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A STUDY OF LAMB CONSUMPTION BEHAVIOR
IN GREAT FALLS, MONTANA

By

Peter L. McNamee

B.S., Montana State University, 1970

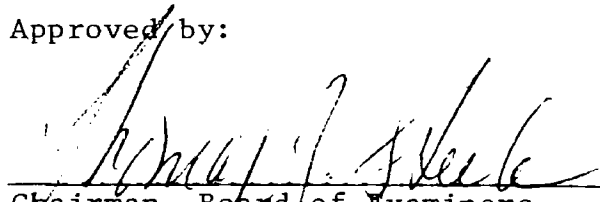
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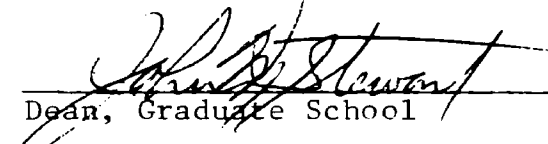
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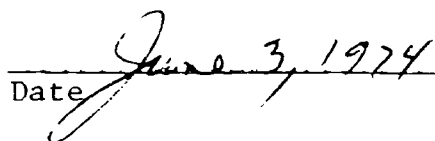
UNIVERSITY OF MONTANA

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CHAPTER I

INTRODUCTION

A Brief Introduction to the Lamb Industry

Lamb and mutton are not the same product, as is often thought. Lamb cuts generally come from sheep in the age group of new-born to one year old. Mutton products come from sheep that are over a year old. The consumer is rarely exposed to mutton cuts on the retail shelves or in hotels, restaurants, and institutions. Mutton is used in sausage, soup stocks, luncheon meats, and other prepared meats. Some domestic and imported lamb is used in baby foods. This study concentrates on lamb meat; mutton is mentioned for comparative purposes only.

Lamb is raised in almost every state in the union with the exception of the extreme Northeastern and extreme Southeastern states. The number of sheep raised per farm or ranch varies from under 25 to over 5,000 ewes. In 1964, 90 per cent of the farms raising sheep had fewer than 100 ewes: these farms accounted for 30 per cent of the ewes in the country. Only about 1 per cent of the farms in 1964 raised over 1,000 ewes.¹ From these facts, it can be deduced that many sheep raisers have to also raise other animals and crops in order to make a living.

¹U.S. Department of Agriculture, Packers and Stockyards Administration/Economic Research Service, The Lamb Industry: An Economic Study of Marketing Structure, Practices, and Problems, by Gerald Engleman, Everett Stoddard, and James Maetzold, Packers and Stockyards Administration Research Report No. 2 (Washington, D.C.: Government Printing Office, 1973), p. 9.

Lamb production on a large scale is restricted to a very few farms and ranches.

When segmented by region, the Mountain region of the United States accounted for 38 per cent of sheep production in 1971. Montana is in this region and itself accounted for 5 per cent of the total U.S. lamb production in the period July 1969-June 1970. Montana is among the top eight lamb producing states in the U.S.²

Very little lamb is marketed in the state of Montana. Only .8 per cent of the total United States lamb marketings took place in Montana in 1969-1970. These marketings consisted of milk-fat lambs (very young lambs never put on artificial feed) almost exclusively, as the other lambs were shipped to feeders and slaughter houses in other states. Montana was credited with less than .05 per cent of the total lamb slaughter in the U.S. in the July 1969-June 1970 period.³ Wyoming and Montana accounted for 14 per cent of the U.S. lamb crop in 1969-1970 but shipped their lambs out of state accounting for only 3 per cent of the slaughter lambs (those lambs fed by the use of artificial feeds before slaughter).⁴ Wyoming and Montana generally ship lambs eastward to the Missouri river markets for slaughter, with the exception of a small number that are shipped to Colorado and Texas.⁵

Lamb consumption is greatest on the east and west coasts of the United States. Per capita consumption of lamb in the 1969-1970 study indicates that New York and California residents consume the most lamb per capita. The large producing states of lamb are among the states of

²Ibid., p. 13. ³Ibid., pp. 13-15.

⁴Ibid., p. 82. ⁵Ibid., p. 102.

least consumption. The lamb consumption per capita in Montana in the 1969-1970 period was only .6 per cent of the U.S. total.⁶ Per pound, Montana lamb consumption was only .1 per cent of the United States total.⁷

Imported lamb has an impact on lamb production, marketing, and consumption in the United States. There are two extreme schools of thought as to the impact imported lamb has on the domestic lamb industry. One school contends that imported lamb provides an additional supply of lamb meat that lowers the price the U.S. producer can get for his product. The other contention is that imports may expand markets since the imported meat provides more exposure of lamb meat to the consumer. Before 1958, imported lamb and mutton amounted to less than 1 per cent of the U.S. production per year: since 1959, imported lamb and mutton cuts have ranged from 11 to 28 per cent of U.S. production.⁸ In 1970, lamb imports amounted to 8.7 per cent of U.S. lamb production, up from 1.8 per cent in 1960.⁹ These fluctuations in the amount of lamb imported can be attributed to both the changes in poundage of lamb imported and the decrease in domestic lamb raised.

Lamb imports come mainly from Australia and New Zealand. In New Zealand, a meat board closely monitors all exports and the marketing of these exports once they reach their destination. Australia sells its lamb and mutton to importers and retail outlets in the U.S. and takes no active part in sales once the meat is exported. New Zealand lamb is

⁶Ibid., p. 7. ⁷Ibid., p. 15.

⁸Ibid., p. 50. ⁹Ibid.

better accepted in the U.S. because of product acceptability, consistent quality, and the promotion and advertising done by New Zealand's Meat Export Development Company and the Meat Producer's Board.¹⁰

As reported in studies cited in Chapter II of this paper, imported lamb appeals to a different market segment than domestic lamb. Imported lamb may only have an indirect affect on lamb consumption in Montana since little, if any, imported lamb is sold here. The only consumption patterns that may change are those of people who have been exposed to imported lamb sold in other states. Montana lamb production is probably affected in some way by imported lamb products, however. Whether lamb consumption is increasing in other states because of the exposure of imported lamb, or the imported lamb is cutting into domestic lamb prices, the Montana producer is being affected. There is no solid data presently available as to which situation actually exists.

The pricing of lamb has often led to decreases in its consumption. When wholesale prices increased, retail prices for lamb also went up in the years following 1966. When wholesale prices went down, however, lamb prices experienced an apparent lack of downward flexibility. Beef prices, except for a short period now and then, were consistently below lamb prices. This behavior of retail prices

. . . suggests that those retailers that regularly handle lamb have begun to consider lamb as more of a specialty item they keep on supply to satisfy a certain group of customers. On a week-to-week basis, retailers are not as motivated to move as large a volume as possible through their stores as they may be for other red meats and for poultry.¹¹

¹⁰Ibid., pp. 53-57. ¹¹Ibid., p. 36.

"The lack of flexibility in retail lamb prices through time, together with the substantial differences in price levels within and among metropolitan areas and regions, indicates that the retail market for lamb is extremely inarticulate."¹² The greatest factor in the fluctuation of lamb prices may be the seasonality of the supply of lambs.¹³ Milk-fat lambs are marketed in a three or four month period. In the 1969-1970 period, lamb production increased from a low in July to a high in February. Packer-fed transfers reached their peak in January through March. Montana markets the most lambs in February and March.¹⁴ Price fluctuations may also be attributed to changes in demand caused by holidays in the slaughtering industry, sales of other meats for holiday seasons, changes in consumer income levels, ethnic backgrounds, and religious connotations.¹⁵

The merchandising of lamb is a factor that also affects demand for the product. The American Lamb Council, a division of the American Sheep Producer's Council, has as one of its promotional materials a chart of twenty-nine lamb cuts that can be offered to the consumer on a continuing basis. Only in large metropolitan areas where lamb consumption is high would one expect to find this wide a selection. Most retailers offer only legs, chops, and shoulders--and these are often not displayed

¹¹Ibid., p. 36. ¹²Ibid., p. 38.

¹³Purdue University Co-operative Extension Service, Supplementary series to: Sheep and Lamb Marketing, by Jack H. Armstrong (Lafayette, Indiana: Purdue University Co-operative Extension Service, 1969), p. 2.1.

¹⁴USDA, The Lamb Industry, pp. 93-97.

¹⁵Purdue, Sheep and Lamb Marketing, p. 2.1.

adequately and are often sporadically carried.¹⁶ The area afforded to lamb on the display shelf is often the smallest among all meats, poultry, and fish except in areas of very high lamb consumption.¹⁷ The American Sheep Producer's Council and others offer excellent point-of-purchase promotional materials for lamb.

Stores in the lower consumption areas especially need to use such promotion materials because in these areas lamb is more likely to be viewed as a "gourmet" or specialty item even though many lower-priced lamb cuts are available.¹⁸

Since 1969, yield grades for lamb have provided a uniform method of identifying carcasses which have higher yields of closely trimmed retail cuts. The higher the retail grade, the less total saleable cuts would be obtained as a per cent of the carcass and there would be a higher percentage of fat and bone in the cuts. These yield grades, however, are not being used in the wholesale marketing of lamb as they should be.¹⁹

The consumption of lamb has shown definite changes depending on the comparative prices of other red meats. From 1958 to 1964, retail prices for lamb were below those for beef in the choice grades: during this period lamb consumption averaged 4.8 pounds per capita. From 1965 to 1971, the reverse situation prevailed in that lamb consumption averaged 3.6 pounds per capita and lamb prices were higher than beef prices.²⁰ "Within the range of variations since 1949, the changing consumption patterns for lamb are probably influenced more by a supply-price response

¹⁶Ibid., p. 8.4. ¹⁷Ibid. ¹⁸Ibid., pp. 8.4-8.5.

¹⁹USDA, The Lamb Industry, p. 127. ²⁰Ibid., p. 27.

than they are by the long-run trends in the declining demand for lamb."²¹ In 1973, the pounds per capita consumption of red meats was 2.8 pounds of lamb and mutton, 61.1 pounds of pork, and 109.3 pounds of beef in the United States.

The price rise of beef in 1973 added to the overall decline in sheep production because the price for lamb fell below the price of beef causing an increase in the number of ewes sold by producers.²³ In 1867, U.S. farmers had 46.3 million sheep and lambs. This number went through many cycles reaching an all-time high in 1942 of 56.2 million head. The number declined to 29.8 million by 1950, leveled off until 1960, and then dropped to 18.5 million in 1972.²⁴ On January 1, 1974, the number of sheep and lamb being raised in the U.S. was expected to drop to a new all-time low of 16.2 million head due to the sale and slaughter of mature animals that would have normally been held for breeding.²⁵ In Montana, the higher meat prices combined with the drought of 1973 to cut the sheep flocks to a degree that added to the uncertainties facing agriculture in the state for 1974.²⁶

²¹Ibid.

²²"Consumption of Meat Off Sharply in U.S.," Great Falls Tribune, 28 February 1974, p. 8.

²³Don Kendall, "High Meat Prices Cutting Sheep Flocks," Great Falls Tribune, 21 October 1973, p. 6.

²⁴USDA, The Lamb Industry, p. 1.

²⁵Kendall, "High Meat Prices Cutting Sheep Flocks," p. 6.

²⁶Carla Beck, "State Agriculture Faces Uncertainty During 1974," Great Falls Tribune, 17 February 1974, p. 10B.

Statement of the Problem

The information gathered in this survey has not been previously obtained in Great Falls, Montana. In a November, 1973 telephone interview with the Cascade County Extension Home Economist, Clair DelGuerra, the need for this type of study was discussed. The reasons presented by Mrs. DelGuerra were: (1) there is a need for more advertising of lamb in Great Falls; (2) the extension service offers home demonstration classes that teach new and economical meal preparation ideas--the lamb needed to prepare some of the meals has to be special ordered for the classes and is often not available for use by the homemakers after attending class; (3) there is presently a trend in cookery toward world recipes and ethnic cookery--lamb not available in sufficient quantities is used in many such dishes; (4) the consumer in Great Falls is probably not aware of the production, slaughter, and marketing costs that result in high lamb meat prices per pound; (5) consumer education is needed on how to keep price per serving low, rather than keeping the cost per package bought in the store low--often the difference is not understood and versatility in cookery suffers; (6) home economics departments throughout Montana seek consumer information on many products and such information on lamb is not available. Identification of the groups needing and/or wanting information on the uses and benefits of serving lamb meat was needed.

Personal and telephone interviews with managers connected with the marketing of lamb in Great Falls further emphasized the need for consumer related information about lamb. A meat department manager for

a supermarket chain operating in Great Falls had very little information concerning lamb meat and consumer preference towards lamb meat. A telephone interview with a manager of the Missoula packing plant that supplied some of the meat to the chain, indicated that such consumer information was also scarce in other parts of the state. The only information this manager referred to was the USDA report previously cited in this paper. An interview with a local owner of a food market revealed that very little information on the proper promotion of lamb meat was used. The managers, without exception, expressed an interest in the information pertaining to consumer preference for lamb meat in Montana since, to their knowledge, no such information was presently available.

The presence of a military segment of the Great Falls population sets this area apart from other low consumption areas discussed in the national studies. A study of this transient segment was needed to determine if the demands of this group were not being met and to determine the effect of this segment upon the meat consumption patterns in the area.

