September 1974

A. E. Res. 74-10

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Beverage Consumption and Advertising Awareness in Selected New York State Markets 1973

by

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SURVEY HIGHLIGHTS

Telephone interviews were conducted with 8,492 consumers between 12 and 65 years of age in the New York City, Albany and Syracuse Standard Metropolitan Statistical Areas during 1973. Information was obtained on the type and quantity of beverages consumed during the previous twenty-four hours, as well as the time of day, and the place of consumption. Both aided and unaided recall questions measured the consumer's advertising awareness.

1. Age

   Coffee[1/] was the most heavily consumed beverage among adults while soft drinks and milk were the most heavily consumed beverages among teenagers. Teenagers drank much more milk, soft drinks, and fruit juices than did adults.

   Consumption of coffee and liquor was far greater among adults than among teenagers. Beer consumption also was larger among adults than teenagers although the consumption level and the number of people consuming beer fell slightly in the group over 35 years of age.

   Only water consumption remained constant as respondents became older.

2. Geographical Market

   Among teenagers in New York City, soft drinks were the most heavily consumed beverage, but upstate teenagers consumed larger quantities of milk than any other beverage. In all age groups, New York City residents consumed less milk but more soft drinks and fruit juices than did upstate respondents. The adult males and female teenagers in New York City were more likely to drink soft drinks than were their upstate counterparts.

3. Sex

   Consumption of milk, beer, and liquor was in general much higher and more common among males than females, while females consumed more coffee than males did.

4. Black/White Comparison

   Milk consumption levels of black and white respondents in New York City were not significantly different.

   Blacks in all age groups consumed less coffee than whites. However, black adults consumed more water and black females consumed more soft drinks than did the corresponding white respondents.

5. Place of consumption

   All beverages were consumed primarily at home. Breakfast, dinner, and evening were almost entirely "at-home occasions," while more than half of the lunchtime beverage consumption was away from home.

6. Time of Consumption

   At breakfast, more teenagers drank milk than any other beverage. Adults chose coffee or tea most often.

   At lunch and dinner, upstate teenagers drank more milk than any other beverage but in New York City milk was second to soft drinks during these meals. Again, coffee or tea were the main choices among adults.

1/ "Fruit juices" refers to fruit juices and fruit drinks; "coffee" here refers to coffee or tea; "beer" refers to beer or wine.

The dinnertime and evening periods represented most of the total milk consumption during the day.

7. Advertising awareness

Soft drink ads were recalled much more frequently than ads for any other beverage. Among teenagers, milk ads were recalled second most frequently and among adults, coffee or tea and beer or wine ads were recalled most frequently.

Teenagers recalled ads for soft drinks and milk more often than did adults. Males were more likely than females to recall ads for beer or wine but less likely to recall ads for coffee or tea and fruit juices or drinks. Males and females were equally likely to recall ads for milk and soft drinks. Consumption of each beverage was higher among respondents who were aware of ads for that beverage than among respondents who were unaware of the advertisements.

Funds for this research were provided from the New York Dairy Promotion Order.

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Carolyn B. Cook, Doyle A. Eiler & Olan D. Forker*

INTRODUCTION

Beverage consumption patterns in the United States have experienced significant changes over the last decade. Per capita consumption of both coffee and milk have declined while the per capita consumption of soft drinks, beer, wine and liquor have continuously increased (Figure 1).

Coffee consumption peaked in 1962 and has declined at an average rate of about 2.5 percent per year since then. This is a more rapid rate than the decline milk is experiencing, yet coffee remains the most heavily consumed beverage. Soft drink consumption has doubled since 1960 and may soon replace milk as the second most heavily consumed beverage. The per capita consumption levels of the various alcoholic beverages have increased by 50 percent during the last ten years.

The picture portrayed by the aggregate beverage data raises questions for nutritionists, market researchers, and members of the beverage industry alike. A detailed body of individual consumption estimates would provide information valuable to each of these groups.

In the past, beverage consumption has been approached from three distinct viewpoints: an evaluation of the nutritional value of the beverages consumed, comparison of consumers' preferences, and a description of consumer behavior in terms of observable and quantitative variables. A brief review of the type of data which has been gained from each of these areas will set the stage for the current research.

Previous Studies

Dietary standards and nutrient intake have been treated by numerous researchers. Hampton et al (7) used a seven day food record to study food intake. Wharton (21) and Schorr, Sanjur, and Erickson (14) employed a three day food record and found the nutritive intake of males to be superior to that of females. A 1965 USDA study (17) obtained similar sex differences. Van der Mark and Underwood (18) used a 24 hour recall procedure to study dietary habits and nutritional inadequacies among young families.

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Food and beverage consumption has also been documented in terms of food preferences. Schorr et al (14), for example, found that among the teenagers in their sample, soft drinks and milk were the most popular foods. Stasch, Johnson, Spangler (15) and Reck (12) studied food and beverage preferences among college students, and observed that both age and sex were important variables. Other researchers (16) have examined milk consumption and preferences and found education, economic status, family size, sex, and age to be significant variables.

There have been relatively few studies, however, to measure beverage consumption in a detailed, descriptive manner for a broad-based sample. Sanjur, Romero, and Kira (13) examined milk consumption among a small sample of preschool children. Walker and Margolis (19) studied water intake of children; age was again a determining factor. A 1965 USDA study (17) surveyed food and beverage consumption across the U.S. and found sex, age, place of consumption and family income to be important factors. Burk (2) studied trends in consumption of dairy products and the role of social-psychological factors.

The above studies indicate several variables that play an important role in explaining consumer behavior. An additional factor is advertising and promotion. The aim of advertising is to move consumers along a series of steps from unawareness, to awareness, comprehension, conviction, and action (1). Since consumer awareness of an advertising campaign is the most easily measured of these steps, it is often used by business firms as a measure of advertising effectiveness (4, 10, 22). Advertising recall surveys have been most useful as tools to "sharpen the aim of the program by indicating who is and is not being reached by advertising and what their socio-economic characteristics are" (4, p. 108).

Based on the above review of literature, the following factors were incorporated into the research design of this study: an analysis of beverage consumption in terms of type and quantity consumed, place and time of consumption, sex, age, income, education, and advertising awareness.

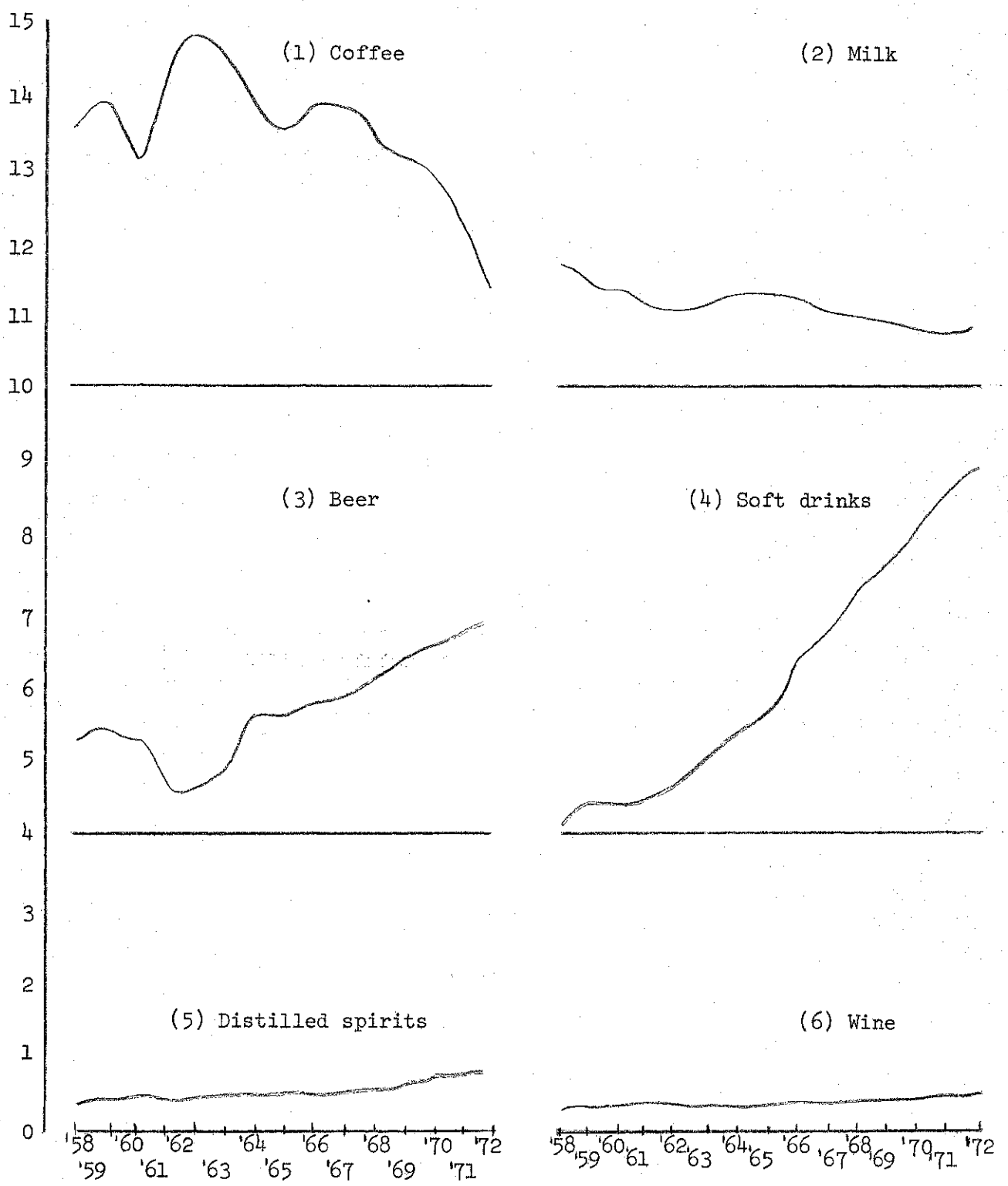
OBJECTIVES

1. Te estimate and compare beverage consumption rates for individuals 12-65 years old in Albany, New York City, and Syracuse.

2. To determine beverage consumption patterns according to place of consumption and time of day for individuals 12-65 years old in Albany, New York City, and Syracuse.

3. To measure and examine beverage advertising awareness levels for consumers between 12 and 65 years of age, in Albany, New York City, and Syracuse.

Figure 1:
Daily Per Capita Consumption of Major Beverages, United States, 1958-1972



SOURCES: (1) Annual Coffee Statistics, 1973
(2) Market Administrator's Bulletin, September 1973
(3) (4) The Wall Street Transcript, August 6, 1973
(5) (6) Statistical Abstract of the U.S., 1958-1973

PROCEDURES

Measurement of Beverage Consumption

Individual consumers were interviewed in order to obtain detailed information on beverage consumption by type and quantity of beverage, time of day and place of consumption. The individuals were asked to describe their beverage consumption behavior through a 24 hour recall technique. Dietary consumption studies have established that this technique (in which individuals reconstruct their consumption during the previous twenty-four hours) provides valid estimates of food or beverage consumption when compared to a seven day or fourteen day food record (3, 23). Since each respondent provides data for only one day, elaborate and rigid control procedures were used to provide equal representation for each day of the week, and the appropriate sex and age distribution of each market sample.

Measurement of Advertising Awareness

Both unaided and aided recall of beverage advertisements were used to measure awareness of beverage advertisements. In the unaided recall questions the respondents identified any beverage advertisements heard recently as well as the advertising media involved. Since many ads that were actually seen have been forgotten and thus are not reported, unaided recall rates tend to underestimate advertising exposure (2, 4). Also, only major brands tend to be remembered even though others may have been seen or heard (4).

To obtain aided recall scores the respondents were prompted by current advertising themes[2/] and asked if they recognized them. Over-reporting is common since the respondent may report having seen or heard a slogan that he actually has not. To minimize this problem, a follow-up question was added, requiring identification of the promoted product. While it can not be assumed that the recall of an advertisement means a change in behavior as it relates to sales (1, 8), the recall tests do "reflect the advertiser's ability to register the sponsor's name, and to deliver a meaningful message to the consumer" (20).

Measurement of Demographic Characteristics

Age, sex, racial/ethnic group, family income, education, occupation of the respondent, the number of children under 18 years of age, and the number of adults in the household were noted. A copy of the Questionnaire is presented in the appendix.

Collection of Data

In order to maintain the necessary control over both the sampling and interviewing procedures a professional centralized telephone survey firm was employed to do the enumeration (6). Since many interviewers were used in order to complete the survey within the allotted time period, it was important that they be trained and monitored so that "interviewer bias" would be minimized (2). While the population for a telephone survey can include only those households with listed telephones, in the New York markets surveyed this represented over

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[2/] aided recalls were obtained only for milk

85 percent of all households[3/]. Telephone interviews generally have a lower refusal rate (9), and are more quickly completed than personal or mail surveys. A telephone survey also allows interviewing during the evening hours in urban areas, thus producing a better sample of employed persons and students.

Sampling Procedures

Three of the largest Standard Metropolitan Statistical Areas (SMSA) within New York State were sampled: New York City, Syracuse, and Albany-Schenectady-Troy[4/]. Within each market, quotas for each of three age groups were established such that the age distributions in the samples were the same as the age distributions within the respective populations. The quota for each age group was equally divided between males and females. For both the April 1973 and September 1973 surveys[5/], the total target sample size was 4200. Quotas for each market, age group, and sex are detailed in Table 1.

Table 1. Interview Quotas by Market, Sex and Age for April and September 1973 Surveys

Market (SMSA)	Sex	Age Category			Total
		12-17	18-34	35-65	
Albany	Male	115	230	330	675
	Female	115	230	330	675
New York City	Male	140	300	460	900
	Female	140	300	460	900
Syracuse	Male	95	190	240	525
	Female	95	190	240	525
Total		700	1440	2060	4200

The telephone directories covering the counties within each SMSA were identified; a column-skip pattern and a randomly chosen template were used

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3/ From Table 8, Housing Characteristics for states, cities, and counties, Bureau of the Census, 1970, Vol 1, Part 34 (New York), the percentage of all occupied housing units having telephones is as follows:
Albany-Schenectady-Troy SMSA: 92.4%
New York City SMSA: 85.6%
Syracuse SMSA: 92.3%

4/ The counties included in the SMSA's were:
Syracuse: Oswego, Onondaga, Madison
Albany: Albany, Rensselaer, Saratoga, Schenectady
New York: Queens, Kings, Bronx, Richmond, New York, Rockland, Westchester, Nassau, Suffolk

5/ Surveys were conducted April 14-May 25 and September 5-October 5, 1973

to determine the phone numbers to be called. Call-backs were not allowed, and only one interview per household was permitted. Telephone calls were restricted to the hours of 5 PM until 10 PM, to ensure an adequate sampling of working and student family members. Calls were equally distributed across the seven days of the week, within each market and age group.

Results are here presented for the April 1973 and September 1973 waves of the survey.

SURVEY RESULTS

Sampling Effectiveness

Tables 2 to 7 describe the demographic and economic characteristics of the three market SMSA's sampled. Both similarities and differences between the samples and the populations from which they were drawn are seen (Table 2). Black and Hispanic consumers were only slightly undersampled in Albany and Syracuse but in New York City the discrepencies were much larger. All three samples were better educated and appeared to have higher incomes than did their respective populations. However, the median income in each sample was based on only about three fourths of the respondents in each sample because of the high "no response/don't know" reply rate. (See Table 5.) This response pattern was primarily due to the high number of teenagers who did not know the family income. Thus, income comparisons between the samples and their respective populations may be misleading.

Unemployment figures for the samples were lower than for the populations, but temporarily unemployed respondents may have simply given their occupation rather than responding "unemployed." A larger than expected proportion of each market sample was not in the labor force. In other words, a disproportionately high number of students, housewives, and retired persons were interviewed.

The controls provided in the sample design for age, sex and day of week were successful in achieving the desired distributions. The age distributions in the Albany and New York City samples were identical to those in the corresponding populations (Table 3). In Syracuse the sample included a very slightly higher number of 35-65 year old customers than intended. In all samples the proportion of males and females in the samples were also very close to population estimates. Further detail on sample sizes is in Table A-19, Appendix. Table 7 shows that the interviews were evenly distributed across the seven days of the week.

Table 2: Demographic and Economic Profile of Populations and Respondents in Sample Selected New York State Markets 1973

Characteristic	Albany SMSA		New York City SMSA		Syracuse SMSA	
	Sample	Population[a/]	Sample	Population	Sample	Population
Number of People[b/]	2,681	485,068	3,672	7,965,858	2,139	426,602
% Male	49.9	48.2	49.5	46.0	49.7	48.8
% Black	2.5	3.2	9.3	16.3	3.4	3.7
% White	95.4	96.3	86.2	74.7	95.2	95.6
% Hispanic	0.2	0.1	2.5	7.3	0.3	0.2
Median Age[b/]	33	33.4	33	34.5	32	31.5
% Completing High School[c/]	75	56.1	75	51.8	73	57.8
Median Family Income	$13,793	$10,655	$14,110	$10,870	$12,952	$10,450
% Employed[d/]	53.2	---[e/]	55.2	---	52.4	---
% Unemployed[d/]	1.3	---	2.4	---	1.7	---
% Not in Labor Force[d/]	44.2	41.9	41.1	42.7	45.1	41.4
Unemployed, % of Civilian Labor Force[f/]	2.5	3.3	4.0	3.8	3.1	4.5

a/ Population estimates from the 1970 census
b/ Data for persons 12 to 65 years
c/ Sample data for persons 12 to 65 years; population data for persons 25 years and over
d/ Data do not add to 100% because of No Responses given
e/ % employed and % unemployed figures are not available for population
f/ Corresponds to census measure of unemployment. Labor force = employed + unemployed who are looking for work and able to accept a job. Sample data for persons 12 to 65 years; population data for persons 16 years and over.

