

SELECTED HOUSEHOLD SOCIOECONOMIC CHARACTERISTICS AND WINE CONSUMPTION IN FLORIDA

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Abstract. There is a relationship between selected socioeconomic characteristics and consumption of Florida wines. The most promising segment of consumers appears to be female Caucasians with professional, technical, and clerical jobs in the middle income bracket. Lack of information and knowledge about Florida wines, preference for non-Florida wines and other beverages, and religious objection are major reasons that have contributed to the weak market demand for Florida wines. Greater consumer awareness on quality and availability of Florida wines will have a positive impact on promoting the demand for Florida wines.

The viticultural industry in Florida is undergoing significant structural changes and generating considerable interest and concern among existing growers and wineries. The decline in the number of wineries has projected a negative image on grape growing and wine making as well as discouraging new investment in the industry. The lack of investor interest to capitalize on Florida's growing consumer market for wine has hurt the state's efforts to promote grape growing as a major commercial enterprise. Floridians consumed about 30 million gallons of wine in 1991 and ranked third in total wine consumption (Jobson Wine Marketing, 1992); however, only about 0.2% or 56,000 gallons consumed were Florida wines (Fla. Div. Alcoholic Beverages, 1992). The production of Florida wine, reached 124,000 gallons in 1986, and declined significantly after its tax exempt status was revoked in 1988 (Leong, 1993). Although there are signs of improvement, demand for Florida wines has remained weak. The long-run prospects for Florida's viticulture are uncertain and wholly dependent on the industry's ability to attract new investment. The lack of basic market information on consumer preference and perception of Florida wines, grapes, and grape products has made it difficult for the wine industry to attract potential investors, or to reevaluate marketing strategies. There is a need to identify the underlying factors that could be used to identify the target audience, stimulate demand, and promote consumption of Florida wines and grape products.

Historical background. About 80% of Florida wines is made from muscadines, which have a unique flavor, aroma and taste. Bunch grapes account for the other 20%. Wine evaluation studies have shown that the quality of some Florida wines is comparable to some of the finer wines

from California or elsewhere (Degner, 1980). Because of its muscadine characteristic, the primary market for Florida wines has been in the South and Southeastern states where consumers are accustomed to their flavor and taste. Depending on distributors and local consumers to create a strong, home-based market proved to be a mistake. Reasons cited for the weak market demand for Florida wines ranged from intense competition, promotion, and market domination by non-Florida producers and distributors, to consumer preference for the more "traditional" taste of vinifera and French-American hybrid wines. Some critics advocated unfamiliarity and reluctance of consumers to try something "untraditional" such as the taste of muscadine. The relatively high price of Florida wines has also been mentioned as a causative factor. Some store managers reported that many consumers were not aware of Florida wines (Leong, 1990). Consumer demand is generated by many factors which are related to identifiable characteristics that could be used to distinguish them. Until these factors are verified, it will be difficult to formulate any effective steps to promote Florida's grape and wine industry.

Objective. A household survey was conducted in 1992 to identify consumer characteristics and factors that affect the market potential and demand for Florida wines, muscadine grapes and grape products. In this paper we will discuss some results of the survey and will focus on the relationships between selected socioeconomic characteristics such as race, sex, income, and employment on the consumption and perceptions of Florida wines. We hypothesized that these socioeconomic characteristics have a significant impact on wine consumption and consumer perception of Florida wines. By analyzing the relationships, an insight into the potential demand for Florida wines could be gained.

Materials and Methods

A mail survey of 1,500 randomly selected households in Florida was conducted in 1992. The number of households to be selected was weighted by the proportion of households in the county to the total number of households in the state. The desired number of households from each county was selected from telephone directories using random number tables.

The total number of households selected was based on 1.8 million households from 37 counties and 85 towns and cities with a 90% confidence level, and an error rate of 0.05% (McCall, 1982). An 18% expected rate of response was used to determine the final sample size.

$$N = p \frac{(1-p) Z^2}{E^2}$$

$$Na = \frac{N}{ER}$$

Where

- N = number of households to be surveyed,
- p = a priori assumption that the proportion of households that are in favor of Florida wines (0.50),
- Z = two-tail value of the standardized normal deviate associated with the desired confidence level (0.10),
- E = the acceptable error rate or half of the maximum acceptable confidence interval (0.05),
- Na = sample size adjusted for non-response, and
- ER = the expected rate of response (0.18).

