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Consumer education by industry is needed to increase demand for fresh finfish.

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Attitudinal and Demographic Characteristics for Regular and Irregular Users of Fresh Finfish

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INTRODUCTION

This article presents the results of a survey concerning consumer attitudes toward fresh finfish. The survey was conducted in conjunction with a Sea Grant project at Kent State University to study the consumption and distribution of finfish and shellfish in the Midwest.[1]

SURVEY METHODOLOGY

Data were collected from March to June 1972 by means of a mail questionnaire sent to over 4,500 randomly selected households in Cuyahoga and Summit Counties, Ohio. The principal cities within Cuyahoga and Summit Counties are Cleveland and Akron, respectively. By utilizing telephone followup and additional mailings to stimulate returns among those who did not respond to the initial mailing, more than 1,700 useable replies (40.1 percent) were received. A comparison of the respondents' household size, income, and race with census data clearly shows that all socioeconomic segments are represented in the sample in approximately the same proportion as in the population of the two counties.

The questionnaire was divided into three parts. The first part contained 24 attitudinal characteristics (see Table 1) to determine respondents' attitudes toward fresh, frozen unprepared, and frozen prepared finfish and shellfish as well as canned fish. The second part of the questionnaire dealt with the demographic characteristics of the respondents (see Table 2). In the third part of the questionnaire, respondents were asked how often they consumed each type of fish at home as well as related questions about purchasing behavior. Even though the survey dealt with several types of finfish, shellfish, and canned fish, the findings for fresh finfish only are discussed in this article.

For purposes of this study, fresh finfish was defined as including all types of finfish such as haddock, cod, flounder, or ocean perch that are purchased in unfrozen form either whole, cleaned, or filleted. Regular users of fresh finfish were defined as respondents using fresh finfish at home once a month or more often. Irregular users, conversely, were defined as respondents using fresh finfish at home less than once a month. In the total sample of 1,730 respondents, there were 652 regular users and 1,078 irregular users of fresh finfish.

Attitudinal Characteristics

Attitudinal characteristics were ascertained by means of the semantic differential technique which combines word association with scalar values to measure concepts.[2] When completing that portion of the questionnaire utilizing the semantic differential technique, respondents were asked to judge concepts against a series of bipolar adjective scales which described the concepts on a seven-point scale. For example:

FRESH FINFISH

Good Taste — : — : — : — : — : — : — : Bad Taste
1 2 3 4 5 6 7

Progressing from left to right on the scale, the positions were described to the respondents as representing "extremely good," "quite good," "slightly good," "neither one," "slightly bad," "quite bad," and "extremely bad." Respondents were urged to mark the scales as quickly as possible and not to try to analyze or select a "correct" answer.

To obtain profiles for the regular versus irregular user groups, the respective weights assigned to each position on the scale were added and converted into mean (average) values for each group. Comparisons were

Table 1.—Univariate comparisons of group attitudinal mean values for regular and irregular users of fresh finfish.

Attitudinal variables	Group mean value: Regular users $\bar{M}$	Group mean value: Irregular users $\bar{M}$	F ratio
Taste	1.48	2.38	228.33
Taste cf. meats	2.96	4.00	165.21
Nutrition	1.67	2.28	91.91
Nutrition cf. meats	2.45	3.16	100.22
Cost	4.04	4.19	13.83
Cost cf. meats	3.67	4.08	21.88
Aroma	3.53	4.78	194.87
Aroma cf. meats	4.35	5.12	107.75
Perishability	5.64	5.67	0.16*
Perishability cf. meats	5.50	5.59	1.62*
Preparation	2.50	3.71	161.11
Preparation cf. meats	2.93	4.03	159.37
Cooking	2.01	3.01	171.29
Cooking cf. meats	2.85	3.66	103.42
Appearance	2.73	4.10	226.24
Appearance cf. meats	3.64	4.67	195.74
Quality	2.85	3.87	149.88
Quality cf. meats	3.76	4.47	94.52
Availability	4.09	4.91	35.16
Dinner treat	3.02	3.95	80.43
Guest meal	2.83	4.25	187.53
Diet meal	1.46	2.10	44.38
Safety	2.30	3.16	122.05
Safety cf. meats	3.44	4.18	113.07

*Indicates variables nonsignificant at the 0.05 level.
Source: Survey Data.

[1] The complete study "Characteristics of Regular versus Irregular Consumers of Fin, Shell, and Canned Fish" is a result of research sponsored by NOAA Office of Sea Grant, Department of Commerce, Grant No. 2-35364. Copies are available from the authors.

[2] C. E. Osgood, G. J. Suci, and P. H. Tannenbaum, "The Measurement of Meaning," University of Illinois Press, 1957, p. 24.

Table 2.—Univariate comparisons of group demographic mean values for regular and irregular users of fresh finfish.