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 3: Age of Respondents in Samples of Selected New York Markets: Sample Sizes and Percentage Distribution, 1973 (Total) and Population Percentage Distributions

Age	Albany SMSA			New York City SMSA			Syracuse SMSA		
	Population[a/]	Sample		Population	Sample		Population	Sample	
	%	(N)	%	%	(N)	%	%	(N)	%
12-17	17	452	17	15	564	15	18	369	17
18-34	34	909	34	34	1246	34	36	753	35
35-65	49	1320	49	51	1862	51	46	1017	48
Total	100	2681	100	100	3672	100	100	2139	100

[a/] Population estimates were obtained from 1970 Census

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 4: Highest Level of Education Completed by Respondents in Samples of Selected New York Markets: Percentage Distribution, 1973

Highest Level of Education	Albany SMSA	New York City SMSA	Syracuse SMSA
Grammar School	8.2%	8.3%	8.2%
Some High School	16.7	16.0	19.1
High School Graduate	32.1	33.1	34.7
Some College	14.6	16.7	14.5
College Graduate	26.8	24.6	22.2
Other, No Response	1.6	1.3	1.3
Median Years Completed	11.8 years	11.8 years	11.7 years

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 5: Family Income of Respondents in Samples of Selected New York Markets: Percentage Distribution, 1973

Family Income	Albany SMSA	New York City SMSA	Syracuse SMSA
Under $2,500	1.4%	1.4%	1.4%
$2,500-$5,000	2.6	2.9	3.1
$5,000-$7,500	4.7	5.1	5.9
$7,500-$10,000	10.4	8.5	13.0
$10,000-$12,500	10.8	10.9	13.0
$12,500-$15,000	13.0	12.0	12.9
$15,000-$17,500	8.3	9.0	8.2
$17,500-$20,000	8.8	6.8	8.6
Over $20,000	13.3	16.4	10.8
No Response	26.7	27.0	23.1
Median Income	$13,840	$14,088	$13,163

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 6: Occupation of Employed Respondents in Samples of Selected New York Markets: Percentage Distribution, 1973

Occupation	Albany SMSA	New York City SMSA	Syracuse SMSA
Professional, Technical, Kindred	32.2%	34.0%	30.6%
Manager, Owner, Executive	12.2	14.2	13.8
Clerical, Sales, Postal Service	26.1	23.5	22.2
Craftsman, Operative, Foreman	15.9	13.9	16.3
Service worker, Policeman, Fireman	6.6	7.6	7.9
Laborer, Unskilled	6.7	6.2	8.6
Other	0.3	0.6	0.6
Total (N)	1430	2027	1126

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 7: Percentage Distribution of Interviews Across Seven Days of the Week Selected New York Markets, 1973

	Albany SMSA	New York City SMSA	Syracuse SMSA
Sunday	15.5%	14.7%	14.7%
Monday	15.3	14.0	15.0
Tuesday	13.2	13.3	15.0
Wednesday	13.7	15.6	15.0
Thursday	14.2	16.2	12.7
Friday	14.7	13.4	13.8
Saturday	13.4	12.8	13.8
(N)	2681	3672	2139

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Beverage Consumption

The beverages reported during the twenty-four hour recall were grouped into seven categories: beer or wine, soft drinks, milk, coffee or tea, fruit juices or fruit drinks, liquor, and water. Figure 2 clarifies the makeup of the combination groups such as beer or wine and coffee or tea. During the following discussion of the results, it should be remembered that the "coffee and tea" category includes substantial quantities of tea, and for females, wine consumption is a significant part of the "beer or wine" category.

Per capita consumption of a beverage is the total number of ounces of the beverage consumed by a group of respondents divided by the total number of respondents in the group. The per capita figure thus indicates how heavily a beverage is consumed over the entire group; the beverage with the highest per capita consumption level is the one consumed in the largest quantity.

However, not all respondents in a group are consumers of every beverage. Two additional measures help describe this aspect of beverage consumption. Intensity of consumption is the total number of ounces of a beverage consumed by a group of respondents divided by only the number of people who actually consumed the beverage. Thus, intensity measures the average rate of consumption for only those individuals who actually used the beverage. Market penetration of a beverage is the number of respondents that consumed the beverage divided by the total number of respondents in the group. Market penetration thus measures how widely a beverage is used.

These three measures are inter-related as follows:

$$\text{Per capita} = \text{Penetration} \times \text{Intensity}$$

$$\frac{\text{Quantity consumed}}{\text{Number in sample}} = \frac{\text{Number consuming}}{\text{Number in sample}} \times \frac{\text{Quantity consumed}}{\text{Number consuming}}$$

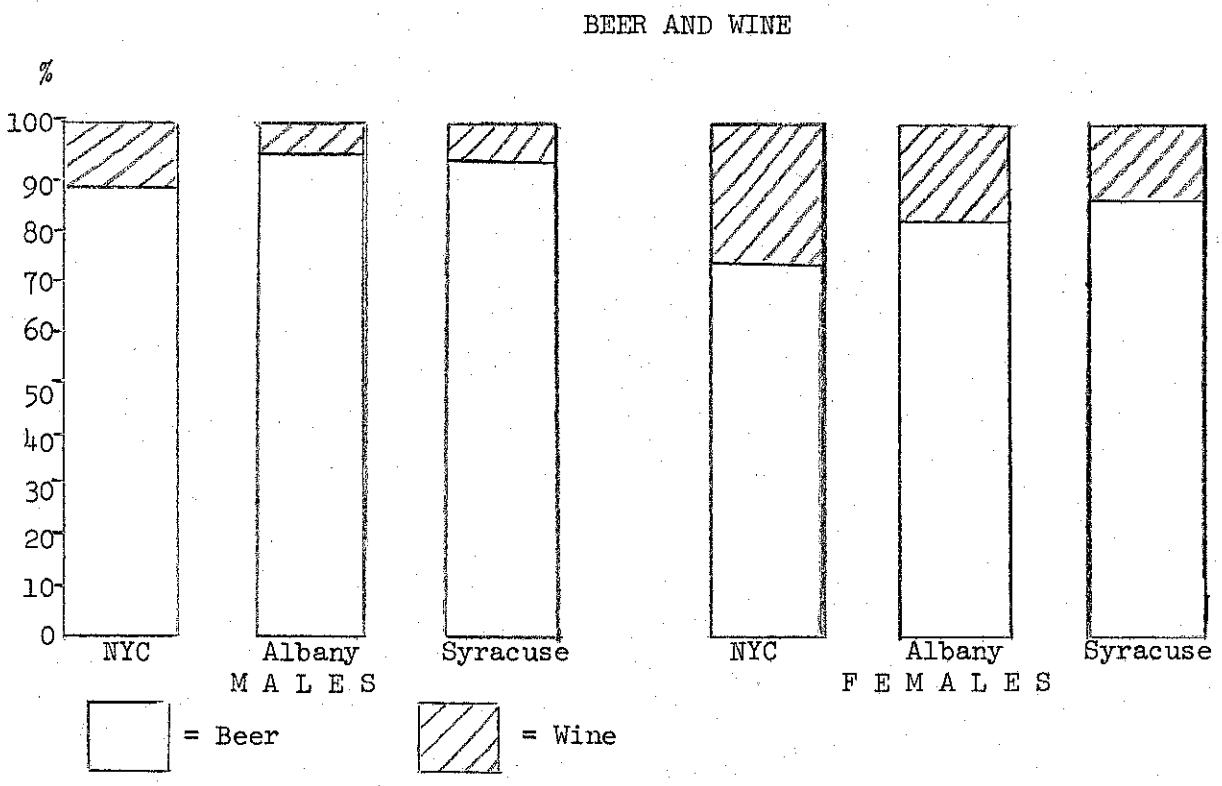
Consumption Estimates: Total Sample

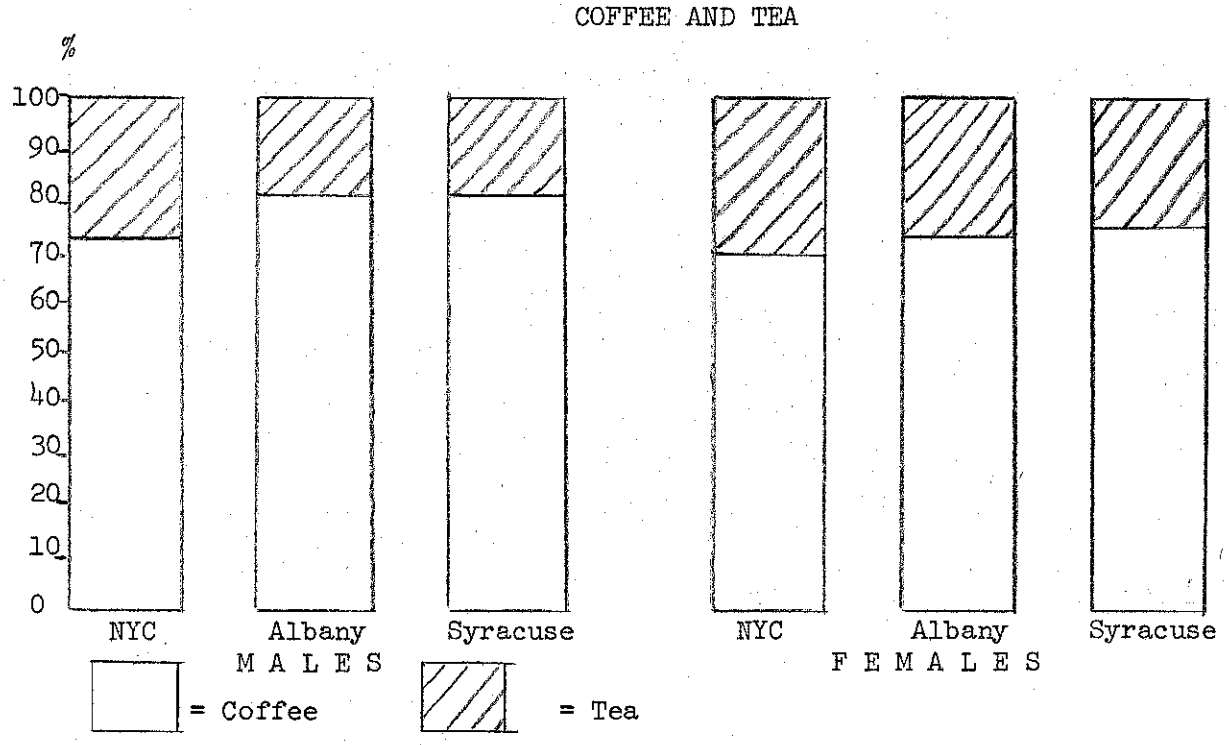
Large differences in the per capita consumption are evident among the seven beverages, and in some cases among the three markets (Table 8). Coffee and tea were by far the most heavily consumed beverages. Soft drinks, milk, and water were also important. The per capita figures illustrate the importance of examining the consumption habits in New York City, Albany, and Syracuse separately. Milk consumption rates were much higher in Albany and Syracuse while fruit juices and liquor were more heavily consumed in New York City.

The intensity of consumption figures further demonstrate differences between the markets. Milk drinkers in New York City drank less milk than did their upstate counterparts. The intensity of consumption for fruit juices and beer were higher in New York City.

The market penetration data, or percent consuming the beverage, show that the consumption of coffee or tea was much more widespread than was the consumption of any other beverage. Milk has the second highest penetration in Albany and Syracuse but soft drinks were the second most commonly consumed beverage in New York City.

Figure 2: Proportion of Beer & Wine and Coffee & Tea Categories Represented by Each Beverage, 1973





SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 8: Beverage Consumption Estimates, Individuals Ages 12-65
New York City, Albany, Syracuse SMSA's, 1973

Estimate Market (SMSA)	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water	Total
Per Capita Consumption (oz.)								
New York City[a/]	4.7	10.8	6.2	14.9	4.6	1.2	7.6	49.9
Albany	6.4	8.4	9.6	15.1	3.4	1.1	8.1	52.0
Syracuse	6.1	9.6	10.4	15.5	3.4	0.9	8.6	54.4
Intensity of Consumption (oz.)								
New York City	23.4	18.8	15.0	19.5	9.0	10.6	15.5	
Albany	29.1	17.3	17.1	19.8	7.7	11.1	16.1	
Syracuse	29.4	18.4	18.1	21.4	7.9	9.7	16.3	
Percent Consuming (%)								
New York City	19.9	57.4	41.4	76.4	51.6	11.6	48.9	
Albany	22.0	48.3	56.1	76.1	43.9	9.9	50.4	
Syracuse	20.8	52.4	57.1	72.3	42.8	9.3	52.7	
Percent of Total Beverage (%)								
New York City	10	22	12	30	9	2	15	100
Albany	13	16	19	29	6	2	16	100
Syracuse	12	17	19	29	6	2	15	100

[a/] New York City (N) = 3,672; Albany (N) = 2,681; Syracuse (N) = 2,139

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Age

In general, fruit juices, soft drinks and milk all declined in per capita consumption with increasing age, while liquor, beer or wine, and coffee or tea (the so-called "social beverages") increased in usage with increasing age of the consumer (Figure 3). The only beverage to retain a fairly constant average intake level was water.

The differences between milk consumption of teenagers and young adults (18-34 year old respondents) were significant[6/] in all markets. In New York City, for example, the teenagers averaged twice as much milk as the young adults. Market penetration was also much lower among adults than teenagers: three-fourths of the teenagers had consumed milk while less than one-third of the adults over 35 years had done so (Figure 4). Soft drink consumption of the teenagers was also significantly higher than that of the older adults in all markets, and the percentage of the sample consuming soft drinks was accordingly much higher among teenagers than adults. Fruit juice consumption decreased significantly with age among the white respondents but not among the black groups.

The change in coffee or tea consumption was more dramatic: older adults consumed more than six times as much coffee or tea than the teenagers did. The penetration rates were equally varied: while only one-fourth of the teenagers had consumed these beverages more than 90% of the adults over 35 years had. Beer or wine consumption increased threefold from the teenage years to the young adult group, but then decreased slightly in the older adult group.

Geographical Market

Both per capita consumption and intensity of consumption for milk were lower among New York City residents than among upstate consumers (Figure 3). These trends were true of both sexes and all three age groups, but were most pronounced among teenagers: male teenagers in New York City averaged only 16.8 ounces of milk per day while in Albany the male teenagers averaged 23.6 ounces. More of the upstate respondents were milk drinkers as well: while only three-fourths of the New York City teenagers drank milk, more than 90% of the Albany teenagers did (Figure 4).

Soft drinks and fruit juices, on the other hand, were more heavily consumed in New York City than in Albany and Syracuse. The teenage males in the three markets consumed similar amounts of fruit juices and females under 35 consumed somewhat similar amounts of soft drinks but for all other groups, per capita consumption of these beverages was considerably higher in New York City than in the upstate markets. Intensity of consumption was also higher among the New York City respondents.

6/"Significant" is defined as a confidence level of .05 in the Z test; $Z \geq |1.96|$. Appendix Tables A-16 through A-19 give variances and sample sizes used for all Z tests.

Sex

White males drank more milk, beer or wine, and liquor than white females did. Milk consumption among white males was almost 50 percent larger than among females and these differences were statistically significant for all age groups. Among blacks under 35 years, males did not drink significantly more than females. Teenage males drank slightly more of the alcoholic beverages than did the teenage females but only among adults were the differences very large.

In general, the intensity of consumption (Appendix Tables A-13, A-14 and A-15) and market penetration for milk and beer or wine also were higher among males than females. Among whites, more males than female teenagers and young adults were milk drinkers, although among blacks, the teenage males and females were equally likely to have consumed milk.

Coffee or tea were consumed more heavily by females than by males, with the differences significant for all white young adults and for teenagers in both New York City and Albany.

Black/White Comparisons

In New York City, white teenagers drank slightly more milk than did black teenagers, but the differences were not significant (Figure 5). The differences between white and black consumption of coffee and tea were more pronounced: only 8.1 ounces for young adult black males and 5.3 ounces for females, compared to 12.7 ounces and 16.6 ounces for whites. In all age groups whites consumed significantly more coffee or tea than did black consumers.

On the other hand, blacks tended to consume larger quantities of soft drinks and water than white respondents; the soft drink consumption for blacks was significantly higher than for whites among females, and water intake was significantly higher among the older black adults than among white adults.

Whites were in general more likely than were blacks to be milk drinkers; four-fifths of the white teenage males in New York City had consumed milk in the previous 24 hours, while two-thirds of the black teenage males had (Figure 6). Whites were also more likely to be coffee or tea drinkers than were blacks, and more of the white females drank liquor than did the black females. In water and soft drinks, the pattern was reversed; more blacks than whites had consumed water in the previous 24 hours, and soft drinks had been more frequently consumed by the oldest black males and black females than they were by whites. Similar proportions of blacks and whites consumed fruit juices or drinks and beer or wine.

Figure 3: Per Capita Beverage Consumption by Sex and Age Group
New York City, Albany and Syracuse SMSA's
White Respondents, 1973

