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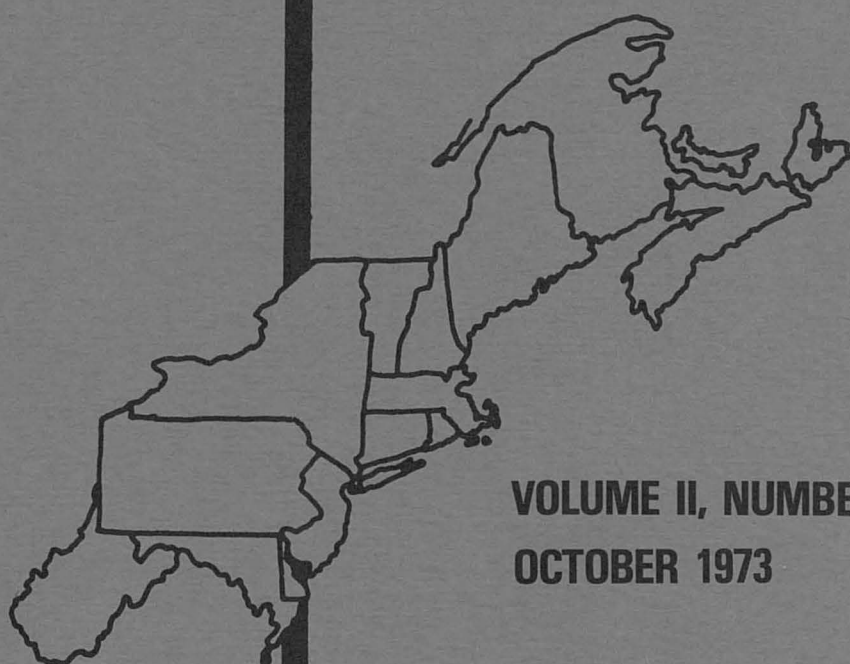
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Testing for Differences in Consumer Attitudes Toward Milk
in New York State

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Market researchers are frequently interested in determining the differences in attitudes of various groups of consumers. For example, they may want to know if significant shifts in attitudes have occurred over time or if attitudes vary by sex, income, race or market.[1]

In this paper a specific procedure will be outlined which can be used to test for significant differences in attitudes of groups of consumers. The procedure will be discussed in the context of comparing attitudes toward milk in selected New York Markets.

The Study

Attitude comparisons were desired for the major markets of New York State. Table 1 gives the markets selected. Eighty-two percent of the population of New York State live in the sampled markets.

The data used in this analysis were collected as part of a broader study of adult (eighteen and over) beverage consumption and attitudes in November of 1972.

Professional enumerators collected the data through personal interviews in the respondents' homes. The sample of adults in each market was selected by a directed route sampling procedure with quota constraints on sex and income.

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[1] The New York State Dairy Advisory Board, a producer board which manages the expenditure of market order funds for advertising and promotion, is faced with many decisions requiring an understanding of New York State consumers. One area of interest is whether customers in the various markets of New York State have similar attitudes towards milk.

Sixteen different semantic differential scales[2] were used to measure the respondents' attitudes toward milk. The scales (see Table 2) used in this study were developed from an extensive literature review and pretest.[3] These are quite similar to the semantic differential scales used in a study of attitudes toward milk in eight western cities reported by Thomas and Waananen.[4]

Table 1
Selected New York State Markets, 1970 Population and Sample Size

Markets	1970 Population	Sample Size
New York City SMSA[a]		
White	8,099,284	246
Black	1,885,303	198
Spanish	1,390,087	221
Other	197, 145	0
Buffalo SMSA	1,349,210	204
Rochester SMSA	882,667	221
Albany SMSA	721,910	189
Syracuse SMSA	636,507	200

a/ SMSA - Standard Metropolitan Statistical Area

Source: U.S. Bureau of the Census

2/ This scaling procedure was developed and reported by Charles E. Osgood et. al., in The Measurement of Meaning, University of Illinois Free Press, Urbana, Illinois, 1957. It is a wideley used scaling technique for measuring consumer attitudes.

3/ For a fuller discussion of the literature and pretest see Joseph J. Mueller, "Development of a Questionnaire and Methods of Analysis for the Measurement of Consumer Attitudes and Belief Toward Other Beverages", unpublished M.S. thesis, Cornell University, January 1973.

