Consumption of Convenience Meat Products: Results from an Exploratory New Jersey Survey

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This exploratory study examines the effect of various factors on the decision to consume convenience meat products. Factors important to the decision by consumers to try convenience meat products are fat consciousness, number of adults and children in the household, education level, ownership of a microwave oven, average time to cook dinner, age, and to some extent, income.

Background

Recent trends in food consumption indicate an increased interest in convenience food products (products that transfer the time and activities of preparation from the consumer to the processor or retailer). Examples of convenience-driven food products and services include take-out food, fast-food, frozen entrees, microwavable dishes, and home-delivered food (Kinsey 1994). A recent survey indicated that grocery store executives believe that the demand for convenience foods will increase as a portion of the total market basket by the year 2000 (Russo and McLaughlin 1992). Moreover, another study by the Food Marketing Institute and Campbell Soup Company revealed that approximately 15 percent of total food dollars go to take-out purchases; 19 percent of total food dollars is spent on food eaten in restaurants; and the remaining 66 percent is spent on food prepared at home. However, food prepared at home also includes convenience food products. In essence, at least one in every three dollars spent on food is now going to convenience food marketers and away from home food outlets.

Demand for convenience food products is driven by the high value of time in society (Kinsey 1994). Due to increased value of time, consumers today want the food they buy to be easy and quick to prepare. Many Americans are tired and hungry at the end of the day and do not want to cook but want the comfort and ease of eating at home (Senauer et al. 1991). The move toward convenience is also prompted by changes in consumer demographics and lifestyles (Marketing News, 6 June 1988). Some socio-economic and demographic factors that come into play are: a growing number of women, married and single, in the work force; more families living on two incomes; the impact of advertising and promotion by large food service chains; and the growth of one-adult households (Nayga and Capps 1992).

In essence, increases in real income, declines in household size, and increases in the proportion of women in the work force have contributed to the outward shift in demand for convenience food products. Although the food industry recognizes the new realities of the marketplace, little information exists on the factors affecting the consumption of convenience food products. Among the few studies conducted in the past that concerned with convenience products are by Capps and Pearson (1986), Pearson et al. (1986), Capps (1989), and Capps and Nayga (1991). More specific knowledge of consumer attitude and preferences is essential so that suitable production and marketing adjustments can be made by food processors and retailers. This information will allow producers, processors, and distributors to anticipate trends in retail markets, to improve planning, and to provide better consumer service.

The objective of this exploratory study is to examine several demographic and psychographic characteristics of consumers who have tried convenience meat products. The aim of the research is to provide information that can be used as a guide to improve efficiency of the marketing system and quality of convenience meat products.

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Method

A telephone survey of 110 randomly selected individuals was conducted over the 2nd quarter of 1994. In order to keep costs of the study low, the target areas selected were within the calling exchanges of Central New Jersey. The phone numbers of respondents were not obtained from the phone book to reduce sampling biases. Instead, the random digit dialing method was used. Calls were made on Mondays to Fridays between 7:00 p.m. and 9:00 p.m. or on Saturdays and Sundays between 10:00 am and 1:00 p.m.. Of the roughly 150 calls made, 94 respondents agreed to participate and complete the phone survey. The details of the random digit dialing procedure and the exchange numbers used in the study are available from the authors upon request.

The length of the phone interview was short. It took at most four minutes to complete the survey once the respondent agreed to participate in the survey. Most people who participated answered all the questions. There were only two cases where the respondent disconnected the line while the phone interview was still in process. Information requested in the survey included questions related to the respondent's price consciousness, fat consciousness, sex, employment status, length of residency, number of adults and children in the household, education, ownership of microwave, average amount of time spent cooking dinner, race, age, and income.

Descriptive statistics of these variables as well as the means of the variables for those who have tried (purchasers) and those who have not tried (non-purchasers) convenience meat products were analyzed and are discussed in the next section. Further, a logit model was developed and examined using the information gathered above. The analysis evaluated the hypotheses that a set of variables (mentioned above and listed in Table 1) influence the decision to try convenience meat products.

Results

Descriptive statistics of these variables are exhibited in Table 1. The means of the binary variables reflect the proportions of consumers that fall into particular categories. In this sample, the average price and fat consciousness of the respondents on a seven point scale (where "1" is not at all conscious and "7" is extremely conscious) are 4.85 and 4.90, respectively. Males comprise about 47 percent of the sample. About 84 percent of the respondents are employed and about 52 percent have lived for more than 5 years in the area. The average number of adults and children in the household are 2.27 and 0.80, respectively. In terms of education, about 37 percent either had no formal education or had reached only primary or secondary schooling and 63 percent had reached at least the university or graduate level. About 80 percent of the 94 respondents had a microwave oven in their households.