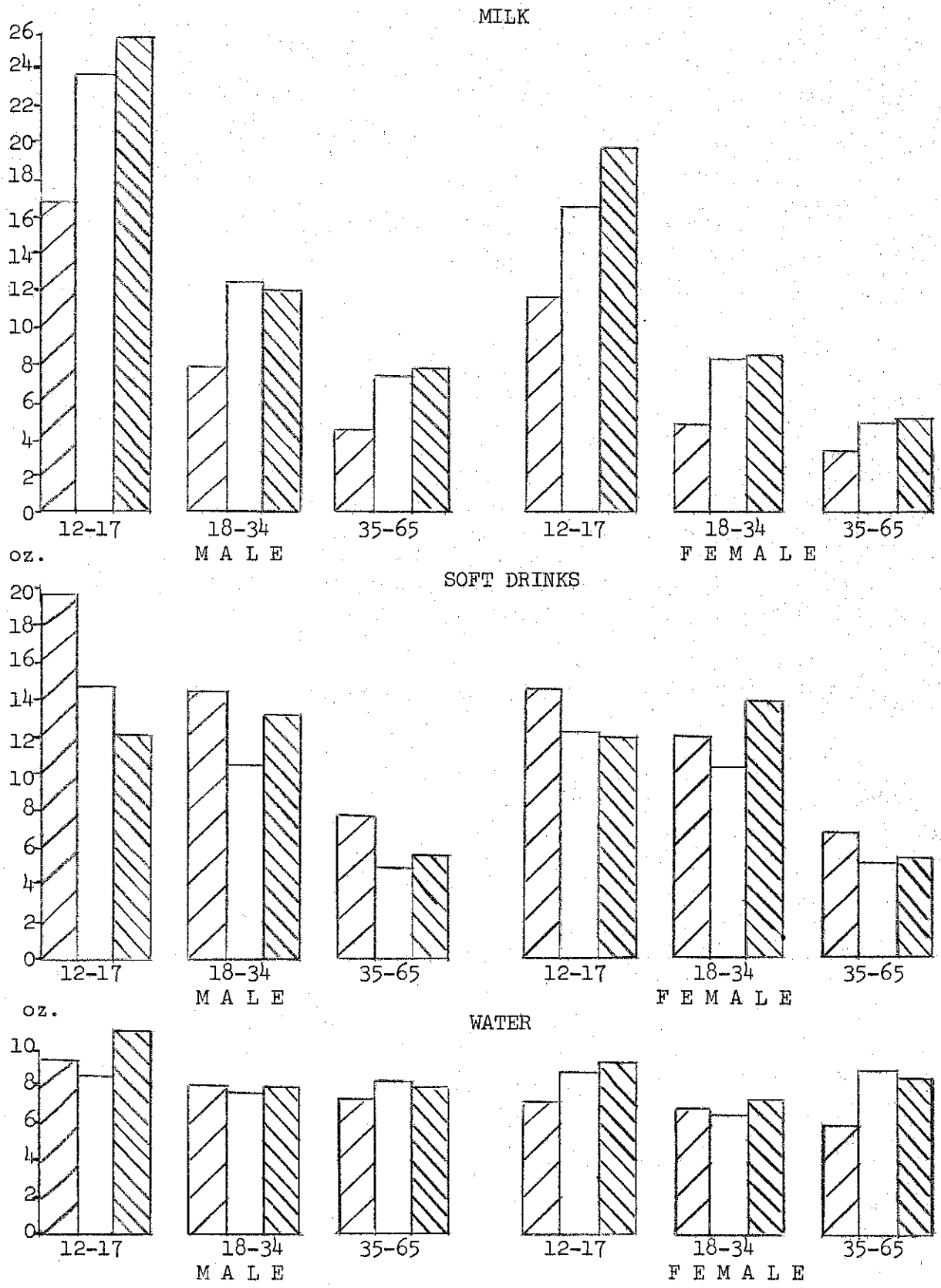
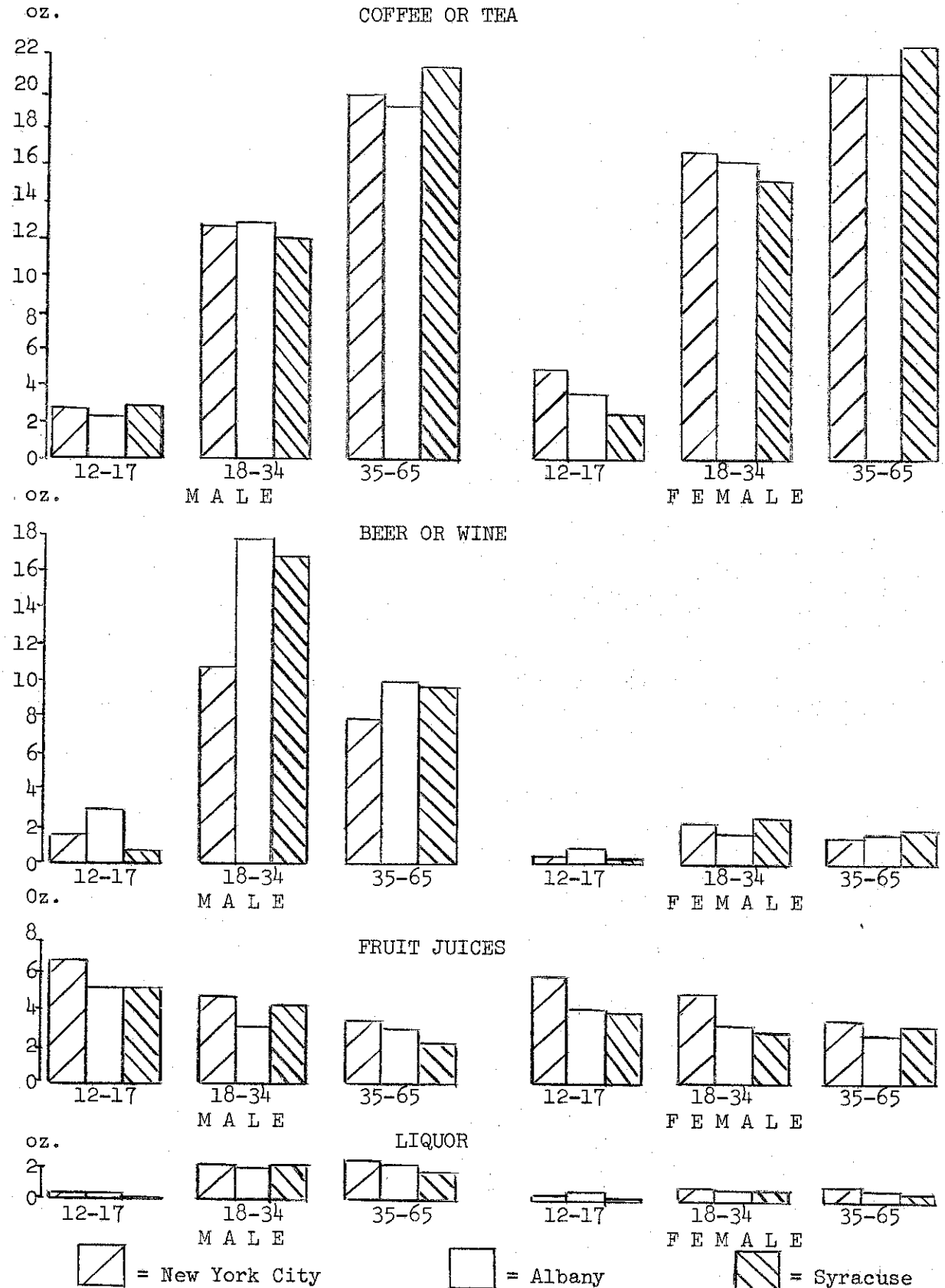


Figure 3, continued.



Data for this figure appear in Tables A-7 and A-8.

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Figure 4: Market Penetration by Sex and Age Group
New York City, Albany and Syracuse SMSA's, White Respondents, 1973

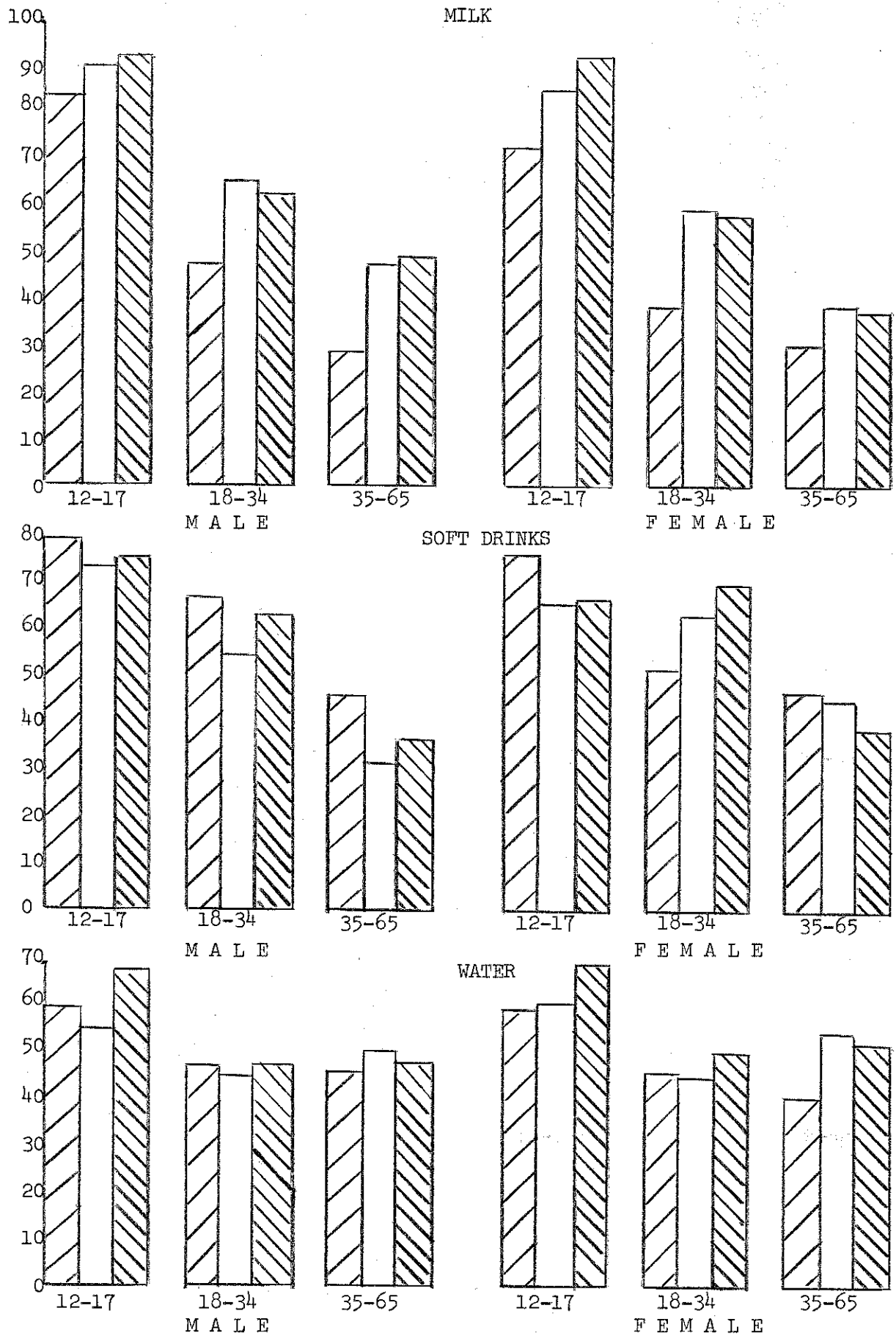
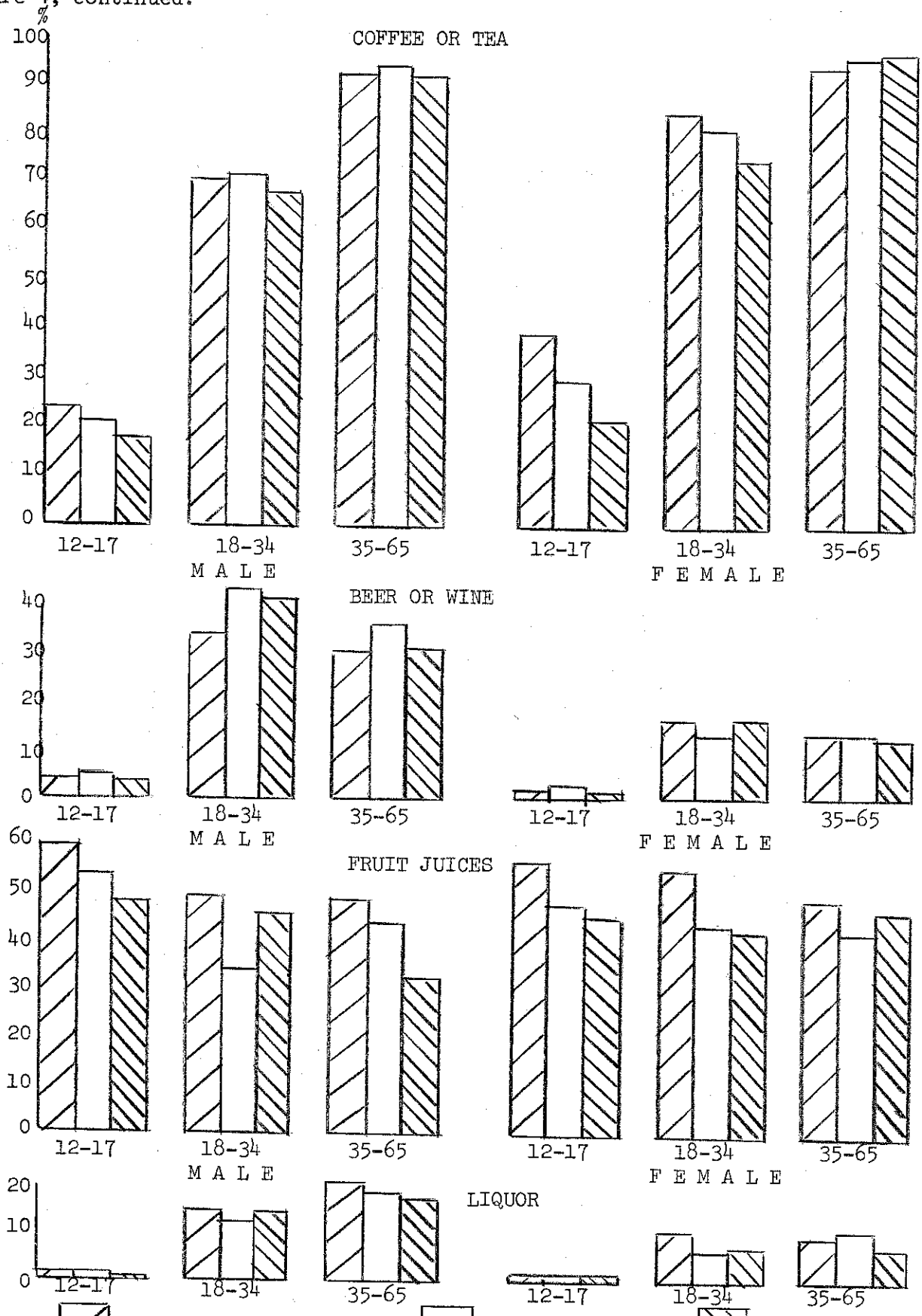


Figure 4, continued.



Data for this figure appear in Tables A-10 and A-11.

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Figure 5: Per Capita Beverage Consumption of Black and White Respondents by Sex and Age, New York City SMSA, 1973

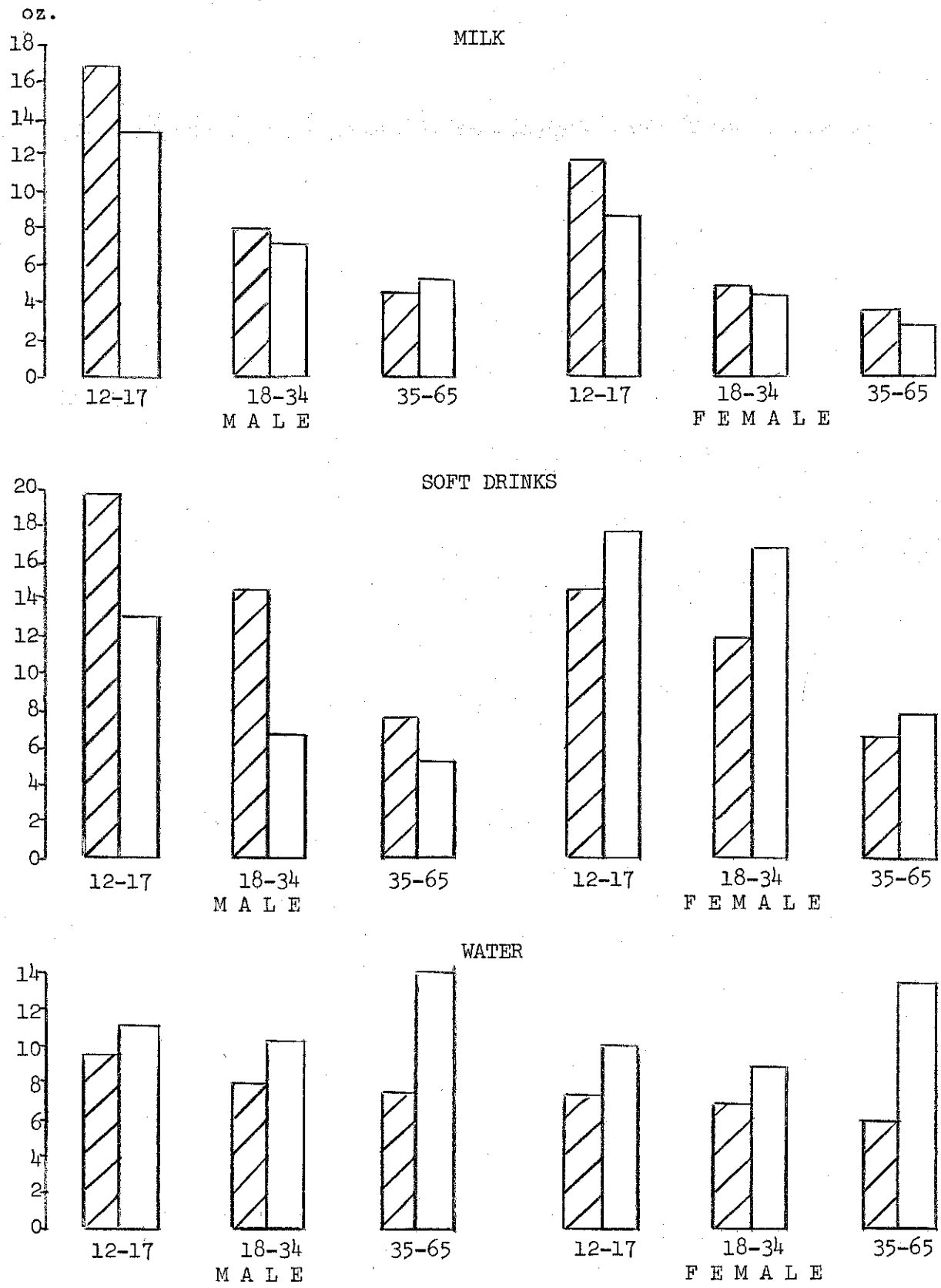
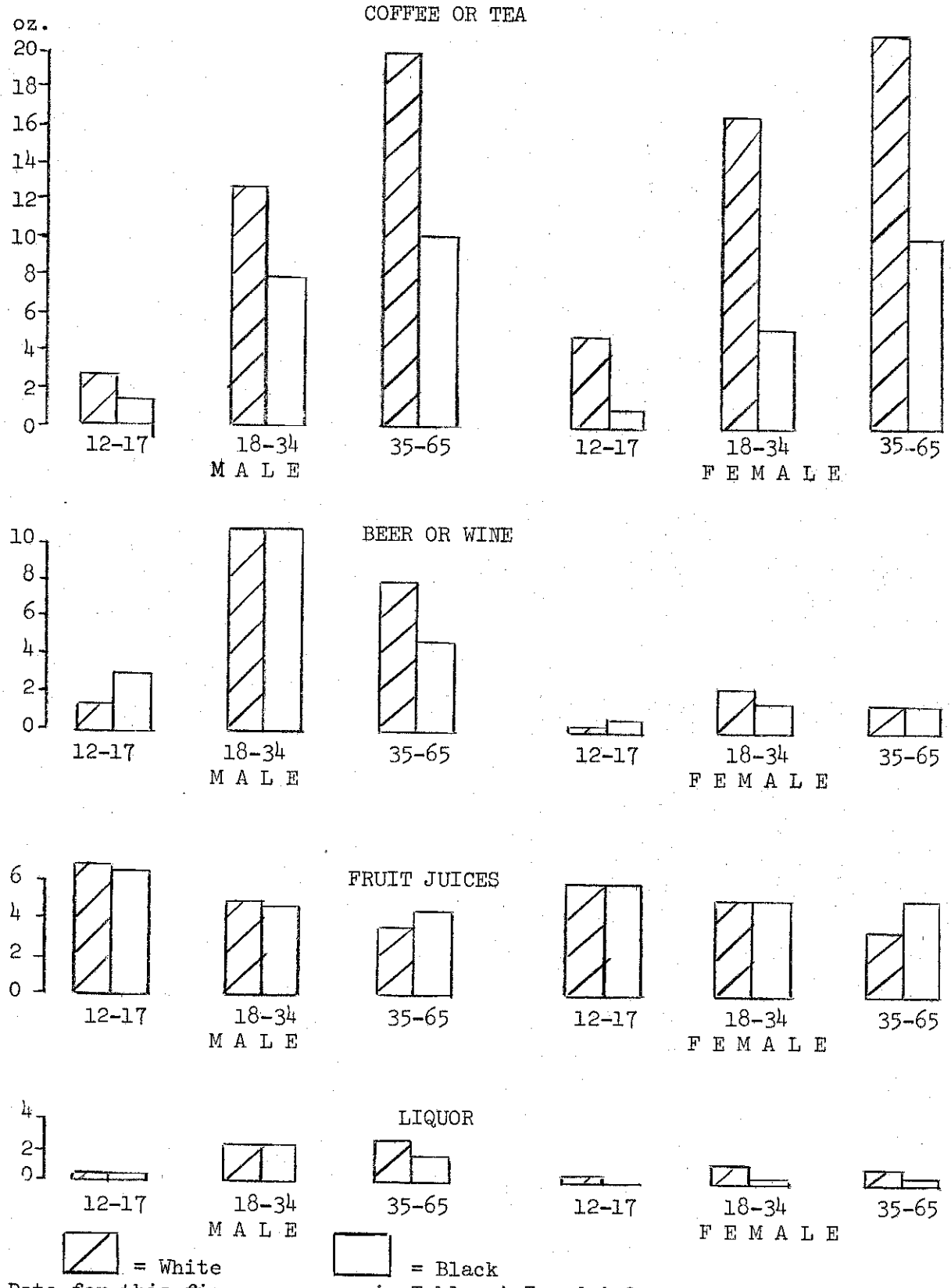


Figure 5, continued.



