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## Millennial Parents and the Effectiveness of Generic Advertising for 100% Orange Juice

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### Abstract

The purpose of this study is to investigate the effectiveness of generic advertising on purchase of 100% orange juice using an econometric model that controls for different socio-demographic variables. Recent research in marketing emphasizes the importance of the Millennial Parent in media consumption and buying habits. Thus, the study also aims to assess consumption patterns the success of generic advertising on this generational sub-group. Specifically the key objectives of this study are: 1) to determine if purchase frequency of 100% orange juice is positively influenced by generic advertising efforts; 2) to investigate the association of different socio-economic indicators on purchase frequency of 100% orange juice; and 3) to assess if the impact of ad awareness on purchase frequency of 100% orange juice among Millennial Parents.

**Keywords:** generic advertising, orange juice, ordered choice, survey data.

**JEL Codes:** C25, D12, M31, M37.

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## **Introduction**

The ebb and flow of generational change bears strongly on individual food choices and emphasizes the need for marketing strategies to understand generational nuances (Stegelin 2002). Generational marketing is not a new concept and involves appealing to the unique desires and behaviors of a group of individuals born around the same timeframe. Although there is some debate on the precise definitions of each generation, in general there are five generations pertinent to the United States: G.I., Silent, Boomer, Gen X, and Millennial. Table 1 lists some detail about each generation including birth years, ages, and population estimate. There is a strong focus on the Millennial generation among marketers, advertisers, and economists both in the academic and trade literature (Fromm 2012). Generational influences have been examined on topics such as food choice (Stegelin 2002), retail format preferences (Brosdahl and Carpenter 2012), parenting (Ray 2013), wine consumption (Nowak et. al 2006; Thach and Olsen 2006; MacDonald et al. 2014), landscaping expenditure (Jin et. Al 2013), U.S. Army recruitment (Drago 2006), and undergraduate education in agricultural economics (Litzenberg 2010).

Increasingly, Millennial Parents are emerging as a generational subgroup of keen importance in the marketplace. Millennial Parents are the fastest growing, highest spending consumer segment in the U.S. with an estimate \$2.4 trillion spending power (MRI 2012). There are currently 70.7 million Millennials domestically, with 27 million of them being parents, and of these Millennial Parents 12.8 million of them state they drink at least one glass of orange juice everyday (MRI 2012). Market conditions underscore the need to maximize the value of dollars spent on marketing and advertising. A number of previous studies examine the role of generic advertising efforts by the Florida Department of Citrus on orange juice consumption (Lee et al. 1988, Thomas and Cantor 2009, Salois and Reilly 2014). The growing importance of Millennial

Parents highlights the need for a better understanding of how purchase patterns of orange juice may differ and how effective advertising efforts are for this group.

The purpose of this study is to investigate the effectiveness of generic advertising on purchase of 100% orange juice using an econometric model that controls for different socio-demographic variables. Given the recent research in marketing emphasizing the importance of the Millennial Parent in media consumption and buying habits, the study also aims to assess consumption patterns and the success of generic advertising on this generational sub-group. Specifically the key objectives are: 1) to determine if purchase frequency of 100% orange juice is positively influenced by generic advertising efforts; 2) to investigate the association of different socio-economic indicators on purchase frequency of 100% orange juice; and 3) to assess if the impact of ad awareness on purchase frequency of 100% orange juice among Millennial Parents.

### **Data and Empirical Model**

Data is sourced from the Florida Department of Citrus monthly advertising tracking study. The study is survey-based and is designed to measure recall and responsiveness to FDOC advertising programs. This survey is managed by an independent global marketing research firm, Issues & Answers Network, Inc. and is administered via the web. The survey averages 20 minutes in length and is conducted nationally with adult members of an internet research panel. Age and gender quotas are implemented based on US Census figures to ensure an appropriate representation of adults in the US. For this analysis, a total of 1515 interviews were conducted during the months of February through December 2012. The screening criteria for this survey requires that respondents must be at least age 18, with an annual household income of at least \$25,000, and have either primary or shared responsibility for their household's grocery shopping. The survey itself covers beverage purchase and consumption habits, perceptions of orange juice and grapefruit juice, overall advertising and media consumption, generic advertising recall and perceptions, and

the influence of price/the economy on beverage purchases. The survey also collects information on various socio-demographic and household indicators.