The questionnaire for the survey was pretested and reviewed by several researchers to correct major deficiencies. The questions were designed to reveal the respondent's wine consumption characteristics, consumer attitude, preference, and perception of Florida wines. All households received at least two reminders if they did not respond within three weeks after receiving the questionnaire. The responses were cross-tabulated and the appropriate contingency tables constructed to facilitate analysis and interpretation.

The chi-square test was used to test the research hypothesis because of the categorical nature of the survey data and its ability to measure frequency discordance of the observed frequencies with the expected or hypothesized frequencies of one or more variables. More specifically, the chi-square test was used to determine whether wine consumption frequency, and consumer perception and preference for Florida wines were independent of socioeconomic characteristics.

$$\chi^2 = \sum \frac{(O_{ij} - E_{ij})^2}{E_{ij}} df = (r - 1)(k - 1)$$

Where

- O_{ij} = observed frequency of ith row and jth column,
- E_{ij} = expected frequency of ith row and jth column, and
- df = degrees of freedom.

The requirement that not more than 20% of the expected frequencies in a contingency table be less than five was a difficult condition to fulfill even when certain categories and frequencies were combined. When this requirement is violated, results of the chi-square test become unreliable and can not be used for hypothesis testing (Siegel, 1956; Howell, 1982).

Results and Discussion

A total of 385 households responded to the survey but only 363 responses or 94% were useable. The number of responses exceeded expectation by 6% and provided a reliable estimate of household consumption characteristics and perceptions of Florida wines. Not all the questions were answered by the respondents. As a result, the total number of households for some variables in the cross-tabulations may appear inconsistent.

Socioeconomic characteristics of respondents. About 64% of the respondents were male heads of households. Sixty-five percent were above 45 years and about 2% below 25 years of age (Table 1). About 53% of the respondents could be

Table 1. Selected socioeconomic characteristics of surveyed households in Florida.

Socioeconomic Characteristic		Number of Household	Percent
Sex:	Male	235	64.3
	Female	128	34.8
Age:	<25 years	9	2.4
	25-34 "	45	12.2
	35-44 "	78	21.2
	45-54 "	60	16.3
	<55 "	166	45.4
Employment:	Professional	132	36.1
	Clerical	120	32.8
	Technical	60	16.4
	Manual	26	7.1
	Undisclosed	28	7.6
Race:	Caucasian	310	84.7
	African American	18	4.9
	Hispanic	20	5.5
	Others	9	2.5
Income:	<\$10,000	18	4.9
	\$10,000-\$14,999	18	4.9
	\$15,000-\$19,999	31	8.5
	\$20,000-\$24,999	29	7.9
	\$25,000-\$29,999	19	5.2
	\$30,000-\$34,999	38	10.4
	\$35,000-\$39,999	26	7.1
	\$40,000-\$49,999	34	9.3
	<\$50,000	114	31.1
	Undisclosed	39	10.7
Education:	Some high school	21	5.7
	Completed high school	54	14.8
	Voc. tech. school	19	5.2
	Some college	105	28.7
	Completed college	70	19.1
	Some grad. school	27	7.4
	Completed grad. school	64	17.5
Undisclosed	6	1.6	

described as holding professional or technical jobs, 33% as clerical, and 7% as manual workers. By race classification, Caucasians made up about 85% of the respondents compared to about 5% each for African American, Hispanic and other races. The percentage of African Americans in the survey was 8% below its actual population demographics. About 18% of all respondents had annual earnings less than \$20,000, 13% between \$20,000 and \$30,000, and 40% more than \$40,000. The survey included 46% respondents with college degrees. Twenty-nine percent had some college education and 15% had only high school diplomas. Only 6% of the respondents did not complete high school.

Wine consumption characteristic. Results of the chi-square test showed that the proportion of female and male respondents in the different wine consumption categories was not significantly different. There appeared to be no significant relationship between consumption frequency and gender. However, the relationship between consumption frequency and race was significant at the 0.10 level. The chi-square test showed that differences in consumption frequency are race related (Table 2). About 33% of Caucasians in the survey consumed wine at least once a week. A large percentage of all races drank wine several times per year. The percentage of respondents who did not drink wine ranged from 13.8% for Hispanics to 27.8% for African Americans. Wine consumption frequency also appeared to

Table 2. Wine consumption frequencies and socioeconomic characteristics of surveyed households in Florida.