Data for this figure appears in Tables A-7 and A-9.

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Figure 6: Market Penetration of White and Black Respondents by Sex and Age
New York City SMSA, 1973

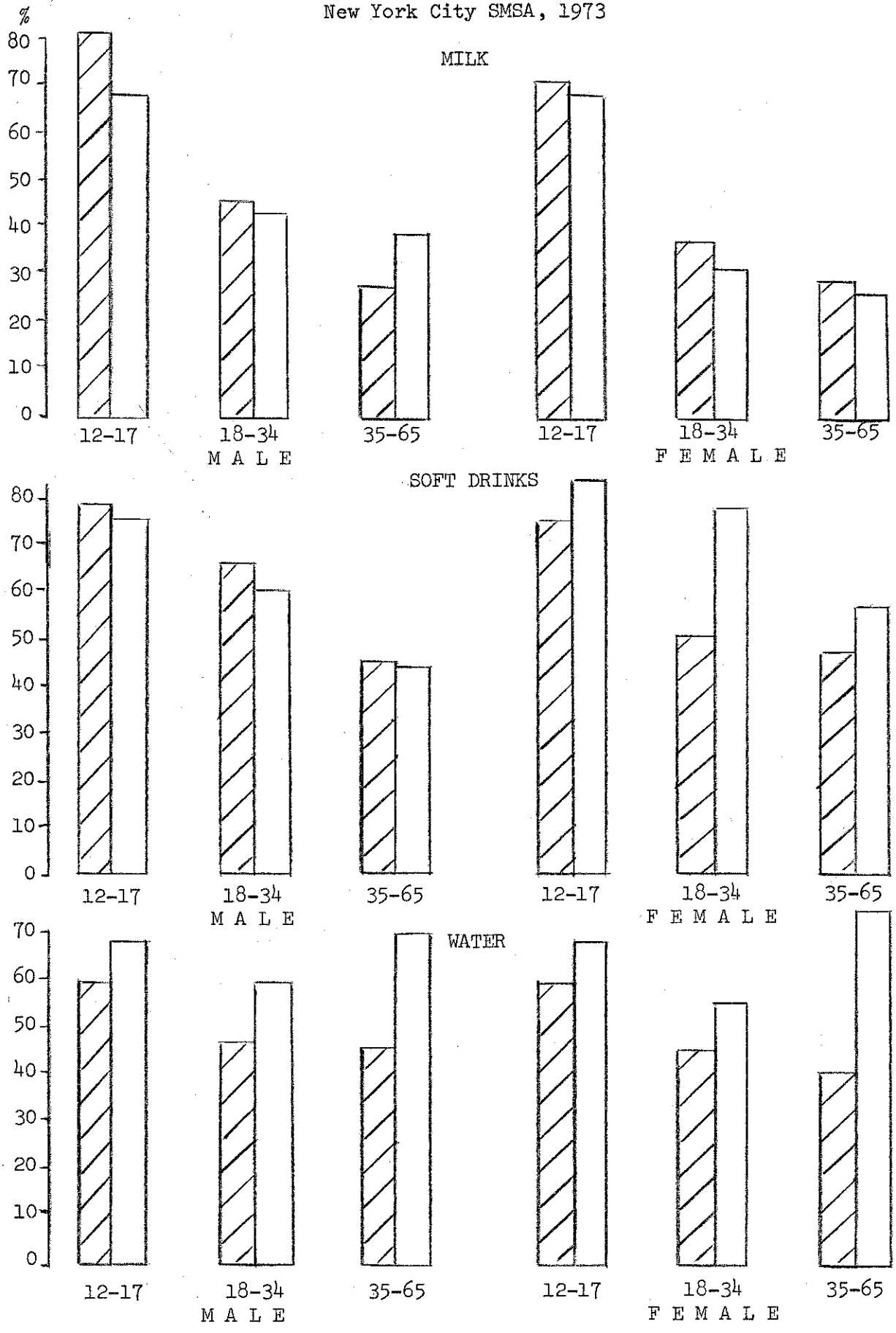
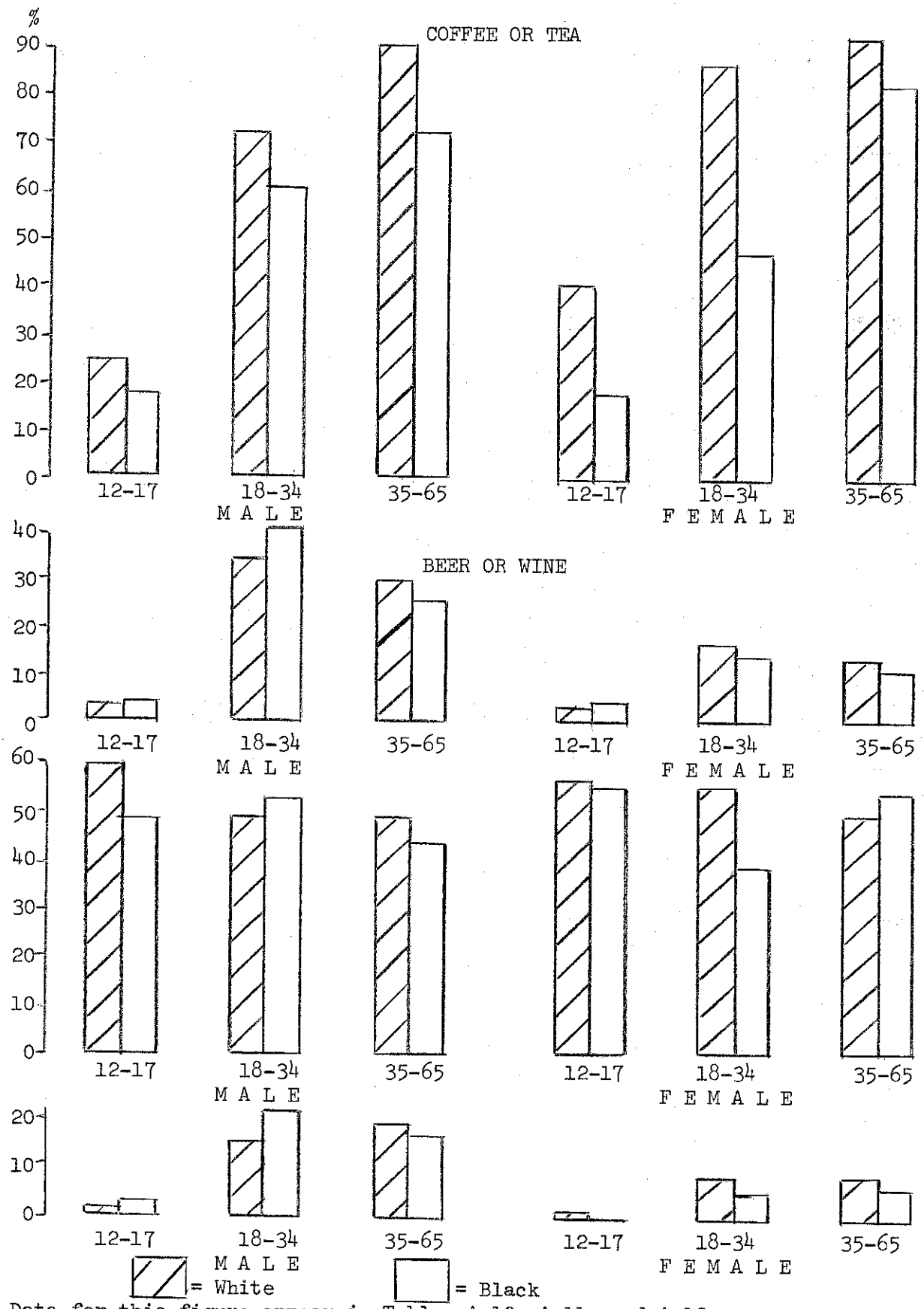


Figure 6, continued.



Data for this figure appear in Tables A-10, A-11, and A-12.
SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Between-Survey Comparisons

Several significant differences in per capita consumption rates appeared between the April and September surveys (Table 9). More coffee and tea were consumed in September than in April, in all markets. Other differences occurred but were inconsistent across markets: soft drink and water consumption decreased in the upstate markets, whereas soft drink intake increased in New York City. New York City and Syracuse respondents consumed beer more heavily in September than in April. The differences in mean consumption of the other beverages were either small or the variation among respondents was so large as to make the difference statistically insignificant.

Beverage Consumption of Adult Females With and Without Children in the Home

Researchers have in the past hypothesized that presence of children in the household may influence beverage consumption of the parents (5, 23). Thus a comparison was made of consumption levels for females over 24 years old between households with and without children under 18 years. In most of the beverage groups, per capita consumption was not significantly different (Table 10). Only in April was there a consistent difference, in that females in households with children consumed more soft drinks than did those in households without children. In the September survey this was true only in the New York City sample. Milk consumption was significantly higher for "mothers" than for "non-mothers" in only one case (New York City sample, April 1973).

Table 9: Comparison of Per Capita Consumption of Seven Beverages Between April and September Surveys New York City, Albany and Syracuse SMSA's, 1973

Market (SMSA) Beverage	Mean April	Mean September	Z Value	Difference Significant at 95%
	-ounces per day-			
Albany				
Wine & Beer	6.1	6.8	- .85	NS*
Soft Drinks	8.8	7.9	2.05	S
Milk	9.5	9.6	- .18	NS
Coffee & Tea	14.2	15.9	-3.20	S
Fruit Juice	3.5	3.3	1.02	NS
Liquor	1.3	.9	1.66	NS
Water	9.1	7.2	3.89	S
TOTAL	52.5	51.5		
New York City				
Wine & Beer	4.1	5.2	-2.26	S
Soft Drinks	10.0	11.5	-3.40	S
Milk	6.2	6.2	.18	NS
Coffee & Tea	14.2	15.6	-2.77	S
Fruit Juice	4.5	4.8	-1.42	NS
Liquor	1.1	1.3	-1.15	NS
Water	7.2	8.0	-1.93	NS
TOTAL	47.3	52.6		
Syracuse				
Wine & Beer	5.3	6.9	-2.06	S
Soft Drinks	10.6	8.9	2.55	S
Milk	10.6	10.2	.60	NS
Coffee & Tea	14.5	16.4	-2.70	S
Fruit Juice	3.4	3.4	- .08	NS
Liquor	1.0	.8	.79	NS
Water	9.4	7.8	3.03	S
TOTAL	54.8	54.4		

*NS = Not Significant; S = Significant

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 10: Comparison of Beverage Consumption by Females over 24 Years of Age With and Without a Child Under 18 Years in the Household New York City, Albany, Syracuse SMSA's, April and September 1973

Market (SMSA) Beverage	--April 1973-- Mothers*	Non Mothers	Z Value	Difference Significant at 95%	--September 1973-- Mothers	Non Mothers	Z Value	Difference Significant at 95%
	-ounces per day-				-ounces per day-			
New York City								
Beer or wine	1.3	1.2	0.33	NS**	2.6	1.7	1.26	NS
Soft drinks	9.1	7.0	2.68	S	10.9	6.5	4.15	S
Milk	4.5	2.9	3.03	S	4.1	3.3	1.45	NS
Coffee or tea	17.7	18.1	0.36	NS	19.8	20.1	0.23	NS
Fruit juices or drinks	4.2	4.1	0.27	NS	3.7	4.7	1.91	NS
Liquor	0.5	0.5	0.27	NS	0.7	1.4	2.33	S
Water	6.3	6.7	0.50	NS	6.5	7.3	0.82	NS
Albany								
Beer or wine	2.3	2.5	0.23	NS	1.6	1.1	1.04	NS
Soft drinks	8.4	5.5	2.45	S	7.3	6.1	1.25	NS
Milk	6.3	5.5	0.95	NS	6.1	4.7	1.68	NS
Coffee or tea	18.8	19.5	0.55	NS	22.2	20.3	1.24	NS
Fruit juices or drinks	3.7	3.0	1.48	NS	3.2	2.6	1.49	NS
Liquor	0.9	0.8	0.32	NS	0.6	0.6	0.06	NS
Water	8.1	10.0	1.70	NS	5.8	7.2	1.30	NS
Syracuse								
Beer or wine	1.6	1.9	0.41	NS	2.1	2.6	0.57	NS
Soft drinks	10.8	7.7	2.09	S	7.0	7.1	0.13	NS
Milk	5.6	5.2	0.44	NS	6.1	5.7	0.49	NS
Coffee or tea	19.0	19.6	0.37	NS	23.0	20.7	1.34	NS
Fruit juices or drinks	3.3	3.9	0.83	NS	2.5	2.6	0.04	NS
Liquor	0.8	0.8	0.07	NS	0.5	0.4	0.25	NS
Water	9.3	9.3	0.02	NS	6.9	8.6	1.38	NS

*"Mother" = female over 24 years of age with child under 18 in the home
"Non mother" = female over 24 years of age without child under 18 in the home
**NS = Not significant; S = Significant
SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Time and Place of Consumption

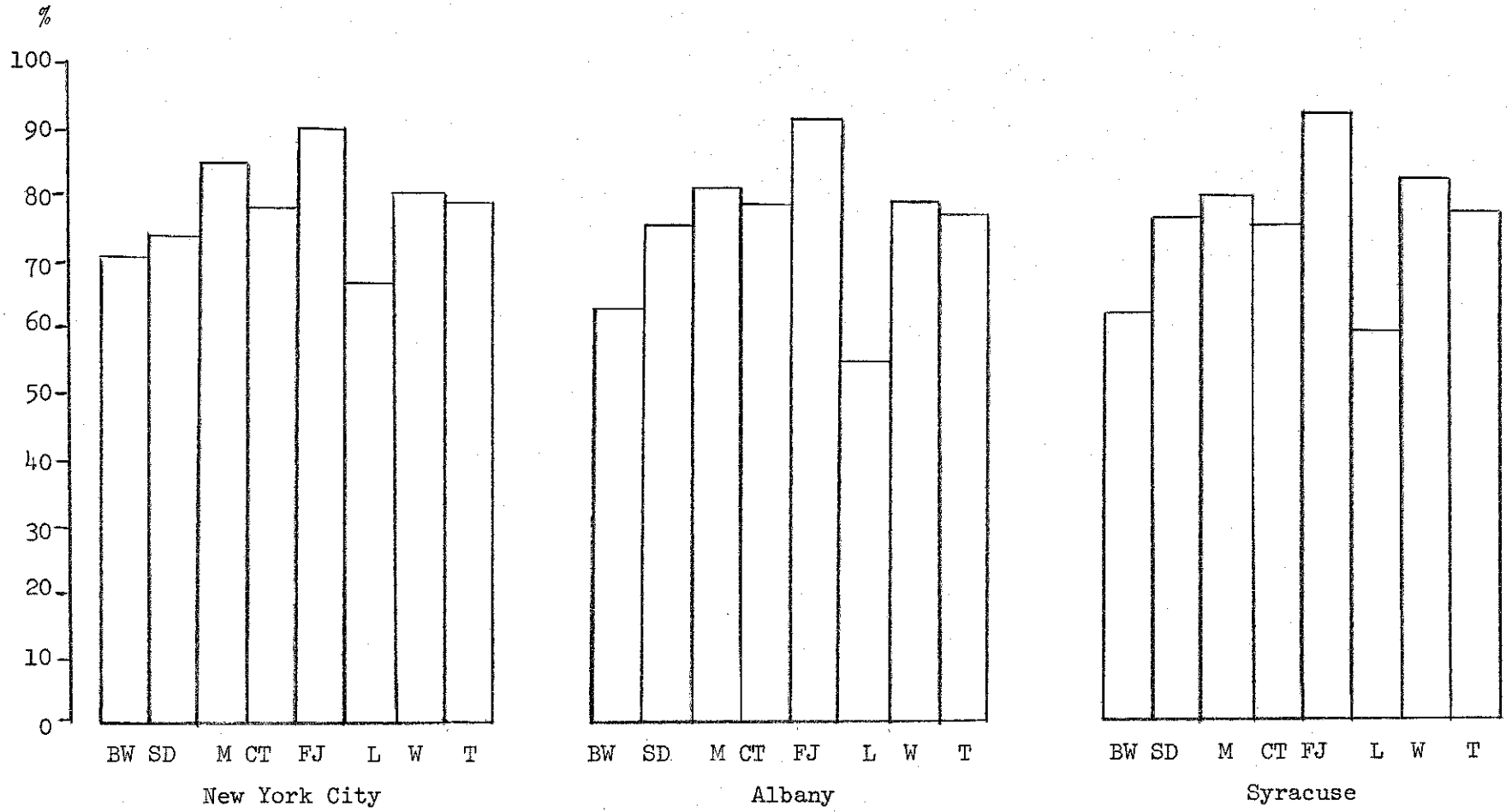
All beverages were consumed primarily at home: over three-fourths of all consumption took place at home and less than one-fourth away from home (Figure 7). The proportion of each beverage that was consumed at home varied, but only beer or wine and liquor had sizeable away from home consumption.

The proportion of beverage consumption that takes place at home is related to the time period during which the beverages are consumed. Almost all beverages consumed at breakfast, dinner, and nighttime were consumed at home (Figure 8). Lunchtime, a period during which most students and employed persons are either in school or at work, had the highest proportion of away-from-home consumption (55% of all lunchtime beverages). During the early morning, mid-morning, and afternoon periods, about two-thirds of the consumption took place at home. Apparently fewer New Yorkers venture outside late at night: in New York City considerably less of the 1-5 AM beverage consumption was away from home than in Albany or Syracuse (34% compared to 50% and 49%).

The relative importance of each beverage to total daily beverage intake is shown in Figure 9. Coffee or tea consumed at home was by far the largest part of the total in each market, with soft drinks, water and milk drunk at home second in importance. The quantities of each beverage that were consumed away from home were very small proportions of the total.