Demographic variables	Group mean value: Regular users $\bar{M}$	Group mean value: Irregular users $\bar{M}$	F ratio
Age of Housewife[1]	3.66	3.19	41.68
Age of head of household[1]	3.93	3.49	42.12
Number of children at home[2]	2.20	2.29	1.00*
Age category of children[3]	2.49	2.31	10.63
Size of household[4]	2.38	2.47	4.72
Education of head of household[5]	3.28	3.50	14.46
Income[6]	4.63	4.89	7.02
Protestant or not[7]	0.54	0.57	1.36*
Catholic or not[7]	0.36	0.38	0.43*
Jewish or not[7]	0.07	0.03	15.62
White or not[7]	0.81	0.93	67.76
Black or not[7]	0.18	0.05	70.64

[1]Adults' age categories
(1) under 26
(2) 26 to 35
(3) 36 to 45
(4) 46 to 55
(5) Over 65

[2]Actual number

[3]Childrens' age categories
(1) Preschool (age 1-5)
(2) Elementary (age 6-12)
(3) Teen (age 13-19)

[4]Household size categories
(1) 1 person
(2) 2 to 3 persons
(3) 4 to 5 persons
(4) 6 to 7 persons
(5) 8 to 9 persons
(6) 10 persons

[5]Education categories
(1) Elementary
(2) Some high school
(3) High school
(4) Some college
(5) College

[6]Income categories
(1) Under $4,000
(2) $4,000-5,999
(3) $6,000-7,999
(4) $8,000-9,999
(5) $10,000-11,999
(6) $12,000-13,999
(7) Over $14,000

[7]Dummy variable code: 1 or 0
*Variables nonsignificant at 0.05 level.
Source: Survey data.

then made on a univariate basis between the respective group means ($\bar{M}$) (averages) of the regular and irregular users for each variable to determine if they were statistically different at a designated level of significance (0.05 in these runs). The results are summarized in Table 1.

When viewing the data in Table 1, it is necessary for the reader to consider both the group mean ($\bar{M}$) values and the F-ratios. A significant F-ratio (no asterisk) for a given variable indicates that a statistically significant difference in attitudes exists between the two groups for that particular variable. A variable's mean value ($\bar{M}$), on the other hand, indicates the direction in which the two groups scored the variable as well as the degree of the score. For example, in Table 1 taste has a mean score ($\bar{M}$) of 1.48 for the regular users of fresh finfish and 2.38 for the irregular users. The F-ratio is 228.33, which denotes a significant difference in attitude toward taste between the regular and irregular users of fresh finfish. According to the mean scores of 1.48 and 2.38, however, both groups rate the taste of fresh finfish favorably (direction of the scores on the semantic scale). The significant difference indicated by the F-ratio occurs because of the difference (degree of the scores) in mean values of the two groups.

Returning to the F-ratio in Table 1, it can be seen that the univariate comparisons of group attitudinal means for regular and irregular users of fresh finfish results in significant F-ratios for 22 of the 24 attitudinal variables. Both groups rate fresh finfish quite unfavorably on the two variables of perishability as a product and perishability of fresh finfish compared to meat.

The attitudinal mean values from Table 1 are shown in scaled semantic differential form in Figure 1. Since the most favorable point on each scale was assigned a value of one and the least favorable point was assigned a value of seven, the group mean values are interpreted as follows:

GROUP MEAN VALUE		INTERPRETATION
1.00-1.99		Extremely favorable
2.00-2.99		Quite favorable
3.00-3.99		Slightly favorable
3.50)	Indifferent	
4.00)		Absolute indifference
4.50)	Range	
4.01-4.99		Slightly unfavorable
5.00-5.99		Quite unfavorable
6.00-7.00		Extremely unfavorable

Overall, it is evident from Figure 1 that:

1. Regular users rate fresh finfish more favorably on all attitudinal variables than irregular users.
2. Regular users rate fresh finfish slightly to extremely favorable on 19 of the 24 variables, whereas irregular users rate fresh finfish slightly to quite favorable on 10 variables.
3. The attitudinal mean values of irregular users are in the neutral range (3.5 to 4.5) for 50 percent of the variables. Regular users, however, put only 30 percent of the variables in the neutral range.