4/ Monica Thomas and Martin Waananen, "Consumption, Use and Attitudes Toward Selected Fluid Milk Products in Eight Western Cities", Washington Agricultural Experiment Station Bulletin 763, October 1972, p. 4.

Problems of Summarization and Analysis

Frequently in summarizing and analyzing data from a semantic differential scale numerical values are assigned to each point on the scale. Then an arithmetic mean is calculated for the scale and the means are used for descriptive and comparison purposes.[5] Usefulness of the mean for these purposes is dependent upon some knowledge of the underlying distribution from which it is calculated.

Table 2
Semantic Differential Scales Used in Milk Attitude Survey
November 1972

High cost item[a] . . . . Low cost item
Very high in fats . . . . Very low in fats
Good for weightwatchers . . . . Bad for weightwatchers
Necessary for good health in adults . . . Not necessary for good health
 in adults
I like the taste . . . . I dislike the taste
Very high in protein . . . . Very low in protein
Good for people concerned with   Bad for people concerned with
 heart disease . . . . heart disease
Very high in calcium . . . . Very low in calcium
Excellent value for the money . . . . . . Poor value for the money
Man normally consumes . . . . Man does not normally consume
Woman normally consumes . . . . Woman does not normally consume
Very high in cholesterol . . . . Very low in cholesterol
Excellent energy source . . . . Poor energy source
Very high in calories . . . . Very low in calories
Would always order in a restaurant . . . . Would never order in a restaur-
                                           ant
Very high in vitamins . . . . Very low in vitamins

a/ The respondents indicated their attitude on each scale by checking one
 of seven boxes ranged between, and including, the extreme positions.

The semantic differential data have a discrete distribution with only seven possible data points. The mean can lie between 1 and 7 and the standard deviation can range between 0 and 3. One of the difficulties of using the mean as a summary statistic is that it gives little indication

5/ Paper by Thomas and Waananen is an example of this. See especially
 pp. 15, 18-25.

of the distribution of attitudes. For example, a mean value of 4 could
be obtained from many different distributions of the data (e.g., all of
the observations at the mid-point or half of the observations on the
other).

Using the mean value of a scale to compare the attitudes of two
different groups of consumers has a related difficulty. The common stat-
istical tests used to determine whether two means are significantly
different are based on the assumption that the data are normally distrib-
uted.

Chi-Square Test

In this analysis, a statistical procedure, the chi-square test, is
used to make intermarket comparisons of the distribution of responses on
the attitude scales. Since this procedure examines the entire distribu-
tion of responses, a more meaningful and accurate comparison is possible
than can be made through the use of means.

The chi-square test can be used to examine a two-way classification
of discrete data for statistical independence.[6] Each of the 16 attitude
scales listed in Table 2 can be examined separately, and comparisons made
across the seven markets. Thus each dimension of consumer attitude toward
milk can be analyzed.

To demonstrate the use of the chi-square procedure, one attitude
scale, the cost of milk, is analyzed on the following page. First, a two-
way contingency table is constructed for this scale (see Table 3). The
absolute frequencies of various rating positions are recorded by rows and
the market frequencies by columns. From this data table a corresponding
table of chi-square values is calculated.[7] (See Table 4).

6/ Other less approximate procedures exist for testing contingency tables.
However, the chi-square test was chosen for the ease with which depend-
ent relationships can be identified through disaggregation of the cal-
culated chi-square value.

7/ The calculating procedures can be found in R. G. D. Steel and J. H.
Torrie, Principles and Procedures of Statistics, McGraw-Hill, New York,
1960, pp. 366-369.

Table 3
Attitude Rating of Milk on Cost Scale
by Adults in Seven New York Markets, Fall 1972
Absolute Frequency

Attitude Rating[a]	SMSA Market							All Markets
	New York City			Buff-alo	Roch-ester	Albany	Syra-cuse	
	White	Black	Spanish					
	- number -							
High Cost Item -	68	82	111	38	65	39	46	449
	30	36	39	38	34	46	34	257
	50	24	15	36	36	40	38	239
	49	22	20	40	48	32	43	254
	15	12	6	21	16	13	15	98
Low Cost	7	9	4	15	13	7	9	64
Item -	27	11	25	16	9	10	15	113
Total	246	196	220	204	221	187	200	1474

a/ The rows in the table are arranged from top to bottom in order of in-creasing agreement with the bottom statement and decreasing agreement with the top statement.