Socioeconomic Characteristic	Consumption Frequency ^z						DF	χ^2
	Week	Month	Wend	Xyear	Other	Total		
Sex:								
Male	78	23	22	72	36	231		
Female	35	11	9	47	17	119		
Total	113	34	31	119	53	350	4	2.532
Race:								
Caucasian	101	30	25	101	49	306		
Afr. American	2	2	0	9	5	18		
Hispanic ^y	10	2	6	7	4	29		
Total	113	34	12	117	58	353	8	13.096**
Income (\$1,000):								
<\$20	8	3	8	29	18	66		
\$20-\$29	12	7	3	21	5	48		
\$30-\$39	20	10	7	17	10	64		
\$40-\$49	13	4	2	9	6	34		
<\$50	51	10	9	33	5	108		
Total	104	34	29	109	44	320	16	44.847*
Profession:								
Professional	56	8	9	41	18	132		
Clerical	32	14	13	40	21	120		
Technical	14	12	7	19	8	60		
Manual	2	0	1	11	12	26		
Total	104	34	30	111	59	348	12	47.850*
Employment:								
Employed	69	21	19	69	31	209		
Unemployed	3	0	0	1	2	6		
Retired	34	10	12	45	31	132		
Homemaker	7	3	0	4	1	15		
Total	113	34	31	119	65	362	12	14.084

^zConsumption frequency:

Week = consumed wine at least once a week.

Month = consumed wine once a month.

Wend = consumed wine during weekends and at parties.

Xyear = consumed wine a few times per year.

Other = do not consume wine and other considerations.

^yIncludes other races.

* = significant at 0.05% level.

** = significant at 0.10% level.

be significantly influenced by the level of household income. The proportion of respondents in the \$40,000 and \$50,000 income bracket who consumed wine at least once a week was higher than expected. Results of the chi-square test showed that real differences existed in the proportions of respondents in the different consumption categories and income level. The proportion of respondents who consumed wine frequently increased with income level (Table 2). Profession is another variable that appeared to have a significant influence on the frequency of wine consumption. The proportion of respondents in the several times per year category was higher than any other categories for all professions. Whether a respondent was employed or not, did not appear to have any significant influence on his or her wine consumption frequency.

Reasons for not purchasing Florida wines. Reasons for not purchasing Florida wines were grouped into five categories: unfavorable taste and aroma; not available in the store; no knowledge about Florida wines; preference for non-Florida wines and other alcoholic beverages; religious objection and other personal reasons (Table 3). In spite of combining categories, many of the cross-tabulations have more than 20% expected value less than 5, which makes the hypothesis testing invalid.

There appears to be no real difference between sexual characteristic and the reasons for not purchasing Florida wines. However, the survey found that the largest proportion from both sexes reported little or no knowledge of Florida wines as a reason, followed by religious objection and preference for non-Florida wines and other beverages. Non availability in the stores is also a major reason for not buying Florida wines. The same observation was made for race, income, and profession. Surprisingly, unfavorable taste and aroma had the least number of respondents.

Perceptions of Florida wine. The majority of respondents who had tried Florida wine found the taste, aroma, and quality to be acceptable. Three categories of perceptions were used in the analysis: dissatisfied, satisfied, and very satisfied. About 83% of the respondents who had tried Florida wines said they were satisfied or very satisfied (Table 4). About 27% of male respondents reported dissatisfaction but no female respondents did. Results of the chi-square test showed that real differences exist between genders and their perceptions of Florida wines. Results of the chi-square test for the other characteristics could not be used because more than 20% of the cells had expected values less than 5. However, a similar pattern was observed comparing race, income, and employment, and respondents'

perception of Florida wines. No African American or Hispanic indicated dissatisfaction with Florida wines. A greater proportion of respondents in the high income bracket were also more dissatisfied than those in the lower income group.

Willingness to purchase Florida wines. The willingness to purchase Florida wines did not appear to be significantly influenced by gender or racial background, although the proportions of those who were willing to purchase were higher. However, income appears to have a significant in-

Table 3. Socioeconomic characteristics and reasons for not purchasing Florida wines by surveyed households in Florida.

Socioeconomic Characteristic	Reason for Not Purchasing ^z					Total	DF	χ ²
	UFT	NAV	KNO	OBE	REL			
Sex:								
Male	2	17	106	30	38	193		
Female	0	11	59	7	20	97		
Total	2	28	165	37	58	290	4	5.366
Race:								
Caucasian	2	25	135	32	53	247		
Afr. American	0	1	6	0	2	9		
Hispanic ^y	0	2	22	5	1	30		
Total	2	28	163	37	56	286	8	8.456*
Income (\$1,000):								
<\$20	0	4	25	3	19	51		
\$20-\$29	0	2	17	11	5	18		
\$30-\$39	0	3	33	5	12	17		
\$40-\$49	0	6	14	2	7	53		
<\$50	1	3	5	14	8	29		
Total	1	18	94	35	51	199	16	49.632**
Profession:								
Professional	0	12	73	15	11	111		
Clerical	1	10	52	13	19	95		
Technical	0	3	26	4	17	50		
Manual	0	0	8	2	7	17		
Total	1	25	159	34	54	273	12	22.013**
Employment:								
Employment	1	16	107	22	22	168		
Unemployed	0	1	3	1	0	5		
Retired	0	9	48	12	32	101		
Homemaker	0	2	8	0	0	10		
Total	1	28	166	35	54	284	12	22.057**

^zReason:

UFT = unfavorable taste, flavor and aroma.

