

**Parental Perceptions of the Effect of Beverage Consumption  
Related to Obesity and Dental Caries**

BY

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THESIS

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## Dedication

This thesis is dedicated to my sister, Kristen, through whom I discovered the wonderful profession of pediatric dentistry.

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## LIST OF ABBREVIATIONS

AAPD	American Academy of Pediatric Dentistry
ADA	American Dental Association
CDC	Centers for Disease Control and Prevention
FFQ	Food-frequency Questionnaires
IRB	Institutional Review Board
PG	Postgraduate
SSBs	Sugar Sweetened Beverages
UG	Undergraduate
UIC COD	University of Illinois at Chicago, College of Dentistry
US	United States
VS	Versus
$\chi^2$	Chi Square



## **SUMMARY**

The goal of this study was to determine if relationships exist between demographic groups, frequency of parental beverage consumption, and dietary knowledge and/or perceptions regarding various beverages. We hypothesized that parents with low sugar sweetened beverage (SSB) consumption are more likely than parents with intermediate or high consumption to display correct perceptions regarding the beverages' cariogenicity and impact on weight gain.

Among parents of patients seen at UIC's pre- and post-graduate pediatric dental clinics in Fall 2014, parents with low SSB consumption were no more likely to display correct perceptions than those with intermediate or high consumption. Respondents born in the US, who have greater than a high school education, or completed an English survey identified more sugar-containing beverages correctly. More parents displayed agreement than disagreement with a relationship between 'sugar and dental caries' and 'sugar and weight gain', but demonstrated more uncertainty regarding effects of diluted juice on weight and dental caries.

These findings suggest a need for more family nutritional guidance about the effects of SSBs on caries and weight, for which dental clinics and offices may serve as excellent resources. Additionally, continued research studies that incorporate the topics of obesity and dental caries are needed to allow for collaborative foci on children's overall health.

## **I. INTRODUCTION**

### **1.1 Background Information**

Consumption of sugar-sweetened beverages is related to both weight gain and dental caries. Because parents' behaviors influence the behavior of their children, the perceived effects of dietary choices influence feeding behavior (Couch, 2014; Neumark-Sztainer, 2003). Consequently, it is crucial to determine parental knowledge of the effects of beverage consumption on both weight and dental health. Assessing parental beverage intake patterns and the congruence between current dietary guidelines and parents' knowledge of appropriate beverage consumption recommendations and limits is essential to identify inconsistent information and opportunities for intervention. If major differences exist, further researcher should aim to more effectively tailor methods of nutritional guidance and intervention techniques.

Food-frequency questionnaires (FFQs) have proven to be an acceptable method of evaluating habitual intake of specific foods and beverages, in a more brief and cost-effective way than food diaries (Hedrick, 2012). Utilizing a questionnaire that has proved reliable and valid is useful when investigating potential relationships between beverage consumption, perceptions, and practices.

## 1.2 Purpose of the Study

The purpose of this study was to:

1. Quantify parents' reported intake of various beverages
2. Assess parental perceptions and knowledge regarding the sugar content in various beverages and the recommended intake volumes and patterns of these same beverages
3. Determine if there is a relationship between dietary knowledge/perceptions and select demographic characteristics

## 1.3 Hypotheses

1.  $H_0$ : There is no difference between parents with low SSB consumption and parents with intermediate or high SSB consumption regarding the perceived impact of cariogenic beverages intake in children.

$H_A$ : Parents with low SSB consumption are more likely than parents with intermediate or high SSB consumption to display correct perceptions regarding the relative impact of beverages on cariogenicity in children.

2.  $H_0$ : There is no difference between parents with low SSB consumption and parents with intermediate or high SSB consumption regarding the perceived impact of selected beverage types' effects on weight gain in children.

$H_A$ : Parents with low SSB consumption are more likely than parents with intermediate or high SSB consumption to display accurate perceptions regarding the effects of various beverage types on weight gain in children.

## **2. REVIEW OF THE LITERATURE**

### **2.1 Methods of Review**

A review of the literature was done through the following PubMed searches and MeSH terms: 1) Child, Beverages, Obesity, and Overweight; 2) Child, Beverages, Dental Caries; 3) Adult, Child, Beverages, and Perception 4) Adult, Child, Beverages, Perception, Obesity, and Overweight; 5) Adult, Child, Beverages, Perception, and Dental Caries; and 6) Adult, Diet Surveys/instrumentation, and Beverages. In addition to these searches, a search with keywords “Child”, “Beverages”, and “Parental Modeling” was also conducted. The search terms yielded a total of 179 articles, and relevant related citations were also analyzed. Exclusion criteria limited articles to English and Human studies. After exclusion, 30 total articles were reviewed.

### **2.2 Sugar Sweetened Beverage Consumption**

Sugar sweetened beverages (SSBs) are defined as “liquids that are sweetened with various forms of sugars that add calories. These beverages include, but are not limited to, soda, fruit-ades and fruit drinks, and sports and energy drinks” (Park, 2014). SSBs “are sources of calories but have few, if any, essential nutrients” (Han, 2013; Kit, 2013). However, one study reported that approximately 25% of surveyed adults drink one or more SSBs daily (Kumar, 2014). Several studies have investigated demographic and socioeconomic characteristics of adults who consume SSBs. Individuals who drank two or more SSBs (including fruit drinks and non-diet soda) per day were most likely to be young adults (18-29 years), non-Hispanic black men, with less than a high school education, and among the lowest income category (<\$25,000 per year) (Park 2011).

