



# LOW CALORIE JUICE BEVERAGES – INSIGHTS FROM MARKETING RESEARCH

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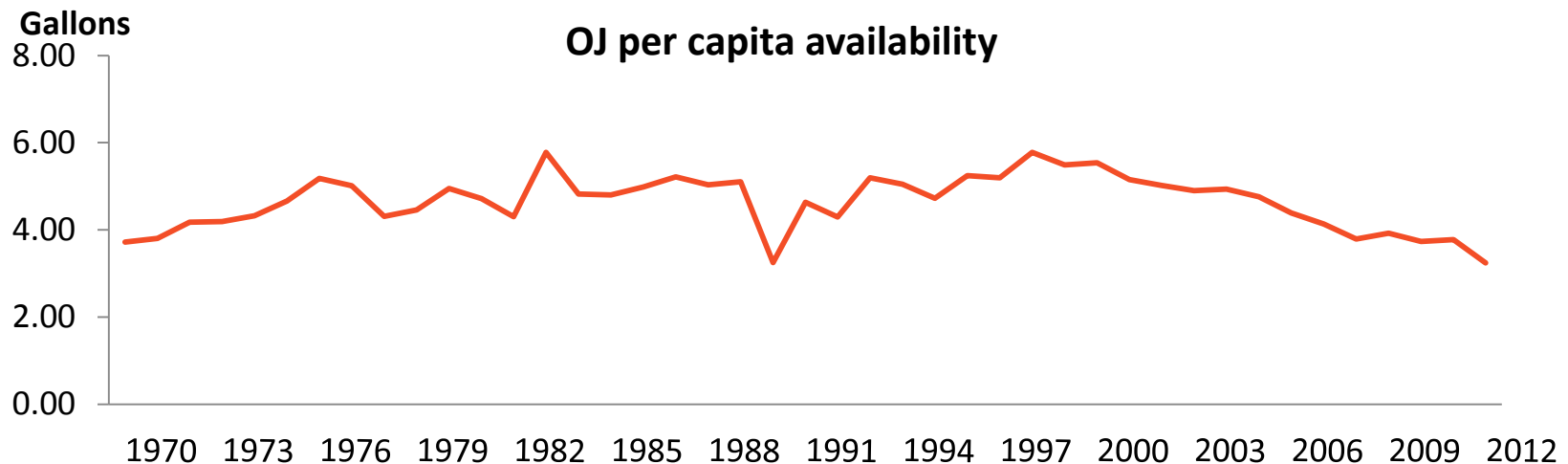
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# Background

- Orange juice (OJ) consumption in the U.S. has gradually decreased
  - ✓ Per capita consumption of OJ was 5.8 gallons in 1998 and was 3.2 gallons in 2012 (USDA-FAS)
- Possible reasons for the decrease in orange juice consumption include:
  - ✓ Increasing prices, decreasing production, decreasing breakfast consumption (Leidy, 2013), increasing concerns about sugar and health (Buffard 2013), increasing fresh fruit consumption, trending reduction of calories, and increasing beverage substitutes



Source: FAS/USDA

# New OJ products

- The citrus beverage industry introduced OJ with reduced sugar and calories, called light orange juice (LOJ) in 2009
- Light OJ contains less than 50% juice mixed with water and sweetener
- Most commercials highlight OJ with 50% less sugar and calories than regular OJ (ROJ)
  - ✓ Information on juice content and sweetener use is on the back of the package
- LOJ may change the image of NFC
  - ✓ What are the impacts of having less than 100% juice added to the NFC category
- Potential impact on orange consumption
  - ✓ If consumers switch from regular orange juice (100%), the product may decrease demand for oranges
  - ✓ If consumers are those that stopped consuming orange juice (due to sugar concerns), it may increase demand for oranges (or slow the decrease of OJ consumption)

# Research purpose

- To identify consumer awareness and knowledge of NFC orange juice, including reduced calorie juice
- To identify attributes influencing consumer orange juice purchases
- To understanding the effect of less than 100% NFC orange juice on orange juice consumption

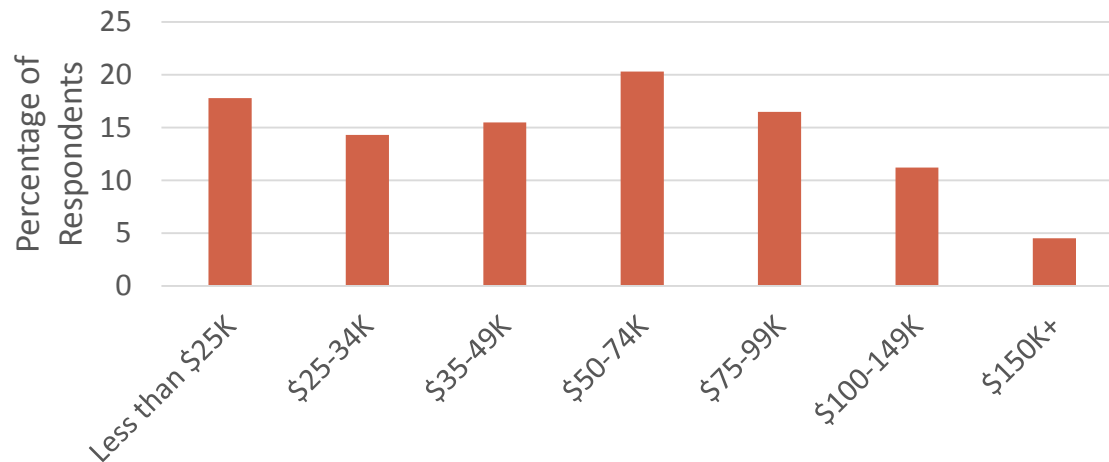
# Methods

- Online survey conducted in October, 2015
  - ✓ Collected information on participants' eating behaviors, attitudes about sugar and orange juice, and knowledge about sugar and calories in orange juice
  - ✓ Choice experiment to learn about how consumers select between OJ types
  - ✓ 2,896 observations
  - ✓ Used nationally representative panel with data quality control procedures