Lamb slaughter has decreased because of the age, inadequacy and inefficiency, and location of lamb slaughtering firms. When old, multi-species plants are closed, new plants open which specialize in either beef or hog slaughter. The closing of the multi-species plants has caused producers to have to go farther to find buyers for their lambs. The costs of shipping the lamb are reflected by higher retail costs in producer areas especially.²⁷

²⁷USDA, The Lamb Industry, p. 107.

Very little lamb is slaughtered in Montana, causing high shipping costs being added to the price consumers in the state pay for lamb cuts. If consumption of lamb in producing areas would increase substantially with a decrease in price, in-state processing plants would be feasible.

Throughout the United States, the lamb industry has experienced a decline in production since 1942. Several reasons have been presented for this decline. Since the introduction of synthetic fabrics, wool garments, rugs, and other wool products have declined in demand. It has become increasingly harder, especially in remote areas like Montana, to hire good herders for sheep flocks. An increasingly apparent problem since the banning of poisons has been losses caused by coyote and other predators that have resulted in farmers and ranchers closing out their sheep operations. Much of the land needed for grazing in Montana is government owned and there are arising increasing demands for public use of the lands. Finally, the consumer demand for lamb meat is decreasing throughout the U.S.²⁸ The consumption of lamb in Montana is an extremely small percentage of the total U.S. consumption--only .1 per cent of the total U.S. poundage in the June 1969-July 1970 period.²⁹

Purpose of the Study

This was a study of the consumer preference for lamb meat in the Great Falls area. The study examined consumer attitudes toward lamb meat and the awareness level of the consumers as it pertains to the marketing of lamb in the Great Falls area. The findings of the study

²⁸USDA, The Lamb Industry, p. 2.

²⁹Ibid., p. 15.

were used to discuss possible changes in the marketing strategy for lamb in the Great Falls area that could result in both increased supply for the consumer and increased primary demand for the product. As stated by Leslie A. Beldo:

A conceptual model of consumer food behavior has utility in three broad marketing areas: product development, product communications strategy, and overall marketing strategy. . . . Product communications strategy represents a plan to inform consumers, establish new attitudes, disestablish inhibiting attitudes, and persuade the public to buy a given food product.³⁰

This paper studies the possibility of segmenting the Great Falls market according to demographic variables and the attitudes of consumers toward lamb meat in the area. Attitudes and product attributes having an effect on the consumption of lamb were identified and the marketing implications of these attitudes were discussed.

Since the information gathered by this survey has not been previously obtained in the Great Falls area, the uses of the information could be wide spread. Meat wholesalers, retailers, producers, consumers, home economists, and others involved in the marketing and use of lamb meat in the Great Falls area have the opportunity to make use of the information gathered by the survey. Information leading to the ability to properly promote lamb meat may, in time, reverse the present trend of declining production of the product in Montana.

Limits of the Study

The sample for this study was taken from the population of Great Falls, Montana and surrounding small towns and rural areas of

³⁰Leslie A. Beldo, "Market Segmentation and Food Consumption," in On Knowing the Consumer, ed. Joseph W. Newman (New York: John Wiley and Sons, Inc., 1966), pp. 125-137.

Cascade County, Montana. Since the research was conducted, for the most part, at the license registration center for Cascade County, the majority of the respondents own some sort of motor vehicle.

CHAPTER II

REVIEW OF PREVIOUS RESEARCH

Previous Food Consumption Research

Research Involving Food in General

A 1949 study by Mason Haire used the third-person technique of research. Two shopping lists, identical except for the type of coffee identified, were given to 100 housewives in the Boston area to determine how the consumers were reacting to the introduction of instant coffee. The list containing "Nescafé instant coffee" revealed that a woman possessing such a list would be lazier, less well organized, less thrifty, and not as good a wife as the woman possessing a shopping list with "Maxwell House coffee (drip grind)" on it. The research was conducted because other research methods did not reveal useable marketing information about the consumer acceptability of instant coffee.¹

In 1968, a similar study was conducted to determine if the attitudes toward instant coffee in 1949 were still prevalent. It was found that there was no statistically significant difference in the responses to instant and regular coffee shopping lists. The hypothesis

¹Mason Haire, "Projective Techniques in Marketing Research," Journal of Marketing 14 (April 1950): 649-56, cited by Paul E. Green and Donald S. Tull, Research for Marketing Decisions, 2d ed. (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1970). pp. 148-49.

was accepted that in 1968 instant coffee had become widely accepted and the Haire findings were no longer valid.²

The above studies, taken together, prove that attitudes toward products can change over time. A proper promotion of lamb meat could provide lamb with a more widely accepted image as a desirable meat product. This paper identifies the attributes that affect consumption of lamb meat in the Great Falls area. Before consumption patterns for lamb can be changed, attitudes toward lamb and the attributes underlying these attitudes must be understood.

A 1966 field audit of shelf positions and labels of dry goods revealed that private labels were not given better shelf position than nationally advertised brands. The middle shelf position was considered the best, with a top shelf position second, and a bottom shelf position least desirable for dry goods.³

At the same time, a product retail exposure study was made. The share of display facing for private labels was varied for differing product classes from 87 per cent for frozen strawberries to 23 per cent for spaghetti. For the thirteen products studied, the average share of sales equaled the average share of facings for private labels.⁴

²Frederick E. Webster, Jr. and Frederick Von Pechmann, "A Replication of the 'Shopping List' Study," Journal of Marketing 34 (April 1970): 61-77.

³National Commission on Food Marketing, "Type of Label and Shelf Position," in Special Studies in Food Marketing, Technical Study No. 10 (Washington, D.C.: Government Printing Office, June, 1966), pp. 67-68.

⁴National Commission on Food Marketing, "Retail Exposure and Share of Sales," in Special Studies in Food Marketing, Technical Study No. 10 (Washington, D.C.: Government Printing Office, June, 1966) pp. 68-69.

The two studies showed that consumer awareness and purchase of private labels depended upon shelf position and facing. When considering meat products, these variables have an effect on consumption patterns. This study examined the degree of exposure lamb is receiving in Great Falls by asking how many different cuts of lamb consumers can recall having seen in the area: this exposure may be at such a low level as to discourage consumption.

In Totowa, New Jersey, 1,500 observations of shopping behavior were made in 1966 to gather information of actual overt behavior rather than to gather information on attitudes or motivations. Observers watched shopper purchase patterns upon aisle entry to aisle exit. The advantages of the study were seen to be the ability to observe behavior directly and to use the detailed information obtained to produce ideas for further study. The disadvantages were that: (1) behavior is not always easy to interpret, especially if there is a delay between observation and interpretation; (2) results could be biased depending on when and where the observations were made; (3) there was no experimental control available; (4) the data collected was qualitative and contained some observer subjectiveness. The research concluded that the concern with price was far from universal and differed from product to product. Price differences were observed to be more important in urban than in suburban stores. The sex of the purchaser had little influence on price consciousness. The study also observed that 32 per cent of the housewives were accompanied by another decision maker and, no matter who this person was, most shoppers spent a lot of time handling packages.⁵

⁵William B. Wells and Leonard A. Lo Sciuto, "Direct Observation of Purchasing Behavior," Journal of Marketing Research 3 (August 1966): 227-33.

In 1967, a multiple regression model was used to analyze data about forty-four product purchases reported by a Chicago Tribune consumer panel. The panel was organized in 1961 and consisted of 491 household purchasing histories. The study of price paid per unit of a product as related to socioeconomic and total consumption characteristics yielded the following:

1. Heavy buyers of a product tend to purchase at lower prices than do light buyers
2. Higher income families tend to purchase at higher prices
3. Large families tend to pay less per unit for their product purchases than do smaller families
4. Car owners tend to pay lower prices than do non-owners
5. As occupation status rises, so does price per unit of food paid
6. Protestants pay higher prices per unit than do non-Protestants
7. Whites pay higher prices per unit than non-whites
8. Persons in large apartment buildings pay higher prices per unit
9. The higher the proportion of goods bought in a chain store, the higher the price paid since less price shopping is done by people who shop there
10. Private label packages are less expensive and smaller packages are more expensive.⁶

This study examined the effects of some of the above mentioned variables on the consumption of lamb meat. Income class, sex, religion, and location of meat purchase were related to the consumer's attitude

⁶Ronald E. Frank, Paul E. Green, and Harry F. Sieber, Jr., "Household Correlates of Purchase Price for Grocery Products," Journal of Marketing Research 4 (February 1967): 54-58.

toward lamb meat. The main reasons for not purchasing more lamb meat were related to consumption behavior categories.

A small, midwestern university-dominated city provided a sample used for a 1968 study of the effect of price changes on the consumption of food products. The sample consisted of 262 household shoppers who were quizzed on twelve frequently purchased food products. Respondents correctly identified 71 per cent of the price treatments (which varied from 5 to 15 per cent either way of of the last price paid). The positive relationship between the price change and the change in whether or not a purchase would be made at the given price supported the existence of price thresholds for food products. It was found in the study that the exact last price paid by the consumer could not be recalled but that a range of prices was used for the reference point by the consumer. For two of the tested foods, milk and ground beef, the consumers identified price changes more successfully than for any of the ten other products.⁷

The above study was biased by using only a small town sample to arrive at a generalization about consumer price awareness. Being a university-dominated town, a large percentage of the sample may have been better educated than a sample of the same size in a non-university-dominated city. Despite the possible sample bias, the study provided information useful in the present study. Especially pertinent was the finding that people are able to identify changes in the price of ground beef and milk more readily than other products. The price of lamb may be compared to beef and other meats by the consumer when making meat

⁷J. N. Uhl and Harold L. Brown, "Consumer Perception of Experimental Retail Food Price Changes," The Journal of Consumer Affairs 5 (Winter 1971): 174-86.

consumption decisions. The possibility of changes in the price for lamb meat providing a favorable trend in lamb purchase patterns is discussed in this paper as it relates to the Great Falls area.

The perceived relationship between price and quality was tested using a blind-rating technique in 1970. High, medium, and low priced margarines and butters were spread on white bread and served to 53 college subjects spread side down. The subjects were asked to compare two taste samples and record if the two were from the same or different samples and then rate the two from "this spread has an excellent taste" to "this spread has a horrible taste." The results indicated that there was only slight positive relationship between the product price and the blind-rated quality.⁸

Bias was introduced into the sample by only testing college students. Although taste is a physical property, people of other age groups may have been able to provide more acceptable results because of the use of the respondents of a more varied selection of spreads on a day to day basis. It should be noted that price and quality were only slightly related in the study because students were not aware of the price. In a buying situation, the price is known and quality may still be perceived to relate to price by most consumers.

Monroe Peter Friedman attempted to "objectively define the issues in the truth-in-packaging controversy by treating consumer confusion as a psychological variable capable of measurement."⁹ The sample

⁸I. Robert Andrews and Enzo R. Valenzi, "The Relationship Between Price and Blind-Rated Quality for Margarines and Butters," Journal of Marketing Research 7 (August 1970): 393-95.

⁹Monroe Peter Friedman, "Consumer Confusion in the Selection of Supermarket Products," Journal of Applied Psychology 50 (December 1966): 529-34.

consisted of 33 young women who were either students for one year or more in college or had been married to college students for one year or more. The subjects were to make brand choices of twenty selected products at a local supermarket. The choice was to be what they felt was most economical (largest quantity for price) in a specified amount of time given the number of choices of the product available. Groups of five to ten subjects accompanied the evaluator on a shopping trip. The evaluator gathered the information used by each subject to arrive at each choice. Unit pricing resulted in certain forms of confusion. The subjects made many incorrect choices as to what was the most economical package. There were differences in the mean per cent increase in price paid per unit compared to the most economical package available. The price over the most economical package household members with specified budgets would pay over a constant time period varied among subjects and products. It was found that the twenty products differed significantly in all three areas of confusion and differences in packaging practices led to the product differences found.¹⁰

The price per pound of meat is usually used by consumers in making meat consumption decisions. A price per serving label would be another possibility to consider. Although this paper does not include a test of such labeling, the effect of price on lamb consumption in the area is discussed.

A two part study was done in the summer of 1973 to determine consumer reaction to nutritional labels on food products. In-depth interviews were conducted with a national probability sample of 2,195 respondents to research projected attitudes toward nutritional labels. The

¹⁰Ibid.

second part of the study consisted of 4,435 interviews to determine attitudes of shoppers who had been exposed to the labels toward the labels. The study measured changes of response over time and after subjection to varying promotional levels in order to determine: (1) the form of nutritional information most useful to consumers; (2) the rate of perception, understanding, and use of the labels in actual tests; and (3) to determine the nature and importance of non-use benefits derived from the labels by the consumers. The study found that consumers did not use the labels directly when making purchase decisions. Consumer behavior indicated the presence of certain non-use benefits of nutritional labels such as: (1) increased confidence in the food industry; (2) manufacturers who provided labels were thought to try harder to make foods nutritious; (3) more information on packages was seen to indicate a greater concern for consumer welfare; and (4) labels satisfied the consumer right to know the nutritional value of food on the market. Non-use benefits of labeling were much more prevalent than direct-use benefits even after the program had been in effect a long time. This recognition of non-use benefits was highly correlated with education and income.¹¹

Although the labels were not understood and used by a great many of those interviewed in the above study, about 25 per cent of them were aware that the labeling was on the packages.¹² As mentioned, non-use

¹¹R. J. Lenahan, et al., "Consumer Reaction to Nutritional Labels on Food Products," The Journal of Consumer Affairs 7 (Summer 1973): 1-12.