### 2.3 SSB Consumption in Children

Dietary recommendations for children ages six to 12 years old advise the limitation of sugar sweetened beverage consumption, including 100% fruit juice consumption and soft drinks, to 8-12 ounces per day (AAP 2001, Ludwig 2001). However, recent studies show that many school age children and adolescents consume soft drinks in volumes at or above the recommended daily value (Ogden 2011). The causes of these discrepancies are multi-factorial; children become more independent, are targeted by media promotion, and consume calories in more venues than home and school alone (Karnik, 2012). In addition to outside influences, though, parental diet modeling frequently affects intake patterns (Neumark-Sztainer, 2003; Young, 2004).

### 2.4 Parental Modeling

The influence of a parent's dietary practices has been linked to their children's diet content and habits frequently in the literature. Couch et al (2014) aimed to illustrate the importance of the home food environment (HFE) related to a child's diet and weight. This cohort study collected data from 699 parents regarding parenting style, home food availability, perceptions about feeding practices and food costs, as well as diet quality and weight status of their children. They found that high-calorie beverages were associated with permissive feeding styles, while a child's consumption of fruits and vegetables were more strongly correlated with parental encouragement and limited availability of unhealthy foods (Couch et al 2014).

Another study looked specifically at the effects of paternal dietary modeling. Harris and Ramsey (2014) surveyed 102 African American fathers about their self-reported intake

of fruits, vegetables, and SSBs, as well as the availability of specific foods and beverages in their household and paternal modeling via the Comprehensive Feeding Practices Questionnaire. They found that a child's SSB intake could be predicted by both the beverage availability and father's reported consumption (Harris and Ramsey 2014).

A study in Belgium focused on potential relationships between beverage intake of children (7915) and their parents' (6512) self-report of "family-related factors". The beverages in question were soft drinks, fruit juice, and fruit drinks. The specific factors included, but were not limited to, monitoring, permissiveness, communicating health beliefs, negotiating, rewarding, modeling, availability, and family consumption. It was determined that monitoring, permissiveness, and self-efficacy were only related with intake of soft drinks, while communicating health beliefs was found to be associated with juice and fruit drink consumption. They also found that availability, modeling, and family consumption were most positively associated with the child's intake of the sugary beverages (Van Lippevelde, 2012).

## 2.5 Relationship between SSBs and Obesity

Recent estimates from the CDC state that 69% of adults are overweight or obese, and this is "the third leading risk factor for preventable deaths in the United States" (Ruff, 2014). The prevalence of overweight and obese children has reached epidemic levels worldwide. Over the last 25 years, prevalence rates of obesity in adolescents ages 12 to 19 have doubled, and those in children ages six to 11 have quadrupled (AAPD 2012). Being overweight or obese generates health concerns that continue into adulthood,

which may consist of, but are not limited to, hypertension, diabetes, depression, cancer, and cardiovascular disease (Malik 2006).

An imbalance between caloric intake and caloric utilization is the basis of obesity; however, many risk factors contribute to this discrepancy, including those of genetic, environmental, and behavioral origin. In addition to low levels of physical activity, food sources that are high in sugar consumed in large proportions frequently promote weight gain (Karnik, 2012). Malik, et al's systematic review of SSBs and weight gain showed "[n]ational survey data in the United States have indicated that, over the past 20 [years], concomitant with the increase in rates of overweight and obesity, consumption of carbohydrates, largely in the form of added sugars, has increased" (Malik, 2006).

Specifically, sugar-sweetened beverages (SSBs) have been repeatedly related to obesity, due to inadequate total energy compensation and high sugar content (Malik, 2006). In addition to their sugar content, the low satiety often contributes to a high daily caloric intake of calories, as consumers are typically not reducing the amount of food intake when drinking them. SSBs have been labeled by some as "the greatest single-source contributor to total energy intake" (Ruff, 2014).

A limited degree of evidence has argued otherwise, and was found specifically in a pediatric population. In 2007, Johnson et al utilized a parentally captured diet log of children at ages five and seven years. Fat mass was then recorded at age nine by way of x-ray absorptiometry. Although milk consumption displayed protective effects at a later age, they found no correlation between adiposity at age nine and SSB intake at ages five or seven (Johnson, 2014). The authors acknowledged, however, that their

findings contradicted the majority of available literature on the topic, and perhaps the results were unique due to the specific methodology of the study. Additionally, a meta-analysis published in 2008 acknowledged SSBs as a source of energy that lead to weight gain if consumed in excess (Forshee, 2008).. However, this assessment found a near-zero correlation between consumption of SSBs and BMI in children and adolescents (Forshee, 2008).