A segment by segment analysis of the data in Figure 1 shows that the attitudinal variables with mean values in the 1.4 to 3.5 range for both groups, in descending order of favor, are:

Diet meal
Taste
Nutrition
Cooking
Safety
Nutrition compared to meat

Attitudinal variables scored favorably (1.4-3.5 range) by regular users but indifferently (3.5-4.5 range) by irregular users include:

Preparation
Appearance
Guest meal
Dinner treat
Quality
Cooking compared to meat
Preparation compared to meat
Taste compared to meat
Safety compared to meat

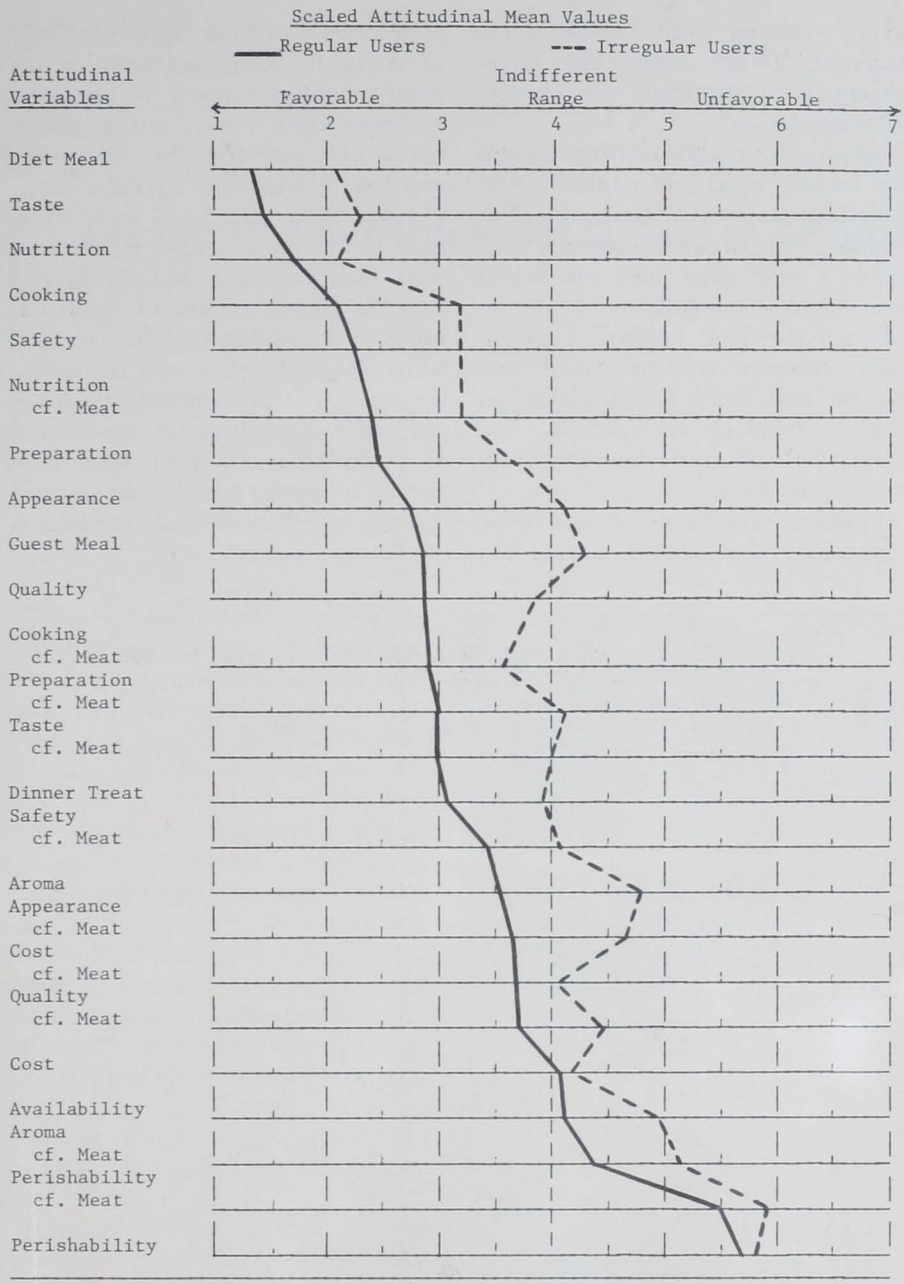
The attitudinal variables with mean scores in the indifferent range (3.5-4.5) for both groups are as follows:

Cost
Cost compared to meat
Quality compared to meat

Lastly, the variables viewed indifferently (3.5-4.5) by the regular users of fresh finfish, but rated unfavorably (4.5-5.5) by the irregular users, are:

Aroma
Availability
Aroma compared to meat
Appearance compared to meat

Several inferences concerning the consumption of fresh finfish may be drawn from these data. First, the profile of the regular users is skewed to the left on the attitudinal scales, while the profile of the irregular users



Source: Table 1

Figure 1.—Attitudinal profiles of regular and irregular user groups of fresh finfish.

tends to fall toward the middle. Regular users, consequently, view fresh finfish more favorably than do irregular users. Irregular users are less enthusiastic or more likely to be indifferent than the regular users.