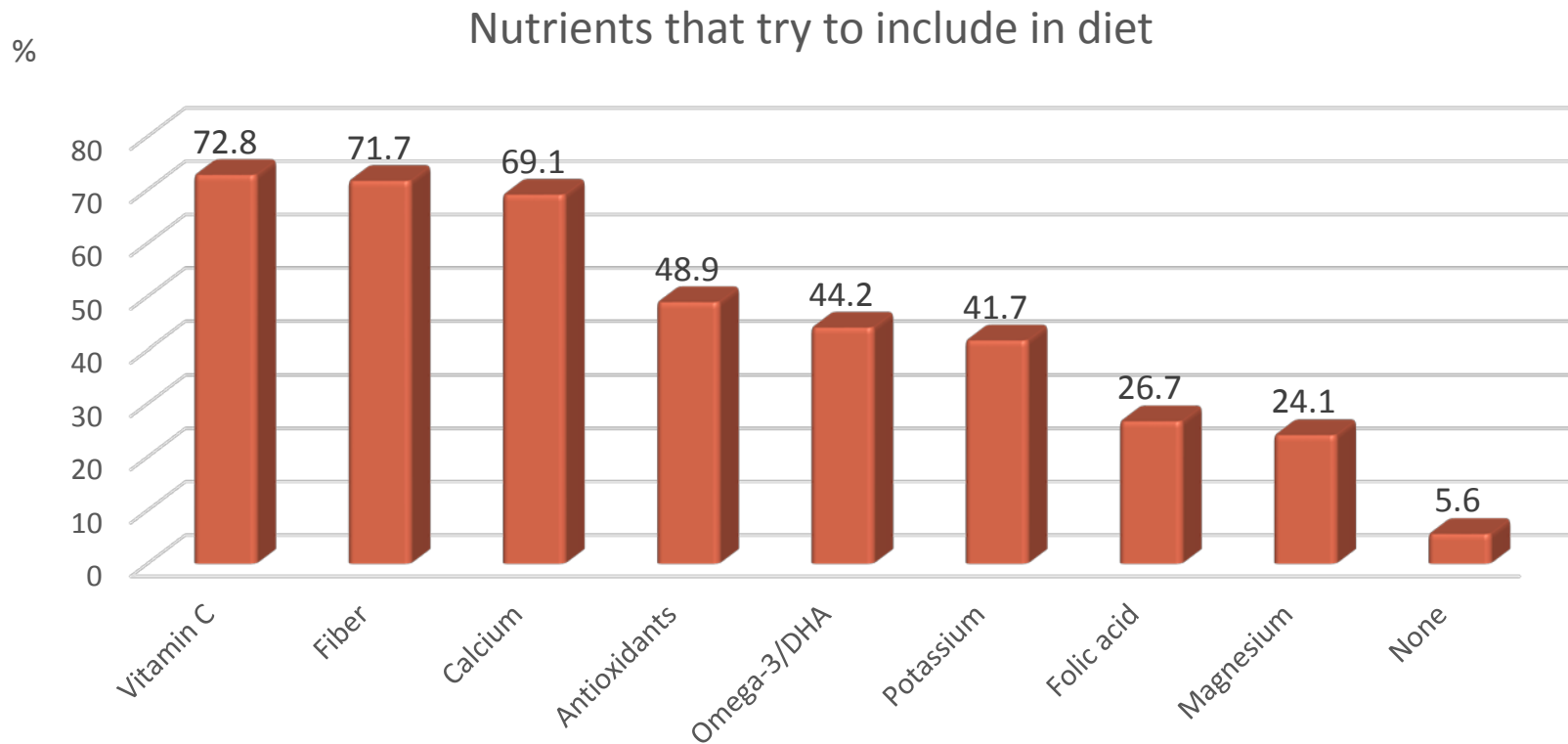
# Demographics

- 82% female respondents (primary grocery shoppers)
- Education
  - 37% High school degree or less
  - 38% some college
  - 25% College degree or more
- Race/ethnicity
  - 5% Hispanic respondents
  - 90% White respondents
- Income