## 2.6 Relationship between SSBs and Dental Caries

Along with SSB's link to obesity, a relationship has also been established between sugar sweetened beverage consumption and dental caries. Caries development is multi-factorial, as it requires the presence of both fermentable carbohydrates and oral bacteria, which lead to acid production and demineralization of tooth enamel. Therefore, frequent and prolonged contact of sugary and/or acidic beverages with teeth pose a risk for caries development in children (AAPD 2012). In a four-year, prospective study, Bernabé et al found a positive relationship between SSB intake and DMFT scores in adults. Regardless of various behavioral factors and socio-economic status, those who drank SSBs daily had higher DMFT scores than those who reported no SSB consumption (Bernabé, 2014).

The literature is variable on which beverages have the most detrimental effects and why. For example, one study reported that beginning to consume non-diet soda as early as two years old was related to dental caries between four to seven years old (Marshall, 2003). The same study showed that a low consumption of 100% fruit juice was associated with reduced caries (Marshall, 2003). However, another study found that



consumption of both milk and fruit juices—excluding orange juice—was protective against caries in young African American children (Kolker, 2007). A third study found that patients between the ages of two to six with early childhood caries consistently reported a high level of carbonated soft drinks consumption, whereas the intake of 100% fruit juice displayed a negligible degree of detrimental effects on teeth (Evans, 2013). Despite these differences, however, all of the studies ultimately identified a link between SSBs and dental caries.

## 2.7 Parental Perceptions

In 2014, Bucher and Siegrist surveyed parents and their children about the relative healthiness of soft drinks. They found that children were more likely to perceive fruit-flavored beverages as healthy. Furthermore, they generally found a strong relationship between the responses of the parents and their children (Bucher and Siegrist, 2014). Considering that parental diet modeling influences their children, investigations have been done to find what adults believe to be true regarding the foods and beverages they're consuming. A 2013 study aimed to capture the perceived healthiness of beverages, and this survey found that individuals generally identified sport drinks, fruit drinks and regular soft drinks as “sugary” (Rampersaud, 2013). However, about half of those respondents also categorized diet sodas as “sugary” and only 5% of milk was categorized in this manner, which may suggest a discrepancy in the subjects' interpretation of the term and may be a limitation to the study (Rampersaud, 2013).

Another cross-sectional study measured correlations between SSB intake and knowledge about SSBs (Park, 2013). Their results indicated that there was no

relationship between SSB consumption and knowledge about energy contained in non-diet soda. However, an association was found between SSB consumption and knowledge regarding potential detrimental effects of drinking SSBs. Therefore, they concluded that health education regarding effects of excess energy from SSBs could lead to decreased consumption (Park, 2013).

## 2.8 Limitations to Past Studies

There is a significant amount of information that focuses on SSB consumption patterns with both adults and children, as well as the relationship between parental habits and those of those children. Additionally, the literature often focuses on relating SSBs to weight gain and SSBs to dental caries, but there have been no studies to date that investigate perceptions relating SSBs to both weight gain and dental caries.

### **3. METHODOLOGY**

#### **3.1 Study Site**

The study site selected was the undergraduate and post-graduate Pediatric Dentistry Clinics at the University of Illinois at Chicago College of Dentistry (UIC COD UG & PG Pediatric Dentistry Clinics). The campus is urban and located on multiple public transportation routes in downtown Chicago. Data collection took place from October 29–November 26, 2014, December 8–19, 2014, and January 5–16, 2015. Approval of the study was obtained from the University of Illinois at Chicago Institutional Review Board, protocol #2014-0873 (Appendix C).

#### **3.2 Study Subjects**

The study sample was derived from a convenience sample of parents of patients between and including the ages of six to 12 years seeking dental care at UIC COD UG & PG Pediatric Dentistry Clinics. At least 95% of the patients seen at the UIC Pediatric Clinics are eligible for Medicaid insurance coverage.

#### **3.3 Sample Size**

The targeted maximum sample size was set for 500 parents in order to ensure a feasible recruitment in the study time period, and that an adequate number of individuals for each category of race/ethnicity was appropriately represented. The minimum sample size calculation was determined using EpiTools sample size calculator. The groups used for the contrast were those born in the US compared to those not born in the US. The contrast sought to achieve the difference of one correct

answer improvement between the two mean scores of correctly identified beverages containing sugar. The midpoint (6) of 12 possible correct answers was used for those not born in the US, and compared to 7 (those born in the US), with an estimated variance for both of 2, and alpha of 0.05, and a power of 0.8 (or beta=0.2) with equal sample size and a 2-tailed test. The corresponding generated sample size for both groups was 32, with a total sample size of 64.

### 3.4 Recruitment Process

Individuals bringing their children to the UIC College of Dentistry pediatric department were invited to participate. If they had a child between the ages of 6-12 years old and agreed to take the survey, they were then given both a scripted, verbal description of the survey by the front desk staff upon check in, as well as a printed version on the first page of the survey (Appendix A and B). They were also informed (written and verbally) of anonymity, right to refuse participation, and that choosing to refuse would have no effect on their child's treatment at UIC. All residents and dental assistants were also prepared to give the same verbal description of the survey, if the parents completed the survey once inside the dental clinic.

### 3.5 Inclusion Criteria

Parents/guardians who brought a child 6-12 year old to the UIC pediatric dental clinic, could read and write in English and/or Spanish, and agreed to participate were included.