Table 4
Table of Chi-Square Values for Attitude Rating of Milk on Cost Scale
by Adults in Seven New York Markets, Fall 1972

Attitude Rating[b]	SMSA Market							All Markets
	New York City			Buff-alo	Roch-ester	Albany	Syra-cuse	
	White	Black	Spanish					
	- Chi-Square Values -							
High Cost Item -	0.6	8.3	28.9	9.4	0.1	5.7	3.7	56.7
	3.9	0.1	0.0	0.2	0.5	5.5	0.0	10.2
	2.6	1.9	12.0	0.3	0.0	3.1	1.0	20.9
	1.0	4.1	8.5	0.7	2.6	0.0	2.1	19.0
	0.1	0.1	5.1	4.1	0.1	0.0	0.2	9.7
Low Cost	1.3	0.0	3.2	4.3	1.2	0.1	0.0	10.1
Item -	3.5	1.1	3.9	0.0	3.7	1.3	0.0	13.5
Total	13.0	15.6	61.6	19.0	8.2	15.7	7.0	140.1

a/ Calculated using data in Table 3.

b/ The rows in the table are arranged from top to bottom in order of increasing agreement with the bottom statement and decreasing agree-ment with the top statement.

The null hypothesis of the chi-square test is that the distribution
of responses on the attitude scale is independent of the markets in
which they occur. If the null hypothesis is correct, consumers in the
various markets have the same attitudes about the cost of milk. The
alternative hypothesis is that the distribution of responses is related
to the markets in which they occur. If the alternative hypothesis is
correct, consumers in some of the markets have different attitudes than
consumers in some of the other markets. In order to reject the null
hypothesis and accept the alternative hypothesis, the calculated chi-
square value for the entire table must be greater than the tabular value
of chi-square for the appropriate degrees of freedom at the desired level
of confidence. With 36 degrees of freedom at the 99 percent level of
confidence, the tabular chi-square value is 58.6. From Table 4, the
calculated value is 140.1. Thus, the null hypothesis is rejected, and
it can be inferred that there are significant differences in attitude
toward the cost of milk in the various New York State markets.

Once it has been concluded that a significant difference exists in
the attitudes toward the cost of milk among the various markets, a further
step can be taken to analyze the source of the differences. First, the
market chi-square values can be compared to determine which markets are
different from that expected. Using a 95 percent confidence level, the
critical value of the chi-square at 6 degrees of freedom is 12.6. A
market (column) which has a calculated chi-square greater than the
critical value has a significantly different distribution of
attitudes toward the cost of milk than the average distribution for all
markets.

The data show that five of the markets are significantly different
from the overall sample of markets. They are New York City Spanish-
speaking market, Buffalo, Albany, New York City Black, and New York City
White markets.

The percentage distribution of attitudes (Table 5) and individual
chi-square elements (Table 4) can be compared to determine the differences
in distribution that occur. For example, the calculated chi-square of
28.9 in the first row (milk is a high cost item) and third column (New York
City Spanish-speaking) indicates that the New York City Spanish-speaking
market checked this box on this scale a significantly (95 percent confidence
level) different number of times than we would expect based on the average.

The higher numbers throughout that column indicate a different dis-
tribution than the average for all markets. The higher the number the
greater the divergence between the actual and the expected number of
individuals that checked that box on the scale.

Table 5: Attitude Rating of Milk on Cost Scale by Adults in Seven New York
Markets, Fall 1972, Relative Frequency.

Attitude Rating [a]	SMSA Markets							
	New York City			Buff-	Roch-		Syra-	Aver-
	White	Black	Spanish	alo	ester	Albany	cuse	age
	- percent -							
High cost item	27.6	41.9	50.5	18.7	29.4	20.9	23.0	30.5
	12.2	18.4	17.7	18.6	15.4	24.6	17.0	17.4
	20.3	12.2	6.8	17.6	16.3	21.4	19.0	16.2
	19.9	11.2	9.1	19.6	21.7	17.1	21.5	17.2
	6.1	6.1	2.7	10.3	7.2	6.9	7.5	6.7
Low cost item	2.9	4.6	1.8	7.4	5.9	3.7	4.5	4.3
	11.0	5.6	11.4	7.8	4.1	5.4	7.5	7.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

a/ The rows in the table are arranged from top to bottom in order of in-
creasing agreement with the bottom statement and decreasing agreement
with the top statement.