The beverage share is the proportion of the total beverage consumption during one time period that a specific beverage represents; this measure thus indicates how important each beverage is. Coffee or tea represented the largest share of both the mealtime and the non-mealtime beverages (Figure 10). In the non-mealtime market, soft drinks and water were next in importance. Upstate, milk was the second most popular beverage at mealtime although in New York City soft drinks had the second largest share of mealtime beverages.

Figure 7: Proportion of Consumption of Each of Seven Beverages that Took Place at Home
New York City, Albany and Syracuse SMSA's
All Respondents, 1973

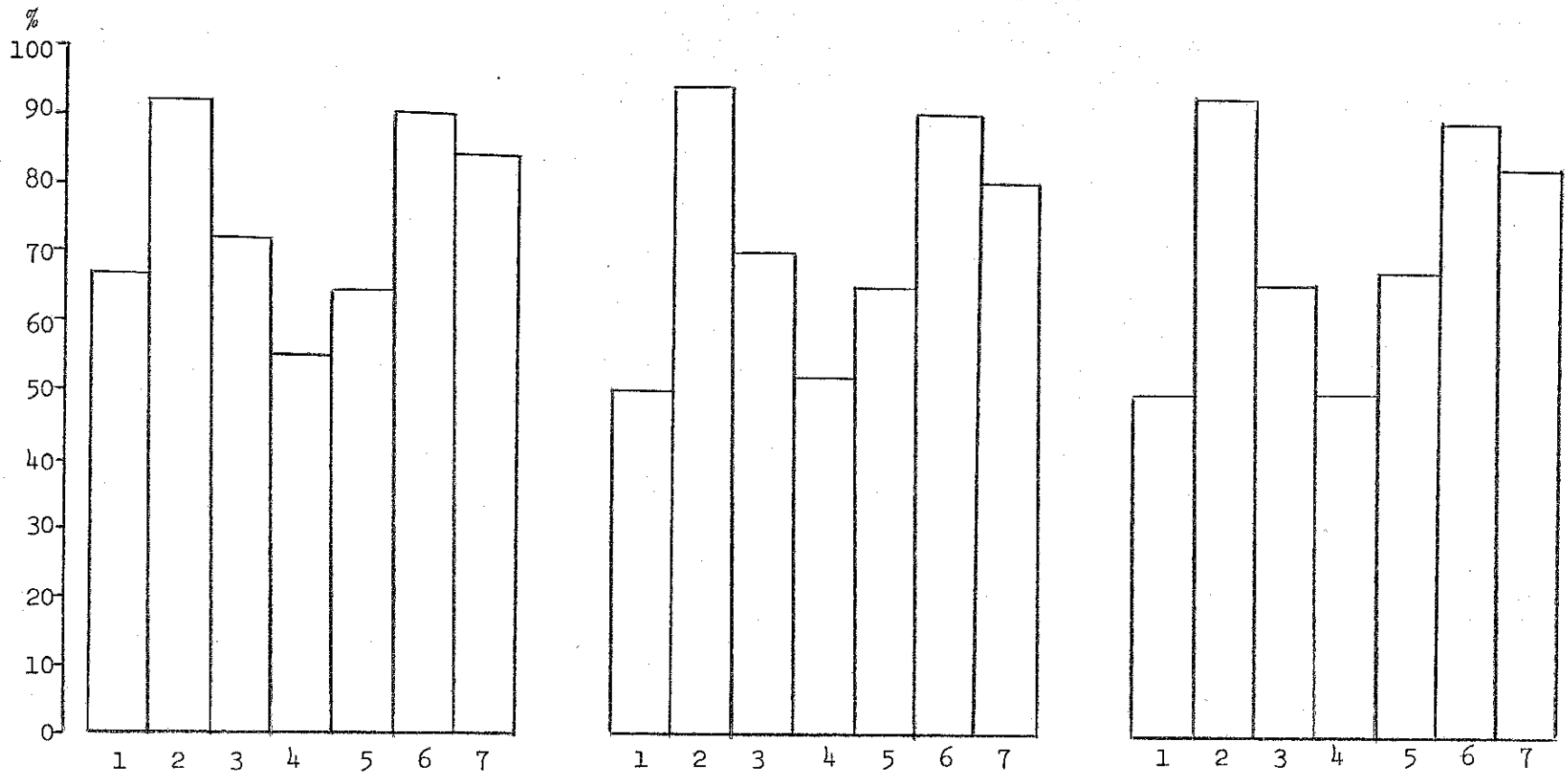


BW = Beer/wine M = Milk FJ = Fruit juices/drinks W = Water

SD = Soft drinks CT = Coffee/tea L = Liquor T = Total beverage intake

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell Univeristy

Figure 8: Proportion of Beverage Consumption During Each of Seven Time Periods That Took Place At Home New York City, Albany, Syracuse SMSA's, All Respondents, 1973



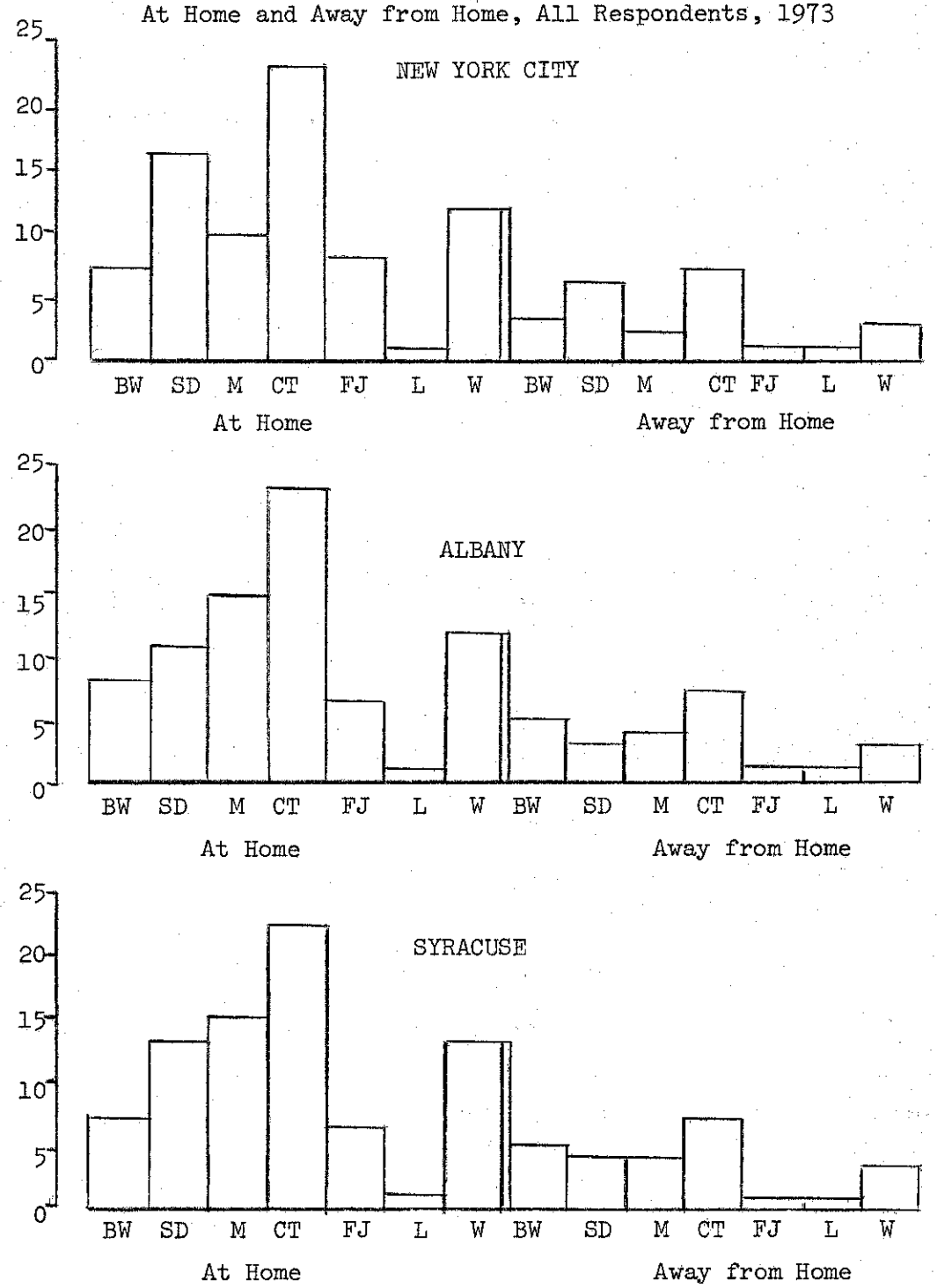
1 = 1-5 AM 3 = 8-11 AM 5 = 1-5 PM 7 = 8 PM-1 AM

2 = 5-8 AM 4 = 11 AM-1 PM 6 = 5-8 PM

Data for this figure appear in Table A-21

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

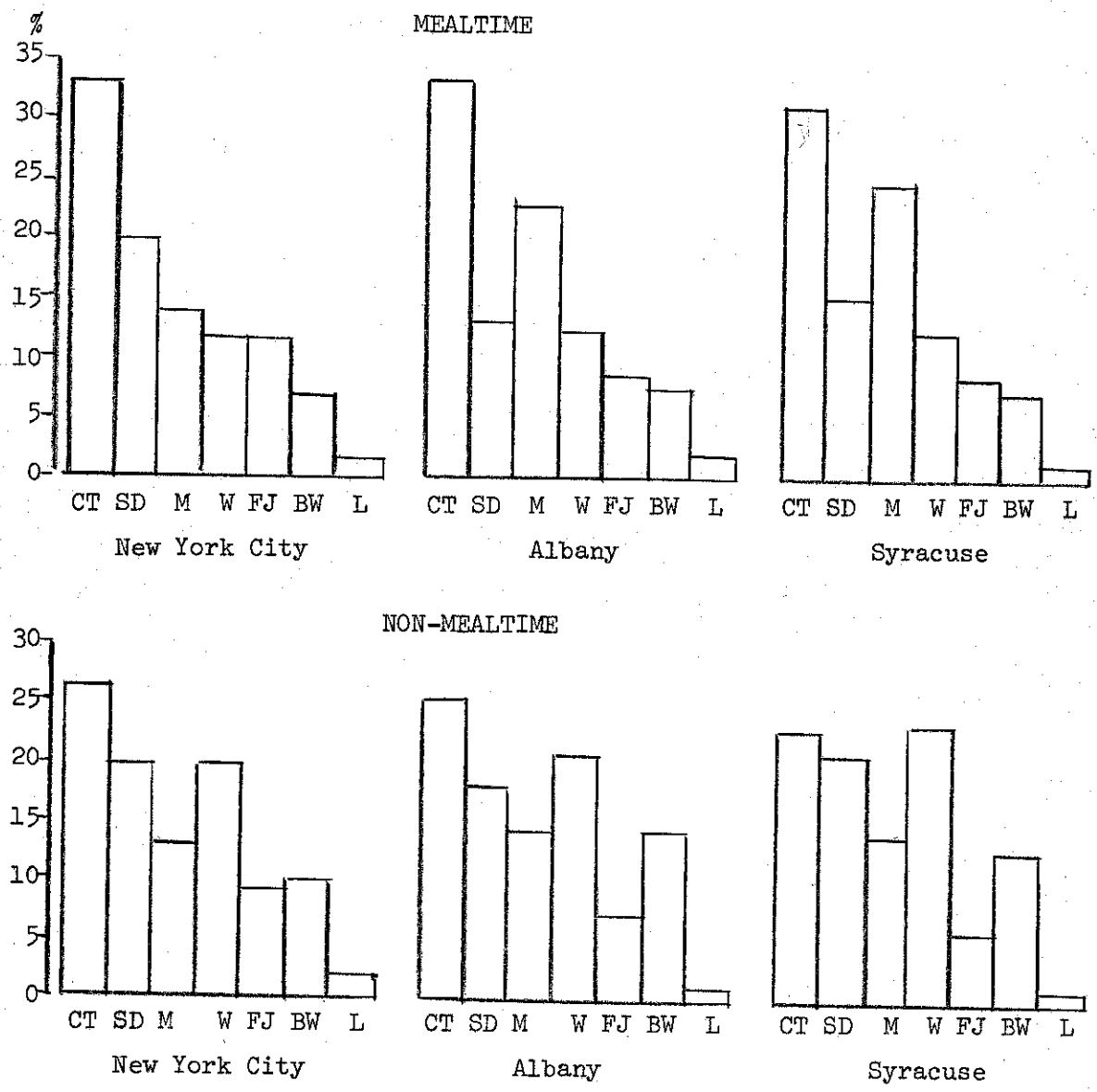
Figure 9: Proportion of Daily Fluid Intake Represented by Each of Seven Beverages
New York City, Albany and Syracuse SMSA's
At Home and Away from Home, All Respondents, 1973



BW = Beer/wine M = Milk FJ = Fruit juices/drinks W = Water
SD = Soft drinks CT = Coffee/tea L = Liquor

Data for this figure appear in Table A-22.
SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Figure 10: Proportion of Mealtime and Non Mealtime Beverage Consumption Represented by Each of Seven Beverages At Home Consumption, All Respondents, 1973



CT = Coffee or tea
SD = Soft drinks
M = Milk
W = Water
FJ = Fruit juice or drink
BW = Beer or wine
L = Liquor

Data may be found in Table A-23.

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Beverage consumption at breakfast, lunch and dinner is described in terms of the share of each mealtime period represented by each of the beverages, and in terms of the proportion of the people that had consumed each beverage during meals (Tables 11-16). Coffee or tea always had the largest share of the breakfast and lunchtime markets among 35-65 year olds, whereas milk was the most heavily consumed beverage at breakfast among teenagers (Tables 11-13). Milk was an important beverage in the teenage lunch and dinner markets upstate (representing about 45% of dinner time beverages), but in New York City it was second to soft drinks during these meals.

At breakfast time coffee and tea were consumed by more 35-65 year old adults than was any other beverage (Tables 14-16). Only one-fourth of this age group drank fruit juices and few drank anything else. About one-third of the upstate teenagers drank milk at breakfast but fewer than one-fourth of the New York City teenagers did. More upstate than New York City teenagers drank milk at lunchtime away from home.

The proportion of consumers reporting consumption of each beverage either at home or away from home is detailed in Tables 17-19. For each beverage there were far fewer people who had consumed it away from home than at home.

Milk consumption is described in more detail in Tables 20-22. Dinnertime and evening were the most popular times to drink milk: more than half the milk consumed at home in each market was consumed after 5 P.M. Breakfast accounted for only about one-tenth of the milk drunk by adults and one-fifth of the milk consumed be teenagers. For all age groups, most of the milk consumed away from home was consumed at lunchtime, because of students and employed persons eating lunch away from home.

Table 11: Proportion of Beverage Consumption in Three Meal Time Periods Represented by Each of Seven Beverages New York City, Albany, Syracuse SMSA's, 1973, Ages 12-17

New York City (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	0%	0%	2%
Soft drinks	4	33	40	37
Milk	45	32	33	29
Coffee or tea	13	11	2	8
Fruit juice or drinks	32	8	12	9
Liquor	0	0	0	0
Water	6	16	13	15
Total	100%	100%	100%	100%

Albany (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	1%	0%	1%
Soft drinks	1	25	14	30
Milk	51	43	73	43
Coffee or tea	11	8	0	5
Fruit juice or drinks	29	9	5	5
Liquor	0	0	0	0
Water	8	14	8	16
Total	100%	100%	100%	100%

Syracuse (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	0%	0%	0%
Soft drinks	1	24	10	24
Milk	54	46	82	47
Coffee or tea	6	2	2	6
Fruit juice or drinks	27	12	1	5
Liquor	0	0	0	0
Water	12	16	5	18
Total	100%	100%	100%	100%

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 12: Proportion of Beverage Consumption in Three Meal Time Periods Represented by Each of Seven Beverages New York City, Albany, Syracuse SMSA's, 1973, Ages 18-34

New York City (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	1%	5%	5%	13%
Soft drinks	3	25	42	32
Milk	16	19	14	12
Coffee or tea	49	26	19	18
Fruit juice or drinks	27	11	4	8
Liquor	0	1	1	3
Water	4	13	15	14
Total	100%	100%	100%	100%

Albany (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	1%	4%	10%	14%
Soft drinks	2	20	29	22
Milk	16	33	27	26
Coffee or tea	52	25	19	20
Fruit juice or drinks	22	6	2	3
Liquor	0	0	1	2
Water	7	12	12	13
Total	100%	100%	100%	100%

Syracuse (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	1%	4%	6%	13%
Soft drink	2	25	36	27
Milk	21	29	27	27
Coffee or tea	44	25	18	17
Fruit juice or drinks	24	6	2	3
Liquor	0	0	1	2
Wine	8	11	10	11
Total	100%	100%	100%	100%

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 13: Proportion of Beverage Consumption in Three Meal Time Periods Represented by Each of Seven Beverages New York City, Albany, Syracuse SMSA's, 1973, Ages 35-65

New York City (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	5%	7%	13%
Soft drinks	1	14	23	22
Milk	7	14	10	8
Coffee or tea	65	41	45	32
Fruit juice or drinks	23	7	3	6
Liquor	0	1	2	5
Water	4	18	10	14
Total	100%	100%	100%	100%

Albany (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	5%	5%	15%
Soft drinks	0	11	18	13
Milk	6	24	22	15
Coffee or tea	70	39	39	33
Fruit juice or drinks	19	3	1	4
Liquor	0	0	1	5
Water	5	18	14	15
Total	100%	100%	100%	100%

Syracuse (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	6%	7%	13%
Soft drinks	0	10	14	14
Milk	8	21	22	16
Coffee or tea	67	38	43	38
Fruit juice or drinks	20	3	1	2
Liquor	0	1	2	3
Water	5	21	11	14
Total	100%	100%	100%	100%

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 14: Proportion of Respondents Reporting Consumption of Each of Seven Beverages During Three Meal Time Periods New York City, Albany, Syracuse SMSA's, 1973, Ages 12-17

New York City (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	0%	0%	1%
Soft drinks	2	10	13	39
Milk	24	12	16	46
Coffee or tea	9	5	1	10
Fruit juice or drinks	26	4	5	12
Liquor	0	0	0	1
Water	4	7	8	19

Albany (SMSA)

Beverage	5-8 AM At Home	11 AM- 1 PM At Home	11 AM- 1 PM Away	5-8 PM At Home
Beer or wine	0%	0%	0%	1%
Soft drinks	1	7	8	31
Milk	30	14	39	54
Coffee or tea	9	3	0	8
Fruit juice or drinks	27	4	3	7
Liquor	0	0	0	0
Water	5	4	6	20

Syracuse (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	0%	0%	1%
Soft drinks	1	7	5	28
Milk	33	15	44	54
Coffee or tea	6	1	2	8
Fruit juice or drinks	25	4	1	8
Liquor	0	0	0	0
Water	7	5	6	24

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 15: Proportion of Respondents Reporting Consumption of Each of Seven Beverages During Three Meal Time Periods New York City, Albany, Syracuse SMSA's, 1973, Ages 18-34