The primary dependent variable is stated purchase frequency (FREQ), which indicates how often respondents purchase 100% orange juice. Values range from 0 to 5 where 0 indicates annually, 1 indicates monthly, 2 indicates biweekly, 3 indicates biweekly, 4 indicates weekly, and 5 indicates more than once a week. The distribution of responses to stated purchase frequency are given in Figure 1. With respect to measuring advertising awareness, after completing several sections on beverage perceptions/purchase behavior and general advertising awareness/media consumption, respondents are shown to two different FDOC (generic) commercials, which are rotated in/out of the survey to match the current TV airing schedule. Evaluations of the two FDOC ads are aggregated in order to form an overall assessment of the generic advertising. The variable TVAD is a dichotomous indicators that takes a value of 1 if the respondent recalls seeing the generic television ad and 0 otherwise. Respondents are also asked if they recall seeing any logos for orange juice that is 100% from Florida either in advertising, promotion, or on a container. The variable LOGO is a dichotomous indicators that takes a value of 1 if the respondent recalls seeing a logo and 0 otherwise. Figure 2 shows an example of a 100% from Florida orange juice logo used by the FDOC.

Other measures that may influence purchase frequency available from the survey include the stated primary reason for purchasing orange juice. Primary reasons for buying include brand, health, and taste. The variables R1BRAND, R1HEALTH, R1TASTE are indicators that take a value of 1 if the primary reason for buying orange juice was either brand, health, or taste, respectively. Respondents are also asked whether the economic environment has made them less likely to purchase orange juice. The variable ECONIMP is an indicator that takes a value of 1 if

the respondent answered “much less likely” or “somewhat less likely” and take a value of 0 if the respondent answered “no impact” or “don’t know”. Lastly, a matrix of demographic variables (DEMO) includes indicators for gender, marital status, race, education, age, and income, and children. Table 2 summarizes the complete set of variables and provides descriptive statistics.

To investigate the impact of generic advertising on purchase frequency, a regression model is estimated of the form:

$$FREQ = f(TVAD, LOGO, BRND, HLTH, TSTE, ECON, DEMO) + \varepsilon_1, \quad (1)$$

where  $\varepsilon_1$  is the stochastic error terms. Given the nature of the purchase variable, an ordered probit is used to estimate the parameters in (1). Separate regressions are estimated for the full sample, Millennials, and Millennial Parents. Descriptive statistics for each sub-group are also provided in Table 2. Average purchase frequency for the full sample is 2.5, which is between biweekly and weekly. Millennials display higher average purchase frequency at 2.8 and Millennial Parents even slightly higher at 2.9 (close to weekly). Average awareness of FDOC generic TV advertising is fairly close among the groups. About 77% of respondents in the full sample report being aware of the FDOC ad, while this figure also 77% for Millennials, and slightly higher at 79% for Millennial Parents.

## **Results and Discussion**

Table 3 summarizes the regression results for three separate groups: the full sample in column (1), Millennials in column (2) and Millennial Parents in column (3). Estimated coefficients are translated in odds ratios and are reported in Table 4. For the full sample the coefficient estimate for advertising awareness is positive and statistically significant at the 5% level. The computed odds ratio of 1.28 implies that for one-unit increase in ad awareness (i.e., going from 0 to 1), the odds of moving up in a given purchase frequency category) is 1.28 times greater, given that all the

other variables in the model are held constant. In other words, FDOC generic advertising is shown to be effective at enhancing consumption frequency of 100% orange juice.