### 3.6 Exclusion Criteria

Parents or guardians who were not at the UIC Pediatric Dentistry clinic, those who could not read and write in English and/or Spanish, and/or parents who had completed the questionnaire already on another child, as well as incomplete surveys, were excluded.

### 3.7 Survey Tool

The study instrument consisted of a 2-page, 16-item paper survey. Questions aimed to collect information about on general demographics, parents' own reported beverage consumption habits, as well as their perceptions and understanding of various types of beverages and consumption habits (Appendix A & B). A portion of the survey was modified from the Brief Questionnaire to Assess Habitual Beverage Intake (BEVQ-15) created by Hedrick et al (2012). The survey was abbreviated for our study to focus on a) beverages that both parents and their children will most likely be drinking (alcoholic beverages, teas, and coffee were excluded) and b) the frequency of beverage intake.

The participants received the study cover page and the questionnaire in their preferred language of either English or Spanish. The Spanish questionnaire was translated by Dr. Maribel Reyes de Lobos, who is a native Spanish speaker (Appendix B). Dental assistant Lucy Mendez provided back-translation of the questionnaire to English. This translation was compared to the original document to verify its accuracy.

No identifiers or medical information linking to the parent or patient were used in this questionnaire, and minimal risk was posed to all participants and their children. The parents were instructed to return their completed surveys into a labeled box in the clinics' registration area, or return it to the Pediatric Dentistry residents or staff. The

school's address was provided on the survey in the event that parent took the survey away from the clinic and preferred to mail it in. No refusal rate was collected, as to avoid increasing the front desk staff's workload.

### 3.8 Analysis

All collected responses were entered into the IBM SPSS 22.0 Statistics Data Editor (2013) database, on a password-protected computer. Scoring and recoding of variables was recorded (Appendix D). The answers of the abbreviated BEVQ-15 intake questions were recorded for all beverage types and given a rate value, with the lowest being 0 (never or less than 1 time per week) and the highest being 5 (2 or more times per day). The rate values for all items defined as SSBs (juice drink, flavored milk, non-diet soda, and energy drinks) were totaled into a SSB intensity score. Parents were placed into intensity score categories based on SSB consumption defined as Low (0-1 total SSBs), Intermediate (2-4 SSBs), and High as (5-15 SSBs).

Several variables required minor data imputation. A missing age response for a child was given the mean age of 8 years (n=6). A blank response for whether or not the child was seen before was coded as the most common response of "yes" (n=4). Missing information for relationship was recoded as mother (n=3). Any Spanish survey that was missing an answer for the ethnic group response, or reported being born in a Latin-American country, was recorded as Hispanic (n=5). A missing response for the respondent's level of education was coded as the most frequently reported answer choice, high school/GED (n=1).

Several variables were re-coded in order to improve simplicity and aid in data analysis by decreasing categories with small or zero counts per cell. The variable capturing respondents' country of birth was recoded into U.S., Mexico, and Other. Relationships were collapsed into Mom and Other, as well as Mom, Dad, Grandparent, and Other. Race was collapsed into Caucasian, African American, Hispanic, and Other. City of residence was recoded into Chicago and Other.

The analysis was conducted at descriptive and bivariate levels. Bivariate analysis was conducted for continuous and categorical variables. Means, standard deviations, and paired t-tests were conducted for the continuous variables of age and correct response scores. The SPSS cross-table function of chi square was conducted for the descriptive variable of percent correct in order to determine the distributions among parents in the three categories of parental SSB consumption intensity.

For hypothesis one, parents were categorized into groups based on their reported SSB consumption and compared on their responses to questions regarding various beverage sugar content, recommended serving sizes, and effects of diluting juice on their children's teeth. Independent t-tests were conducted on the means of the parents' correct responses. For the questions regarding recommended serving sizes, distributions were compared for correct answer by parental SSB consumption intensity (chi square). Levels of agreement for statements regarding effects on teeth of diluting juice were compared by parental SSB consumption intensity (chi square).

For hypothesis two, the questions regarding various beverages sugar content were utilized, as well as those regarding recommended serving sizes. Additionally, levels of

agreement for statements regarding effects on children's weight of diluting juice were compared by parental SSB consumption intensity (chi square).



## 4. RESULTS

### 4.1 Number of Respondents

Recruitment of subjects took place from October 29-November 26, 2014, December 8-19, 2014, and January 5-16, 2015. At closure of data collection, 214 surveys were obtained without monitoring of a refusal rate. The resulting sample included 214 respondents (subsequently referred to as parents) who were categorized on their self-reported SSB consumption into Low of 64 parents (31.1%), Intermediate of 82 parents (39.8%), and High of 60 parents (29.1%).

### 4.2 Descriptive Data for Respondents

Table I reports demographic characteristics of the respondents categorized by the largest self-identified group, “Mother” (~80% respondents), and all remaining subjects as “Other”. The majority of all respondents’ children were previously seen at UIC COD Pediatric Dentistry Clinic. Additionally, slightly more than half were born outside of the United States; nearly half of those individuals report living in Chicago. Two-thirds identified as Hispanic, with an otherwise equal distribution between Caucasian, African American, and Other. About half reported being born in the United States, while 38% were born in Mexico and 9% were born elsewhere. Approximately 57% of the surveys were completed in English. Nearly half live in Chicago, about 32% live in Cook County, but outside Chicago, and just under 22% reside outside of Cook County. Approximately 22% reported an education of less than high school, and 40% report achieving a high school diploma or GED.