NAV = not available in local stores.

KNO = do not know about Florida wines.

OBE = prefer non-Florida wines, beer and other beverages.

REL = religious objection and other reasons.

^yIncludes other races.

*More than 20% of cells have expected values less than 5.

** = significant at 0.05 level.

Table 4. Socioeconomic characteristics and perceptions for Florida wines by surveyed households.

Socioeconomic Characteristic	Perception ^z			Total	DF	χ ²
	DISAT	SAT	VSAT			
Sex:						
Male	13	18	18	49		
Female	0	13	14	27		
Total	13	31	32	76	2	8.664*
Race:						
Caucasian	13	23	30	66		
Afr. American	0	4	2	6		
Hispanic ^y	0	4	0	4		
Total	13	31	32	76	4	8.934***
Income (\$1,000):						
<\$20	0	4	5	9		
\$20-\$29	1	10	14	15		
\$30-\$39	0	4	10	14		
\$40-\$49	1	2	7	10		
<\$50	10	10	4	24		
Total	12	30	40	72	8	27.699**

Table 4. Continued.

Socioeconomic Characteristic	Perception ^z				DF	χ^2
	DISAT	SAT	VSAT	Total		
Profession:						
Professional	9	14	6	29		
Clerical	2	8	16	26		
Technical	0	5	5	10		
Manual	0	2	3	5		
Total	11	29	30	70	6	14.879**

^zPerception:

DISAT = dissatisfied with Florida wines.

SAT = satisfied with Florida wines.

VSAT = very satisfied with Florida wines.

^yIncludes other races.^xMore than 20% of cells have expected values less than 5.

* = significant at the 0.05% level.

** = significant at the 0.10% level.

fluence on the decision to purchase Florida wines. Results of the chi-square test showed a significant relationship between respondents' income and their decisions to purchase. A greater proportion of respondents with income between \$20,000 and \$50,000 were willing to purchase Florida wines than those in the other income groups (Table 5). Profession also appeared to have a significant influence on the willingness to purchase Florida wines. Those with tech-

nical, clerical, or professional occupations were more willing to try Florida wines than manual workers (Table 5).

Conclusions. The study provided some very useful information about household wine consumption characteristics which could be used to improve existing marketing strategies for Florida wines. There appears to be a significant relationship between race, income, and profession on wine consumption frequency, preference for Florida wines, and willingness to purchase them. A fairly large proportion of households consume wine (regularly) at least once a week, and a larger proportion can be expected to consume wine several times during the year. Caucasians with a professional, technical, or clerical occupation and an annual income between \$20,000 and \$50,000 present the most promising segment of consumers who could be encouraged to purchase and patronize Florida wines. Females should be targeted in market promotions because many of them have favorable perceptions and willingness to purchase Florida wines. With greater sustained promotional efforts directed at the target audience, there is a good probability that demand for Florida wines could be improved to the extent that it will revitalize the industry and attract new investment.

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Table 5. Socioeconomic characteristics and willingness to purchase Florida wines by surveyed households.

Socioeconomic Characteristic	Not Willing	Willing	Total	DF	χ^2
Sex:					
Male	16	28	44		
Female	31	46	77		
Total	47	74	121	1	0.179
Race:					
Caucasian	39	60	99		
Afr. American	4	8	12		
Hispanic ^z	3	7	10		
Total	46	75	121	2	0.793 ^y
Income (\$1,000):					
<\$20	15	12	27		
\$20-\$29	2	17	19		
\$30-\$39	6	17	23		
\$40-\$49	2	9	11		
<\$50	18	16	34		
Total	43	71	114	4	16.103*
Profession:					
Professional	18	22	40		
Clerical	15	27	42		
Technical	5	13	18		
Manual	14	6	20		
Total	52	68	120	3	8.604*

^zIncludes other races.^yMore than 20% of cells have expected values less than 5.

* = significant at the 0.05% level.