¹²Ibid.

benefits were perceived by the consumers. Lamb labeling using a chart of nutritional values would reflect a high nutritive value.¹³ In areas where nutrition is an important purchase factor, or the nutritional labels are seen to provide non-use benefits, lamb producers should employ such a packaging strategy. This paper discusses the attributes of lamb meat that are considered important by the consumers in the area-- nutritive value is one of the attributes considered.

The buyer of a product may not be the same person as the person who influenced the final decision. In 1968, the influence of children in purchase decisions was studied since it was felt that: (1) the size of the child market was growing; (2) children did have an influence on family decisions; and (3) every adult was once a child whose product attitudes were affected by promotion during childhood. A study of 48 students of an urban, private school system related the students to their parents and teachers. The child provided age, three favorite cereals, and other (no more than ten) favorite cereals. The teachers were asked to rate verbalness, leadership, persistence, and initiative of each child relative to classmates. The mothers of the children were interviewed as to the child's favorite cereal and family shopping habits. A pantry audit was taken to determine cereals on hand and cereals run out of in the two weeks previous to the audit. The results showed the mother's purchase of cereal brands to be independent of the child's age, the number of children in the home, family employment, the number of trips the child made to a grocery store alone, and the number of trips

¹³National Livestock and Meat Board, Facts About Lamb (Chicago, Ill.: National Livestock and Meat Board, n.d.).

a child made to the store with the mother. The most significant results were: (1) mothers that were child-centered tended to buy what they thought was best for the child rather than the child's favorite cereal; (2) child assertiveness had little effect on purchases; and (3) child assertiveness did not help in the mother recalling the child's favorite cereal.¹⁴

This paper provides information as to the influence of children and spouses on the purchase of lamb meat. This information can be useful in targeting promotional material about lamb so as to convince the proper persons in the family that lamb is a good food product to serve. The above study emphasized that the housewife may require the most consumer education.

There are numerous consumer panels in operation today; a brief description of the National Consumer Panel as it existed in 1966 provides an understanding of such an information gathering technique. In 1966, 5,800 U.S. families provided diary information on product purchases in exchange for points that could be used to purchase merchandise. Reports were provided to clients weekly for short range decision making. Monthly, a report of total market volume and the volume and share of the market of each important brand was published. A quarterly report charted a presentation and review of the market. Annually, a summary and market review was provided. The Market Research Corporation of America claimed information gathered in this manner could be used by marketers to increase

¹⁴Lewis A. Beray and Richard W. Pollay, "The Influencing Role of the Child in Family Decision Making," Journal of Marketing Research 5 (February 1968): 70-72,

their own sales, analyze current market position, identify the best retail outlets, identify who their customers were, analyze consumer behavior toward their product, and have the ability to make prompt changes to correct situations pointed out in the rapid reporting by the panel.¹⁵

Previous Meat Consumption Research

Kurt Lewin conducted a psychological study in 1947 to see which method, group decision making or lecture, would be most influential in changing food habits of housewives. Three groups of thirteen to seventeen Red Cross volunteers organized for home nursing were presented lectures on why they should eat more beef hearts, sweetbreads, and kidneys. Examples of the reasons lectured are: nutritional value; economy; vitamin value; ease of cooking without bad odor, toughness, or unpleasant appearance. The lecturer told of the success she had had with the meats. Three similar groups were provided the same information but in a group decision atmosphere. Information on nutrition, cooking, vitamin values, and economy was only provided once the group got interested in whether the obstacles confronted in each case could be overcome by the average housewife for the meats involved. After the group discussion, they were asked who would try the meats in the next week.¹⁶

¹⁵Market Research Corporation of America, "The National Consumer Panel," in Marketing Research Principles and Readings, 2d ed., ed. Parker M. Holmes (Cincinnati, Ohio: South-Western Publishing Company, 1966), pp. 628-37.

¹⁶Kurt Lewin, "Group Decision and Social Change," in Readings in Social Psychology, 3d ed., ed. Eleanor E. Maccoby, et al. (New York: Holt, Rinehart and Winston, Inc., 1958), pp. 197-211.

The results showed that the group decision atmosphere was much more influential since 32 per cent of the group women versus only 3 per cent of the lecture women served one of the meats they had never served before. There were five reasons cited for this large difference. They were:

1. There was more involvement in talking about wives like themselves, rather than talking about themselves
2. Asking if the wives would try the meats after the discussion provided an active motivational force
3. Individuals normally try not to stray from the general norm of the group
4. The group of women were told of a follow-up to be taken, whereas the lecture women were not
5. The adeptness of the group leader to mold the group may have had an influence¹⁷

It appears that the groups in the above experiment were put under more psychological pressure to try the new meats than were the lectured individuals. The group women were forced to tell, while in the group, if they would try the meats and then told they would be asked later if they had kept their word. The percentage gap between the lecture and group discussion women, however, would lead one to believe the group discussion was a more influential method despite the apparent experimental drawbacks. The information gathered by the present study can be used by home economists to decide upon which aspects of the use of lamb meat they would like to emphasize. The group meetings held by such organizations as the Cascade County Extension Service could be used to provide consumer education to groups of housewives using techniques

¹⁷Ibid.

similar to Lewin's. The Lewin study and later studies by M. Radke and D. Klisurich¹⁸ emphasized that lecturing groups about the advantages of certain foods will not produce the results that a well lead group discussion will.

In 1959, Milton Alexander reported on the significance of ethnic groups in marketing new-type packaged foods in Greater New York. One of the foods studied was frozen red meats. The study concluded that the acceptance of new packaged foods was definitely affected by the fact that New York City had a heterogeneous population. It was found that Puerto Ricans accepted frozen red meats since many of these housewives worked. The Italians were second in acceptance. The Jews were discouraged from buying frozen red meats because of dietary laws, taste, and price. The Negroes opposed the frozen meats because they preferred fresh, fatty cuts and because many of them did not own adequate refrigeration to store frozen meats.¹⁹

The military portion of the Great Falls population represents many areas of the U.S., many nationalities, and many ethnic groups. This study examined the projected acceptance of frozen lamb in this area. A demand for frozen lamb by certain groups may warrant a test marketing of frozen lamb to the groups expressing an interest.

¹⁸M. Radke and D. Klisurich, "Experiments on Changing Food Habits," cited by Eleanor E. Maccoby, et al., Readings in Social Psychology, 3d ed. (New York: Holt, Rinehart and Winston, 1958), pp. 210-211.

¹⁹Milton Alexander, "The Significance of Ethnic Groups in Marketing New-Type Packaged Foods in Greater New York," in Consumer Behavior In Theory and In Action, ed. Steuart Henderson Britt (New York: John Wiley and Sons, Inc., 1970), pp. 214-16.

The marketing of some products is enhanced by the brand name that appears on the package. In 1965, James C. Makens did a test of brand influence using turkey meat. Two brands of turkey were given to a test group of 150 Detroit area consumers using two different tests. One brand of turkey was well known to the consumers and a second brand used had never been offered in the Detroit area. The first test procedure called for cooking one turkey, providing samples on two plates, and labeling one plate as the well-known brand and the other as the unknown brand. After the samples were tasted, the subject was to rate taste and texture, and tell which cut they preferred or if both cuts had the same appeal. In the second test procedure, similar sized samples with one tender and one tough cut were placed on two plates with meaningless symbols assigned to each sample. The subject was asked to indicate which of the brands in Procedure One were represented by which symbol in Procedure Two. If the subject had no idea, he was to check a blank that indicated this fact. Subjects were again asked to indicate which cut they preferred.²⁰

The results showed that subjects were influenced by the brand name in Procedure One even though the cuts came from the same turkey breast. In the second procedure, the subjects were able to detect a quality difference between the two samples and the higher quality sample was stated to be from the known brand by 63 per cent of the subjects.²¹

²⁰James C. Makens, "Effect of Brand Preference Upon Consumers' Perceived Taste of Turkey Meat," Journal of Applied Psychology 49 (August 1965): 261-63.

²¹Ibid.

Perhaps lamb should be marketed under a national brand name since the experiment above revealed that well known brands were expected to market meats of a superior quality. This study examined whether people in Great Falls now feel their amount of lamb meat consumed would increase if lamb were marketed under a national brand name in this area.

Telephone interviews of 1,157 households in the Philadelphia area were conducted in 1969 to test the effects of imitation foods on the consumer market. Among the imitation foods studied were imitation meat products made from soy protein. These meats had amino acid content similar to cooked beef, but no appreciable vitamins and minerals were found in such products. In the categories of imitation milk and meats, 80 per cent of those interviewed did not know such products existed and less than 10 per cent had ever tried imitation milk or meat. When asked to compare milk and meat to the imitation products, 65 per cent thought conventional milk and meat would be higher in price, calories and vitamins besides being better tasting. People concerned with cholesterol felt the imitation foods would fit their diets better.²²

For the lamb industry, the above study provided favorable information. Imitation meats in 1969 had not had a significant impact on red meat consumption patterns. If imitation meats do penetrate the Great Falls market, the above study indicates nutritional and vitamin advantages of eating red meat should be stressed by those promoting lamb. With meat prices rising, imitation meat products may pose a real threat in the near future, despite the findings in 1969. The present attitudes

²²Rex H. Warland and Robert O. Herrman, "The New Wave of Imitation Foods: Problems Ahead?" The Journal of Consumer Affairs 5 (Summer 1971): 56-69.

toward lamb meat concerning nutrition will affect how to promote fresh lamb in the case of an influx of imitation meat products. This study examined how consumers in the Great Falls area view the nutritional value of lamb meat.

Past Studies of Lamb Consumption

In 1969, the American Sheep Producers Council sponsored a sheep and lamb marketing study through its Sheep Industry Development Division. Jack H. Armstrong of the Cooperative Extension Service of Purdue University, Lafayette, Indiana conducted the project.

The data for the study were gathered over a two year period from "searches of secondary data and literature as well as extensive interviews and conferences with growers, slaughterers, distributors, sheep industry organization leaders, and educators throughout the nation. . . ." ²³

"A survey conducted in October of 1965 indicated that many potential retail outlets for lamb did not handle the product." ²⁴ In the western states, only 54 per cent of the stores carrying red meats featured lamb cuts. The prime reason for low consumption of lamb in the small towns throughout the United States was the fact that lamb was not available in adequate amounts, if it was available at all. ²⁵

Retail outlet employees were found to be unwilling to provide information about lamb to consumers. This reluctance led to a low consumer education level about lamb particularly in the areas of versatility in preparation, cooking, flavor, and nutritive value. ²⁶

²³Purdue, Sheep and Lamb Marketing, title page.

²⁴Ibid., p. 8.3. ²⁵Ibid. ²⁶Ibid., p. 8.6.

Lamb consumption was also found to vary among ethnic groups in the study. The research pointed out, however, that as the number of generations living in America increased, the consumption of lamb in the ethnic groups decreased. The largest consuming areas of lamb were still in the areas of greatest immigration, the east and west coasts.²⁷

The non-users of lamb, on a national scale, were younger than users, had lower incomes, less education, and lived in a non-metropolitan area. The largest share of non-users were found to live in the mid-continent area and southern part of the United States, with the area of least proportion of use per household being the West-North Central region.²⁸

The issue of acceptance of frozen meats was addressed in the 1969 study. There was a resistance to frozen over fresh meat cuts because of the following factors:

1. There are visual handicaps in judging quality and leanness
2. There was a lack of standards available by which to judge frozen meat quality
3. There was a fear that taste deterioration occurred with freezing
4. There is no way to be sure about how old the meat was when purchased if it had been frozen
5. The packages could not be made so as to have as pleasant appearance as fresh meat cuts--this led to the color of the meat not being red after thawing, and the texture not being as tender as fresh cuts²⁹

²⁷Ibid. ²⁸Ibid., pp. 8.6-8.7.

²⁹U.S., Department of Agriculture and The National Livestock and Meat Board, "Homemakers' Opinions About Selected Meat," cited by Purdue, Sheep and Lamb Marketing, p. 8.7.

The Purdue study found lamb consumption to be a "function of income, family background, regional preferences, education and seasonality of supply."³⁰ Some of these findings were tested in this study for their applicability in the Great Falls area. The Purdue study did not delve into the various attitudes towards lamb and the attributes forming these attitudes as this paper does. The Purdue study only compared non-users to users of lamb meat by way of demographic variables: this paper also compares the groups by way of attitudinal differences.

In 1970, the Packers and Stockyards Administration/Economic Research Service conducted a study of the lamb industry as it pertained to marketing structure, practices, and problems. While conducting the research, certain patterns of consumer responsiveness to lamb were studied and this information was presented in the report on the industry.