**TABLE I**

**DEMOGRAPHICS OF ALL RESPONDENTS**

	<b>Total</b>	<b>Mother</b>	<b>Other</b>	<b>P-value</b>
<b>Patient Age: Mean (SD)</b>	8.1 (1.9)	8.2 (1.9)	8.0 (1.8)	0.25
<b>Seen Before: N (%)</b>				0.73
Yes	182 (85.0)	147 (85.5)	35 (16.7)	
No	32 (15.0)	25 (14.5)	7 (83.3)	
<b>Relationship: N (%)</b>				<0.01
Mother	172 (80.4)	172 (100)	0 (0)	
Father	39 (18.2)	0 (0.0)	39 (92.9)	
Grandparent	2 (0.9)	0 (0.0)	2 (4.8)	
Other	1 (0.5)	0 (0.0)	1 (2.4)	
<b>Born in US: N (%)</b>				0.082
Yes	97 (45.3)	83 (48.3)	14 (33.3)	
No	117 (54.7)	89 (51.7)	28 (66.7)	
<b>Born: N (%)</b>				0.35
US	97 (52.4)	83 (55.0)	14 (41.2)	
Mexico	71 (38.4)	55 (36.4)	16 (47.1)	
Other	17 (9.2)	13 (8.6)	4 (11.8)	
<b>Live: N (%)</b>				0.47
Chicago	100 (46.9)	82 (48.0)	18 (42.9)	
Cook County	67 (31.5)	55 (32.2)	12 (28.6)	
Other	46 (21.6)	34 (19.9)	12 (28.6)	
<b>Live: N (%)</b>				0.55
Chicago	100 (46.9)	82 (48.0)	18 (42.9)	
Other	113 (53.1)	89 (52.0)	24 (57.1)	
<b>Education: N (%)</b>				0.16
Less than high school	46 (21.5)	31 (18.0)	15 (35.7)	
High school/GED	85 (39.7)	72 (41.9)	13 (31.0)	
Some college/No degree	35 (16.4)	31 (18.0)	4 (9.5)	
Assoc/Vocational degree	18 (8.4)	14 (8.1)	4 (9.5)	
College degree	23 (10.7)	19 (11.0)	4 (9.5)	
Other	7 (3.3)	5 (2.9)	2 (4.8)	
<b>Education: N (%)</b>				0.012
Less than high school	46 (21.5)	31 (18.0)	15 (35.7)	
High school or greater	168 (78.5)	141 (82.0)	27 (64.3)	
<b>Race: N (%)</b>				0.42
Caucasian	23 (10.7)	18 (10.5)	5 (11.9)	
African American	25 (11.7)	20 (11.6)	5 (11.9)	
American Indian	2 (0.9)	2 (1.2)	0 (0.0)	
Asian	10 (4.7)	7 (4.1)	3 (7.1)	
Pacific Islander	0 (0.0)	0 (0.0)	0 (0.0)	
Hispanic	142 (66.4)	116 (67.4)	26 (61.9)	
Other	9 (4.2)	8 (4.7)	1 (2.4)	
I prefer not to answer	3 (1.4)	1 (0.6)	2 (4.8)	
<b>Race: N (%)</b>				0.88
Caucasian	23 (10.7)	18 (10.5)	5 (11.9)	
African American	25 (11.7)	20 (11.63)	5 (11.9)	
Hispanic	142 (66.4)	116 (67.4)	26 (61.9)	
Other	24 (11.2)	18 (10.5)	6 (14.3)	
<b>Race: N (%)</b>				0.50
Hispanic	142 (66.4)	116 (67.4)	26 (61.9)	
Other	72 (33.6)	56 (32.6)	16 (38.1)	

### 4.3 Parent's Self-Reported Beverage Intake Frequency

Table II displays the self-reported intake frequencies of various beverages consumed by parents of children seen at UIC COD Pediatric Dentistry clinics. The most consumed beverages at 2+ times per day were bottled (47%) and tap (21%) water; however approximately half were very low consumers of tap water (48.1%). The least consumed beverages (with over 50% reporting never or less than 1 time per week) were diet soda (83.2%), fat free milk (80.8%), energy drinks (76.2%), flavored milk (61.7%), whole milk (56.1%), and non-diet soda (55.1%).