The percentage frequency distribution table for the cost attitude scale provides an indication of the exact way in which the distributions vary among markets (Table 5). Those data show that the majority of consumers sampled felt milk was a high cost item. But the blacks and the Spanish-speaking samples in New York City felt milk was even higher in cost than did respondents in the other markets, and the New York City Spanish-speaking group viewed milk as being more expensive than did the blacks. While none of the markets viewed milk as a low cost item, respondents in Albany, Buffalo, and the New York City whites viewed milk as more moderate in cost than did the average of all respondents in all markets.

Table 6
Markets with Significantly Different Attitudes Toward Milk
Seven New York Markets, Fall 1972

Attitude Scales a/	SMSA Markets						
	New York City			Buff-alo	Roch-ester	Albany	Syra-cuse
	White	Black	Spanish				
Cost	x^b/	x	x	x		x	
Fat			x				
Weight			x			x	
Health	x		x	x		x	
Taste							
Protein						x	
Heart	x	x	x	x			
Calcium		x	x	x			
Value		x	x		x		
Man			x				
Woman	x		x			x	
Cholesterol	x	x	x			x	
Energy		x	x			x	x
Calories			x			x	
Restaurant	x		x			x	
Vitamins		x	x			x	

a/ For a complete statement see Table 2

b/ The x indicates that the distribution of responses for this attitude scale (row) in this market (column) were significantly different from the distribution for all markets. The level of confidence used was .95.

Intermarket Comparisons - Attitude Scales

A summary of significant chi-square test results for all attitude scales is given in Table 6. Further investigation of the individual frequency distribution tables (Table 7 to 21) indicates that the New York City Spanish-speaking sample views milk more favorably than do any of the other groups. They view it as more nutritious and better for one's health and appearance. They also would be much more willing to order milk in a restaurant and felt it was an excellent value for the money. On the negative side, they viewed milk as being more costly.

The New York City Black respondents appear to have a somewhat more favorable attitude toward milk than the average but not quite as favorable as the New York City Spanish. Like the Spanish-speaking sample, they view it as a relatively high cost but nutritious beverage. They seem even less concerned than the Spanish about the cholesterol content or the effect on the heart.

The group that appears to have the most unfavorable set of attitudes toward milk is the New York City White sample: they would not order it in a restaurant, they consider it bad for the heart, not necessary for good health, and less of a woman's drink. They are also concerned about the cholesterol content.

The Buffalo respondents' attitudes were also different from the average, but not as markedly different as those in New York City. They view milk as less necessary for good health and bad for the heart. Fewer Buffalo respondents, however, viewed milk as being low in calcium.

Of the Upstate group, the Albany respondents showed the greatest difference from the average distributions. They viewed milk as being poorer for weightwatchers, not as necessary for good health, and somewhat higher in cholesterol. However, on the positive side, they viewed milk as higher in vitamins and in protein content.

To summarize, the only attitude scale on which there was no difference among the markets was the one for taste. Attitudes in Rochester and Syracuse markets were similar to each other and to the average, except for some deviation by Syracuse on the energy scale. In the other markets there were substantial differences in the attitude of consumers toward milk.

Conclusions

The chi-square test appears to be a useful test to identify differences in attitude among different groups. A comparison of the attitudes toward milk of seven New York markets indicated signficant differences in all attitude scales except taste.

Table 7
Attitude Rating of Milk on Fat Scale
by Adults in Seven New York Markets, Fall 1972

Attitude Rating	SMSA Markets							
	New York City			Buff-alo	Roch-ester	Albany	Syra-cuse	Aver-age
	White	Black	Spanish					
	-percent-							
Very High in Fats -	47.1	42.1	39.8	38.7	41.8	41.3	32.0	40.6
	22.9	20.0	12.7	23.1	25.5	27.5	28.5	22.7
	13.5	14.9	9.5	19.1	16.8	17.5	21.5	16.0
	10.3	11.8	18.5	5.9	9.1	9.5	10.0	10.8
	2.1	4.6	5.0	5.4	3.6	2.1	2.5	3.6
Very low	1.2	2.0	4.1	3.4	1.8	1.0	1.0	2.1
in Fats -	2.9	4.6	10.4	4.4	1.4	1.1	4.5	4.2
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 8
Attitude Rating of Milk on Weightwatchers Scale
by Adults in Seven New York Markets, Fall 1972