The consumption of lamb in the United States was found to be uneven in this study also. Almost one-third of the lamb was consumed in New York State and one-sixth in California, with only one-fourth of the lamb consumed west of the Mississippi River. Urban centers with high concentrations of consumers of the Jewish faith and the Mediterranean backgrounds consumed the most lamb. Other consumers living in these areas are exposed to more lamb in the store and, therefore, the frequency of purchase among these consumers is higher than in other areas of the country. The low consumption in some areas was partly attributed to the long time periods when lamb was not displayed in supermarkets. The tastes, preferences, and habits of consumers were found to

³⁰Purdue, Sheep and Marketing, p. 8.7.

be changing in all areas of the country and leading to an overall decline in the consumption of lamb.³¹

Price differences between beef and lamb have had an effect on lamb consumption. Periods when lamb was less per pound than beef led to an increase in lamb consumption. In 1970, lamb prices exceeded beef prices and lamb consumption was again declining. "These price responses indicate that regular lamb users find beef to be more acceptable when retail lamb prices exceed those of beef."³²

When milk-fat and fed lambs are sold in competition to each other, the younger milk-fat lamb cuts are more readily purchased. "Milk-fat and fed lambs may substitute for each other to some degree, but they are not homogeneous. Most consumers prefer the delicate flavor of very young lambs."³³

Imported lamb was found to generally sell for less than domestic lamb. The frozen imported lamb seemed to appeal to consumers who were motivated by the lower price. Most American consumers were resistant to buying frozen red meats for the same reasons as cited in the Purdue study. New Zealand lamb was rated above Australian lamb because trimming, freezing, aging, conditioning and packaging of lamb cuts is more uniform for New Zealand cuts.³⁴ The above findings suggest that:

. . . a portion of the lamb imports have an additive effect on lamb consumption in this country. To the extent that this is true, these imports increase consumption above the levels that would prevail if imports of frozen lamb were not available.³⁵

³¹USDA, The Lamb Industry, p. 6. ³²Ibid., p. 27.

³³Ibid., p. 112. ³⁴Ibid., p. 76. ³⁵Ibid., p. 79.

Besides gathering information from secondary data and literature, the above study deduced the consumer information from the purchase responses to market stimuli over time. There was no indication in the study of a direct attempt to determine consumer attitudes toward lamb meat. Some of the findings discussed by the study were re-tested and discussed in this report as they apply in the Great Falls market. Frozen lamb has not yet reached this area, but projective information was gathered concerning the possibility of its acceptance once it does reach these consumers.

The Development of Attitude Measurement

The Definition of Attitude

The first effort to scientifically study and define attitudes was presented by Gordon W. Allport in 1935. Allport defined an attitude as being unidimensional but felt certain qualitative considerations of the nature of attitudes should be regarded. According to Allport:

An attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related.³⁶

Attitudes were first studied by social psychologists such as Allport as they related to human behavior in the social aspect. The value of using attitude theory in a marketing context has been receiving increasing attention in recent years. In 1965, Jon G. Udell wrote:

Because attitudes exert a strong influence on behavior, attitude research offers a potentially useful device for explaining and predicting consumer behavior. Furthermore,

³⁶Gordon W. Allport, "Attitudes," in Readings in Attitude Theory and Measurement, ed. Martin Fishbein (New York: John Wiley and Sons, Inc., 1967), pp. 1-13.

a knowledge of consumer attitudes may provide a sound basis for improving products, redesigning packages, and developing and evaluating promotional programs.³⁷

Four fundamental questions pertaining to attitude study were presented to marketing researchers by the Attitude Research Committee of the American Marketing Association in 1966. These four questions were:

- (i.) What should the term "attitude" be taken to mean?
- (ii.) How may attitude measurement be improved through the design of questionnaires and analytical models?
- (iii.) What is the interrelationship between attitudes and behavior?
- (iv.) To what extent may attitudes be taken to be predictive of behavior?³⁸

These questions added stimulus to the work already being done in expanding attitude theory and measurement and added new guidelines as to the direction this research should take.

In 1966, some held that attitudes were not unidimensional as thought in 1935, but that attitudes actually consisted of three dimensions. The affective or feeling component concerning the favorableness toward an object being the first dimension, a cognitive or belief component that measures the importance of an attribute being the second, and a conative or action tendency component that causes behavior being the third component making up an attitude.³⁹ Martin Fishbein considers an attitude to be only unidimensional since it is only the affective

³⁷John G. Udell, "Can Attitude Measurement Predict Consumer Behavior?," Journal of Marketing 29 (October 1965): 46-50.

³⁸Peter Samson and Paul Harris, "A User's Guide to Fishbein," Journal of the Market Research Society 12 (July 1970): 145-66.

³⁹Ibid., p. 147.

component with which most marketing and social psychology researchers concern themselves. Therefore, according to Fishbein, the attitude a person holds toward an object means his favorableness toward the object. Beliefs and behavioral intentions are determinants or consequences of an individual's attitude and not a component of the attitude itself.⁴⁰

Demographic variables are beginning to be replaced by attitudinal differences in present market segmentation efforts. Consumer attitudes are now being used to develop marketing strategies in order to appeal to consumer social and psychological needs since the physical and safety needs of the consumers are basically satisfied in the United States. Consumers consider products to consist of a set of attributes that combine to satisfy goals. The importance of an attribute is referred to as attribute salience. The evaluation of the object is called attitude valence, i.e., valence is the direction and strength of an individual's attitude toward an object. "Initially, salience helps to determine the buyer's evaluation of his need, and subsequently it influences [the] choice among the alternative means for meeting [his] need."⁴¹ Marketing strategy must be built around determinant attitudes that predispose a consumer toward a particular choice of products in the marketplace.⁴²

⁴⁰Martin Fishbein, "Attitude and the Prediction of Behavior," in Readings in Attitude Theory and Measurement, ed. Martin Fishbein (New York: John Wiley and Sons, Inc., 1967), pp. 477-78.

⁴¹G. David Hughes, Attitude Measurement for Marketing Strategies (Glenview, Ill.: Scott, Foresman and Company, 1971), pp. 3-14 passim.

⁴²James H. Meyers and Mark I. Alpert, "Determinant Buying Attitudes: Meaning and Measurement," Journal of Marketing 32 (October 1968): 13.

Many attitude measuring methods have been developed for use in planning marketing strategy. These models were often developed to aid in the prediction of consumer behavior as it results partially from the attitudes formed toward products. When measuring attitudes, however, researchers must consider the influence of the environment during the research and during the decision process.⁴³ Two of the attitude measurement techniques used in market research, the semantic differential and the Fishbein attitude model, are discussed below.

The Semantic Differential

The semantic differential was developed for attitude measurement to:

1. Permit the use of surveys rather than depth interviews and experiments
2. Simplify coding and punching of data for analysis
3. Allow use of powerful statistical analyses that are widely known and generally available on computers⁴⁴

The semantic differential is an attitude scale that is unidimensional and can be used to measure the direction and intensity of an attitude. The direction is measured by where a person's attitude toward an object falls on a bipolar scale. The closer to the positive side his attitude lies, the more favorable his attitude is toward that object. The same holds true for unfavorableness on the negative side. The intensity of the attitude is measured by how far out from the origin the attitude is.

⁴³G. David Hughes, Attitude Measurement for Marketing Strategies, pp. 127-28.

⁴⁴Ibid., p. 90.

On a single scale, the origin is neutral and there are usually three levels of attitude to both the negative and positive sides, e.g., slightly, quite, and extremely favorable. The neutral position is the one of least intensity in terms of attitude since it depicts neither a favorable nor unfavorable attitude.⁴⁵

The ends of the scale are made up of pairs of antonyms, be they adjectives or phrases, with cues spaced between them. The cues between the ends of the scale can be verbal, numerical, graphic, or some combination. The bipolar nature of the semantic differential conforms to the concept of motivation, i.e., a person will be attracted to an object if it satisfies his goals and he will be repulsed from the object if it inhibits the attainment of his goals.⁴⁶

Selecting antonyms for the semantic differential requires first a knowledge of the salient attributes and then the selection of adjectives or statements which are unambiguous and bipolar. If the attributes are not known from previous research, it will be necessary to conduct a preliminary investigation.⁴⁷

A balanced scale is one which has an even number of cues on either side of the neutral position. If piling occurs to one end of the scale, more cues can be added to that end of the scale to help distribute the responses. The number of cues used depends on the type of respondent, the experimental design, and the nature of the analysis. If chi square analysis will be used to analyse the data, a three cue scale

⁴⁵Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, The Measurement of Meaning (Urbana, Ill.: University of Illinois Press, 1957), p. 192.

⁴⁶G. David Hughes, Attitude Measurement for Marketing Strategies, pp. 91-92.

⁴⁷Ibid., p. 95.

is sufficient. If interval scale is presumed, a scale with more cues is needed in order to apply parametric statistics. An even number of cues will force the respondent off center if the researcher wants to force an opinion. Even in this case, however, a special blank may be added for those who may not be aware of an attitude object or a dimension of the object in question.⁴⁸

A study of two food products was made to test the usefulness of the semantic differential as an index of brand attitude. Respondents were asked to provide qualitative data about food product brands A and B. Brand attitude scores were obtained from the data on twelve six-point semantic differential scales by using the following two-step system: (1) numerical values were sequentially assigned to the scales with 1 representing the most unfavorable response up to 6 being the most favorable response; (2) the twelve values for each brand were added together. The semantic differential proved useful in differentiating between purchasers and non-purchasers of the brands.⁴⁹

The researcher concluded:

The semantic differential, in the form used, is a valid indication of brand attitudes as inferred from purchasing behavior. This is demonstrated by significantly higher average brand attitude scores among users of the two brands than among nonusers.⁵⁰

⁴⁸Ibid., pp. 92-94.

⁴⁹William D. Barclay, "The Semantic Differential as an Index of Brand Attitude," Journal of Advertising Research 4 (March 1964): 30-33.

⁵⁰Ibid.

The Fishbein Attitude Model

According to Martin Fishbein:

Generally speaking, attitudes [are] conceptualized as learned predispositions to respond to an object or class of objects in a consistently favorable or unfavorable way, and beliefs about an object [are] viewed as hypotheses concerning the nature of the object and its relation to other objects.⁵¹

Thus, an attitude toward an object is seen as being a unidimensional concept referring only to an object's favorableness or unfavorableness. An individual has a positive, negative, or neutral attitude toward every object, concept, value, or goal.⁵²

Fishbein defines "belief" for use in his model as:

Belief in a concept is seen as the probability that the concept per se . . . does exist, while belief about a concept is defined as the probability that a specific relation exists between the concept and some other concept, value or goal . . . Beliefs can be measured by having the subject rate the assertion (belief about) or the concept per se (belief in) on a series of bipolar probabilistic scales (e.g., probable-improbable, likely-unlikely) of the semantic differential form.⁵³

The Fishbein Attitude Model, algebraically expressed, is:

$$A_o = \sum_{i=1}^N B_i a_i$$

⁵¹Martin Fishbein, "A Behavior Theory Approach to the Relations Between Beliefs About an Object and the Attitude Toward the Object," in Readings in Attitude Theory and Measurement, ed. Martin Fishbein (New York: John Wiley and Sons, Inc., 1967), pp. 389-99.

⁵²Ibid.

⁵³Lynn R. Anderson and Martin Fishbein, "Prediction of Attitude From the Number, Strength, and Evaluative Aspects of Beliefs About the Attitude Object," in Readings in Attitude Theory and Measurement, ed. Martin Fishbein (New York: John Wiley and Sons, Inc., 1967), pp. 437-43.

where

A_o = the attitude toward object "o"

B_i = the strength of belief i about o (i.e., the probability that o is related to some other object " x_i ")

a_i = the evaluative aspect of B_i (i.e., the evaluation of x_i)

N = the total number of beliefs

The evaluative aspect of a belief can be measured by the semantic differential form by use of such bipolars as important-unimportant. The equation, expressed verbally, says the prediction of the attitude a subject holds toward an object is the summation over N beliefs of the product of the beliefs about the object and the evaluative aspect of these beliefs.⁵⁴

The beliefs measured by use of the semantic differential to be used in the Fishbein Attitude Model should be an individual's salient beliefs about an object since these are the beliefs that form his attitudes that may, in turn, ultimately affect behavior. "The greater the proportion and absolute number of salient beliefs contained in the instrument, the smaller will be the loss of validity."⁵⁵ Valid estimates of attitude can be obtained from non-salient beliefs, but use of only salient beliefs and their evaluative aspects result in the most precise estimates of attitude. Only six to eleven beliefs should be evaluated since this has been found to be the number of beliefs that would be salient to an individual at any point in time.⁵⁶

⁵⁴Ibid.

⁵⁵Martin Fishbein, "A Behavior Theory Approach to the Relations Between Beliefs About an Object and the Attitude Toward the Object," in Readings in Attitude Theory and Measurement, ed. Martin Fishbein (New York: John Wiley and Sons, Inc., 1967), pp. 389-99.

⁵⁶Ibid.

As can be seen from the equation, an individual's attitude is affected by changes in his beliefs about an object and/or changes in the evaluative aspects of beliefs about an object. When salient beliefs are used to estimate attitudes, marketers may become effective in influencing these beliefs and/or the evaluative aspects of the beliefs in order to form a more favorable attitude toward their products or services.

The Fishbein Attitude Model was used in this research to determine consumer attitudes toward lamb meat. A full development of the scale used in the questionnaire is presented in Chapter III.

CHAPTER III

METHODOLOGY

Hypotheses and Statistical Technique

Hypotheses

In Chapter I, a brief overview was presented of the lamb industry to provide an understanding of the practices and problems in the industry. A statement of the problems facing the lamb industry in the Great Falls area and the purpose of this research were then presented.

Chapter II presented an overview of previous food consumption research. Several examples of previous studies were discussed concerning food in general, meat, lamb meat, and attitude models and research in order to provide: (1) a basic understanding of the techniques used in food consumption research; (2) an analysis of the results of previous research; and (3) a discussion of the implications for this study deduced from previous research.