**TABLE II**

#### PARENT'S SELF-REPORTED BEVERAGE INTAKE FREQUENCY BY TYPE

Type of Beverage	How Often (Mark One)					
	Never or less than 1 time <b>per week</b>	1 time <b>per week</b>	2-3 times <b>per week</b>	4-6 times <b>per week</b>	1 time <b>per day</b>	2 or more times <b>per day</b>
Bottled Water: <b>N (%)</b>	22 (10.3)	15 (7.0)	22 (10.3)	27 (12.6)	26 (12.1)	102 (47)
Tap (sink) Water: <b>N (%)</b>	103 (48.1)	12 (5.6)	25 (11.7)	12 (5.6)	17 (7.9)	45 (21.0)
Natural Water (contains fruit): <b>N (%)</b>	99 (46.3)	50 (23.4)	34 (15.9)	12 (5.6)	10 (4.7)	9 (4.2)
100% Fruit Juice: <b>N (%)</b>	65 (30.4)	41 (19.2)	42 (19.6)	24 (11.2)	19 (8.9)	23 (10.7)
Sweetened Juice Drink (fruitades, lemonade, punch, Sunny Delight): <b>N (%)</b>	97 (45.3)	36 (16.8)	41 (19.2)	14 (6.5)	14 (6.5)	12 (5.6)
Whole Milk (non-flavored): <b>N (%)</b>	120 (56.1)	11 (5.1)	18 (8.4)	14 (6.5)	29 (13.6)	22 (10.3)
Reduced Fat Milk (2%; non-flavored): <b>N (%)</b>	69 (32.2)	14 (6.5)	32 (15.0)	23 (10.7)	41 (19.2)	35 (16.4)
Low Fat/Fat Free Milk (non-flavored) (Skim, 1%, Buttermilk, Soy milk): <b>N (%)</b>	173 (80.8)	10 (4.7)	12 (5.6)	9 (4.2)	9 (4.2)	1 (0.5)
Flavored Milk (Chocolate, Strawberry, etc): <b>N (%)</b>	132 (61.7)	42 (19.6)	23 (10.7)	5 (2.3)	9 (4.2)	3 (1.4)
Non-Diet Soda: <b>N (%)</b>	118 (55.1)	34 (15.9)	40 (18.7)	5 (2.3)	11 (5.1)	6 (2.8)
Diet Soda or Drinks (Crystal Light): <b>N (%)</b>	178 (83.2)	12 (5.6)	12 (5.6)	5 (2.3)	2 (0.9)	5 (2.3)
Energy & Sports Drinks (Red Bull, Rockstar, Gatorade, Powerade): <b>N (%)</b>	163 (76.2)	29 (13.6)	14 (6.5)	5 (2.3)	2 (0.9)	1 (0.5)

#### 4.4 Demographic Data Based on Intensity of SSB Consumption

Table III placed all respondents into categories based on the intensity of their reported SSB consumption and was further organized by demographic information. Three categories were used; Low represents responses of 0-1 total SSB, Intermediate as 2-4 SSB, and High as 5 to 15 SSBs. Forty-two percent of all mothers were placed in the Intermediate category, while approximately the same percent of fathers reported a High SSB consumption. Three-quarters of all parents who were born outside of the US were labeled as Low or Intermediate. Parents who claim residence in Chicago were equally distributed across all three categories. The only variable that displayed statistical significance was parents' education where those who reported less than high school education were more represented in the Low category. The majority of parents who reported either some college/no degree or an associate/vocational degree were labeled as Intermediate. Approximately half of Caucasian parents were placed in the Low category, while the majority of African American parents were categorized as Intermediate or High. Being born in the United States approached statistical significance for a greater representation in the Low group of those reporting not being born in the US.