Attitude Rating	SMSA Markets							
	New York City			Buff-alo	Roch-ester	Albany	Syra-cuse	Aver-age
	White	Black	Spanish					
	-percent-							
Good for Weight-watchers	7.0	10.9	26.8	7.9	6.4	4.2	7.0	10.2
	1.2	3.1	4.1	3.0	4.1	2.7	6.0	3.4
	5.3	6.2	6.8	8.3	4.6	6.3	5.5	6.1
	11.4	14.5	17.7	8.8	14.6	11.6	13.5	13.2
	10.2	11.9	4.6	10.3	10.0	12.2	8.5	9.6
Bad for	15.1	17.1	10.5	18.6	15.1	22.8	18.0	16.5
Weight-watchers	49.8	36.3	29.5	43.1	45.2	40.2	41.5	41.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 9
Attitude Rating of Milk on Health Scale
by Adults in Seven New York Markets, Fall 1972

Attitude Rating	SMSA Markets							
	New York City			Buff-alo	Roch-ester	Albany	Syra-cuse	Aver-age
	White	Black	Spanish					
Necessary for good health in				- percent-				
adults -	34.7	56.7	68.2	38.2	41.6	36.2	41.0	45.2
	15.5	11.7	8.6	20.6	13.1	20.7	21.0	15.7
	15.1	11.2	7.3	11.8	14.5	17.0	13.0	12.8
Not necess-	13.9	6.6	9.1	6.9	14.5	9.0	10.5	10.2
ary for	2.9	2.1	0.9	2.9	2.3	4.3	5.0	2.9
good health	6.9	5.1	1.4	7.4	4.1	2.1	3.5	4.4
in adults -	11.0	6.6	4.5	12.2	9.9	10.6	6.0	8.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 10
Attitude Rating of Milk on Taste Scale
by Adults in Seven New York Markets, Fall 1972

Attitude Rating	SMSA Markets							
	New York City			Buff-alo	Roch-ester	Albany	Syra-cuse	Aver-age
	White	Black	Spanish					
				-percent-				
Like Taste -	53.9	58.7	65.5	62.8	60.7	55.9	66.0	60.4
	12.6	9.7	9.5	11.2	14.0	12.2	12.0	11.7
	7.8	9.2	6.8	8.3	4.5	11.1	7.0	7.7
	11.4	6.6	6.4	3.9	6.8	6.4	6.0	6.9
	3.7	2.0	5.0	3.9	2.7	3.2	3.0	3.4
Dislike	3.7	3.1	1.8	0.5	1.8	1.6	2.5	2.2
Taste--	6.9	10.7	5.0	9.3	9.5	9.6	3.5	7.7
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 11
Attitude Rating of Milk on Protein Scale
by Adults in Seven New York Markets, Fall 1972

Attitude Rating	SMSA Markets			Buff-alo	Roch-ester	Albany	Syra-cuse	Aver-age
	New York City							
	White	Black	Spanish					
	- percent -							
Very High in Protein	48.4	53.3	56.4	48.5	49.8	42.3	48.0	49.6
	17.1	21.0	15.4	17.2	22.6	32.8	19.5	20.6
	13.0	7.7	6.8	16.2	11.7	13.8	16.0	12.1
	12.6	13.9	16.4	11.3	12.7	10.1	11.5	12.7
	4.9	1.5	1.8	1.9	0.9	0.5	2.0	2.0
Very low in	1.2	0.5	0.9	1.5	0.9	0.5	0.5	0.9
Protein -	2.8	2.1	2.3	3.4	1.4	0.0	2.5	2.1
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 12
Attitude Rating of Milk on Heart Disease Scale
by Adults in Seven New York Markets, Fall 1972

Attitude Rating	SMSA Market			Buff-alo	Roch-ester	Albany	Syra-cuse	Aver-age
	New York City							
	White	Black	Spanish					
	- percent -							
Good for people concerned with heart disease -	7.3	21.1	29.7	8.3	14.9	9.0	13.0	14.7
	2.0	7.2	6.8	3.4	6.4	5.8	5.0	5.2
	4.5	13.9	10.0	7.4	8.1	8.0	7.5	8.3
	27.4	32.5	31.5	24.0	25.8	28.6	31.0	28.6
Bad for	10.2	6.7	4.6	12.3	5.9	14.3	11.0	9.2
people con-	15.1	5.7	2.3	17.2	14.0	11.1	14.5	11.5
cerned with	33.5	12.9	15.1	27.4	24.9	23.2	18.0	22.5
heart disease	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 13
Attitude Rating of Milk on Calcium Scale
by Adults in Seven New York Markets, Fall 1972