This research was concerned with the consumption of lamb in the Great Falls area. The hypotheses tested in this paper dealt with the segmentation of the Great Falls area consumer market for lamb meat and the analysis of: (1) consumers who eat lamb meat; (2) consumers who have eaten lamb meat but no longer do; and (3) consumers who have never eaten lamb meat. The aim was to identify significant factors leading to Great Falls, Montana being an area of low lamb consumption. A total of twenty-four hypotheses were tested with the data gathered in this study.

The attitude scores examined in Hypotheses 1 through 10 were obtained from an adaptation of the Fishbein Attitude Model discussed in Chapter II. These ten hypotheses were tested to explore the possibility of segmenting the Great Falls market according to consumer attitudes toward lamb meat.

Hypotheses 11 through 23 examined the significance of responses to other portions of the questionnaire. Specifically, Hypotheses 11 and 12 dealt with purchase-place of red meats and the likelihood of a non-eater of lamb accepting a taste of lamb meat, respectively. Hypotheses 13 through 21 examined the significance of the differences in demographic variables for lamb eaters, those who have eaten lamb but no longer do, and those consumers who have never eaten lamb meat. Hypotheses 22 and 23 dealt with how consumers view lamb meat and the possible association of advertising media to lamb consumption behavior, respectively. Hypotheses 24 examined the significant factors leading to low lamb consumption in each of the three categories of consumers mentioned above.

The military segment of the Great Falls population consists of consumers from many sections of the country. The older members of this group are generally well-traveled and, therefore, have been exposed to many marketplaces. A difference in the attitudes toward lamb may exist between this segment and the non-military segment of the Great Falls population. The first hypothesis tested was:

Hypothesis 1: Null--There is no statistically significant difference between the mean attitude scores for lamb meat for the military and non-military segments of the Great Falls population.

Alternate--There is a statistically significant difference between the mean attitude scores for lamb meat for the military and non-military segments of the Great Falls population.

On the assumption that consumption patterns and attitudes toward products may change after a person marries, the following hypothesis was tested:

Hypothesis 2: Null--There is no statistically significant difference between the mean attitude scores for married and unmarried consumers.

Alternate--There is a statistically significant difference between the mean attitude scores for married and unmarried consumers.

Men and women may hold different attitudes toward lamb meat. To test if this is the case in the Great Falls market, the following was considered:

Hypothesis 3: Null--There is no statistically significant difference between the mean attitude scores for men and women.

Alternate--There is a statistically significant difference between the mean attitude scores for men and women.

Attitudes toward lamb of people who eat lamb regularly, who have eaten lamb but no longer do, and who have never eaten lamb were also tested for significant differences. Marketers must know the attitude held toward their products or services in order to reinforce favorable attitudes and attempt to change the unfavorable attitudes. The following three hypotheses were tested to identify attitude differences between the three categories of consumers:

Hypothesis 4: Null--There is no statistically significant difference between the mean attitude scores for people who eat lamb and people who have never eaten lamb.

Alternate--There is a statistically significant difference between the mean attitude scores for people who eat lamb and people who have never eaten lamb.

Hypothesis 5: Null--There is no statistically significant difference between the mean attitude scores for people who eat lamb and people who have eaten lamb but no longer do.

Alternate--There is a statistically significant difference between the mean attitude scores for people who eat lamb and people who have eaten lamb but no longer do.

Hypothesis 6: Null--There is no statistically significant difference between the mean attitude scores for people who have never eaten lamb and people who have eaten lamb but no longer do.

Alternate--There is a statistically significant difference between the mean attitude scores for people who have never eaten lamb and people who have eaten lamb but no longer do.

Religion often affects a person's attitude toward many entities.

The attitudes of Protestants versus non-Protestants were compared in Hypothesis 7 to determine if significant differences exist.

Hypothesis 7: Null--There is no statistically significant difference between the mean attitude scores for Protestants and non-Protestants.

Alternate--There is a statistically significant difference between the mean attitude scores for Protestants and non-Protestants.

The high price of meat is now being cited by many as the reason for the declining consumption of red meats. It is possible that income levels could affect consumer attitudes toward lamb meat. The following three hypotheses were tested to examine this issue:

Hypothesis 8: Null--There is no statistically significant difference between the mean attitude scores for persons with household incomes under \$7,000 and for persons with household incomes from \$7,000 - \$20,000.

Alternate--There is a statistically significant difference between the mean attitude scores for persons with household incomes under \$7,000 and for persons with household incomes from \$7,000 - \$20,000.

Hypothesis 9: Null--There is no statistically significant difference between the mean attitude scores for persons with household incomes under \$7,000 and for persons with household incomes over \$20,000.

Alternate--There is a statistically significant difference between the mean attitude scores for persons with household incomes under \$7,000 and for persons with household incomes over \$20,000.

Hypothesis 10: Null--There is no statistically significant difference between the mean attitude scores for persons with household incomes from \$7,000 - \$20,000 and for persons with household incomes over \$20,000.

Alternate--There is a statistically significant difference between the mean attitude scores for persons with household incomes from \$7,000 - \$20,000 and for persons with household incomes over \$20,000.

As mentioned in Chapter II, availability of lamb meat has been shown to have an effect upon its consumption across the U.S. Consumers of red meats were divided into three groups for purposes of this study: (1) consumers who eat lamb meat; (2) consumers who have eaten lamb meat but no longer do; and (3) consumers who have never eaten lamb meat. An examination of the first group provided the characteristics of the present market for lamb cuts in the Great Falls area. A study of the second group provided data on those people who have tried lamb meat but, for some reason, no longer eat it. The differing characteristics of this group provided needed information on how to aim promotion for changing inhibiting influences. The last category, those who have never eaten lamb, represent an untapped market. Information about this group can be used to direct promotion of lamb as a valuable addition to the present diet.

The category in which a consumer belongs may depend in part upon the type of store in which he purchases red meats: the availability of lamb cuts may differ in differing types of stores. To examine this possibility, the following hypothesis was tested:

Hypothesis 11: Null--The category in which a consumer belongs with respect to lamb consumption is independent of the place of purchase of red meats.

Alternate--The category in which a consumer belongs with respect to lamb consumption is associated with the place of purchase of red meats.

Many people who have never tried a given food product may be willing to do so if given the opportunity. In order to examine whether the category of consumers who have never eaten lamb meat, but are willing to try it, is associated with sex and marital status of the individual, the following hypothesis was tested:

Hypothesis 12: Null--The willingness to try lamb by people who have never eaten lamb is independent of sex and marital status.

Alternate--The willingness to try lamb by people who have never eaten lamb is associated with sex and marital status.

The next nine hypotheses were tested for the possibility of significant demographic differences between the three categories of consumers of red meat in the Great Falls area. Demographic market segmentation is used by many marketers to find the most profitable target markets for their products and services. The demographic differences and differences in attitudes toward lamb meat may combine to form a more effective marketing strategy for lamb. The hypotheses tested in an attempt to demographically segment the Great Falls market area were:

Hypothesis 13: Null--Lamb consumption behavior is independent of the consumer's sex.

Alternate--Lamb consumption behavior is associated with the consumer's sex.

Hypothesis 14: Null--Lamb consumption behavior is independent of the consumer's marital status.

Alternate--Lamb consumption behavior is associated with the consumer's marital status.

Hypothesis 15: Null--Lamb consumption behavior is independent of the consumer's age.

Alternate--Lamb consumption behavior is associated with the consumer's age.

Hypothesis 16: Null--Lamb consumption behavior is independent of the consumer's religion.

Alternate--Lamb consumption behavior is associated with the consumer's religion.

Hypothesis 17: Null--Lamb consumption behavior is independent of the consumer's household income level.

Alternate--Lamb consumption behavior is associated with the consumer's household income level.

Hypothesis 18: Null--Lamb consumption behavior is independent of the consumer's educational level.

Alternate--Lamb consumption behavior is associated with the consumer's educational level.

Hypothesis 19: Null--Lamb consumption behavior is independent of the number of children in the consumer's household.

Alternate--Lamb consumption behavior is associated with the number of children in the consumer's household.

Hypothesis 20: Null--Lamb consumption behavior is independent of where the consumer lives (i.e., in a rural, urban or suburban area).

Alternate--Lamb consumption behavior is associated with where the consumer lives.

Hypothesis 21: Null--Lamb consumption behavior is independent of the consumer's ethnic background.

Alternate--Lamb consumption behavior is associated with the consumer's ethnic background.

The third person technique has been found to be an effective method in finding true consumer feelings about certain products. The Mason Haire research discussed in Chapter II of this paper provided useful results in the study of acceptance of instant coffee.¹ Whether consumers view lamb as a normal day-to-day dish, a specialty food, a food to be served to guests, or some other type of food must be considered in order to properly promote the meat. The third person technique was employed in this study to examine the hypothesis:

Hypothesis 22: Null--Lamb consumption behavior is independent of how the consumer categorizes lamb meat

Alternate--Lamb consumption behavior is associated with how the consumer categorizes lamb meat.

The consumption behavior of the consumer may be affected by the amount of advertising he has been exposed to. A question was added as to whether the respondents in each category could recall any advertising for lamb meat in the past year and, if they could, they were asked to identify the media in which the advertising appeared. In an attempt to identify the most influential media for lamb, the following was tested:

Hypothesis 23: Null--Lamb consumption behavior is independent of how the consumer categorizes lamb meat.

Alternate--Lamb consumption behavior is associated with the media in which the consumer has seen lamb advertised.

Each respondent was asked to identify the three most significant factors that prevented him from consuming more lamb meat. The respondent was asked to number the choices offered from 1 to 3 in descending

¹Above, p. 13.

order of significance. If three factors were not seen to be significant by the consumers, they were asked to number only the significant factors. The 12 choices listed in the questionnaires were:

1. odor
2. availability
3. appearance
4. fat content
5. bone content
6. taste
7. texture (i.e., tenderness, etc.)
8. price
9. hard to cook
10. packaging
11. influence of others
12. other (specify)

The factors found most important in each category of lamb consumption behavior provide important marketing information. The most significant factors leading to low lamb consumption in each category can be analyzed to determine the possibility of lessening these inhibiting influences. To find the most significant factors for each category, the following hypothesis was tested:

Hypothesis 24: Null--The most significant factors affecting the amount of lamb purchased are independent of lamb consumption behavior

Alternate--The most significant factors affecting the amount of lamb purchased are associated with lamb consumption behavior.

Statistical Techniques

The attitude scores for all respondents in a given group were combined to form the mean attitude score for the categories mentioned in Hypotheses 1 through 10. A test of significance of the differences between the mean attitude scores of the two large independent samples for the hypothesis being tested was performed using the t-Test. The

t-Test reveals whether the samples were drawn from two independent populations or were drawn from the same population with the difference in means resulting from sampling error.

For Hypotheses 11 through 23, the frequencies observed were compared with the frequencies that could be expected if the null hypothesis were true. The χ^2 distribution was used to test whether these observed frequencies in the study data deviated significantly from chance frequencies.

In order to test Hypothesis 24, the proportions of respondents in each category of lamb consumption behavior listing each of the twelve factor choices in the top three of significance were tabulated. These proportions for each category were compared to determine whether significant differences existed in the reporting of the three most important inhibitors to lamb consumption. The hypothesis was tested by examining the differences between the proportions of consumers in each category listing the given factor in the top three by examining each factor proportion two categories at a time. The z distribution was used to identify the significant differences in proportions of respondents identifying a factor as being in the top three of significance for each category of lamb consumption behavior.

The Questionnaires

Type of Data Needed

Data were needed on the consumer purchasing behavior as it applied to the purchase of lamb meat in the Great Falls area. Enough information had to be gathered on each respondent in order to identify, without question, which category of consumer behavior applied to that

subject. The categories of interest were, again: (1) those consumers who presently eat lamb--they comprise the present market for the meat; (2) those consumers who have eaten lamb meat but no longer do--they comprise a group of consumers who have possibly formed inhibiting attitudes toward lamb meat; and (3) those consumers who have never eaten lamb--this category represents the untapped market for lamb meat in the Great Falls area.

Data on the type of store red meat was purchased in, information on advertising recall, and other marketing technique recall questions were gathered in order to help marketers of lamb better focus future promotional efforts.

The attitudes toward lamb meat and various demographic data were researched in the questionnaires to provide bases for market segmentation.

More information was gathered than was needed for this paper and is available for possible use in other studies concerning lamb meat.

Development of the Questionnaires, General

Two questionnaires were used in this research project. One questionnaire covered the two categories of consumers who had previously eaten lamb meat. The other questionnaire was written expressly for consumers who had never eaten lamb meat. Both questionnaires sought the same basic information but were worded differently to fit the category of consumer behavior to which they pertained. The questionnaire concerning consumers who had eaten lamb meat contained a few more questions about past and present lamb consumption behavior.

The final section of the questionnaires asked for demographic data.

Development of the Attitude Measurement Instrument

The instrument used in the questionnaires to obtain consumer attitudes toward lamb meat was an adaptation of the Fishbein Attitude Model discussed in Chapter II.² As stated in Chapter II, the Fishbein model employs semantic differential scales to measure importance and likelihood of importance in order to arrive at an attitude score for the respondent.