# Attitudes toward nutrition

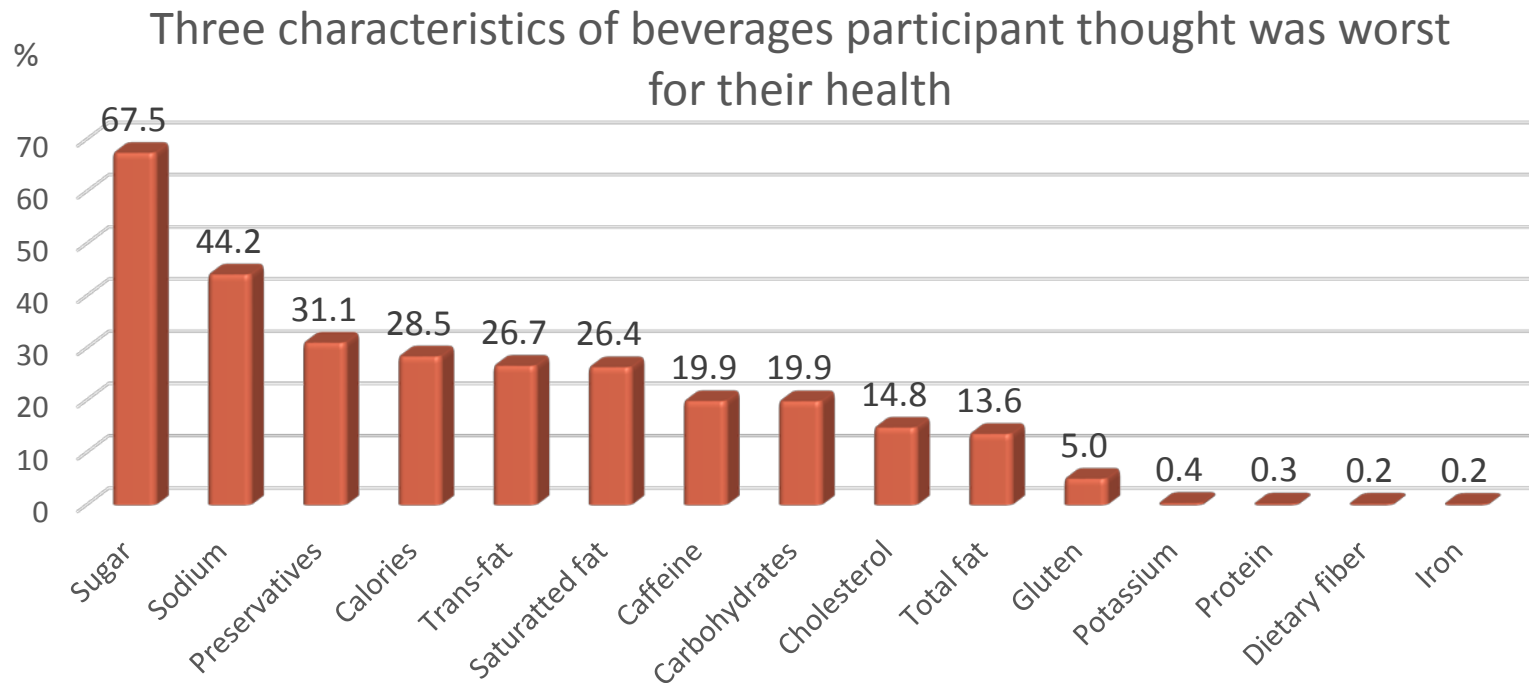
- Vitamin C was selected as the top item that most participants try to include in their diet followed by fiber and calcium (beverages not specified)





# Attitudes toward beverages

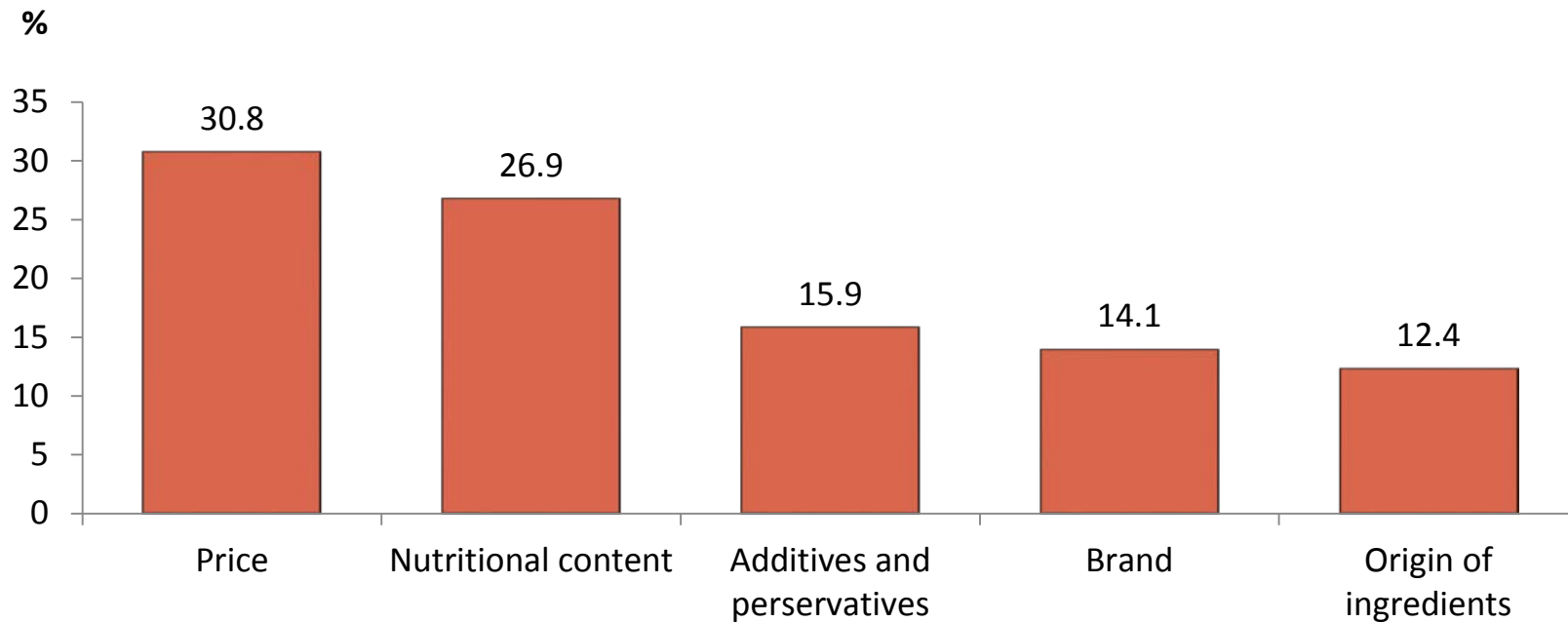
- Over 67% of participants selected sugar as one of top three worst characteristics of beverage for their health followed by sodium and preservatives