Roughly 45 percent of the respondents indicated that they spend an average of 30 minutes or less cooking dinner while 55 percent revealed spending more than 30 minutes on the average cooking dinner. About 45 percent of the respondents are white, 22 percent are black, 15 percent are Hispanic, and 18 percent are of other races. Sixteen percent of the respondents are between 16 and 24 years of age, 46 percent are between 25 and 34 years of age, 26 percent are between 35 and 49 years of age, and 12 percent are 50 years of age or over. Approximately 14 percent of the respondents had annual household incomes of less than $15,000, 43 percent had incomes of between $15,000 and $39,999, 23 percent had incomes of between $40,000 and $74,999, and 20 percent had incomes in excess of $74,999. Fifty five percent of the respondents had tried convenience meat products.

To determine if those respondents who had purchased convenience meat products differ from those who had not purchased convenience meat products, comparative means of the various variables listed in Table 1 were computed and analyzed for both groups (referred to in Table 2 as "purchasers" and "non-purchasers"). On the scale of 1 to 7, the average price consciousness of purchasers and non-purchasers is 4.79 and 4.93, respectively. In terms of fat consciousness, however, the average fat consciousness of purchasers is a little higher than that of non-purchasers. Moreover, as expected, a higher percentage of purchasers are employed compared to non-purchasers. This result is not surprising considering the generally higher opportunity cost of time of employed individuals compared to unemployed individuals. The proportion of purchasers who have lived in the area for more than 5 years is also higher than the proportion of non-purchasers.

An interesting comparison can be made between the purchasers and non-purchasers in terms of the level of education. Based on the means exhibited in Table 2, a higher proportion of purchasers have reached the university or the graduate level than non-purchasers. About three-fourths of the purchasers have a university or graduate level of education while only about half of the non-purchasers have a university or graduate level education. Another interesting comparison can be made for ownership of microwave. About 90 percent of the purchasers own a microwave compared to only 67 percent of the non-purchasers.

Table 1

Descriptive Statistics of the Variables Examined (Whole Sample)

Variable	Mean	Std. Dev.	Range
Price Consciousness[a]	4.85	1.61	1-7
Fat Consciousness[a]	4.90	1.72	1-7
Male	0.47	0.50	0-1
Employed	0.84	0.36	0-1
More than 5-Year Resident	0.52	0.50	0-1
No. of adults in household	2.27	1.13	1-7
No. of children in household	0.80	1.20	0-5
Education			
No formal - Secondary	0.37	0.48	0-1
University - Graduate	0.63	0.48	0-1
Owned a microwave oven	0.80	0.40	0-1
Average cooking dinner time			
30 minutes or less	0.45	0.50	0-1
Greater than 30 minutes	0.55	0.50	0-1
Race			
White	0.45	0.49	0-1
Black	0.22	0.41	0-1
Hispanic	0.15	0.35	0-1
Others	0.18	0.38	0-1
Age			
16 - 24	0.16	0.36	0-1
25 - 34	0.46	0.50	0-1
35 - 49	0.26	0.44	0-1
50 and over	0.12	0.32	0-1
Annual Household Income			
Less than $15,000	0.14	0.34	0-1
$15,000 - $39,999	0.43	0.49	0-1
$40,000 - $74,999	0.23	0.42	0-1
$75,000 and over	0.20	0.40	0-1
Consumed convenience meat	0.55	0.49	0-1

[a]On a seven point scale (1 = not at all conscious and 7 = extremely conscious).

Table 2

Comparative Means of the Variables: Purchaser and Non-purchaser Samples

Variable	Purchaser (N = 52)	Non-Purchaser (N = 42)
Price Consciousness[a]	4.79	4.93
Fat Consciousness[a]	5.23	4.50
Male	0.50	0.45
Employed	0.90	0.76
More than 5-Year Resident	0.56	0.47
No. of adults in household	2.10	2.50
No. of children in household	0.46	1.21
Education		
No formal - Secondary	0.27	0.49
University - Graduate	0.73	0.51
Owned a microwave oven	0.90	0.67
Average cooking dinner time		
30 minutes or less	0.58	0.31
Greater than 30 minutes	0.42	0.69
Race		
White	0.50	0.38
Black	0.21	0.24
Hispanic	0.12	0.19
Others	0.17	0.19
Age		
16 - 24	0.15	0.17
25 - 34	0.50	0.40
35 - 49	0.15	0.40
50 and over	0.20	0.03
Annual Household Income		
Less than $15,000	0.12	0.17
$15,000 - $39,999	0.41	0.43
$40,000 - $74,999	0.24	0.24
$75,000 and over	0.23	0.16

[a]On a seven point scale (1 = not at all conscious and 7 = extremely conscious).