**TABLE III**  
**DEMOGRAPHICS OF ALL RESPONDENTS BASED ON INTENSITY**  
**OF THEIR REPORTED SSB CONSUMPTION**

	Total	Low	Intermediate	High	P-value
<b>Patient Age: Mean (SD)</b>	8.1 (1.9)	8.2 (1.9)	8.2 (2.0)	7.9 (1.8)	Low vs Int: 0.95 Low vs High: 0.34 Int vs High: 0.36
<b>Seen Before: N (%)</b>					0.087
Yes	182 (85.0)	62 (8.8)	72 (85.7)	48 (77.4)	
No	32 (15.0)	6 (91.2)	12 (14.3)	14 (22.6)	
<b>Relationship: N (%)</b>					0.24
Mother	172 (80.4)	55 (80.9)	72 (85.7)	45 (72.6)	
Father	39 (18.2)	11 (16.2)	11 (13.1)	17 (27.4)	
Grandparent	2 (0.9)	1 (1.5)	1 (1.20)	0 (0.0)	
Other	1 (0.5)	1 (1.5)	0 (0.0)	0 (0.0)	
<b>Relationship: N (%)</b>					0.14
Mother	172 (80.4)	55 (80.9)	72 (85.7)	45 (72.6)	
Other	42 (19.6)	13 (19.1)	12 (14.3)	17 (27.4)	
<b>Born in US: N (%)</b>					0.061
Yes	97 (45.3)	23 (33.8)	41 (48.8)	33 (53.2)	
No	117 (54.7)	45 (66.2)	43 (51.2)	29 (46.8)	
<b>Born: N (%)</b>					0.095
US	97 (52.4)	23 (41.8)	41 (52.6)	33 (63.5)	
Mexico	71 (38.4)	23 (41.8)	31 (39.7)	17 (32.7)	
Other	17 (9.2)	9 (16.4)	6 (7.7)	2 (3.8)	
<b>Live: N (%)</b>					0.26
Chicago	100 (46.9)	33 (48.5)	33 (39.8)	34 (54.8)	
Cook County	67 (31.5)	24 (35.3)	27 (32.5)	16 (25.8)	
Other	46 (21.6)	11 (16.2)	23 (27.7)	12 (19.4)	
<b>Live: N (%)</b>					0.19
Chicago	100 (46.9)	33 (48.5)	33 (39.8)	34 (54.8)	
Other	113 (53.1)	35 (51.5)	50 (60.2)	28 (45.2)	
<b>Education: N (%)</b>					0.30
Less than high school	46 (21.5)	21 (30.9)	12 (14.3)	13 (21.0)	
High school/GED	85 (39.7)	27 (39.7)	33 (39.3)	25 (40.3)	
Some college/No degree	35 (16.4)	7 (10.3)	18 (21.4)	10 (16.1)	
Assoc/Vocational degree	18 (8.4)	5 (7.4)	7 (8.3)	6 (9.7)	
College degree	23 (10.7)	8 (11.8)	10 (11.9)	5 (8.1)	
Other	7 (3.3)	0 (0.0)	4 (4.8)	3 (4.8)	
<b>Education: N (%)</b>					0.046
Less than high school	46 (21.5)	21 (30.9)	12 (14.3)	13 (21.0)	
High school or greater	168 (78.5)	47 (69.1)	72 (85.7)	49 (79.0)	
<b>Race: N (%)</b>					0.14
Caucasian	23 (10.7)	12 (17.6)	6 (7.1)	5 (8.1)	
African American	25 (11.7)	5 (7.4)	10 (11.9)	10 (16.1)	
American Indian	2 (0.9)	0 (0.0)	1 (1.2)	1 (1.6)	
Asian	10 (4.7)	5 (7.4)	1 (1.2)	4 (6.5)	
Pacific Islander	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Hispanic	142 (66.4)	45 (66.2)	61 (72.6)	36 (58.1)	
Other	9 (4.2)	1 (0.5)	3 (3.6)	5 (8.1)	
I prefer not to answer	3 (1.4)	0 (0.0)	2 (2.4)	1 (1.6)	
<b>Race: N (%)</b>					0.087
Caucasian	23 (10.7)	12 (17.6)	6 (7.1)	5 (8.1)	
African American	25 (11.7)	5 (7.4)	10 (11.9)	10 (16.1)	
Hispanic	142 (66.4)	45 (66.2)	61 (72.6)	36 (58.1)	
Other	24 (11.2)	6 (8.8)	7 (8.3)	11 (17.7)	
<b>Race: N (%)</b>					0.18
Hispanic	142 (66.4)	45 (66.2)	61 (72.6)	36 (58.1)	
Other	72 (33.6)	23 (27.8)	23 (27.4)	26 (41.9)	

#### 4.5 Parents' Beverage Consumption Frequency by Intensity of SSB Intake

Table IV displays the percentages of parental selection for each beverage quantity organized by the previously established SSB categorization. Nearly half of all respondents in all categories reported the highest possible option of bottled water consumption of 5 (two or more times per day). The opposite, however, was true for reported tap water consumption, where approximately half of each group reported the lowest possible selection of 0 (never or less than one time per week).

Respondents indicated a relatively low amount of drinking natural water (that contains fruit), but those in the High category displayed a consistently greater percentage than the Low group for the selection options of 3, 4, and 5 (4-6 times per week, 1 time per day, and 2 or more times per day, respectively). Reported intake of 100% fruit juice was variable and inconsistent across categories. However, all Low individuals indicated drinking juice drinks and flavored milk one time per week or less, while those in the High category indicated a consistently greater frequency, with nearly 20% of them drinking juice drinks two or more times per day, and approximately 18% drinking flavored milk at least one time per day.

Whole and fat free milk consumption was reported consistently low across categories. The majority of respondents reported a lower overall consumption of diet sodas compared to non-diet sodas. Finally, only a moderate amount of Intermediate and High respondents consume energy drinks frequently, with about 80% of High and nearly 100% of Intermediate drinking it less than one time per day.

**TABLE IV**

CONTRASTS OF CONSUMPTION OF DIFFERENT BEVERAGES BY PARENTS WHO CONSUME LOW, INTERMEDIATE, AND HIGH LEVELS OF SSBS BY PERCENTAGE