# Beverage purchase patterns

- Nutritional content and price are relatively important when purchasing beverages

**Important factors when purchasing beverages  
(Percent choose top factor)**



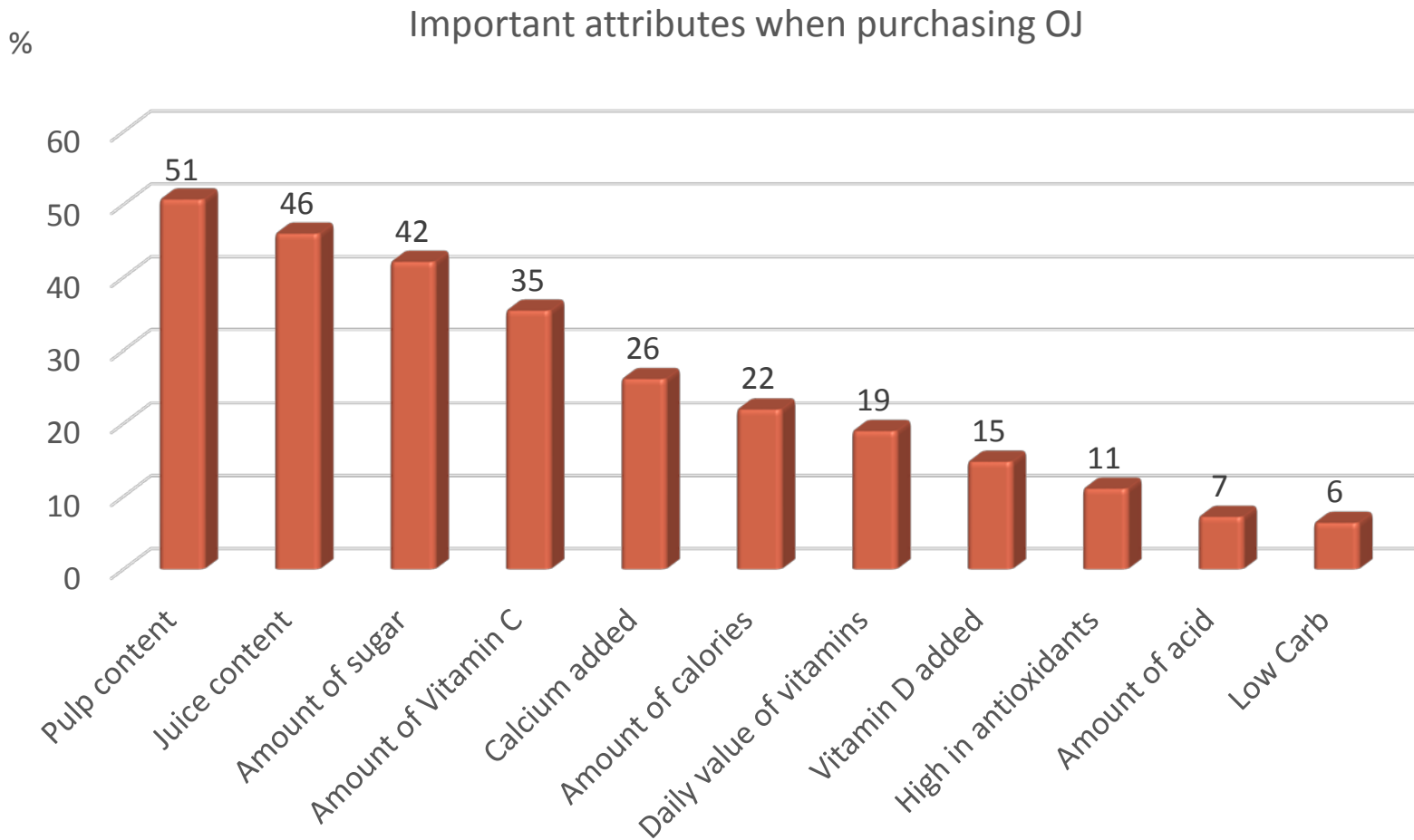
# OJ purchase patterns

- Approximately 80% of participants indicated that they purchased 100% orange juice in the past six months
  - Compares to 72% reporting consumption of soft drinks
- Over 25% indicated they had tried reduced sugar OJ in the past six months
  - Compares to 52% reporting consumption of diet soft drinks
  - (43% of participants indicated that they have tried a reduced calorie and sugar orange juice)

	In the past six months	In the past two years	More than two years ago	I have never purchased this beverage	Total
100% Orange juice	79.8	12.4	4.6	3.2	100.0
Reduced sugar orange juice	27.5	16.3	9.1	47.1	100.0
Orange juice (less than 100%)	44.9	20.4	12.4	22.3	100.0
100% apple juice	59.3	20.7	11.5	8.5	100.0
Regular calorie soft drinks	72.4	9.3	8.7	9.7	100.0
Low calorie or diet soft drinks	52.1	11.5	10.5	25.9	100.0