The semantic differential scales used in the questionnaires were explained with examples to the respondents before the questions employing the scales were asked. The scales were balanced scales having seven cues. The central cue was neutral with degrees of favorableness extending to the right and unfavorableness extending to the left of neutral. The following is an example of the type of scale used:

Good Taste _____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____
Not Very												Very
Likely												Likely

Eleven attributes were examined in this study. Good appearance, pleasant odor, good taste, tenderness, juiciness, high nutrition, low fat content and low bone content are attributes often connected with meat products.³ The recent meat price increases mentioned in Chapter I of this paper prompted the inclusion of low price as an attribute. As

²Above, pp. 37-39.

³Albert Levie, The Meat Handbook, 3d ed. (Westport, Connecticut: The AVI Publishing Company, Inc., 1970), pp. 316-323.

The value for characteristic one in scale set one and characteristic one in scale set two were multiplied together. The same was done for all eleven characteristics and these products were then summed to obtain the attitude score. The attitude scores for all respondents of a certain group of interest were used to obtain a mean attitude score for that group.

In summary, the Fishbein Attitude Model was adapted by this researcher to obtain:

$$A_o = \sum_{i=1}^{11} B_i a_i$$

where:

- A_o = the respondent's attitude toward lamb meat
- B_i = the respondent's belief about the probability that lamb meat has the stated characteristic
- a_i = the respondent's evaluation of the importance of the listed characteristic when buying meat

Data Collection

Choosing the Samples

The two questionnaires, one for people who had eaten lamb in the past and one for people who had never eaten lamb, provided the ability to collect data on two independent samples.

The samples were chosen from the motor vehicle owners in the Great Falls area that obtained licenses at the Trade and Industry Building at the Montana State Fairgrounds and from a small group of women belonging to the American Association of University Women. Owners of new and old automobiles and pick-up trucks, motorcycles, snowmobiles, campers, trailers,

and other motor vehicles were included in the samples. Since motor vehicles are owned by members of virtually every segment of the market, this researcher feels a good cross section of the Great Falls area population was obtained.

Pretest Technique

A group of six acquaintances of the researcher were asked to pretest the questionnaire (less the attitude measurement instrument) in order to provide guidelines for re-wording the questions. These six people offered constructive criticism to enable re-wording of questions to alleviate ambiguity and add clarification where needed.

The questions from Parts I, III and IV were then combined with the attitude model in Section Two to provide the questionnaires used in a pretest at the licensing center. A group of twenty-five questionnaires were distributed in the same manner as the final test was. The responses to the pretest were analyzed to alleviate the remaining wording problems. Responses to the attitude measurement instrument in the pretest indicated an understanding of the model by the respondents. Only minor changes were needed in the questionnaires before they were ready for use in the final survey.

Survey Technique

The respondents were approached by the researcher personally while they waited in lines in the license center. The researcher asked each respondent if he or she had ever eaten lamb meat: the response to this inquiry determined which questionnaire they were asked to complete. The subjects were asked to fill in the questionnaire honestly and carefully. So as to guarantee anonymity of the respondents, when finished,

the respondents were allowed to leave completed questionnaires on any bench in the Trade and Industry Building. The researcher gathered the responses from throughout the center periodically.

The survey was conducted on varying days of the week (Monday through Friday) and at varying hours of the day from January to the closing date, 15 February 1974. The researcher started at the end of the automobile registration line and proceeded to a point where subjects already had questionnaires. Questionnaires were then distributed to the other motor vehicle lines in the same manner. When all lines had been attended to, the process was started again.

A small number of responses were obtained from a meeting of the American Association of University Women in Great Falls. It was originally planned to attend similar meetings of other groups, but the high response rate of the motor vehicle registrants made this unnecessary.

The survey technique provided a good cross section of the population of the Great Falls area. The reception given the survey was very good from both those groups of consumers who had eaten lamb and those consumers who had never eaten lamb. The subjects were very willing to cooperate since anonymity was guaranteed and the confidentiality of responses was assured. Conducting research during the noon hour provided responses from working individuals. The other variations of times and days were made to provide responses from early registrants and those who waited until close to the end of the day or registration period to register their motor vehicles.

The total sample of respondents who have eaten lamb meat in the past consisted of 109 subjects who still eat lamb and 45 subjects who

have eaten lamb but no longer do. The total number of respondents who never have eaten lamb meat was 103. In all, 257 responses were received.

CHAPTER IV

ANALYSIS AND FINDINGS

Restatement of Hypotheses 1 Through 10

Hypotheses 1 through 10 were tested to explore the possibility of segmenting the Great Falls market according to consumer attitudes toward lamb meat. These hypotheses are restated below.

Hypothesis 1: Null--There is no statistically significant difference between the mean attitude scores for lamb meat for the military and non-military segments of the Great Falls population.

Alternate--There is a statistically significant difference between the mean attitude scores for lamb meat for the military and non-military segments of the Great Falls population.

Hypothesis 2: Null--There is no statistically significant difference between the mean attitude scores for married and unmarried consumers.

Alternate--There is a statistically significant difference between the mean attitude scores for married and unmarried consumers.

Hypothesis 3: Null--There is no statistically significant difference between the mean attitude scores for men and women.

Alternate--There is a statistically significant difference between the mean attitude scores for men and women.

Hypothesis 4: Null--There is no statistically significant difference between the mean attitude scores for people who eat lamb and people who have never eaten lamb.

Alternate--There is a statistically significant difference between the mean attitude scores for people who eat lamb and people who have never eaten lamb.

Hypothesis 5: Null--There is no statistically significant difference between the mean attitude scores for people who eat lamb and people who have eaten lamb but no longer do.

Alternate--There is a statistically significant difference between the mean attitude scores for people who eat lamb and people who have eaten lamb but no longer do.

Hypothesis 6: Null--There is no statistically significant difference between the mean attitude scores for people who have never eaten lamb and people who have eaten lamb but no longer do.

Alternate--There is a statistically significant difference between the mean attitude scores for people who have never eaten lamb and people who have eaten lamb but no longer do.

Hypothesis 7: Null--There is no statistically significant difference between the mean attitude scores for Protestants and non-Protestants.

Alternate--There is a statistically significant difference between the mean attitude scores for Protestants and non-Protestants.

Hypothesis 8: Null--There is no statistically significant difference between the mean attitude scores for persons with household incomes under \$7,000 and for persons with household incomes from \$7,000 - \$20,000.

Alternate--There is a statistically significant difference between the mean attitude scores for persons with household incomes under \$7,000 and for persons with household incomes from \$7,000 - \$20,000.

Hypothesis 9: Null--There is no statistically significant difference between the mean attitude scores for persons with household incomes under \$7,000 and for persons with household incomes over \$20,000.

Alternate--There is a statistically significant difference between the mean attitude scores for persons with household incomes under \$7,000 and for persons with household incomes over \$20,000.

Hypothesis 10: Null--There is no statistically significant difference between the mean attitude scores for persons with household incomes from \$7,000 - \$20,000 and for persons with household incomes over \$20,000.

Alternate--There is a statistically significant difference between the mean attitude scores for persons with household incomes from \$7,000 - \$20,000 and for persons with household incomes over \$20,000.

Test Results of Hypotheses 1 Through 10

The table below summarizes the results of the t-Tests performed on Hypotheses 1 through 10. The row numbers of the table represent the number of the null hypothesis tested. The column headings represent the consumer category examined for the given hypothesis, the mean attitude score for the consumers in that category, the t-value found, and the level of significance of the t-value.

The only statistically significant differences between the samples were found in Null Hypotheses 2, 4, 5, and 6. The differences in the means of the categories of Hypothesis 6 is significant at the .10 level but not at the .05 level and, for purposes of this study, the .10 level is not a rigorous enough criterion. The .20 level of significance for the t-value of Hypothesis 2 is also not a rigorous enough criterion for purposes of this study. This leaves only the mean attitude scores for Hypotheses 4 and 5 as being significantly different at a level of interest in this research.

TABLE 1

t-TEST RESULTS FOR HYPOTHESES 1 THROUGH 10

Hypothesis	Category	Mean A_0	t-Value	Level of Significance
1	Military Non-Military	304.623 315.172	.770229	Not Significant
2	Married Unmarried	308.005 327.298	1.52073	.20
3	Men Women	306.947 317.818	.97416	Not Significant
4	Eat Never Eaten	336.119 306.382	2.62082	.01
5	Eat No Longer Eat	336.119 276.311	4.19466	.002
6	Never Eaten No Longer Eat	306.382 276.311	1.83455	.10
7	Protestant Non-Protestant	311.776 314.886	.279866	Not Significant
8	Under \$7,000 \$7,000-\$20,000	321.725 309.687	.942965	Not Significant
9	Under \$7,000 Over \$20,000	321.725 310.5	.473333	Not Significant
10	\$7,000-\$20,000 Over \$20,000	309.687 310.5	.041619	Not Significant

Restatement of Hypotheses 11 and 12

Hypothesis 11 was tested to determine if the place in which a consumer purchased red meats affected his lamb consumption behavior. Hypothesis 12 examined whether the category of consumers who have never eaten lamb meat, but are willing to try it, is associated with the sex

and marital status of the individual. Hypotheses 11 and 12 are restated below.

Hypotheses 11: Null--The category in which a consumer belongs with respect to lamb consumption is independent of the place of purchase of red meats.

Alternate--The category in which a consumer belongs with respect to lamb consumption is associated with the place of purchase of red meats.

Hypotheses 12: Null--The willingness to try lamb by people who have never eaten lamb is independent of sex and marital status.

Alternate--The willingness to try lamb by people who have never eaten lamb is associated with sex and marital status.

Test Results of Hypotheses 11 and 12

The table below summarizes the results of the chi-square analysis for Hypotheses 11 and 12. The χ^2 value is given in the space corresponding to the hypothesis number and consumer category. The rows are named according to hypothesis number and the variable examined. The first column represents the consumer categories tested. In Hypothesis 11, column one represents: (1) consumers who eat lamb meat, (2) consumers who have eaten lamb meat but no longer do, and (3) consumers who have never eaten lamb meat. For Hypothesis 12, column one represents the following sex-marital status categories: (1) unmarried male, (2) unmarried female, (3) married male, (4) married female. The second column provides the level of significance of the χ^2 value for each hypothesis.

Hypothesis 11 resulted in a statistically significant difference between where people shopped and the category of lamb consumption behavior in which they belonged.

TABLE 2

 χ^2 RESULTS FOR HYPOTHESES 11 AND 12

Hypothesis/	Category	Level of Significance
11 Shopping Place	15.8186	.02
12 Would Try Lamb	6.3424	Not Significant

Restatement of Hypotheses 13 Through 21

Hypotheses 13 through 21 were tested for the possibility of significant demographic differences between the three categories of consumers of red meats in the Great Falls area. These nine hypotheses tested in an attempt to demographically segment the Great Falls market are restated below.

Hypothesis 13: Null--Lamb consumption behavior is independent of the consumer's sex.

Alternate--Lamb consumption behavior is associated with the consumer's sex.

Hypothesis 14: Null--Lamb consumption behavior is independent of the consumer's marital status.

Alternate--Lamb consumption behavior is associated with the consumer's marital status.

Hypothesis 15: Null--Lamb consumption behavior is independent of the consumer's age.

Alternate--Lamb consumption behavior is associated with the consumer's age.

Hypothesis 16: Null--Lamb consumption behavior is independent of the consumer's religion.

Alternate--Lamb consumption behavior is associated with the consumer's religion.

Hypothesis 17: Null--Lamb consumption behavior is independent of the consumer's household income level.

Alternate--Lamb consumption behavior is associated with the consumer's household income level.

Hypothesis 18: Null--Lamb consumption behavior is independent of the consumer's educational level.

Alternate--Lamb consumption behavior is associated with the consumer's educational level.

Hypothesis 19: Null--Lamb consumption behavior is independent of the number of children in the consumer's household.

Alternate--Lamb consumption behavior is associated with the number of children in the consumer's household.

Hypothesis 20: Null--Lamb consumption behavior is independent of where the consumer lives (i.e., in a rural, urban or suburban area).

Alternate--Lamb consumption behavior is associated with where the consumer lives.

Hypothesis 21: Null--Lamb consumption behavior is independent of the consumer's ethnic background.

Alternate--Lamb consumption behavior is associated with the consumer's ethnic background.

Test Results of Hypotheses 13 Through 21

The table below summarizes the results of the chi-square analysis for hypotheses 13 through 21. The χ^2 value for each hypothesis is given in the space representing the variables tested for the given hypothesis. The rows are numbered by hypothesis number and are named according to the demographic variables tested. The first column represents the consumption behavior categories tested. These categories were: (1) consumers who eat lamb meat, (2) consumers who have eaten lamb meat but no longer do, and

(3) consumers who have never eaten lamb meat. The second column lists the level of significance of the χ^2 value for the given hypothesis.

TABLE 3
 χ^2 RESULTS FOR HYPOTHESES 13 THROUGH 21

Hypothesis/ Consumer Category	Level of Significance
13 Sex	11.9513 .01
14 Marital Status	9.8316 Not Significant
15 Age	13.349 .05
16 Religion	7.1359 Not Significant
17 Income Level	21.3318 .01
18 Educational Level	5.2517 Not Significant
19 Number of Children	2.7517 Not Significant
20 Place of Residence	4.3153 Not Significant
21 Ethnic Background	10.7169 .10

The only demographic variables proving statistically significant using chi-square analysis were those for Hypotheses 13, 15, 17, and 21. Hypothesis 21 is significant at the .10 level, but this is not a rigorous enough criterion for this paper.