Comparing results on advertising awareness between the Millennials and Millennial Parents samples reveals interesting findings. The coefficient estimate on ad awareness for the Millennials group is almost twice as large as the full sample group and statistically significant at less than the 1% level. The computed odds ratio is 1.64 and suggests that Millennials who are aware of FDOC generic advertising are 1.64 times more likely to purchase 100% orange juice more frequently than those that are not aware. The coefficient estimate on ad awareness for the Millennial Parents group is even larger and is nearly three times the size of the full sample estimate, with a computed odds ratio for the Millennial Parents is 2.58. Results imply that while generic advertising is effective in enhancing consumption frequency across the general population, it is even more effective in increasing consumption frequency among Millennials and especially among Millennial Parents.

The coefficient estimate on the recognition of the FDOC logo (as depicted in Figure 2) is not statistically significant in the full sample and suggest that across the broad population, recognizing the FDOC logo does not improve consumption frequency. When looking, however, at the coefficient estimate for the Millennials and Millennial Parents groups, a different result emerges. The coefficient estimate is statistically significant at the 5% level for the Millennials group and for the Millennial Parents groups is statistically significant at the 10% level and is larger in absolute magnitude. Odds ratios suggest that Millennials who recognize the FDOC logo are 1.53 times more likely to consume 100% orange juice more frequently while Millennial Parents are 1.76 times more likely.

Other results of interest include the coefficient estimate on WHITE which is negative and statistically significant across all groups. Interestingly, the absolute magnitude of the estimate increases from the full sample group, to the Millennials group, and to the Millennial Parents group. This implies that minorities are more likely to purchase 100% orange juice more frequently than whites and that this trend holds more strongly amongst Millennials than the general population and even more so amongst Millennial Parents. Married individuals are more likely to purchase orange juice more frequently than unmarried individuals. Similarly, the impact of being married on purchase frequency is higher among Millennials and even higher still for Millennial Parents. The coefficient estimates on AGE18\_39 and AGE40\_59 are both positive and statistically significant at the 1% level. Results here suggest that younger age groups, particularly ages 18 – 39, are much more likely to purchase orange juice on a more frequent basis.

The coefficient estimate on R1BRAND for the full sample, which is an indicator of brand loyalty, is positive and significant at the 1% level with an odds ratio of 1.51, meaning brand loyal users are more likely to buy orange juice more frequently. The same is true of the Millennial group though even more pronounced as the odd ratio rises to 1.72, suggesting that Millennials are even more brand loyal. Interestingly, the coefficient estimate on the brand loyalty variable for the Millennial Parents group is not statistically significant. This suggest a greater potential for generic marketing to be effective on this group as brand loyalty does not appear to be a significant contributor to purchase frequency.

Finally, the coefficient estimate on ECONIMP is consistently negative and statistically significant across the different groups, indicating that the economic environment has made them less likely to purchase orange juice. The odds ratio for the full sample is 0.42 and for Millennial Parents is 0.45, suggesting that Millennial Parents are more adversely affected than the general



population by the economic environment. The odds ratio for the Millennial group is 0.51 which indicates less influence of the economy on purchase frequency for this group. Taken together, it would suggest that having children in the home creates a greater sensitivity to economic conditions.

### **Conclusion**

Broadly, results show that generic advertising by the FDOC are effective in enhancing average purchase frequency of 100% orange juice. Taking the analysis further, two key subgroups of interest from a marketing point-of-view are Millennials and Millennial Parents. Results indicate that awareness of FDOC advertising is more effective among Millennials at increasing the probability of increasing frequency of purchase and that awareness is even more still among the Millennial Parents subgroup. Additionally, the recognition of the FDOC logo maintains a level of brand equity among Millennials and even higher among Millennial Parents. Additionally, Millennial Parents do not seem to be influenced by brand loyalty in their patterns of purchase. Taken together results have key implications for marketing strategy by the FDOC. In particular, results suggest that maintaining a marketing target on Millennial Parents could generate significant returns to investment in the form of enhanced purchase frequency. Moreover, synergies between building awareness of TV advertising as well as recognition of the FDOC logo may result and even greater effectiveness.