New York City (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	2%	2%	12%
Soft drinks	1	11	14	32
Milk	7	9	5	14
Coffee or tea	29	15	10	24
Fruit juice or drinks	20	6	2	11
Liquor	0	0	0	4
Water	3	7	6	17

Albany (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	2%	3%	11%
Soft drinks	1	8	11	22
Milk	10	14	10	30
Coffee or tea	36	12	10	26
Fruit juice or drinks	21	3	1	5
Liquor	0	0	0	2
Water	3	5	5	14

Syracuse (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	1%	2%	11%
Soft drinks	1	10	13	27
Milk	11	13	10	31
Coffee or tea	30	13	10	24
Fruit juice or drinks	22	4	2	5
Liquor	0	0	0	3
Water	4	5	5	15

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 16: Proportion of Respondents Reporting Consumption of Each of Seven Beverages During Three Meal Time Periods New York City, Albany, Syracuse SMSA's, 1973, Ages 35-65

New York City (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	2%	2%	11%
Soft drinks	0	6	7	21
Milk	5	7	3	10
Coffee or tea	50	24	19	41
Fruit juice or drinks	25	4	1	8
Liquor	0	0	1	8
Water	4	9	4	17

Albany (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	2%	2%	11%
Soft drinks	0	5	6	12
Milk	5	11	7	19
Coffee or tea	62	24	18	47
Fruit juice or drinks	25	2	0	5
Liquor	0	0	0	7
Water	5	9	6	18

Syracuse (SMSA)

Beverage	5-8 AM At Home	11 AM-1 PM At Home	11 AM-1 PM Away	5-8 PM At Home
Beer or wine	0%	2%	2%	11%
Soft drinks	0	4	5	15
Milk	6	11	8	20
Coffee or tea	60	22	19	49
Fruit juice or drinks	26	2	1	2
Liquor	0	1	1	6
Water	4	10	5	17

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 17: Proportion of Respondents Reporting Consumption of Each of Seven Beverages At Home and Away from Home New York City, Albany, Syracuse SMSA's, 1973, Ages 12-17

Beverage	New York City		Albany		Syracuse	
	At Home	Away	At Home	Away	At Home	Away
Beer or wine	3%	1%	2%	2%	2%	2%
Soft drinks	65	30	59	19	51	21
Milk	72	21	78	44	82	48
Coffee or tea	28	4	24	2	18	5
Fruit juice or drinks	54	10	47	5	46	3
Liquor	1	1	1	0	0	0
Water	50	19	48	19	56	22

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 18: Proportion of Respondents Reporting Consumption of Each of Seven Beverages At Home and Away from Home New York City, Albany, Syracuse SMSA's, 1973, Ages 18-34

Beverage	New York City		Albany		Syracuse	
	At Home	Away	At Home	Away	At Home	Away
Beer or wine	20%	9%	20%	11%	22%	12%
Soft drinks	52	28	47	22	54	24
Milk	38	8	53	15	53	14
Coffee or tea	63	30	65	31	59	29
Fruit juice or drinks	49	7	38	5	42	3
Liquor	7	5	5	4	7	4
Water	40	15	39	14	42	15

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 19: Proportion of Respondents Reporting Consumption of Each of Seven Beverages At Home and Away from Home New York City, Albany, Syracuse SMSA's, 1973, Ages 35-64

Beverage	New York City		Albany		Syracuse	
	At Home	Away	At Home	Away	At Home	Away
Beer or wine	18 %	5 %	21 %	5 %	18%	6 %
Soft drinks	38	14	27	10	32	10
Milk	27	5	38	9	38	10
Coffee or tea	87	35	91	35	91	38
Fruit juice or drinks	48	4	42	2	39	2
Liquor	11	5	10	4	9	4
Water	41	12	44	15	45	12

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 20: Proportion of Total At Home and Away from Home Consumption of Milk During Seven Time Periods
New York City, Albany and Syracuse (SMSA) 1973, Ages 12-17

New York City (SMSA)

Time Period	At Home	Away from Home	Total
1-5 AM	0%	0%	0%
5-8	17	4	15
8-11	11	8	10
11 AM-1 PM	10	69	19
1-5	7	10	9
5-8	34	3	29
8 PM-1 AM	21	6	18
Total	100%	100%	100%

Albany (SMSA)

Time Period	At Home	Away from Home	Total
1-5 AM	0%	0%	0%
5-8	18	1	14
8-11	7	4	5
11 AM-1 PM	9	81	28
1-5	9	7	9
5-8	41	5	31
8 PM-1 AM	16	2	13
Total	100%	100%	100%

Syracuse (SMSA)

Time Period	At Home	Away from Home	Total
1-5 AM	0%	0%	0%
5-8	19	0	14
8-11	6	6	6
11 AM-1 PM	9	85	28
1-5	8	4	7
5-8	43	3	33
8 PM-1 AM	15	2	12
Total	100%	100%	100%

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 21 : Proportion of Total At Home and Away from Home Consumption of Milk During Seven Time Periods
New York City, Albany and Syracuse (SMSA) 1973, Ages 18-34

New York City (SMSA)

Time Period	At Home	Away from Home	Total
1-5 AM	1%	1%	1%
5-8	13	2	11
8-11	11	6	10
11 AM-1 PM	17	56	23
1-5	7	19	9
5-8	27	6	24
8 PM-1 AM	24	10	22
Total	100%	100%	100%

Albany (SMSA)

Time Period	At Home	Away from Home	Total
1-5 AM	0%	3%	1%
5-8	11	4	10
8-11	8	10	8
11 AM-1 PM	17	55	24
1-5	8	18	10
5-8	40	5	33
8 PM-1 AM	16	5	14
Total	100%	100%	100%

Syracuse (SMSA)

Time Period	At Home	Away from Home	Total
1-5 AM	1%	2%	1%
5-8	13	0	10
8-11	7	13	8
11 AM-1 PM	15	60	24
1-5	6	11	6
5-8	45	10	39
8-1	14	4	12
Total	100%	100%	100%

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 22: Proportion of Total At Home and Away from Home Consumption of Milk During Seven Time Periods
New York City, Albany and Syracuse (SMSA) 1973, Ages 35-65

New York City (SMSA)

Time Period	At Home	Away from Home	Total
1-5 AM	1%	0%	1%
5-8	11	2	10
8-11	7	10	7
11 AM-1 PM	19	58	24
1-5	8	18	10
5-8	28	4	24
8 PM-1 AM	26	8	24
Total	100%	100%	100%

Albany (SMSA)

Time Period	At Home	Away from Home	Total
1-5 AM	0%	0%	1%
5-8	9	2	8
8-11	5	6	5
11 AM-1 PM	21	76	30
1-5	7	7	7
5-8	38	7	33
8 PM-1 AM	20	2	16
Total	100%	100%	100%

Syracuse (SMSA)

Time Period	At Home	Away from Home	Total
1-5 AM	0%	1%	1%
5-8	11	1	9
8-11	5	8	5
11 AM-1 PM	18	69	27
1-5	7	11	8
5-8	37	7	32
8 PM-1 AM	22	3	18
Total	100%	100%	100%

SOURCE: Survey conducted by Department of Agricultural Economcis, Cornell University

Advertising Awareness: Unaided Recall

Respondents were asked to identify the beverages they could recall seeing or hearing advertised recently. Tables 23-25 summarize the percentages of all respondents, of males and of females who were able successfully to respond to this unaided recall question.

Soft drink advertisements were more widely remembered than any other beverage ads (Table 23). Depending on the age group being considered, between two and five times as many respondents recalled seeing or hearing soft drink ads than recalled ads for any other beverage. Among teenagers, milk ads were the second-most commonly remembered ads. The 18-34 year old group noticed milk ads less frequently while beer or wine, and coffee or tea ads became more prominent. This same pattern became even more accentuated for the oldest adults: milk ads were recalled by only 2 or 3 percent of this group, while coffee or tea ads were remembered by about 12 percent of the oldest respondents.

Teenagers were more likely to remember ads for soft drinks and milk than were the adult respondents, while adults were about three times as likely to remember coffee or tea ads. Males and females exhibited different advertising awareness levels as well (Tables 24, 25). Approximately twice as many males as females were aware of beer and liquor ads, in every city and age group. Ads for soft drinks and milk were remembered equally well by males and females. In almost every case, females were more likely than males to remember advertisements for coffee or tea and fruit juices or fruit drinks.

Table 23: Proportion of Respondents Indicating That Beverage Ads Were Heard: Unaided Recall
New York City, Albany and Syracuse
All Respondents, 1973

Market (SMSA) Age Group	Beer or Wine Ad	Soft Drink Ad	Milk Ad	Coffee or Tea Ad	Fruit Juice Ad	Liquor Ad
			-percent-			
New York City						
12-17	8.2	69.0	13.6	3.7	9.2	1.6
18-34	14.9	56.9	5.1	7.3	6.5	3.7
35-65	14.0	41.5	3.3	11.6	5.5	2.2
Albany						
12-17	10.6	66.8	12.4	5.8	7.9	2.0
18-34	16.4	46.0	4.5	12.9	6.8	5.1
35-65	16.1	32.2	1.9	15.4	7.1	1.9
Syracuse						
12-17	14.7	58.6	18.0	4.3	10.3	3.3
18-34	16.9	56.1	7.0	11.6	8.5	2.0
35-65	14.0	38.7	2.3	14.4	9.4	2.9

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 24: Proportion of Males Indicating That Beverage Ads Were Heard: Unaided Recall
New York City, Albany and Syracuse
1973

Market (SMSA) Age Group	Beer or Wine Ad	Soft Drink Ad	Milk Ad	Coffee or Tea Ad	Fruit Juice Ad	Liquor Ad
			-percent-			
New York City						
12-17	11.7	67.8	12.0	2.9	7.6	1.8
18-34	20.8	53.8	3.2	4.3	3.4	4.8
35-65	20.6	38.2	3.5	9.5	3.6	3.6
Albany						
12-17	15.5	65.0	10.9	5.9	6.4	3.2
18-34	23.5	39.6	5.1	9.1	3.5	8.8
35-65	23.2	26.4	2.3	11.2	6.0	3.1
Syracuse						
12-17	20.1	57.8	17.3	3.2	10.8	4.9
18-34	26.3	53.4	6.4	6.2	6.2	2.4
35-65	21.0	36.2	2.4	9.1	5.3	4.5

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 25: Proportion of Females Indicating That Beverage Ads Were Heard: Unaided Recall
New York City, Albany and Syracuse SMSA's
1973

Market (SMSA) Age Group	Beer or Wine Ad	Soft Drink Ad	Milk Ad	Coffee or Tea Ad	Fruit Juice Ad	Liquor Ad
			-percent-			
New York City						
12-17	4.8	70.1	15.1	4.5	10.7	1.4
18-34	8.9	60.1	7.1	10.3	9.7	2.6
35-65	7.4	44.8	3.2	13.6	7.3	0.8
Albany						
12-17	6.0	68.5	13.9	5.6	9.5	0.9
18-34	9.0	52.5	3.9	16.8	10.1	1.3
35-65	8.8	37.9	1.5	19.6	8.2	0.8
Syracuse						
12-17	9.4	59.1	18.7	5.5	9.9	1.6
18-34	7.7	58.9	7.6	16.8	10.9	1.6
35-65	7.2	41.1	2.2	19.5	13.5	1.2

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Advertising Awareness: Aided Recall

Aided recall questions were used to determine consumer recognition of specific milk advertising themes. Figure 11 illustrates the percentages of various age groups successfully identifying the theme "There's a new you coming every day."[7/] One limitation on the use of advertising awareness data is that respondents, wishing to appear "aware," may respond positively to ads they actually have not seen. Corey and Davis (5) found that 30 percent of their sample said that they had heard a non-existent radio ad. In another study, as many people reported seeing non-existent parts of an ad as reported seeing the actual ad (15). This upward bias was minimized in the present study by the requirement that the consumer be able to identify the product promoted.

Over three-fourths of the teenagers recognized the theme correctly while less than one-fourth of the older consumers did. This pattern may be due to a combination of several factors: teenagers drink more milk and since consumers generally are most conscious of ads for those products that they actually have used, the higher consumption level leads one to expect higher awareness levels.(4)

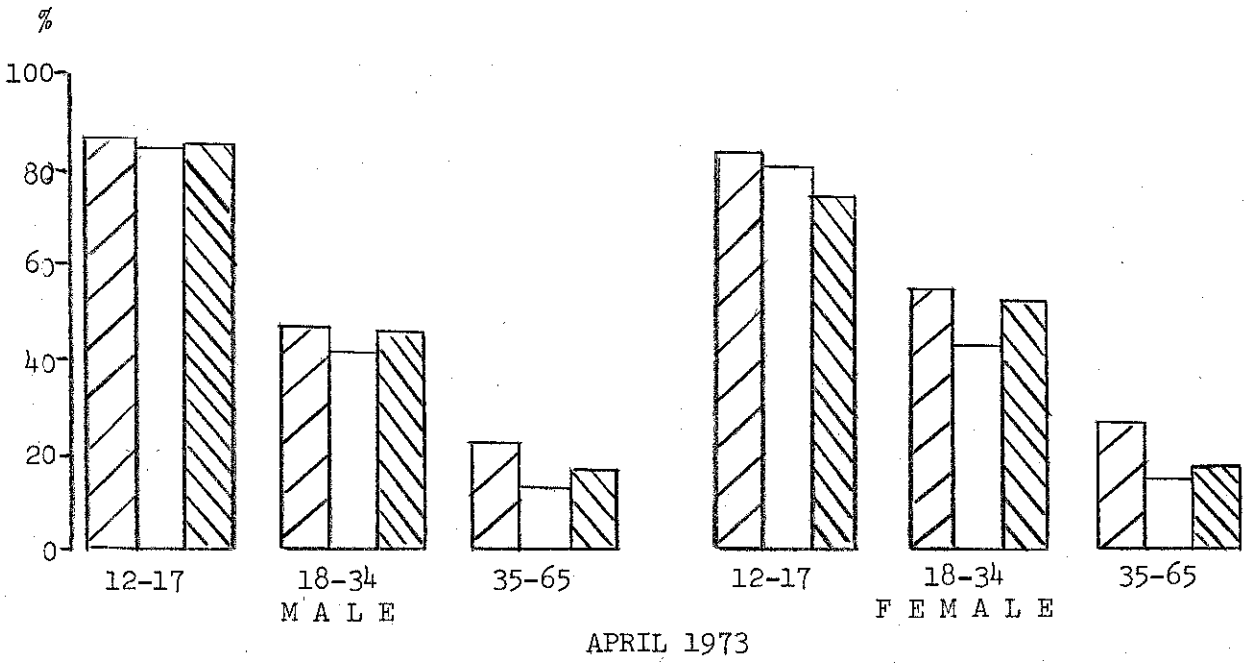
In addition, all viewers pay less attention to commercials than to other television programming, but for children this drop in attention level is smaller than it is for adults. (24) Teenagers spend less time actually viewing television[8/], but because of the repetitive nature of most advertising, media exposure has not been found to be a determining factor in advertising recall (24).

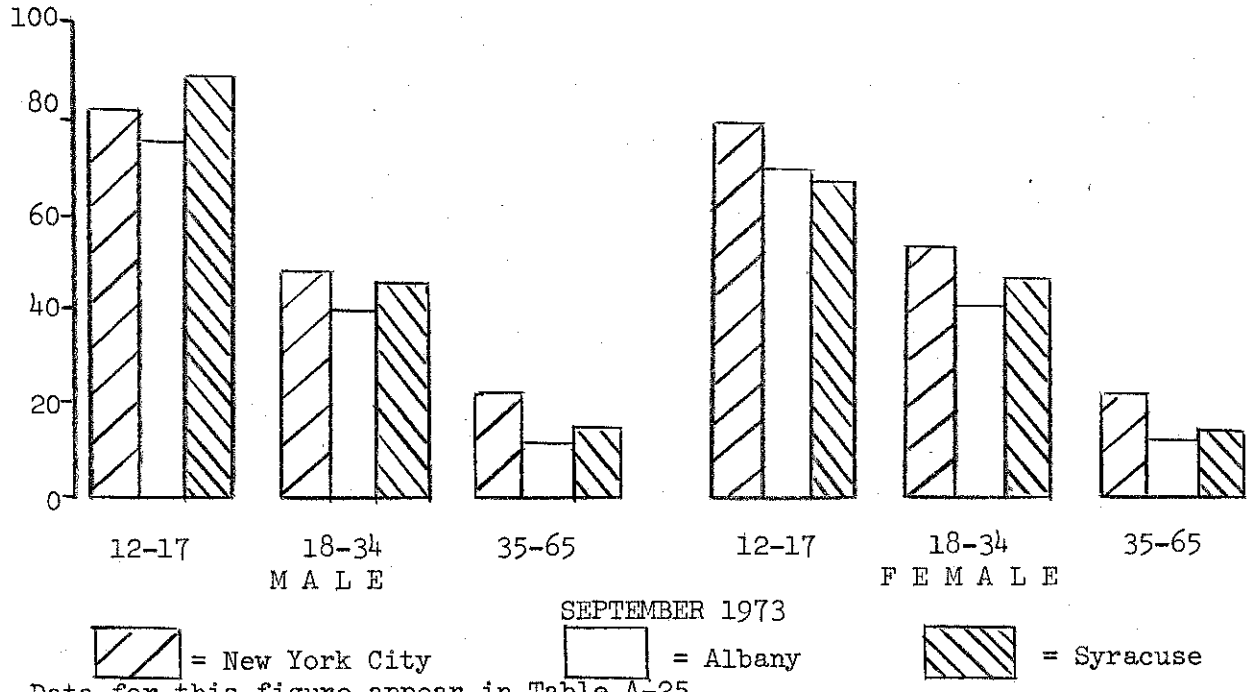
[7/] Successful identification was defined as recognition of the theme and correct identification of milk as the promoted product.

[8/] Rank order of average television viewing time from largest to smallest, provided by A. C. Nielson Co. in vol. 23, no. 1, 1974 of Nielson Newscast, is as follows:

1. females over 50 years
2. males over 50 years
3. females 35-49 years
4. children 2-5 years
5. females 18-34 years
6. children 6-11 years
7. males 35-49 years
8. females 12-18 years
9. males 18-34 years
10. males 12-18 years

Figure 11: Proportion of Respondents Correctly Identifying "New You" Milk Ad: Aided Recall
New York City, Albany and Syracuse SMSA's, April and September 1973





Data for this figure appear in Table A-25.

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Advertising Awareness: Differences Between the Surveys

Consumer awareness of milk advertisements usually did not vary significantly between April and September, whether measured by unaided or aided recall (Tables 26, 27). Advertising levels for milk during this period varied, however. In New York City the per capita advertising expenditures were between 0.2 and 0.6 cents per month, while in the upstate markets there was no advertising from April through September (Figure 12). The lack of significant differences between the April and September awareness figures raises questions about the rate at which advertising awareness decays following exposure. Further research is needed to analyze the awareness/expenditure relationship in more detail.