Restatement of Hypotheses 22 and 23

Hypothesis 22 was tested to examine if lamb consumption behavior was related to the category of food in which consumers placed lamb meat. Hypothesis 23 was tested in an effort to identify the advertising media

most influential to lamb consumption behavior. Hypotheses 22 and 23 are restated below.

Hypothesis 22: Null--Lamb consumption behavior is independent of how the consumer categorizes lamb meat.

Alternate--Lamb consumption behavior is associated with how the consumer categorizes lamb meat.

Hypothesis 23: Null--Lamb consumption behavior is independent of the media in which the consumer has seen lamb advertised.

Alternate--Lamb consumption behavior is associated with the media in which the consumer has seen lamb advertised.

Test Results of Hypotheses 22 and 23

The table below summarizes the results of the chi-square analysis for Hypotheses 22 and 23. The χ^2 value for each hypothesis is given in the space representing the variables tested for the given hypothesis. The rows are numbered by hypothesis number and are named according to the variable being tested. The first column represents the consumption behavior categories tested. These categories were: (1) consumers who eat lamb meat; (2) consumers who have eaten lamb meat but no longer do; and (3) consumers who have never eaten lamb meat. The second column lists the level of significance of the χ^2 value for the given hypothesis.

TABLE 4

χ^2 RESULTS FOR HYPOTHESES 22 AND 23

Hypothesis/ 22 Type of Food	Consumption Category	Level of Significance
22 Type of Food	23.9571	.01
23 Advertising Media	28.2739	.01

Hypotheses 22 and 23 are both statistically significant at the .01 level.

Restatement of Hypothesis 24

Hypothesis 24 was tested to identify and rank order those factors most significantly affecting lamb consumption behavior in the Great Falls area. There were twelve choices listed for the respondents when deciding upon the three most influential factors in their not purchasing more lamb meat. These choices were: (1) odor, (2) availability, (3) appearance, (4) fat content, (5) bone content, (6) taste, (7) texture (i.e., tenderness, etc.), (8) price, (9) hard to cook, (10) packaging, (11) influence of others, and (12) other (specify). Hypothesis 24 is restated below.

Hypothesis 24: Null--The most significant factors affecting the amount of lamb purchased are independent of lamb consumption behavior.

Alternate--The most significant factors affecting the amount of lamb purchased are associated with lamb consumption behavior.

Test Results of Hypothesis 24

The tables below summarize the results of the tests of Hypothesis 24. In the first table, the proportion of respondents in each category placing the given factor among the three most influential reasons for not buying more lamb meat are given the rows representing the proportions for the following categories: (1) consumers who eat lamb; (2) consumers who have eaten lamb but no longer do; and (3) consumers who have never eaten lamb. The χ^2 value for the listed factor is included under column

four if it is statistically significant. The z values for those factors proving to be statistically significant by use of chi-square analysis are given for the categories identified in the column heading (e.g., $z_{1,3}$ is the z value for categories 1 and 3 for the given factor). These z values represent the statistical significance of the difference in the proportions of consumers in the given categories listing the factor among their top three of significance. The level of significance for the χ^2 and z values can be obtained from matching the letter in the appropriate space to the legend at the bottom of the table.

The second table rank orders the factors for each consumption category from the most significant down to the least significant. The columns represent the category number and the rows the rank order. The factor number is followed by the proportion of consumers in the given category listing that factor among their top three of significance.

Combining the results contained in Tables 5 and 6 provides information on: (1) the significant factors limiting lamb consumption in each of the three categories; and (2) the factors that are most significantly different in importance among the three consumer categories.

Chapter V summarizes the results and draws implications for practice and future research from the results summarized in Tables 1 through 6 for Hypotheses 1 through 24.

TABLE 5
TEST RESULTS FOR HYPOTHESIS 24

Factor Number/	P ₁	P ₂	P ₃	χ^2	z _{1,2}	z _{1,3}	z _{2,3}
1	.1376	.4889	.2039	22.9577b	4.6102b	1.2775a	3.5099b
2	.4771	.2889	.2621	11.7771b	2.1583c	3.2428b	.3375a
3	.1009	.0667	.0971	a	a	a	a
4	.2110	.0667	.0583	13.0106b	2.1765c	3.2559b	.1927a
5	.0917	.0444	.0097	a	a	a	a
6	.1193	.5333	.3204	29.5537b	5.4331b	3.5530b	2.4415c
7	.0550	.0667	.0680	a	a	a	a
8	.5872	.3111	.2621	25.2955b	3.1057b	4.7950b	.6125a
9	.1009	.0667	.0874	a	a	a	a
10	.0183	.0000	.0194	a	a	a	a
11	.1468	.2444	.2427	a	a	a	a
12	.0459	.0889	.2826	d	d	d	d

a = not significant

b = significant at .01 level

c = significant at .05 level

d = this is the factor labeled "other" and was not tested for significance due to the variety of replies. A large proportion of respondents in category 3 checking this factor specified "never tried lamb meat" as the reason

TABLE 6

RANK ORDER OF FACTOR SIGNIFICANCE BY
 PROPORTION RESPONDING IN GIVEN
 CONSUMPTION BEHAVIOR CATEGORY

Rank Order/	Category 1		Category 2		Category 3	
1	8	.5872	6	.5333	6	.3204
2	2	.4771	1	.4889	12	.2826
3	4	.2110	8	.3111	2	.2621
4	11	.1468	2	.2889	8	.2621
5	1	.1376	11	.2444	11	.2427
6	6	.1193	12	.0889	1	.2039
7	3	.1009	3	.0667	3	.0971
8	9	.1009	4	.0667	9	.0874
9	5	.0917	7	.0667	7	.0680
10	7	.0550	9	.0667	4	.0583
11	12	.0459	5	.0444	10	.0194
12	10	.0183	10	.0000	5	.0097

CHAPTER V

SUMMARY AND IMPLICATIONS OF RESULTS

Review of the Purpose

This study was undertaken in an effort to segment the Great Falls consumer market for lamb meat according to attitudes toward lamb meat and demographic variables. Basically, three groups of consumers were studied according to the lamb consumption behavior of those groups. The groups were: (1) consumers who eat lamb meat; (2) consumers who have eaten lamb meat but no longer do; and (3) consumers who have never eaten lamb meat.

The findings of this study can be used to identify the target markets for lamb meat. Lamb can be more successfully promoted once the characteristics of the three categories of consumers are identified. The weakening of factors inhibiting consumption of lamb by consumers can be a goal of lamb meat marketers. The proper use of information about lamb eaters can result in increased sales to this category of consumers.

Summary of the Results

The Great Falls consumer market for lamb meat can only be segmented in two areas by use of attitude segmentation. The only null hypotheses rejected among Hypotheses 1 through 10 were numbers 4 and 5. Considering acceptance of alternate Hypothesis 4, consumers who eat lamb have statistically significantly higher attitudes toward the meat than

people who have never eaten lamb. Accepting Alternate Hypothesis 5, consumers who eat lamb have statistically significantly higher attitudes toward the meat than people who have eaten lamb meat but no longer do.

Considering Hypotheses 11 and 12, only Null Hypothesis 11 can be rejected. There is a statistically significant association between where people purchase red meats and in which category of consumption of lamb they belong.

In the effort to demographically segment the Great Falls market for lamb, three demographic variables proved statistically significant. Null Hypotheses 13, 15, and 17 were rejected and the corresponding Alternate Hypotheses accepted. Alternate Hypothesis 13 indicates an association between the sex of a consumer and the consumption category to which he or she belongs. Alternate Hypothesis 15 indicates an association between the age of the consumer and the consumption category to which that consumer belongs. Alternate Hypothesis 17 indicates an association between the household income level and consumption category of the consumer.

Null Hypotheses 22 and 23 were both rejected. Acceptance of Alternate Hypothesis 22 indicates that lamb consumption behavior is associated with how the consumer categorizes lamb meat. Acceptance of Alternate Hypothesis 23 indicates an association between lamb consumption behavior and the media in which the consumer recalls lamb as having been advertised in the past year.

Alternate Hypothesis 24 is accepted since it was shown that the factors leading to lamb consumption behavior of each category differ significantly from influencing factors in the other two categories.

Implications for Practice

The Great Falls market can only be segmented using attitudes in two ways. First, the consumers who eat lamb have a higher attitude toward the meat than consumers who have never eaten lamb. Secondly, consumers who eat lamb have a higher mean attitude toward lamb than consumers who have eaten lamb but no longer do. The overall mean attitude score for lamb of the other categories studied indicate that a marketing effort based on total attitude toward lamb meat would not be advisable.

For Hypotheses 11 through 23, a chi-square analysis was conducted to test for independence. The hypotheses in which the alternates were accepted are the only ones that provide usable marketing information as they indicate an association between a category of consumer and some variable. The Alternate Hypotheses accepted were numbers 11, 13, 15, 17, 22, and 23. After rejecting the null hypothesis in each of the above cases, the researcher studied the contributors in the χ^2 value. The implications of the study of this data are presented below.

Considering Alternate Hypothesis 11, the consumption category to which a consumer belongs is associated with the place of purchase of red meats. Shoppers at meat markets appear to have a greater exposure to lamb than shoppers at supermarkets and the commissary. Meat market owners can capitalize on this exposure by use of point-of-purchase displays. Supermarket and commissary managers should handle more lamb cuts in order to increase sales. Among the consumers who marked "other" as their place of purchase, consumers who eat lamb meat responded more than would be

expected. Many of these respondents bought meat from ranchers or were ranchers. This finding indicates a possible target market exists for bulk sales of lamb meat.

Acceptance of Alternate Hypothesis 13 indicates an association between lamb consumption behavior and the consumer's sex. Males are not only more likely to have tried lamb, but they are also more likely to have tried it and not liked it than are females. A significant number of females who have tried lamb meat still eat lamb meat. Marketers should aim to give females who have never eaten lamb meat an opportunity to do so.

Acceptance of Alternate Hypothesis 15 indicates an association between lamb consumption behavior and the consumer's age. A significant number of consumers in the 20-35 year old bracket have never eaten lamb meat. In the age group of consumers over 50, many more consumers than would be expected by chance have eaten lamb meat. Marketers should aim at the ages of 36 and above to increase lamb sales to the present market. A new market may be tapped by aiming new product promotion techniques to the 20-35 age group.

Acceptance of Alternate Hypothesis 17 indicates that lamb consumption behavior is associated with the consumer's household income level. Consumers with household income levels up to and including \$20,000 have not eaten lamb to the extent that would be expected whereas more people than would be expected by chance with incomes over \$20,000 eat lamb meat. This indicates that a promotion emphasizing the low cost-per-serving of lamb may increase sales of the product to consumers with incomes under \$20,000. The present price per pound promotion does not emphasize that

the consumer may actually save on cost-per-serving if she or he served lamb instead of other red meats. Once the price barrier is broken, sales should increase.

Acceptance of Alternate Hypothesis 21 indicates an association between a consumer's ethnic background and his lamb consumption behavior. The majority of American Indians in the Great Falls area do not eat lamb, according to the data gathered in this study. Among the other ethnic groups, there appears to be little difference in the observed frequencies and expected frequencies of each category. If the American Indian population in Great Falls is large, a new product promotion of lamb to this segment may be beneficial to the lamb industry in the area.

Rejection of Null Hypothesis 22 indicates an association between consumption behavior and how the consumer categorizes lamb meat. People who have never eaten lamb do not categorize the meat as a normal day-to-day dish. Promotion should be aimed at this group to convince them that lamb is an everyday dish. Consumers who eat lamb indicate that the meat is served on a day-to-day basis by them. The consumers who have never eaten lamb categorized it as a specialty food, a meat to serve to guests, or they had no idea as to which category of food lamb meat belonged. Promotion of lamb as an everyday meat may increase sales to eaters and non-eaters of lamb alike.

The association of advertising media and lamb consumption behavior is indicated by accepting Alternate Hypothesis 23. The only respondents who ever saw lamb advertised on television or heard it advertised over the radio were lamb eaters. This would indicate that these media are not the proper media over which to promote lamb to the other two consumer

groups. To weaken inhibiting feelings toward eating lamb held by those who have eaten lamb but no longer do, the newspaper seems to be the most promising medium. The newspaper and meat counter displays appear to be the best places to promote increased sales among consumers who eat lamb meat. A large number of non-lamb eaters cannot recall being exposed to any advertisements for lamb in any media. Despite this finding, newspaper ads and meat counter displays appear to hold the greatest promise for reaching this market.

Accepting Alternate Hypothesis 24 indicates that the most significant factors affecting the amount of lamb purchased are associated with lamb consumption behavior. The three most significant factors affecting lamb consumption of consumers who eat lamb meat are: (1) price, (2) availability, and (3) fat content. The proportion of consumers in this group rating price among the top three factors influencing lower purchase is significantly higher than the other two groups' proportions. This finding indicates that if the price were actually lowered, or the cost-per-serving of lamb were advertised extensively to make the price seem lower than it presently seems, lamb meat sales to this category of consumer would increase. Availability is also a more statistically significant factor in this group when compared with the proportions of the other two groups. This indicates that if more lamb were displayed by the red meat retailers in the area, it would probably be sold. There is a statistically significant difference between lamb eaters and the other two consumer groups when considering the influence of fat content. Better quality, higher yield lamb cuts should be offered at the same time as cost-per-serving is promoted in order to increase sales to the present lamb meat market in the Great Falls area.