Attitude Rating	SMSA Markets							
	New York City			Buff-alo	Roch-ester	Albany	Syra-cuse	Aver-age
	White	Black	Spanish					
	- percent -							
Very high in Calcium	63.4	56.4	55.0	62.2	64.1	60.3	65.5	61.1
	18.1	13.9	14.1	20.6	18.6	22.7	16.0	17.7
	7.0	8.2	6.4	5.9	6.4	7.4	6.0	6.7
	8.2	13.9	17.3	5.9	8.2	6.4	9.0	9.9
	0.4	1.0	3.2	1.4	0.9	1.6	1.5	1.4
Very low in	0.4	1.5	0.9	3.9	1.4	1.1	1.5	1.5
Calcium -	2.5	5.1	3.2	0.0	0.4	0.5	0.5	1.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 14
Attitude Rating of Milk on Value Scale
by Adults in Seven New York Markets, Fall 1973

Attitude Rating	SMSA Markets							
	New York City			Buff-alo	Roch-ester	Albany	Syra-cuse	Aver-age
	White	Black	Spanish					
	- percent -							
Excellent value for money -	26.5	31.6	39.7	39.7	32.1	30.9	39.5	34.2
	16.3	12.2	11.9	15.7	15.8	18.6	19.0	15.6
	19.6	14.3	10.5	20.6	20.4	19.7	16.5	17.4
	22.5	14.8	15.1	15.7	19.9	13.3	13.5	16.6
	5.7	10.7	5.0	2.4	3.6	7.4	6.0	5.8
Poor value	2.5	3.1	2.3	2.0	2.3	6.9	3.5	3.1
for money -	6.9	13.3	15.5	3.9	5.9	3.2	2.0	7.3
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 15
Attitude Rating of Milk on Man Scale
by Adults in Seven New York Markets, Fall 1972

Attitude Rating	SMSA Markets							
	New York City			Buff-alo	Roch-ester	Albany	Syra-cuse	Aver-age
	White	Black	Spanish					
	- percent -							
Man Norm-ally con-sumes -	28.2	36.9	49.7	34.5	37.1	29.6	30.5	35.3
	15.5	14.9	12.7	12.3	12.2	18.0	14.5	14.2
	12.3	12.8	4.5	13.8	16.7	14.8	17.5	13.1
Man does	16.7	14.4	14.9	19.7	19.5	20.6	18.0	17.6
not norm-	10.2	3.6	5.0	5.9	4.1	8.0	8.5	6.5
ally con-	5.7	5.1	5.4	6.4	3.6	3.7	3.0	4.8
sume --	11.4	12.3	7.7	7.4	6.8	5.3	8.0	8.5
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 16
Attitude Rating of Milk on Woman Consumption Scale
by Adults in Seven New York Markets, Fall 1972

Attitude Rating	SMSA Markets							
	New York City			Buff-alo	Roch-ester	Albany	Syra-cuse	Aver-age
	White	Black	Spanish					
	- percent -							
Woman Normally Consumes	32.1	44.4	60.0	33.8	33.0	28.7	31.5	37.8
	14.6	16.8	7.7	14.7	17.7	20.2	17.5	15.5
	10.6	11.7	7.7	17.2	11.8	19.2	18.0	13.5
Woman	17.1	14.3	13.7	18.2	22.6	16.5	17.5	17.1
does not	8.1	3.6	3.7	4.9	6.3	7.4	6.0	5.8
Normally	7.3	4.1	3.6	3.4	1.4	2.1	4.5	3.8
Consume --	10.2	5.1	3.6	7.8	7.2	5.9	5.0	6.5
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 17
Attitude Rating of Milk on Cholesterol Scale
by Adults in Seven New York Markets, Fall 1972