Cooking time appears to be an important distinguishing factor as well between purchasers and non-purchasers of convenience meat products. As shown in Table 2, a higher proportion (58%) of purchasers cook dinner an average of 30 minutes or less while a higher proportion of non-purchasers (69%) cook dinner an average of greater than 30 minutes.

About half of the purchasers of convenience meat products in the sample are white. Only 38 percent, however, of the non-purchasers are white. In terms of age, the means in the two samples indicate that a higher percentage of purchasers compared to non-purchasers are in the 50 and over age category. In fact, 20 percent of the purchasers are in the 50 and over age category while only three percent of non-purchasers are in the same age category. However, a higher percentage (40%) of non-purchasers are in the 35 to 49 age category. In terms of income, the means of the two samples are relatively the same except in the $75,000 and over category. A relatively higher proportion of purchasers compared to non-purchasers are in this income category.

A logit model was estimated using the maximum likelihood technique to determine the impact of the variables examined above on the likelihood of trying convenience meat products. Maximum likelihood coefficients are consistent and asymptotically normally distributed. Therefore, conventional tests of significance are applicable. The significance level chosen in this analysis was 0.10. The McFadden R^2 is 0.37 and the percentage of correct predictions using the 50-50 classification scheme is 0.77. These values are reasonable considering the nature (cross-sectional) of the data used.

The maximum likelihood parameter estimates of the model are exhibited in Table 3. The empirical results indicate that the more fat conscious the individual is, the higher the likelihood that the individual will try convenience meat products. It may be possible that some of those who have tried convenience meat products in this study have actually purchased convenience lean meat products. Results also indicate that the number of adults and the number of children in the household are negatively related to the probability of trying convenience meat products. The reason for this result is not clear. However, it is possible that larger households prefer to have a home prepared and cooked meal than smaller households. It is also generally more expensive to consume convenience products in larger households than in smaller households. Contrary to prior expectations, employment status is not a significant factor affecting the likelihood of trying convenience meat products.

Those with no formal education or those who have reached only the secondary level of education are less likely to purchase convenience meat products than those who have reached at least a university level of education. Consistent with prior expectations, those who own a microwave oven are more likely to purchase convenience meat products. On the other hand, those who on average spend 30 minutes or less to prepare dinner are more likely to try convenience meat products than those who spend an average of more than 30 minutes cooking dinner.

In terms of age, the empirical results indicate that those under the 35 to 49 age category are less likely to try convenience meat products than those under the 25 to 34 age category. On the other hand, those who are under the 50 and over age category are more likely to try convenience meat products than those who are under the 25 to 34 age category. These results seem to imply a nonlinear relationship between age and the likelihood of trying convenience meat products. The reasons for these results are not clear and perhaps should be examined further in future studies.

Only one of the income variables is statistically significant. Those who are under the $40,000 to $74,999 household income category are more likely to try convenience meat products than those who are under the $15,000 to $39,999 income category.

Concluding Comments

This research explored some of the factors affecting the decision to try convenience meat products. Descriptive analysis was conducted and a logit model was developed to examine various variables. Factors important to the decision by consumers to try convenience meat products were fat consciousness, number of adults and children in the household, education level, ownership of a microwave oven, average time to cook dinner, age, and to some extent, income. Although this study was conducted as an exploratory effort, this information should assist in the identification of target groups inclined to purchase convenience meat products.

Due to the scope of the survey, care must be taken when generalizing the results of this study to regional or national levels since the community-specific results may not contribute to broad regional or national inferences. To provide more definitive information to retail marketers, future research may also focus on the factors affecting the demand for convenience meat products on a disaggregate level.

Table 3

Maximum Likelihood Estimates of the Logit Model

Variable	Parameter Estimate	Standard Error
Intercept	-0.878	1.856
Price Consciousness	-0.265	0.230
Fat Consciousness	0.329*	0.198
Male	-0.191	0.697
Employed	0.775	1.032
More than 5-Year Resident	-0.387	0.640
Number of Adults	-0.516*	0.323
Number of Children	-0.602*	0.357
No Formal/Sec. Education	-1.054*	0.738
Owned a Microwave Oven	1.830*	0.883
30 Minutes or Less Cook Time	1.261*	0.636
Black	-0.536	0.777
Hispanic	0.939	1.003
Other Race	0.694	0.869
16-24 Age Category	0.338	0.925
35-49 Age Category	-1.519*	0.796
50 and over Age Category	3.256*	1.801
Less than $15,000 Income	-0.644	1.113
$40,000-$74,999 Income	1.079*	0.787
$75,000 and over Income	1.416	1.228
McFadden R^2	0.37	
% of Correct Predictions	0.77	

Note: asterisk (*) indicates statistical significance at the 0.10 level.

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