# OJ purchase patterns

- Amount of sugar was one the most important factors when purchasing OJ



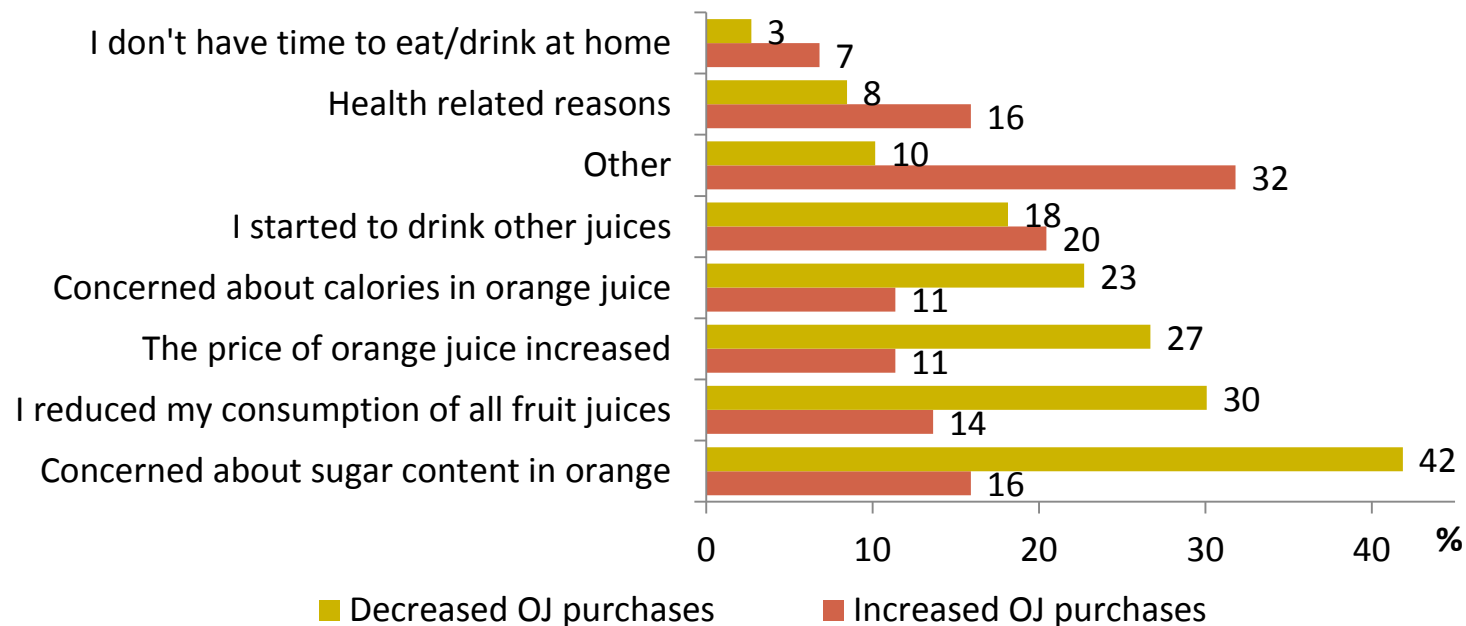
# OJ purchase patterns

- 42% of participants indicated they have changed OJ purchase patterns

I purchase orange juice...	Percent
In about the same quantity I always have	57.0
But not as much as I used to	24.7
In the past, but now I rarely do	13.4
In the past, but now I never do	2.6
I didn't purchase orange juice in the past, but now I do	1.5
I have never purchased orange juice	0.8

# Reasons for changes in consumption

- Reasons for decreases:
  - The major reason was concern about sugar
  - 30% indicated that they reduced consumption of all fruit juices
  - Other reasons include change in family, reduced budget, and acidity
- Reasons for increases:
  - Major reason was to get vitamins