Advertising Awareness and Beverage Consumption

Beverage consumption frequently varied directly with advertising awareness (Table 28). In all markets, respondents who recalled seeing milk ads (during unaided recall questions) consumed more milk than those who were unaware of milk ads. Similarly, consumption of beer or wine was highest among respondents who were aware of beer or wine ads. In more cases this relationship was true for adults but not for the teenagers. This may indicate that teenagers are aware of advertisements for a product whether or not they use it while older consumers selectively retain ads only for those products that they use.

Milk consumption was also related to advertising awareness when measured by the aided recall technique (Table 29). Consumption was highest for those respondents who were aware of the promotional themes although milk consumption of the oldest age group was less closely related to advertising awareness than was the consumption of teenagers and young adults.

Table 26: Comparison of Percent Indicating Milk Ads Were Heard (Unaided Recall) Between April and September 1973 New York City, Albany and Syracuse SMSA's

Market (SMSA) Age Group	April	September	Z	Difference Significant at 95%
	-percent-			
New York City				
12-17	19.0	8.2	3.72	S*
18-34	6.3	3.9	1.91	NS
35-65	3.8	2.8	1.20	NS
Albany				
12-17	14.0	10.9	1.00	NS
18-34	5.8	3.3	1.80	NS
35-65	2.0	1.8	0.26	NS
Syracuse				
12-17	17.2	18.7	-0.37	NS
18-34	8.6	5.5	1.53	NS
35-65	2.1	2.4	-0.32	NS

*NS = Not Significant; S = Significant

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

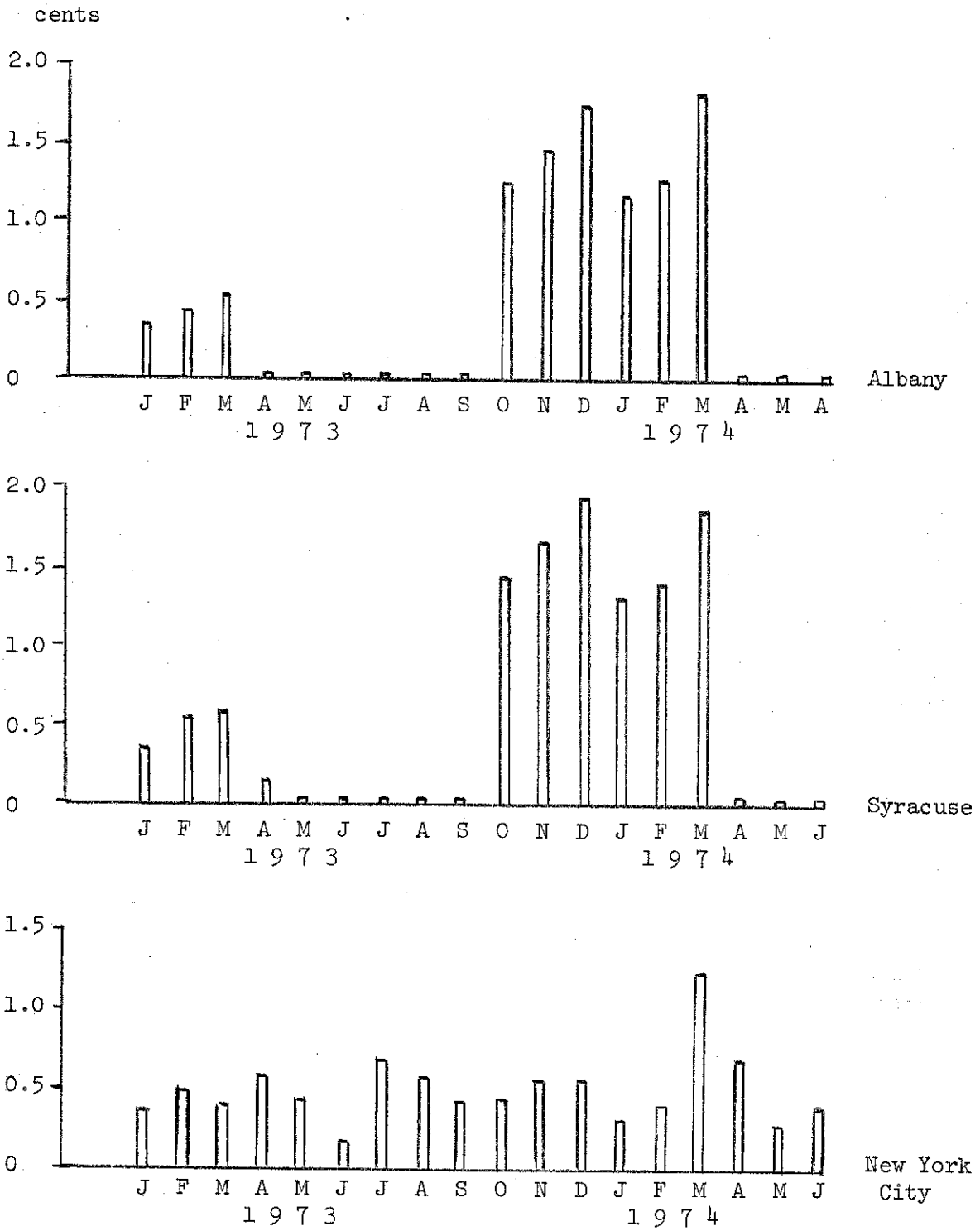
Table 27: Comparison of Proportion of Respondents Correctly Identifying "New You" Milk Advertisement (Aided Recall) Between April and September 1973 New York City, Albany and Syracuse SMSA's

Market (SMSA)	April	September	Z	Difference Significant at 95%
New York City	42.3%	40.2%	1.29	NS*
Albany	34.5	31.6	1.60	NS
Syracuse	39.4	35.9	1.67	NS

*NS = Not Significant; S = Significant

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Figure 12: Per Capita Advertising Expenditure, Generic Milk
New York City, Albany and Syracuse 1973-74



SOURCE: Department of Agricultural Economics, Cornell University

Table 28: Comparison of Per Capita Consumption of Two Beverages By Respondents Who Have and Have Not Heard Advertisements for the Beverages, Unaided Recall
New York City, Albany and Syracuse SMSA's
All Respondents, April and September 1973

Market Beverage Age	--April 1973-- Have Heard Ads	Have Not Heard Ads	Z	Difference Significant at 95%	--September 1973-- Have Heard Ads	Have Not Heard Ads	Z	Difference Significant at 95%
New York City								
Beer or wine	8.0	3.5	-3.93	S	12.9	4.1	-5.60	S
12-17	1.4	0.9	-0.61	NS	16.4	0.3	-1.92	NS
18-34	11.3	5.0	-2.79	S	15.9	5.5	-3.68	S
35-65	6.6	3.2	-2.38	S	10.5	4.4	-3.55	S
Milk	13.4	5.7	-6.37	S	10.8	6.0	-3.86	S
12-17	19.1	12.9	-3.15	S	14.1	13.3	-.29	NS
18-34	11.9	5.8	-2.87	S	10.8	6.2	-2.38	S
35-65	6.6	3.8	-1.53	NS	7.8	3.7	-2.11	S
Albany								
Beer or wine	10.8	5.2	-3.10	S	18.8	4.5	-4.36	S
12-17	0.3	0.8	1.27	NS	20.4	0.8	-1.17	NS
18-34	13.2	8.1	-1.61	NS	23.9	7.5	-2.72	S
35-65	11.2	4.9	-2.43	S	15.3	3.9	-3.92	S
Milk	16.1	9.2	-3.93	S	18.5	9.3	-3.45	S
12-17	23.9	18.3	-2.02	S	26.4	19.4	-1.62	NS
18-34	12.2	10.2	-0.81	NS	12.1	9.6	-.67	NS
35-65	5.2	5.8	0.28	NS	10.0	5.9	-1.09	NS
Syracuse								
Beer or wine	13.1	3.9	-4.25	S	18.8	4.7	-5.40	S
12-17	0.7	0.2	-0.97	NS	0.6	0.4	-.85	NS
18-34	21.3	5.0	-3.76	S	27.9	7.3	-3.91	S
35-65	10.9	4.4	-2.30	S	16.4	4.5	-3.75	S
Milk	15.6	10.2	-3.22	S	22.9	9.3	-5.92	S
12-17	21.7	23.0	0.44	NS	27.5	20.6	-2.23	S
18-34	10.6	10.3	-0.16	NS	17.9	9.5	-1.97	S
35-65	12.7	6.0	-1.39	NS	18.5	6.0	-2.10	S

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table 29: Comparison of Per Capita Consumption of Milk
By Respondents Aware and Unaware of Milk Ads,* Aided Recall
New York City, Albany and Syracuse SMSA's
All Respondents April and September 1973

	--April 1973--				--September 1973--			
	Not Aware	Aware*	Z	Difference Significant at 95%	Not Aware	Aware	Z	Difference Significant at 95%
NEW YOU	-ounces-				-ounces-			
New York City--total	4.5	8.6	-8.60	S	4.3	8.9	-9.11	S
12-17	11.0	14.7	-2.06	S	12.4	13.7	-0.64	NS
18-34	5.3	7.0	-2.24	S	5.2	7.5	-2.83	S
35-65	3.7	4.4	-1.03	NS	3.3	5.6	-3.25	S
Albany--total	7.4	13.5	-8.59	S	7.3	14.6	-8.61	S
12-17	15.2	20.0	-2.37	S	16.5	21.6	-2.40	S
18-34	10.0	10.8	-0.74	NS	8.2	11.9	-2.89	S
35-65	5.7	6.3	-0.51	NS	5.9	6.4	0.36	NS
Syracuse--total	7.4	15.4	-7.88	S	7.7	14.6	-7.76	S
12-17	17.5	24.2	-2.23	S	19.5	22.6	-1.15	NS
18-34	8.6	12.1	-2.82	S	9.3	10.7	-1.01	NS
35-65	5.8	7.7	-1.44	NS	6.0	8.1	-1.74	NS

*Aware means that the respondent recalled hearing the ad and correctly identified the product as milk.
SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

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APPENDIX

Day of Week: 1 Sunday
2 Monday
3 Tuesday
4 Wednesday
5 Thursday
6 Friday
7 Saturday

1 Male 12-17
2 Male 18-34
3 Male 35-65
4 Female 12-17
5 Female 18-34
6 Female 35-65

Cluster #_____

Cornell University
Beverage Consumption Study
September, 1973

Questionnaire DPO 3

Hello. I'm_____calling long distance from the Metro Research Company of Philadelphia, Pennsylvania. We would like you to tell us about the kind of beverages you consumed during the last 24 hours. By beverages, we mean all beverages, nonalcoholic and alcoholic--including water, milk, soda, juices, etc. Please be as accurate as you possibly can on amount. Also be specific; eg. 7-up, whole milk, low fat milk, coffee, tea, skim milk, fruit juice, fruit drink, etc.

1. I would like you to start 24 hours ago and tell me what you drank, about when you drank it, how much you drank and whether or not you drank it at home or away from home.

   INTERVIEW NOTE: FOR EVERY DRINK, MAKE SURE TO SPECIFY TIME (EVEN HOURS OK), NUMBER OF OUNCES DRUNK, AND WHERE DRUNK. DON'T KNOWS ARE NOT ACCEPTABLE. PROBE AS NECESSARY USING CARDS A & B.

Beverage	WHEN DRUNK AM	WHEN DRUNK PM	# of Ounces At that time	WHERE DRUNK Home	WHERE DRUNK Away
_____	__	__	_____	1	2
_____	__	__	_____	1	2
_____	__	__	_____	1	2
_____	__	__	_____	1	2
_____	__	__	_____	1	2
_____	__	__	_____	1	2
_____	__	__	_____	1	2
_____	__	__	_____	1	2
_____	__	__	_____	1	2

2. Does this represent your usual intake of beverages?
   1 Yes 2 No--Ask Reason:
   1 Social gathering
   2 Day of week
   3 Travelling
   4 Illness
   5 Other (specify)_____

Now I have a few questions on advertising that I would like you to answer...

3. Have you seen, heard or read any beverage advertisements during the last few days?
   1 Yes--Skip to Q. 5
   2 No --Go on to Q. 4

4. Have you seen, heard or read any beverage advertisements during the last month or two?
   1 Yes--Go on to Q. 5
   2 No --Skip to Q. 6

5. Which beverages were advertised? (AFTER THEY INDICATE BEVERAGES ASK THEM WHERE THEY OBSERVED THE ADVERTISEMENT)

Beverage	TV	Radio	News-paper	Maga-zine	Bill-Board	Other Specify
_____	1	2	3	4	5	6_____
_____	1	2	3	4	5	6_____
_____	1	2	3	4	5	6_____
_____	1	2	3	4	5	6_____

6. Have you heard the phrase..."There's a new you coming everyday"?
   1 Yes--Go on to Q. 7
   2 No --Skip to Q. 8

7. What beverage does it promote?
   1 Milk
   2 Other (specify)_____
   3 Don't know

8. Have you heard the phrase..."Help yourself--the Grade A Way"?
   1 Yes--Go on to Q. 9
   2 No --Skip to Q. 10

9. What beverage does it promote?
   1 Milk
   2 Other (specify)_____
   3 Don't know

10. Have you seen an ad in the newspaper which reads... "Drink it up, drink it down, _____ 15 cents per pound"?
    1 Yes--Go on to Q. 11
    2 No --Skip to Q. 12

11. What beverage does it promote?
    1 Milk
    2 Other (specify)_____
    3 Don't know

Just a few questions for statistical purposes only...

12. How old are you? _____ years

13. Including yourself, how many are living in your household? (ADULTS ARE 18 AND OVER; CHILDREN ARE UNDER 18)

14. Have you completed...
    1 Grammar school (Grades 1-8)
    2 Some high school
    3 High school
    4 Some college
    5 College
    6 Other (specify)

15. INTERVIEWER RECORD SEX: 1 Male
    2 Female

16. What is your occupation?
    01 Professional, technical, kindred
    02 Manager, owner, executive
    03 Clerical, sales, postal service
    04 Craftsman, operative, foreman
    05 Serviceworker, policeman, fireman
    06 Laborer, unskilled
    07 Student, full time
    08 Housewives, widows
    09 Retired
    10 Unemployed
    11 Other (specify job and industry)_____
    12 Refused

17. Into which of these broad categories would your total family income fall? Is it...

Under $10,000 OR Over $10,000

Is It... Under $5,000 or Over $5,000

Is It... 001 Under $2,500
002 Over $2,500
003 Under $7,500
004 Over $7,500

Under $15,000 or Over $15,000

005 Under $12,500
006 Over $12,500
007 Under $17,500
008 Between $17,500 & $20,000
009 OR over $20,000
010 Don't know
020 Refused

18. And finally are you...
    1 black
    2 Spanish speaking
    3 other white
    4 other (specify)_____

19. INTERVIEWER RECORD:

Respondents name_____Area code____Phone_____

City_____

Interviewer_____Date_____Time_____

Table A-1: Per Capita Consumption by Age Group: New York City, Albany and Syracuse SMSA's
All Respondents April, 1973

Markets (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water	Total
			-ounces per day-					
New York City								
12-17	0.5	16.5	14.2	3.0	6.0	0.3	8.3	48.8
18-34	6.1	12.2	6.2	13.6	4.9	1.1	7.3	51.3
35-65	3.8	6.7	4.0	18.1	3.7	1.3	7.0	44.6
Albany								
12-17	0.7	14.5	19.1	2.6	4.9	0.2	9.6	51.6
18-34	9.1	11.4	10.5	12.9	3.2	1.4	7.7	56.2
35-65	5.8	5.2	5.8	18.9	3.2	1.6	9.8	50.4
Syracuse								
12-17	0.3	13.1	22.8	2.4	4.2	0.0	10.9	53.7
18-34	7.7	14.8	10.3	12.8	3.6	1.1	9.1	59.4
35-65	5.4	5.9	6.1	20.4	3.0	1.3	8.9	50.9

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-2: Per Capita Beverage Consumption by Age Group: New York City, Albany and Syracuse SMSA's All Respondents September, 1973

Markets (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water	Total
			-ounces per day-					
New York City								
12-17	1.6	17.1	13.4	4.1	6.7	0.1	8.6	51.6
18-34	7.0	14.6	6.4	13.6	5.2	1.5	7.8	56.1
35-65	5.3	7.9	3.9	20.3	4.0	1.6	8.0	51.0
Albany								
12-17	3.0	12.3	20.1	3.2	4.6	0.2	7.2	50.7
18-34	10.1	9.7	9.8	15.3	3.3	1.1	6.7	56.0
35-65	5.8	5.1	5.9	20.8	2.8	1.1	7.5	49.0
Syracuse								
12-17	0.7	11.3	22.0	3.1	4.9	0.0	10.2	52.2
18-34	10.9	12.6	9.8	14.0	3.7	1.2	6.7	59.0
35-65	6.3	5.4	6.3	22.7	2.6	0.9	7.7	51.9

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-3: Intensity of Consumption*by Age Group: New York City, Albany and Syracuse SMSA's
All Respondents April, 1973

Markets (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
			-ounces per day-				
New York City							
12-17	12.6	21.4	18.5	11.9	10.0	12.9	13.8
18-34	24.1	18.4	15.2	18.1	9.4	9.7	15.4
35-65	18.2	15.0	12.6	19.8	7.6	10.5	15.2
Albany							
12-17	16.3	19.6	21.5	10.8	9.4	9.5	15.2
18-34	31.5	18.5	16.4	17.1	7.6	15.1	15.7
35-65	23.9	15.0	13.8	19.9	6.9	9.4	17.2
Syracuse							
12-17	9.1	20.0	24.7	12.2	8.7	0.0	15.9
18-34	27.7	20.9	16.8	18.5	8.0	9.9	16.3
35-65	25.5	15.1	13.3	21.6	7.1	10.7	17.2

*Intensity of Consumption = Per person consumption for those consuming

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-4: Intensity of Consumption* by Age Group: New York City, Albany and Syracuse SMSA's
All Respondents September, 1973

Markets (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
			-ounces per day-				
New York City							
12-17	48.2	22.2	17.8	12.1	12.0	7.9	14.8
18-34	26.2	21.8	14.9	18.2	10.0	11.9	16.2
35-65	24.7	17.0	12.7	22.1	8.0	10.1	16.6
Albany							
12-17	74.4	19.2	23.8	13.2	9.4	16.4	14.5
18-34	37.6	17.2	16.7	20.6	8.3	13.7	15.8
35-65	24.1	15.3	14.0	22.1	6.9	10.2	16.2
Syracuse							
12-17	41.4	18.6	24.4	16.9	10.7	0.0	15.3
18-34	36.6	20.1	17.2	20.3	8.6	11.7	15.4
35-65	28.1	14.7	14.0	24.6	6.6	7.3	16.5

*Intensity = Per person consumption for those consuming

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-5: Market Penetration by Age Group: New York City, Albany and Syracuse SMSA's
All Respondents April, 1973