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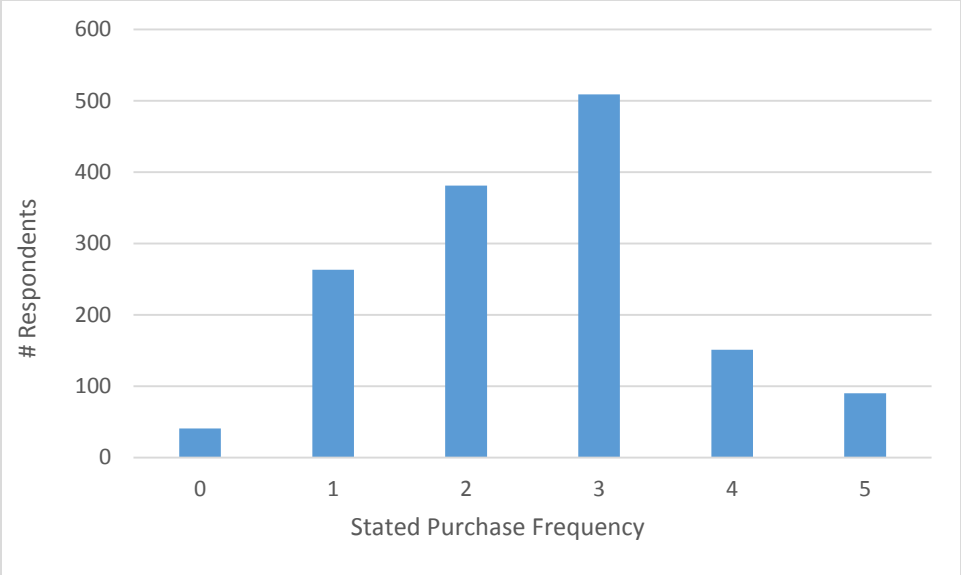


Figure 1. Stated purchase frequency of 100% orange juice



Figure 2. FDOC 100% Florida Orange Juice Logo

Table 1. Generational types in the U.S.

Generation	Born	Age (in 2014)	Population
G.I.	1901-1924	>90	
Silent	1925-1942	72-89	
Boomers	1943-1960	54-71	
Generation X	1961-1976	38-53	
Millennial	1977-2000	14-37	
Homeland	2000-present	<13	

Table 2. Descriptive Statistics (mean and standard deviation)

Variable	Full Sample	Millennials	Millennial Parents
Purchase Frequency	2.513 (1.173)	2.827 (1.234)	2.919 (1.246)
FDOC TV ad awareness	0.543 (0.498)	0.594 (0.492)	0.789 (0.409)
FDOC 100% FL logo	0.765 (0.424)	0.785 (0.411)	0.576 (0.495)
Male	0.486 (0.500)	0.464 (0.499)	0.404 (0.492)
Married	0.638 (0.481)	0.481 (0.500)	0.718 (0.451)
White	0.829 (0.376)	0.733 (0.443)	0.688 (0.464)
High school or less	0.365 (0.482)	0.296 (0.457)	0.305 (0.461)
Age 18-39	0.390 (0.488)	--	--
Age 40-59	0.366 (0.482)	--	--
Age 60+	0.244 (0.430)	--	--
Income \$25k-\$49k	0.300 (0.458)	0.359 (0.480)	0.331 (0.471)
Income \$50k-\$99k	0.472 (0.499)	0.448 (0.498)	0.465 (0.500)
Income \$100k+	0.228 (0.420)	0.193 (0.395)	0.204 (0.404)
Have kids under 18	0.363 (0.481)	0.415 (0.493)	--
Brand top purchase reason	0.127 (0.334)	0.096 (0.295)	0.090 (0.286)
Health top purchase reason	0.176 (0.381)	0.166 (0.372)	0.176 (0.381)
Taste top purchase reason	0.177 (0.382)	0.195 (0.396)	0.180 (0.385)
Economy reduced purchase	0.057 (0.233)	0.081 (0.273)	0.098 (0.298)
Observations	1,515	591	245

Table 3. Ordered Logit Regression Results (standard error in parentheses)<sup>a</sup>