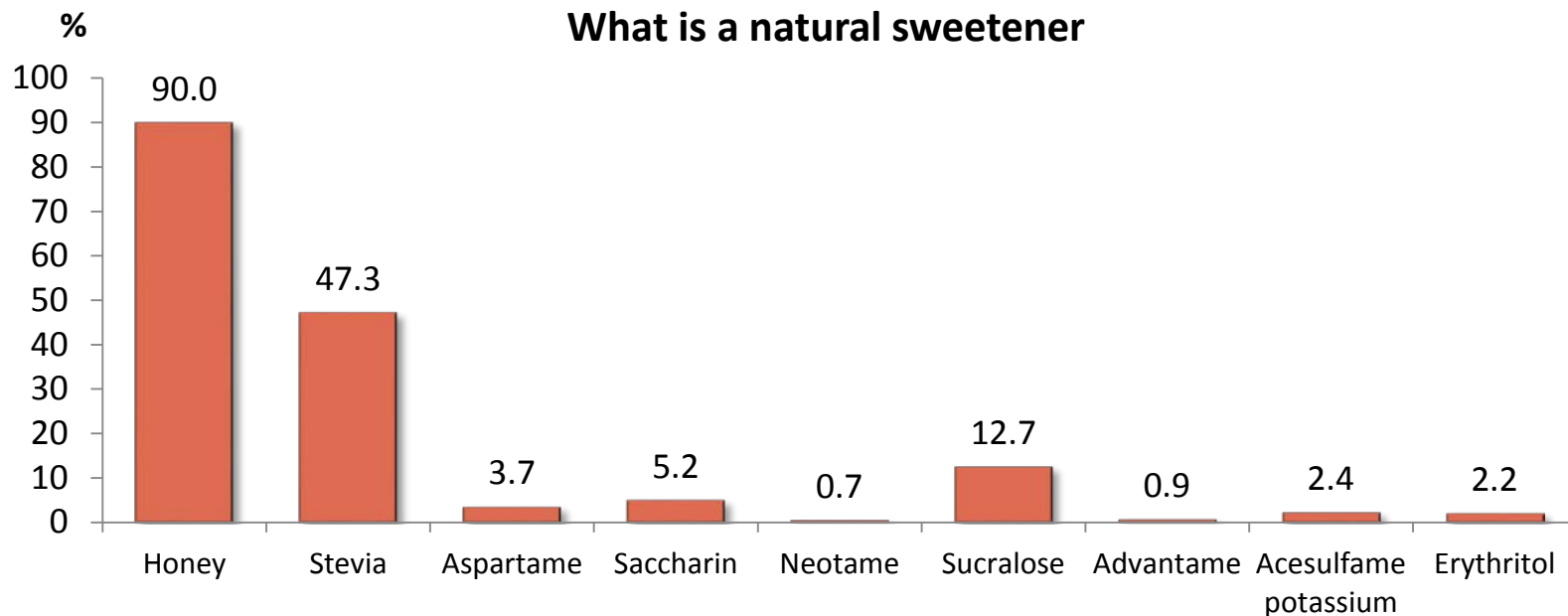
# Attitudes toward sugar

- The majority of participants indicated negative attitudes toward sugar and added sugar
- The majority of participants indicated a significant difference between natural sugar and added sugar
- Approximately 60% participants indicated that NFP provides added sugar information (prior to it providing that information)
- A quarter of participants agreed that natural sweeteners are better than natural sugar

Statements	%
Sugar-sweetened beverages contribute significantly to rates of diseases such as obesity and diabetes	79.7
Added sugars in foods represent a significant health concern to consumers	79.2
There is a significant difference between natural sugar in food and added sugar	75.9
Sugar in 100% fruit juice is different from sugar in sugar-sweetened beverages	59.2
The Nutrition Facts panel shows the amount of added sugar in the product	58.8
Consumers have no way of knowing how much sugar they are getting in their food	28.0
Natural sweeteners are better for you than natural sugar	25.0
Natural sweeteners are okay for adults, but should not be given to children	17.4

# Knowledge about sweetener

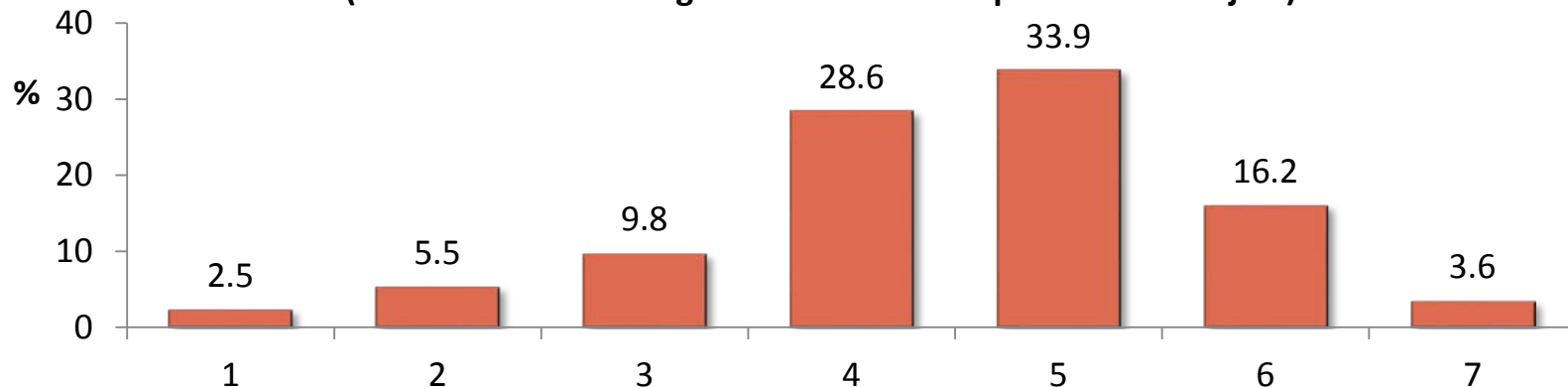
- 62.6% of participants indicated that they are familiar with Stevia
  - 30.2% of participants indicated that they have purchased Stevia
- Only 6.6% of participants indicated that they are familiar with the artificial sweetener called Acesulfame Potassium
- Nine out of ten participants selected honey as a natural sweetener
- 47.3% of participants selected Stevia as a natural sweetener
- Approximately 51.5% participants indicated that they were aware that light orange juice beverages contain sweeteners



