes | No |
|------------------------------------|-----|----|
| 1. Getting the best for your money | | |

Yes No

2. Buying at the best time
3. Buying in the most economical way
4. Using the cheapest method in paying for your commodities
5. Getting quality in relation to the money spent
6. Selecting specific grades or quality for specific uses.

APPENDIX II

LETTER TO RESPONDENTS

SRI AVINASHILINGAM HOME SCIENCE COLLEGE
COIMBATORE 11.

Dear Madam:

I am a final year M.Sc., student majoring in Home Management in Sri Avinashilingam Home Science College, Coimbatore. I have taken up a study on food purchasing habits of graduates.

The enclosed questionnaire is to collect information regarding your purchasing habits. I request you to kindly fill it and return to me immediately, so as to reach me at least by the 10th of October, 1970. A stamped, self-addressed envelope is enclosed for your convenience.

Thanking you,

Yours sincerely,

Coimbatore-11
24-9-1970.

Usha, P.R.

APPENDIX III

CHI SQUARE TEST TO FIND OUT THE DIFFERENCE BETWEEN
THE FOOD EXPENDITURE OF THE TWO SAMPLES

Food groups	Sample A	Sample B	nr
Group I	21 (22)	22 (22)	44
Group II	22 (20.5)	19 (20.5)	41
Group III	15 (15.5)	12 (15.5)	27
Group IV	39 (41)	43 (41)	82
Condiments & spices	5 (5)	5 (5)	0
nc	100	100	200 (N)

$$\text{Expected value (E)} = \frac{nr \cdot E \cdot D_2}{N}$$

$$\chi^2 = \sum \frac{(O-E)^2}{E} = 0.84624$$

The value is not significant.

APPENDIX IV
ANALYSIS OF PLACE OF PURCHASE - F RATIO TEST
Analysis of Variance table

Source of variation	Degrees of freedom	Sum of squares	Mean sum of squares	F-ratio	Level of significance
Between samples	1	4.80	4.80	75.997	Not significant
Between places	2	32270.1	16135.05	45.42	Significant at 1% level
Between food items	4	39912.47	9978.12	28.09	Significant at 1% level
Interaction between samples and places	2	5348.17	2674.09	7.529	Significant at 5% level
Interaction between samples and food items	4	287.55	71.89	4.9414	Not significant
Interaction between places and food items	8	21936.90	2742.11	7.72	Significant at 1% level
Residual sum of squares	8	2841.50	355.19		
Total sum of squares	29	102601.47			

APPENDIX V

ANALYSIS OF FREQUENCY OF PURCHASE - F RATIO TEST

Analysis of Variance Table

Source of variation	Degree of freedom	Sum of squares	Mean sum of squares	F-ratio	Level of Significance
Between samples	1	3.6	3.6	52.59	Not significant
Between frequency	8	56921.3	12507.1	65.0	Significant at 1% level
Between food items	4	29934.35	7483.59	39.6	Significant at 1% level
Interaction between samples and frequencies	8	5075.0	1891.67	8.9	Significant at 5% level
Interaction between samples and food items	4	215.65	53.91	2.8	Not significant
Interaction between food items and frequencies	12	109354.45	9112.87	48.16	Significant at 1% level
Residual sum of squares	12	2770.95	189.25		
Total sum of squares	39	185775.1			

APPENDIX VI

ANALYSIS OF PERSON PURCHASING - F RATIO TEST

Analysis of Variance Table

Sources of variation	Degrees of freedom	Sum of squares	Mean sum of squares	F-Ratio	Level of Significance
Between samples	1	2.88	2.88	200.6	Not significant
Between persons	4	92690.08	23172.52	41.25	Significant at 1% level
Between food items	4	28947.48	7236.87	10.67	Significant at 5% level
Interaction between samples and persons	4	28774.74	7193.69	12.8	Significant at 5% level
Interaction between samples and food items	4	172.52	43.13	18.03	Significant at 1% level
Interaction between persons and food items	16	19854.32	1240.9	2.2	Not significant
Residual sum of squares	16	8988.88	561.8		
Total sum of squares	49	174480.88			

APPENDIX VII
CHI SQUARE TEST - PURCHASING PROBLEMS

S.No.	Purchasing Problems	Sample A	Sample B	nr
1.	Non-availability of food items listed	36 (33)	27 (30)	63
2.	High price for required quality	39 (35)	23 (29)	62
3.	Adulteration of food items	21 (20.5)	18 (18.5)	39
4.	Non-availability of specified quality	20 (20.5)	19 (18.5)	39
5.	Cannot recognise the required quality	10 (14)	17 (15)	27
6.	Do not know the substitute which can be used for the product in short supply	4 (9)	13 (8)	17
	no	150	117	267 (N)

$$\text{Expected value (E)} = \frac{O \times R}{N}$$

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

$$\chi^2 = 11.24 \text{ (Significant at 5\% level)}$$