Second, both groups rate fresh finfish quite favorably (1.4-3.5 range) on six variables. They agree fresh finfish is an excellent diet meal and tastes good. They further agree that fresh finfish is nutritious, compares favorably with meat in nutrition, is easy to cook, and is safe to eat.

Third, one-half (12) of the variables have mean values either in the favorable (2.5-3.5) range or indifferent (3.5-4.5) range among regular users compared with indifferent (3.5-4.5) range mean values for these same variables among irregular users. These variables, then, may be rated somewhat unfavorably at best, and indifferently or somewhat unfavorably at worst. The characteristics of fresh finfish rated this way are ease of preparation, general appearance, and quality. The fact that respondents rate fresh finfish somewhat favorably or are indifferent in their attitude on these characteristics is meaningful because neither group believes fresh finfish is expecially difficult to prepare, repugnant in appearance, or poor in quality. Similarly, regular users consider fresh finfish a good guest meal and a dinner treat whereas irregular users are indifferent; the latter group, nonetheless, does not summarily reject fresh finfish as a guest meal and dinner treat. The same may be said for fresh finfish in comparison to meat. Fresh finfish is not rated substantially inferior to meat in ease of cooking, preparation, quality, taste, safety, or cost. As a matter of fact, although the fish industry is concerned about the cost of fresh finfish both the regular and irregular user groups are indifferent in their attitude regarding cost.

Fourth, irregular users rate the aroma and availability of fresh finfish unfavorably. In comparison to meat, irregular users also think fresh finfish is more offensive in odor and appearance than meat. Regular users, on the other hand, rate these characteristics somewhat favorably or indifferently. However, both groups agree quite strongly on the unfavorable characteristics of perishability of fresh finfish as a product and its perishability in comparison to meat.

Demographic Characteristics

The groups' means and univariate comparisons of the demographic variables for regular and irregular users of finfish are given in Table 2. The codes utilized by the respondents when completing the questionnaires are shown by the subscripts (1 to 6) at the bottom of Table 2. Because the coding of replies involving demographic data is done in a left to right fashion, larger mean figures indicate a higher demographic value. For example, the higher the mean value for income, the larger the groups' average income. Unlike the semantic differential, there are no indifferent or impartial values in the demographic data.

Demographic variables regarding race and religion present a special problem because they are qualitative rather than quantitative in nature.

Accordingly, they were treated dichotomously. That is to say, respondents are placed in one category or another as, for example, either Protestant (1) or not Protestant (0).

The data in Table 2 show that 9 of the 12 demographic variables have significant *F*-ratios in the univariate analysis of group mean differences for regular and irregular users of fresh finfish. The demographic variables not significantly different between the two groups are number of children, Protestant or not, and Catholic or not.

In general, it may be said that regular users of fresh finfish are older; have fewer but older children; have smaller households; have less education; and have lower incomes than irregular users. The regular user group also tends to include more Jews, fewer whites, and more blacks than the irregular user group.

CONCLUSIONS AND RECOMMENDATIONS

For the most part, the attitudes toward fresh finfish held by both regular and irregular users are not unfavorable. The findings are useful, nonetheless, in that they are suggestive of strategies potentially effective in stimulating demand for fresh finfish. For example, the unfavorable attitudes that do exist point out areas where the industry's efforts could be directed in an attempt to influence attitudes. A case in point is the unfavorable attitude concerning "perishability" of fresh finfish. It is the authors' casual observation from the study that very few consumers know how to store fresh finfish or how long it will keep if properly stored. An industry strategy of consumer education along these lines could, therefore, possibly improve demand for fresh finfish. Similarly, irregular users' attitudes toward "aroma" and "appearance compared to meat" characteristics indicate another area where industry efforts in the form of improved packaging and improved merchandise displays could possibly stimulate demand for fresh finfish. Finally, both regular and irregular users' negative perception of the availability of fresh finfish suggest that a strategy of simply making fresh finfish more accessible (more stores and larger quantities) to consumers may likewise stimulate demand.

Areas of attitudinal indifference also are worthy of consideration in formulating marketing strategies. For example, regular users consider fresh finfish a good guest meal and dinner treat whereas irregular users are indifferent on these aspects. A potentially effective strategy could emphasize that fresh finfish makes an elegant, relatively inexpensive, and generally liked meal to serve both family and guests.

Findings regarding demographic variables for fresh finfish indicate that regular users of fresh finfish are likely to be in the older segments of the population. Furthermore, regular users are more likely to have smaller households, older children, less education, and less income than irregular users. Finally, blacks are much more likely than whites to be regular users of fresh finfish. These findings suggest that the largest market for fresh finfish is yet untapped if the younger, white, larger families with higher income, who are predominantly the irregular users of fresh finfish, are viewed as potential consumers whose conversion to regular users can be attained through an effective, well coordinated marketing program.

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