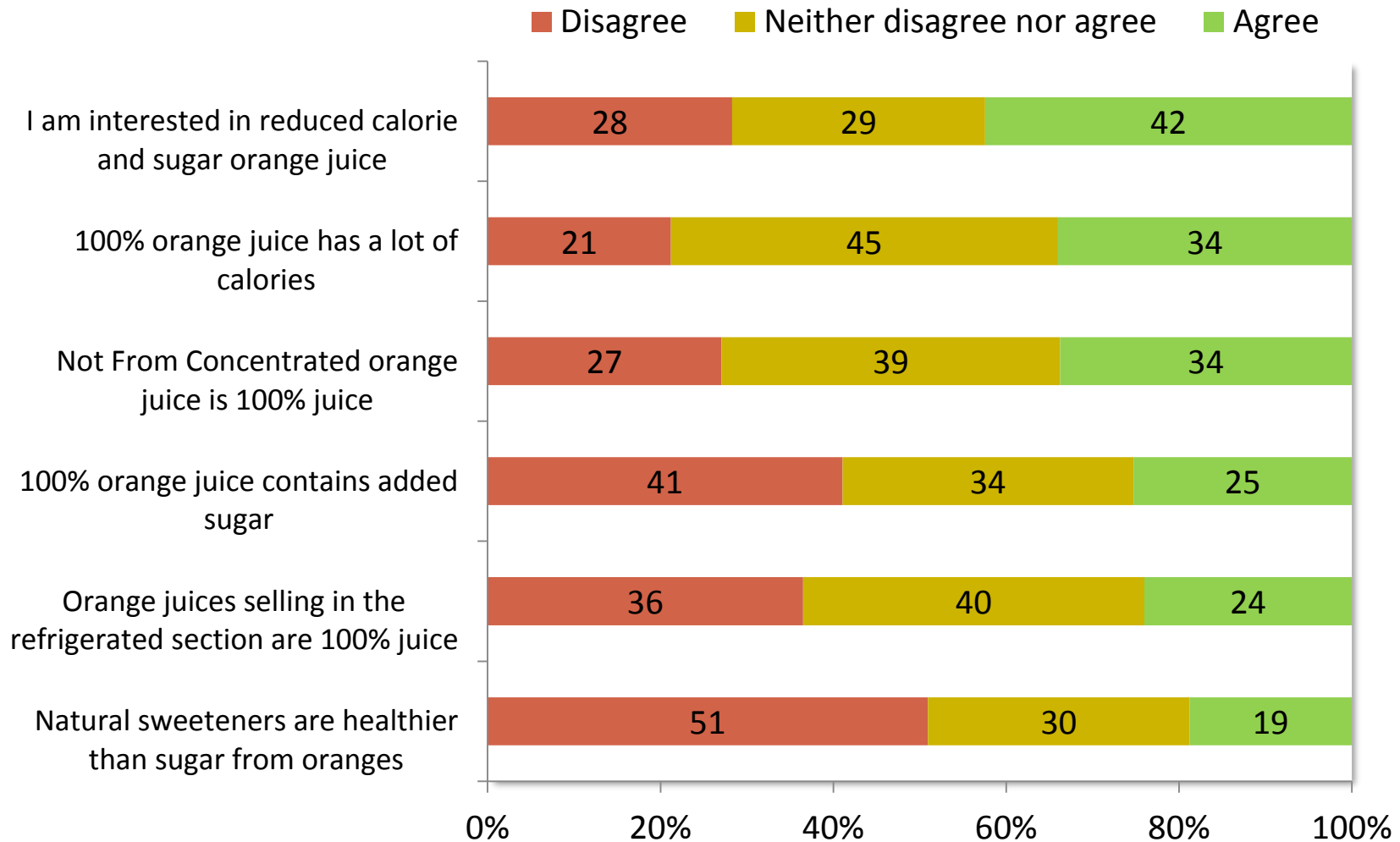
# Knowledge of calories and sugar

- We informed participants of the amount of calories sugar in regular soft drink and asked what they thought OJ had as a comparison,
  - ✓ 23.5% (15.8%) of participants indicated that OJ has at least equal amount of calories (sugars) or more calories (sugars) than regular soft drink
  - ✓ On average, participants believe that orange juice (12 ounces) contains 111 calories and 27 grams of sugar (actual amounts 165 calories, 33 grams sugar)
  - ✓ However, over half of the participants evaluated their knowledge about sugar and calories in beverages at least above average