Variable	Full Sample	Millennials	Millennial Parents
Constant	2.910 (0.237)	3.969 (0.329)	4.290 (0.564)
AWARFDOC	0.249** (0.099)	0.497*** (0.160)	0.946*** (0.255)
LOGOFDOC	0.191 (0.117)	0.424** (0.192)	0.567* (0.316)
MALE	0.146 (0.099)	0.283* (0.157)	0.039 (0.249)
MARRIED	0.467*** (0.113)	0.527*** (0.175)	0.542* (0.286)
WHITE	-0.574*** (0.136)	-0.751*** (0.179)	-0.843*** (0.277)
HIGHSCH	0.007 (0.107)	0.006 (0.177)	-0.089 (0.280)
AGE18_39	1.106*** (0.141)	--	--
AGE40_59	0.437*** (0.137)	--	--
INC25_49	-0.031 (0.147)	-0.295 (0.229)	-0.139 (0.367)
INC50_99	-0.066 (0.126)	-0.138 (0.213)	-0.013 (0.340)
KIDS	0.110 (0.114)	-0.011 (0.175)	--
R1BRAND	0.415*** (0.148)	0.541** (0.268)	0.393 (0.412)
R1HEALTH	0.068 (0.134)	-0.205 (0.219)	-0.062 (0.333)
R1TASTE	0.151 (0.135)	0.144 (0.209)	0.196 (0.366)
ECONIMP	-0.866*** (0.222)	-0.676** (0.295)	-0.795* (0.419)
Threshold Parameters			
Mu(1)	2.301 (0.065)	2.345 (0.120)	2.883 (0.205)
Mu(2)	3.602 (0.057)	3.805 (0.093)	4.511 (0.149)
Mu(3)	5.399 (0.073)	5.295 (0.100)	5.938 (0.153)
Mu(4)	6.568 (0.111)	6.380 (0.135)	6.990 (0.199)
Log-Likelihood	-2086.873	-828.322	-335.591
Observations	1400	541	225

\*\*\* denotes significance at the 10% level, \*\* at the 5% level, and \* at the 1% level.

Table 4. Computed Odds Ratios (95% C.I. in parentheses)

Variable	Full Sample	Millennials	Millennial Parents
AWARFDOC	1.28* (1.05, 1.56)	1.64* (1.19, 2.26)	2.58* (1.55, 4.28)
LOGOFDOC	1.21* (0.96, 1.53)	1.53* (1.04, 2.24)	1.76 (0.94, 3.32)
MALE	1.16 (0.95, 1.41)	1.33* (0.97, 1.82)	1.04 (0.63, 1.71)
MARRIED	1.59* (1.27, 2.00)	1.69* (1.19, 2.40)	1.72 (0.97, 3.04)
WHITE	0.56* (0.43, 0.74)	0.47* (0.33, 0.68)	0.43* (0.25, 0.75)
HIGHSCH	1.01 (0.81, 1.25)	1.01 (0.71, 1.43)	0.91 (0.52, 1.60)
AGE18_39	3.02* (2.28, 4.01)	0.74 (0.47, 1.18)	0.87 (0.42, 1.81)
AGE40_59	1.55* (1.18, 2.04)	0.87 (0.57, 1.33)	0.99 (0.50, 1.95)
INC25_49	0.97 (0.72, 1.30)	--	--
INC50_99	0.94 (0.73, 1.20)	--	--
KIDS	1.12 (0.89, 1.40)	0.99 (0.70, 1.40)	--
R1BRAND	1.51* (1.13, 2.04)	1.72* (1.01, 2.93)	1.48 (0.65, 3.38)
R1HEALTH	1.07 (0.82, 1.40)	0.81 (0.53, 1.26)	0.94 (0.48, 1.83)
R1TASTE	1.16 (0.89, 1.52)	1.15* (0.76, 1.75)	1.22 (0.59, 2.53)
ECONIMP	0.42* (0.27, 0.66)	0.51* (0.28, 0.92)	0.45 (0.20, 1.04)
Observations	1400	541	225

\* indicates significantly different from zero with 95% confidence.