Attitude	SMSA Markets							
Rating	New York City			Buff-	Roch	Albany	Syra-	Aver-
	White	Black	Spanish	alo	ester		cuse	age
	- percent -							
Very high in								
Cholesterol	38.8	19.2	26.7	33.3	31.7	25.5	28.5	29.5
	20.0	14.0	6.5	21.6	18.4	23.9	20.0	17.7
	13.9	10.9	8.8	16.7	15.1	22.3	17.5	14.8
	16.3	43.0	40.1	17.2	25.7	19.2	22.5	26.1
	3.3	3.6	5.5	2.4	2.7	3.2	3.5	3.5
Very low in	2.4	2.6	4.6	2.9	2.3	2.7	5.0	3.2
Cholesterol	5.3	6.7	7.8	5.9	4.1	3.2	3.0	5.2
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 18
Attitude Rating of Milk on Energy Scale
By Adults in Seven New York Markets, Fall 1972

Attitude	SMSA Markets							
Rating	New York City			Buff-	Roch-	Albany	Syra-	Aver-
	White	Black	Spanish	alo	ester		cuse	age
	- percent -							
Excellent								
Energy								
Source -	48.0	62.0	58.8	45.1	48.0	37.7	40.5	48.7
	15.9	15.4	13.6	24.0	20.4	24.1	18.5	18.7
	16.3	10.8	7.7	15.2	11.3	22.5	19.5	14.6
	13.0	6.2	13.1	11.3	12.2	12.6	12.5	11.7
Poor	4.0	1.5	2.3	1.9	5.0	1.1	2.0	2.6
Energy	1.6	1.0	3.6	1.5	1.3	1.0	3.0	1.9
Source	1.2	3.1	0.9	1.0	1.8	1.0	4.0	1.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 19
Attitude Rating of Milk on Calories Scale
by Adults in Seven New York Markets, Fall 1972

Attitude	SMSA Markets							
Rating	New York City			Buff-	Roch-	Albany	Syra-	Aver-
	White	Black	Spanish	alo	ester		cuse	age
	- percent -							
Very high in								
Calories -	39.0	40.2	40.9	32.3	37.1	32.3	35.0	36.8
	19.9	25.3	13.2	26.5	19.5	27.5	22.0	21.7
	19.9	14.5	10.4	16.2	23.1	24.3	20.5	18.4
	13.4	11.7	23.2	14.7	14.9	10.1	17.0	15.1
	2.9	1.6	4.5	3.9	2.3	3.7	4.0	3.3
Very low in	1.2	3.6	1.4	4.4	1.8	2.1	0.5	2.1
Calories -	3.7	3.1	6.4	2.0	1.3	0.0	1.0	2.6
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 20
Attitude Rating of Milk on Restaurant Scale
by Adults in Seven New York Markets, Fall 1972

Attitude	SMSA Markets							
Rating	New York City			Buff-	Roch-	Albany	Syra-	Aver-
	White	Black	Spanish	alo	ester		cuse	age
	- percent -							
Would always								
Order in a								
Restaurant--	13.4	26.6	40.0	24.0	20.4	14.9	15.5	22.1
	7.3	12.3	8.6	9.3	8.1	7.4	11.5	9.1
	6.9	10.7	5.4	9.8	12.7	19.7	14.5	11.1
	17.1	11.7	14.1	15.7	12.7	12.2	12.0	13.8
Would never	6.9	6.1	6.4	8.8	9.0	6.4	10.0	7.7
order in a	11.8	6.1	6.4	6.9	8.6	11.7	10.5	8.9
Restaurant--	36.6	26.5	19.1	25.5	28.5	27.7	26.0	27.3
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 21
Attitude Rating of Milk on Vitamins Scale
by Adults in Seven New York Markets, Fall 1972

Attitude Rating	SMSA Markets							
	New York City			Buff-	Roch-	Albany	Syra-	Aver-
	White	Black	Spanish	alo	ester		cuse	age
	- percent -							
Very high in Vitamins -	44.9	65.2	61.9	44.1	49.3	35.5	41.5	49.0
	20.8	13.3	13.9	24.0	20.8	30.7	22.5	20.7
	15.5	8.2	7.2	14.7	14.0	18.5	16.5	13.5
	11.4	7.2	11.2	10.8	13.1	10.0	11.5	10.8
	3.3	1.0	3.1	3.4	2.3	2.6	4.0	2.8
Very low in	0.8	1.0	2.7	1.5	0.5	1.1	0.5	1.2
Vitamins	3.3	4.1	0.0	1.5	0.0	1.6	3.5	2.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0