Markets (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
			-percent-				
New York City							
12-17	3.9	77.0	76.7	25.4	60.0	2.5	60.0
18-34	25.2	66.1	40.9	74.8	52.4	11.3	47.2
35-65	20.7	45.0	31.5	91.1	49.3	12.8	45.9
Albany							
12-17	4.6	74.0	88.9	23.8	52.7	1.9	63.4
18-34	28.9	61.5	64.0	75.5	42.7	9.0	48.9
35-65	24.4	34.7	42.3	95.0	46.7	16.8	56.8
Syracuse							
12-17	3.4	65.5	92.3	19.4	48.5	0.0	68.8
18-34	27.9	70.7	61.4	69.2	45.2	10.7	55.5
35-65	21.0	39.0	46.0	94.2	41.4	11.7	52.0

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-6: Market Penetration by Age Group: New York City, Albany and Syracuse SMSA's
All Respondents September, 1973

Markets (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
			-percent-				
New York City							
12-17	3.3	77.1	75.6	34.0	55.9	1.1	57.8
18-34	26.5	67.2	42.9	74.7	51.6	12.9	48.0
35-65	21.6	46.3	30.4	92.0	50.0	16.1	48.0
Albany							
12-17	4.0	64.3	84.8	24.4	48.7	1.3	49.8
18-34	26.8	56.4	58.3	74.5	40.4	7.9	42.6
35-65	24.0	33.3	42.5	94.0	40.5	10.9	46.0
Syracuse							
12-17	1.6	61.1	90.3	18.4	45.5	0.0	66.5
18-34	29.9	62.4	57.2	69.0	43.6	10.4	43.4
35-65	22.4	36.8	45.1	92.4	39.1	11.8	47.0

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-7: Per Capita Consumption by Age Group: New York City, Albany and Syracuse SMSA's White Females, 1973

Market (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water	Total
			-ounces per day-					
New York City								
12-17	0.2	14.4	11.7	4.9	6.0	0.2	7.3	44.7
18-34	2.3	12.0	4.7	16.6	4.8	0.7	6.8	47.9
35-65	1.5	6.7	3.4	20.9	3.7	0.9	6.0	43.1
Albany								
12-17	0.8	12.2	16.3	3.6	4.2	0.3	8.6	46.0
18-34	1.8	10.3	8.3	16.2	3.3	0.6	6.5	47.0
35-65	1.6	5.2	4.7	20.9	2.9	0.8	8.8	44.9
Syracuse								
12-17	0.1	12.0	19.7	2.4	4.0	0.0	9.4	47.6
18-34	2.4	13.9	8.4	15.3	2.9	0.5	7.3	50.7
35-65	1.8	5.5	4.8	22.4	3.2	0.6	8.6	46.9

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-8: Per Capita Beverage Consumption by Age Group: New York City, Albany and Syracuse SMSA's White Males 1973

Market (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water	Total
			-ounces per day-					
New York City								
12-17	1.6	19.6	16.8	2.8	6.8	0.2	9.5	57.3
18-34	10.6	14.4	7.9	12.7	5.1	2.0	8.0	60.7
35-65	8.0	7.7	4.3	19.8	3.7	2.1	7.4	53.0
Albany								
12-17	3.0	14.6	23.6	2.3	5.3	0.1	8.4	57.3
18-34	17.7	10.3	12.2	12.8	3.3	1.9	7.8	66.0
35-65	9.8	4.8	7.2	19.3	3.0	2.0	8.2	54.3
Syracuse								
12-17	0.6	12.1	25.6	2.9	5.3	0.0	11.2	57.7
18-34	16.7	13.4	12.0	12.1	4.5	1.9	8.0	68.6
35-65	9.7	5.5	7.8	21.4	2.4	1.4	8.0	56.2

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-9: Per Capita Consumption by Age and Sex
New York City Blacks 1973

Sex Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water	Total
			-ounces per day-					
Male								
12-17	3.0	17.2	13.2	1.5	6.5	0.2	11.2	52.9
18-34	10.8	14.0	6.9	8.1	4.9	2.0	10.3	57.0
35-65	4.8	10.3	5.3	10.2	4.2	1.4	13.9	50.1
Female								
12-17	0.5	17.8	8.6	1.0	6.0	0.0	9.9	43.8
18-34	1.5	16.7	4.5	5.3	4.6	0.2	8.7	41.4
35-65	1.5	7.8	2.7	10.2	4.9	0.5	13.3	40.7
Male and Female								
12-17	1.8	17.4	11.4	1.3	6.3	0.1	10.7	49.2
18-34	5.8	15.4	5.4	6.6	4.7	1.0	9.5	48.5
35-65	2.8	8.8	3.8	10.2	4.6	0.9	13.5	44.6

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-10: Market Penetration by Age Group: New York City, Albany and Syracuse SMSA's White Females 1973

Markets (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
			-percent-				
New York City							
12-17	2.0	74.5	72.2	38.9	56.5	1.5	59.6
18-34	16.3	51.1	37.2	84.9	55.3	9.0	46.2
35-65	12.3	45.4	30.2	94.3	50.2	9.5	41.2
Albany							
12-17	2.2	65.2	83.9	29.0	47.9	1.3	60.9
18-34	12.1	62.4	58.8	81.5	43.6	6.0	45.1
35-65	12.6	43.3	38.1	95.5	42.2	10.5	53.2
Syracuse							
12-17	1.1	65.9	91.5	19.9	46.1	0.0	68.7
18-34	15.8	69.5	58.4	74.4	43.0	6.7	49.7
35-65	12.2	38.5	37.9	96.5	46.6	7.6	50.7

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-11: Market Penetration by Age Group: New York City, Albany and Syracuse White Males 1973

Markets (SMSA) Age Groups	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
			-percent-				
New York City							
12-17	4.9	78.7	83.6	23.5	61.8	1.8	58.7
18-34	35.2	67.8	47.7	70.8	50.2	15.7	46.7
35-65	31.2	44.7	30.7	92.1	48.6	20.1	46.3
Albany							
12-17	5.2	73.8	90.6	20.2	54.4	0.9	54.5
18-34	44.0	54.7	64.6	71.3	35.4	11.2	45.4
35-65	35.5	30.3	47.4	94.3	44.6	17.7	49.2
Syracuse							
12-17	3.5	74.9	91.8	17.0	48.0	0.0	66.7
18-34	42.1	63.2	62.4	66.5	46.0	14.4	47.2
35-65	31.6	36.2	48.8	91.6	34.4	16.2	47.1

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-12: Market Penetration by Age Group and Sex
New York City Blacks 1973

Sex Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
			-percent-				
Male							
12-17	5.4	75.7	67.6	18.9	51.4	2.7	67.6
18-34	42.6	61.1	42.5	61.1	53.7	22.2	61.1
35-65	24.2	50.0	37.9	72.7	44.0	16.6	69.7
Female							
12-17	4.1	83.4	66.6	16.7	54.2	0.0	66.7
18-34	14.5	77.4	30.7	45.2	38.7	4.9	54.9
35-65	10.6	56.8	25.3	82.1	53.7	6.3	75.8
Male and Female							
12-17	4.6	79.0	67.6	18.3	52.8	1.5	65.9
18-34	28.5	69.4	36.4	53.1	47.1	13.6	57.9
35-65	18.5	52.7	32.6	77.4	48.9	12.0	71.1

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-13: Intensity of Consumption* by Age Group: New York City, Albany and Syracuse SMSA's White Females 1973

Market (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
			-ounces per day-				
New York City							
12-17	10.0	19.3	16.2	12.6	10.6	13.3	12.2
18-34	14.1	23.5	12.6	19.6	8.7	7.8	14.7
35-65	12.2	14.8	11.3	22.2	7.4	9.5	14.6
Albany							
12-17	36.4	18.7	19.4	12.4	8.8	23.1	14.1
18-34	14.9	16.5	14.1	19.9	7.6	10.0	14.4
35-65	12.7	12.0	12.3	21.9	6.9	7.6	16.5
Syracuse							
12-17	9.1	18.2	21.5	12.1	8.7	0.0	13.7
18-34	15.2	20.0	14.4	20.6	6.7	7.5	14.7
35-65	14.8	14.3	12.7	23.2	6.9	7.9	17.0

*Intensity of Consumption = Per person consumption for those consuming

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-14: Intensity of Consumption* by Age Group: New York City, Albany and Syracuse SMSA's White Males 1973

Market (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
			-ounces per day-				
New York City							
12-17	32.7	24.9	20.1	11.9	11.0	11.1	16.2
18-34	30.1	21.2	16.6	17.9	10.2	12.7	17.1
35-65	25.6	17.2	14.0	21.5	7.6	10.4	16.0
Albany							
12-17	57.7	19.8	26.0	11.4	9.7	11.1	15.4
18-34	40.2	18.8	18.9	18.0	9.3	17.0	17.2
35-65	27.6	15.8	15.2	20.5	6.7	11.3	16.7
Syracuse							
12-17	17.1	16.2	27.9	17.1	11.0	0.0	16.8
18-34	39.7	21.2	19.2	18.2	9.8	13.2	16.9
35-65	30.7	15.2	16.0	23.4	7.0	8.6	17.0

*Intensity of Consumption = per person consumption for those consuming

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-15: Intensity of Consumption* by Age Group and Sex
New York City Blacks 1973

Sex Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
			-ounces per day-				
Male							
12-17	55.6	22.7	19.5	7.9	12.6	7.4	16.6
18-34	25.4	22.9	16.2	13.3	9.1	9.0	16.9
35-65	19.8	20.6	14.0	14.0	9.5	8.4	20.0
Female							
12-17	12.2	21.3	12.9	6.0	11.1	0.0	14.8
18-34	10.3	21.6	14.7	11.7	11.9	4.1	15.8
35-65	14.2	13.7	10.7	12.4	9.1	7.9	17.5
Male and Female							
12-17	39.1	22.0	16.9	7.1	11.9	6.7	16.2
18-34	20.4	22.2	14.8	12.4	10.0	7.4	16.4
35-65	15.1	16.7	11.7	13.2	9.4	7.5	19.0

*Intensity of Consumption = Per person consumption for those consuming

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-16: Variances (S^2) of Per Capita Consumption of Seven Beverages by Age Group New York City, Albany, Syracuse SMSA's, White Males, 1973

Markets (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
New York City							
12-17	133.67	307.31	186.65	40.77	197.82	1.85	146.67
18-34	598.17	230.33	131.41	164.63	121.06	58.65	157.09
35-65	398.66	127.65	71.91	283.68	68.71	41.42	143.47
Albany							
12-17	917.76	196.85	270.76	33.37	61.55	0.99	146.73
18-34	1,259.13	164.61	208.17	176.75	31.84	51.73	317.25
35-65	471.54	99.26	109.66	172.97	18.22	47.60	142.29
Syracuse							
12-17	16.64	183.82	343.38	101.22	105.16	0.00	207.18
18-34	899.54	217.23	206.31	213.97	84.82	49.68	180.25
35-65	442.95	84.45	118.58	310.93	15.95	24.75	166.11

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-17: Variances (S^2) of Per Capita Consumption of Seven Beverages by Age Group New York City, Albany, Syracuse SMSA's, White Females, 1973

Markets (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
New York City							
12-17	6.13	166.71	120.11	84.96	122.22	6.08	87.59
18-34	57.69	209.60	61.45	230.15	107.72	7.05	126.65
35-65	51.61	94.13	37.75	193.79	56.31	15.85	110.01
Albany							
12-17	53.87	186.96	145.12	57.00	40.20	7.41	112.24
18-34	70.75	167.85	96.37	270.58	26.14	10.92	132.95
35-65	33.51	75.90	61.04	178.63	22.66	7.87	143.24
Syracuse							
12-17	0.90	167.35	432.65	35.32	48.04	0.00	100.55
18-34	56.97	229.22	93.05	252.79	25.78	4.77	112.43
35-65	37.55	94.36	59.20	260.04	23.47	6.15	139.82

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-18: Variances (S^2) of Per Capita Consumption of Seven Beverages by Age Group New York City SMSA, Black Males and Females, 1973

Sex Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water
Male							
12-17	273.80	306.94	194.38	10.94	227.33	1.73	185.59
18-34	308.28	291.20	91.34	96.37	113.50	25.72	175.82
35-65	106.45	240.18	71.03	84.94	145.05	16.51	277.19
Female							
12-17	6.08	204.77	68.06	5.78	115.35	0.00	151.90
18-34	14.74	227.16	65.11	59.84	109.85	0.81	136.97
35-65	24.62	70.07	29.36	87.81	54.63	5.93	249.45

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-19: Number of Respondents by Race, Sex and Age Group
New York City, Albany and Syracuse SMSA's
1973 - Total

Markets (SMSA) / Age Group	Black		White	
	Male	Female	Male	Female
New York City				
12-17	37	24	224	256
18-34	54	62	522	521
35-65	66	95	801	802
Albany				
12-17	6	5	215	225
18-34	14	10	428	428
35-65	11	21	638	622
Syracuse				
12-17	12	6	173	176
18-34	8	15	356	360
35-65	16	14	478	490

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-20: Total Consumption and Proportion of Consumption of Seven Beverages, At Home and Away from Home, All Respondents, 1973

New York City SMSA

Beverage	Number of Ounces Consumed*			Proportion of Total Consumption of that Beverage	
	At Home	Away	Total	At Home	Away
Beer or Wine	5,951	2,602	8,553	70%	30%
Soft Drinks	14,446	5,276	19,724	73	27
Milk	9,643	1,708	11,351	85	15
Coffee or Tea	20,922	6,394	27,316	77	23
Fruit Juices	7,573	959	8,532	89	11
Liquor	1,488	768	2,256	66	34
Water	11,154	2,722	13,876	80	20
Total	71,179	20,429	91,608	78	22

* N (total) = 1,836

Albany SMSA

Beverage	Number of Ounces Consumed*			Proportion of Total Consumption of that Beverage	
	At Home	Away	Total	At Home	Away
Beer or Wine	5,428	3,181	8,609	63%	37%
Soft Drinks	8,393	2,816	11,209	75	25
Milk	10,254	2,620	12,874	80	20
Coffee or Tea	15,801	4,365	20,166	78	22
Fruit Juices	4,169	362	4,531	92	8
Liquor	792	680	1,472	54	46
Water	8,633	2,232	10,865	79	21
Total	53,470	16,256	69,725	77	23

* N (total) = 1,341

Syracuse SMSA

Beverage	Number of Ounces Consumed*			Proportion of Total Consumption of that Beverage	
	At Home	Away	Total	At Home	Away
Beer or Wine	4,006	2,530	6,536	61%	39%
Soft Drinks	7,774	2,454	10,228	76	24
Milk	8,677	2,293	10,970	79	21
Coffee or Tea	12,417	4,086	16,503	75	25
Fruit Juices	3,346	263	3,609	93	7
Liquor	560	395	963	59	41
Water	7,472	1,662	9,134	82	18
Total	44,260	13,683	57,943	76	24

* N (total) = 1,070

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-21: Proportion of Beverage Consumption During Seven Time Periods At Home and Away from Home
All Respondents 1973

Time Period	New York City SMSA		Albany SMSA		Syracuse SMSA	
	At Home	Away from Home	At Home	Away from Home	At Home	Away from Home
1-5 AM	66%	34%	50%	50%	49%	51%
5-8	92	8	93	7	92	8
8-11	71	29	70	30	66	34
11 AM-1 PM	55	45	51	49	50	50
1-5	64	36	65	35	66	34
5-8	90	10	90	10	89	11
8 PM-1 AM	84	16	80	20	82	18

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-22: Proportion of Total Daily Fluid Intake Represented by Each of Seven Beverages At Home and Away from Home, All Respondents, 1973

Beverage	New York City SMSA		Albany SMSA		Syracuse SMSA	
	At Home	Away from Home	At Home	Away from Home	At Home	Away from Home
Beer or wine	7%	3%	8%	5%	7%	5%
Soft Drinks	16	6	11	3	13	4
Milk	10	2	15	4	15	4
Coffee or Tea	23	7	23	7	22	7
Fruit Juices or Drinks	8	1	6	1	6	--[a]
Liquor	1	1	1	1	1	--[a]
Water	12	3	12	3	13	3
Total	77	23	76	24	77	23

[a] Less than 0.5%

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-23: Proportion of Mealtime* and Non Mealtime Beverage Consumption Represented by Each of Seven Beverages At Home Consumption, All Respondents, 1973

Beverage	New York City SMSA		Albany SMSA		Syracuse SMSA	
	Mealtime	Non Mealtime	Mealtime	Non Mealtime	Mealtime	Non Mealtime
Beer or wine	7%	10%	6%	14%	7%	12%
Soft Drinks	20	20	13	10	15	21
Milk	14	13	23	14	25	14
Coffee or Tea	33	26	33	25	31	23
Fruit Juices or Drinks	12	9	9	7	9	6
Liquor	2	2	2	1	1	1
Water	12	20	12	21	12	23
Total	100	100	100	100	100	100

* Mealtime = 5:00-8:00 a.m., 11:00-1:00 p.m., 5:00-8:00 p.m.
Non Mealtime = 1:00-5:00 a.m., 8:00-11:00 a.m., 1:00-5:00 p.m., 8:00-1:00 a.m.

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-24: Proportion of Respondents Indicating that Milk Ads Were Heard: Unaided Recall
New York City, Albany, and Syracuse SMSA's
April and September 1973

Markets (SMSA) Age Group	April 1973 Male	April 1973 Female	April 1973 Total	September 1973 Male	September 1973 Female	September 1973 Total
New York City						
12-17	19.4 %	18.6%	19.0%	4.5%	11.6%	0.2%
18-34	4.7	7.9	6.3	1.8	6.3	3.9
35-65	3.7	4.0	3.8	3.3	2.4	2.8
Albany						
12-17	15.7	12.3	14.0	0.3	15.3	10.9
18-34	7.2	4.4	5.8	3.0	3.5	3.3
35-65	2.2	1.8	2.0	2.4	1.2	1.8
Syracuse						
12-17	15.9	18.5	17.2	18.6	18.9	18.7
18-34	6.0	11.1	8.6	6.0	4.2	5.5
35-65	2.2	2.0	2.1	2.6	2.3	2.4

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University

Table A-25: Proportion of Respondents Correctly Identifying "New You" Milk Ad: Aided Recall
New York City, Albany and Syracuse SMSA's
April and September 1973

Markets (SMSA) Age Group	April 1973 Male	April 1973 Female	September 1973 Male	September 1973 Female
New York City				
12-17	85.6%	82.1%	80.6%	78.1%
18-34	47.8	53.6	47.7	52.3
35-65	22.0	25.9	21.7	21.9
Albany				
12-17	84.3	79.8	75.0	68.6
18-34	41.3	40.9	39.7	39.9
35-65	13.5	14.2	11.0	13.2
Syracuse				
12-17	85.2	72.8	88.7	66.7
18-34	46.4	51.9	44.7	46.3
35-65	16.8	17.1	14.7	14.3

SOURCE: Survey conducted by Department of Agricultural Economics, Cornell University