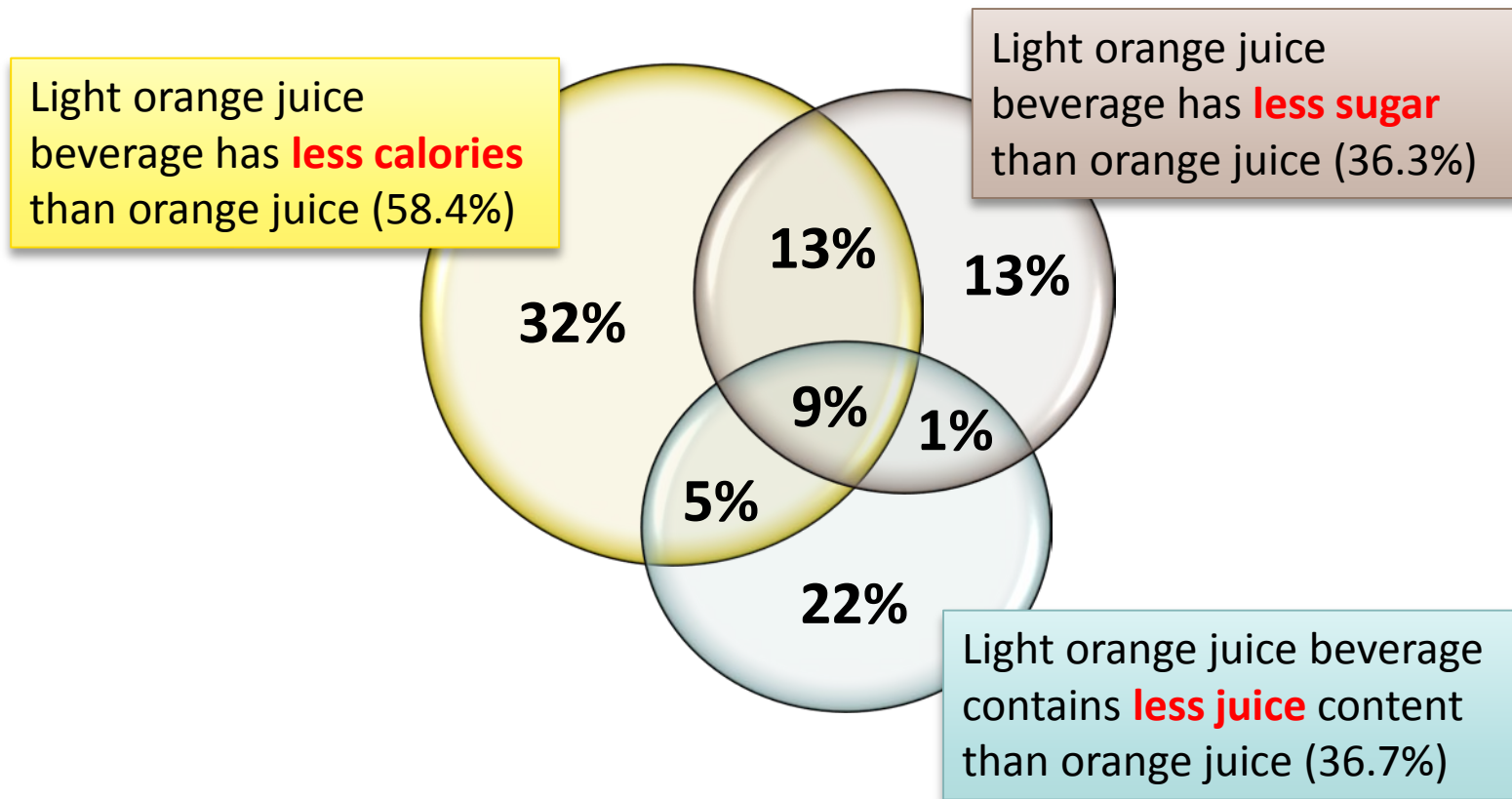
**Subjective knowledge about sugar and calories in beverages**  
(1: Not at all knowledgeable and 7 is an expert on the subject)



# Attitude toward OJ



# Perception about light OJ





# Example of choice experiments

In the following section, please suppose you're at a supermarket to purchase not-from-concentrated (NFC) orange juice (a half gallon (59 fl. oz.)) from the refrigerated section. Please assume all types of juice have the pulp content you prefer. You will see a list of orange juices with different combinations of price, origin and sweeteners. Please select the one that you would be most likely purchase. If you don't want to purchase any of the products, please select "I would not purchase either product".



LIGHT ORANGE JUICE BEVERAGE
\$ 2.99
From Florida
Naturally sweetened

ORANGE JUICE
\$ 4.99
From Florida

I wouldn't  
purchase  
either  
product



# Information treatments

	Descriptions
Control	No description, just identified as orange juice and light orange juice beverage
Calories (numeric)	Regular “orange juice” has 110 calories per serving, while the “light orange juice” beverage has 55 calories per serving.
Juice contents	Regular “orange juice” has 100% juice content, while the “light orange juice” beverage has 42% juice content
Half calories	The “light orange juice” beverage has half the calories in comparison to regular "orange juice".
Half sugar	The “light orange juice” beverage has half the sugar that regular "orange juice" has.
Half sugar and calories	The “light orange juice” beverage has half the calories and sugar in comparison to regular "orange juice".

# Impact of information on market share

- In most cases, 16-20% indicate they did not want to purchase either product; about 60% wanted to purchase ROJ, and 17-25% wanted to purchase LOJ
- The one difference was the group that learned about juice content
  - In this case, 81% wanted ROJ, only 7.5% wanted LOJ, and only 11.4% did not want to purchase
- Keep in mind, our participants were focused on two choices: ROJ or LOJ and in the market, there are many choices (not 50% ROJ and 50% LOJ on the shelves)

	Sample size	Average % select no purchase	Average % select ROJ	Average % select LOJ
Control	485	20.3	78.5	21.5
Calories (numeric)	478	18.8	70.0	30.0
Half calories	480	18.2	72.7	27.3
Half sugar	484	16.1	68.3	31.7
Half sugar and calories	480	17.5	69.3	30.7
Juice content	489	<b>11.4</b>	<b>91.5</b>	<b>8.5</b>

# Importance of attributes

- Of the three attributes, over 70% participants indicated that they considered 'sweetener' when choosing orange juice in the experiments followed by price (52%) and origin (36%)
- The information treatments don't impact this with the exception of price becoming less important in the juice content treatment

	Price	Sweetener	Origin
Control	53.0	71.3	38.8
Calories (numeric)	56.7	71.1	34.7
<b>Juice content</b>	<b>44.0</b>	<b>69.3</b>	<b>32.9</b>
Half calories	55.6	72.7	31.9
Half sugar	53.7	70.7	39.9
Half sugar and calories	50.6	69.4	35.6
<b>Total</b>	<b>52.2</b>	<b>70.8</b>	<b>35.6</b>
Chi-square test	20.5**	1.9	10.6

# Conclusions

- Consumers feel strongly about 100% juice content
- Light orange juice beverage consumers are attracted almost equally between reduction in calories and/or sugar
  - ✓ Though they associate LOJ more with lower calories than lower sugar
  - ✓ Only about 1/3 associate LOJ with <100% juice
- If known, the type of sweetener is important to consumers
- Sugar content is an issue for many consumers
  - ✓ There is confusion about added versus natural sugars
- Vitamin C is still important to consumers