There appear to be five factors strongly influencing the non-purchase of lamb by consumers who have eaten lamb but no longer do. In order, these factors are: (1) taste, (2) odor, (3) price, (4) availability, and (5) influence of others. Taste was marked as an important factor by a significantly larger proportion of respondents in this category than in either of the other two categories. Consumers in this group must be offered recipes that are "guaranteed" to taste good. The consumers in this category should also be advised not to judge the qualities of a meat by a first impression but that time and a variety of recipes may result in a strong liking for lamb. This is a very difficult promotional goal. Odor is also a statistically significant factor for this group when compared to the other groups. Recipes that smell appetizing while cooking could be promoted for this group of consumers. Price and availability appeared as important factors in all three groups. If cost-per-serving is promoted along with an increased display of lamb cuts, sales to this group may result. Although not statistically significant between groups, the influence of others was marked by a high proportion of consumers who have eaten lamb but no longer do. Convincing those who do not eat lamb to try a few new recipes for the sake of those in the family who enjoy eating lamb may make lamb eaters of the whole family.

In the category of consumers who have never eaten lamb meat, the following factors appeared as important in the order given: (1) taste, (2) other, (3) availability, (4) price, (5) influence of others, and (6) odor. Again, promotion of lamb as a good tasting meat along with interviews of people who regularly enjoy eating lamb may influence some of the consumers in this group to try the meat. Although "other" came

As in the number two factor, no practical application can be made of this data aside from mentioning that established meat purchasing habits seemed prominent in the reasons specified. Again, more available lamb cuts with increased promotion of low cost-per-serving may influence consumers in this category to buy lamb meat. As was the case for consumers who have eaten lamb but no longer do, consumers who have never eaten lamb meat are influenced by others. Convincing those who have never eaten lamb to try it may increase sales to households where lamb consumption is low because of certain influential household members. Odor appeared as a statistically significant factor influencing consumers who have never eaten lamb meat when compared with those who eat lamb. In the consumer category of people who have never eaten lamb, it is possible that only a fear of bad odor exists and is not backed up by experience. Promotion of lamb as a pleasantly aromatic meat may weaken this apparent inhibition in non-lamb eaters.

In summary, this study did find differences in the consumer categories exhibiting differing lamb consumption behavior. Lamb eaters have a higher attitude toward the meat than the consumers of the other two categories. The eaters of lamb meat are more prevalent among meat market shoppers and consumers who listed "other" as a place of purchase. Females who have tried lamb meat generally belong in this category. The lamb eaters are generally over 36 years of age and earn over \$20,000 annually. This is the only category of consumers in which advertising was recalled from television or radio advertisements. The consumers in this category viewed lamb as a normal day-to-day dish.

Consumers who have eaten lamb but no longer do are most likely to shop in meat markets and are most likely to be male.

Consumers who have never eaten lamb appear to be in the age group of 20-35 and have an income under \$20,000. The American Indian segment responding to this survey had no lamb eaters. This consumer category showed little recall of lamb advertisements and did not view lamb as an everyday dish.

Price and availability were found to be significant factors leading to low lamb consumption in all three consumption behavior categories. Taste, odor, and influence of others all appeared as important factors among consumers in the two categories of non-eaters of lamb meat. Lamb eaters indicated a feeling that lamb had a high fat content. Those consumers who have never eaten lamb listed "other" as a significant reason stating specifically that they never had a chance to try it.

Implications for Future Research

A study comparing attributes of lamb meat with those of various red meats and other meats would be valuable in identifying the favorable as well as the unfavorable attributes of lamb meat. The comparison of overall attitudes toward the different meats may provide more information on how to market lamb meat in competition with other meats.

This same study should provide a finer segmentation of consumers primarily by age, income level, and ethnic group for males and females and, secondly, by the other demographic variables found to be less important in this study. This segmentation would refine the identification of differences in lamb eaters, those who have eaten lamb but no longer do, and those who have never eaten lamb meat.

Research is also needed in order to determine the most effective marketing strategies to apply for each category of consumer. Finding methods that would result in the strengthening of existing favorable attitudes, the weakening of unfavorable attitudes, and the building of favorable attitudes by those consumers who are neutral toward lamb meat offer challenges for the advertising researcher. Some possible promotional projects that could be tested are: (1) cooking lamb and distributing free samples at retail meat outlets; (2) varying ads in differing media to have lamb featured as a favorite meat of the family, a group of young people, or as the main dish of a summer barbecue party; (3) have a lamb cooking contest at the state fair; (4) use point-of-purchase displays and bargain sales to increase the exposure to lamb in the Great Falls area.

A study is needed on the feasibility of in-state processing for lamb. If the price to the consumer can be lowered by slaughtering Montana lamb in Montana, there is strong indication that sales would increase.

A blind-rated taste test of pork roast, lamb roast, and beef roast should be conducted. If a large number of respondents who had never eaten lamb, or had eaten lamb but no longer do, indicated a liking for the meat, perhaps a psychological factor leading to not eating lamb would be discovered. This test may also provide a basis for convincing people who fear bad taste to try the meat before they judge it.

APPENDIX

The first questionnaire contained in the following pages was given to consumers who had eaten lamb meat sometime in the past. The second questionnaire was given to consumers who had never eaten lamb meat. The page containing demographic information was the same for both questionnaires and is included behind the second questionnaire.

1. When did you first eat lamb meat?
 As a child As a teenager As an adult
2. Where did you first eat lamb meat?
 In parent's home In present home In a restaurant
 In a friend's home In a relative's home Other _____
 Can't remember Specify
3. Did you like or dislike the taste of lamb the first time you ate it?
 Liked Disliked Can't remember
4. Was lamb served by your parents when you were a child?
 Yes No Can't remember
5. Who in your household enjoys eating lamb?
 Yourself Spouse Children No one Other _____
Specify
6. Who in your household dislikes eating lamb?
 Yourself Spouse Children No one Other _____
Specify
7. Do you buy your meat in bulk?
 Yes No
8. Where does your household obtain most of its meat?
 Meat market Supermarket Commissary Other _____
Specify
9. Do you serve lamb to friends in your home?
 Yes No (Please provide reason if answered no.)
10. Have you eaten lamb in a friend's home?
 Yes No Don't know
11. In which type of situation do you serve lamb meat?
 Normal day to day Special occasions To guests
 Other _____
Specify
 Never serve lamb meat at home
12. In which type of situation do you think most other people serve lamb meat?
 Normal day to day Special occasions To guests
 Other _____
Specify
13. Have you ever eaten lamb in a restaurant?
 Yes No Don't know
If yes, did you like the way the restaurant prepared the lamb?
 Yes No Other _____ Can't remember
Specify

14. When choosing which meats to eat, how important are the following characteristics to you personally?

Good Appearance: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Pleasant Odor: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Attractive
 Packaging: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Low Price: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Ease of
 Preparation: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Good Taste: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Tenderness: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Juiciness: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

High Nutrition: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Low Fat Content: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Low Bone Content: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

15. Please indicate on the following scales how likely you feel lamb is to possess the listed characteristics.

Good Appearance: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Pleasant Odor: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Attractive
 Packaging: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Low Price: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Ease of
 Preparation: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Good Taste: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Tenderness: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Juiciness: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

High Nutrition: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Low Fat Content: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Low Bone Content: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

16. In each of the following categories, place the amount of meat you eat in that category as a percent of the total meat you eat.

_____ Beef	_____ Veal
_____ Variety Meats(heart, etc.)	_____ Pork
_____ Lamb	_____ Poultry
_____ Mutton	_____ Sea Food
_____ Wild Game(as from hunting and fishing)	

17. Would you buy more lamb if recipes were given free with the purchase?

___ Yes ___ No ___ Don't know

18. Do you have lamb recipes in your home?

___ Yes ___ No ___ Don't know

19. Would you buy a boneless lamb cut if sold at a little higher price than the bone-in cuts?

___ Yes ___ No ___ Don't know

20. Would you buy frozen lamb if it were sold for less than fresh lamb?

___ Yes ___ No ___ Don't know

1. Have you ever had an opportunity to taste lamb meat?
 Yes No Don't know
2. Would you now eat lamb meat if you had the opportunity?
 Yes No Don't know
3. Has anyone in your present household ever eaten lamb?
 Yes No Don't know
4. If yes in question 3, did they like lamb meat?
 Yes No Don't know
5. Do you buy your meat in bulk?
 Yes No
6. Where does your household obtain most of its meat?
 Meat market Supermarket Commissary Other _____
Specify
7. In which type of situation do you think most people serve lamb meat?
 Normal day to day Special occasions To guests
 Other _____
Specify
8. Would you ever order lamb in a good restaurant if it were offered on the menu?
 Yes No Don't know

Please turn to the next page.

Before answering questions 9 and 10, please read the following brief explanation. The scales explained below will be used in answering questions 9 and 10.

If you feel the answer to the question is VERY CLOSELY related to one end of the scale, you should place your X as follows:

X	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____
Not Very												Very
Important												Important

or

_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	X
Not Very												Very
Important												Important

If you feel your answer is QUITE CLOSELY related to one end of the scale (but not extremely) you should place your X as follows:

_____	:	X	:	_____	:	_____	:	_____	:	_____	:	_____
Not Very												Very
Important												Important

or

_____	:	_____	:	_____	:	_____	:	X	:	_____	:	_____
Not Very												Very
Important												Important

If you feel your answer is ONLY SLIGHTLY related to one side as opposed to the other side (but is not really neutral) then you should place your X as follows:

_____	:	_____	:	X	:	_____	:	_____	:	_____	:	_____
Not Very												Very
Important												Important

or

_____	:	_____	:	_____	:	X	:	_____	:	_____	:	_____
Not Very												Very
Important												Important

The direction toward which you check, of course, depends upon which end of the scale seems to be most appropriate for the characteristic you are judging.

If you consider the source object to be NEUTRAL on the scale, both sides of the scale equally associated with the source, or if you are COMPLETELY UNSURE where the source item is on the scale, then you should place your X as follows:

_____	:	_____	:	X	:	_____	:	_____	:	_____	:	_____
Not Very												Very
Important												Important

Sometimes you may feel as though you have had the item before on the questionnaire. This will not be the case. Make each item a separate and independent judgement. It is your immediate "feelings" about the items that interest me. On the other hand, please do not be careless, because I need your true impressions.

9. When choosing which meats to eat, how important are the following characteristics to you personally?

Good Appearance: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Pleasant Odor: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Attractive Packaging: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Low Price: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Ease of Preparation: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Good Taste: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Tenderness: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Juiciness: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

High Nutrition: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Low Fat Content: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

Low Bone Content: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Important Important

10. Please indicate on the following scales how likely you feel lamb is to possess the listed characteristics.

Good Appearance: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Pleasant Odor: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Attractive Packaging: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Low Price: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Ease of
 Preparation: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Good Taste: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Tenderness: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Juiciness: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

High Nutrition: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Low Fat Content: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

Low Bone Content: _____:_____:_____:_____:_____:_____:
 Not Very Very
 Likely Likely

11. In each of the following categories, place the amount of meat you eat in that category as a percent of the total meat you eat.

___ Beef	___ Veal
___ Variety Meats(heart, etc.)	___ Pork
___ Lamb	___ Poultry
___ Mutton	___ Sea Food
___ Wild Game(as from hunting and fishing)	

12. Would you buy lamb if recipes were given free with the purchase?
 ___ Yes ___ No ___ Don't know
13. Do you have lamb recipes in your home?
 ___ Yes ___ No ___ Don't know
14. Would you buy frozen lamb if it were sold for less than fresh lamb?
 ___ Yes ___ No ___ Don't know
15. Would you buy a boneless lamb cut if it were sold at a little higher price than the bone-in cuts?
 ___ Yes ___ No ___ Don't know
16. Would you be more inclined to buy lamb if it were sold under a national brand name?
 ___ Yes ___ No ___ Don't know

In order that I may obtain the most complete picture possible of my respondents, I request that you answer a few final questions. Please remember that your answers are strictly confidential and that you will remain anonymous. Your cooperation in answering all of the following questions will be greatly appreciated.

What is:

Your sex: Male Female

Your marital status: Single Married Divorced

Your age: Under 20 20-35 36-50 51-70 Over 70

Your religion: Catholic Protestant Jewish Mormon
 Other _____
Specify

Your current occupation: _____

Your spouse's current occupation: _____

Your approximate household income: Under \$4,000 \$4,000-6,999
 \$7,000-9,999 \$10,000-14,999 \$15,000-19,999
 \$20,000-24,999 \$25,000-29,999 Over \$29,999

Your highest level of education attained: Grade school Junior high
 Some high school High school graduate
 Vocational school Some college College degree
 Some graduate school Advanced degree _____
Specify

The number of children in your household as a child, including yourself:
 1 2 3 4 5 6 or more

The number of children in your present household:
 0 1 2 3 4 5 6 or more

The state in which you grew up: _____

Your present state of legal residency: _____

The type of area in which you grew up: Urban Suburban Rural

The type of area in which you now live: Urban Suburban Rural

From which national origin would you consider yourself to be:

<input type="checkbox"/> English	<input type="checkbox"/> African
<input type="checkbox"/> Irish	<input type="checkbox"/> Mexican
<input type="checkbox"/> Western European	<input type="checkbox"/> Spanish
<input type="checkbox"/> Eastern European	<input type="checkbox"/> Italian
<input type="checkbox"/> Asian	<input type="checkbox"/> Other _____

Specify

Thank you again for your time and cooperation!

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