Bev and Freq (%)	Low	Intermediate	High	Bev and Freq (%)	Low	Intermediate	High
Bottled Water 0	16.2	4.8	11.3	Whole Milk 0	67.6	53.6	46.8
Bottled Water 1	8.8	4.8	8.1	Whole Milk 1	5.9	6	3.2
Bottled Water 2	7.4	11.9	11.3	Whole Milk 2	7.4	10.7	6.5
Bottled Water 3	16.2	15.5	4.8	Whole Milk 3	2.9	4.8	12.9
Bottled Water 4	4.4	15.5	16.1	Whole Milk 4	10.3	13.1	17.7
Bottled Water 5	47.1	47.6	48.4	Whole Milk 5	5.9	11.9	12.9
Tap Water 0	44.1	53.6	45.2	Reduced Fat Milk 0	32.4	33.3	30.6
Tap Water 1	5.9	6	4.8	Reduced Fat Milk 1	4.4	10.7	3.2
Tap Water 2	13.2	9.5	12.9	Reduced Fat Milk 2	17.6	15.5	11.3
Tap Water 3	5.9	7.1	3.2	Reduced Fat Milk 3	10.3	10.7	11.3
Tap Water 4	7.4	6	11.3	Reduced Fat Milk 4	19.1	17.9	21
Tap Water 5	23.5	17.9	22.6	Reduced Fat Milk 5	16.2	11.9	22.6
Natural Water 0	50	46.4	41.9	Low/Fat Free Milk 0	82.4	79.8	80.6
Natural Water 1	20.6	28.6	19.4	Low/Fat Free Milk 1	4.4	4.8	4.8
Natural Water 2	17.6	14.3	16.1	Low/Fat Free Milk 2	4.4	7.1	4.8
Natural Water 3	4.4	4.8	8.1	Low/Fat Free Milk 3	4.4	4.8	3.2
Natural Water 4	4.4	1.2	9.7	Low/Fat Free Milk 4	4.4	3.6	4.8
Natural Water 5	2.9	4.8	4.8	Low/Fat Free Milk 5	0	0	1.6
100% Fruit Juice 0	44.1	23.8	24.2	Flavored Milk 0	92.6	59.5	30.6
100% Fruit Juice 1	23.5	20.2	12.9	Flavored Milk 1	7.4	29.8	19.4
100% Fruit Juice 2	19.1	21.4	17.7	Flavored Milk 2	0	9.5	24.2
100% Fruit Juice 3	7.4	15.5	9.7	Flavored Milk 3	0	0	8.1
100% Fruit Juice 4	4.4	6	17.7	Flavored Milk 4	0	1.2	12.9
100% Fruit Juice 5	1.5	13.1	17.7	Flavored Milk 5	0	0	4.8
Juice Drink 0	82.4	36.9	16.1	Non-Diet Soda 0	89.7	45.2	30.6
Juice Drink 1	17.6	22.6	8.1	Non-Diet Soda 1	10.3	17.9	19.4
Juice Drink 2	0	32.1	22.6	Non-Diet Soda 2	0	32.1	21
Juice Drink 3	0	7.1	12.9	Non-Diet Soda 3	0	1.2	6.5
Juice Drink 4	0	1.2	21	Non-Diet Soda 4	0	3.6	12.9
Juice Drink 5	0	0	19.4	Non-Diet Soda 5	0	0	9.7
Energy Drink 0	95.6	73.8	58.1	Diet Soda 0	88.2	88.1	71
Energy Drink 1	4.4	15.5	21	Diet Soda 1	5.9	3.6	8.1
Energy Drink 2	0	9.5	9.7	Diet Soda 2	1.5	7.1	8.1
Energy Drink 3	0	0	8.1	Diet Soda 3	1.5	1.2	4.8
Energy Drink 4	0	1.2	1.6	Diet Soda 4	0	0	3.2
Energy Drink 5	0	0	1.6	Diet Soda 5	2.9	0	4.8

♦Designates a SSB ■ Designates a beverage found to be statistically different across parental categories

#### 4.6 Responses Regarding Beverage Sugar Content by Intensity of SSB Consumption

Low reporters exhibited a marginally greater amount of correct responses when compared to parents categorized as High. The only exception was found with energy drinks, when the High group scored one point greater. However, the scores were consistently higher in the Intermediate group; the Low group only ranked the highest when asked about fat free milk.

**TABLE V**  
CORRECT PARENTAL RESPONSES REGARDING PRESENCE OF SUGAR IN  
VARIOUS BEVERAGES BY INTENSITY OF REPORTED SSB CONSUMPTION

N Correct (%)	Total	Low	Intermediate	High	P-value
	214	64 (31.1)	82 (39.8)	60 (29.1)	
<b>Bottled Water</b>	184 (89.3)	56 (87.5)	78 (95.2)	50 (83.3)	0.068
<b>Tap Water</b>	189 (91.7)	58 (90.6)	75 (91.5)	56 (93.3)	0.85
<b>Natural Water</b>	85 (41.3)	30 (46.9)	32 (39.0)	23 (38.3)	0.55
<b>100% Fruit Juice</b>	140 (68.0)	47 (73.4)	54 (65.9)	39 (65.0)	0.53
<b>Juice Drink</b>	179 (86.9)	52 (81.3)	76 (92.7)	51 (85.0)	0.11
<b>Whole Milk</b>	54 (26.2)	16 (25.0)	23 (28.0)	15 (25.0)	0.89
<b>Reduced Fat Milk</b>	54 (26.2)	16 (25.0)	22 (26.8)	16 (26.7)	0.97
<b>Fat Free Milk</b>	37 (18.0)	14 (21.9)	13 (15.9)	10 (16.7)	0.61
<b>Flavored Milk</b>	153 (74.3)	48 (75.0)	63 (76.8)	42 (70.0)	0.65
<b>Non-Diet Soda</b>	151 (73.3)	45 (70.3)	62 (75.6)	44 (73.3)	0.77
<b>Diet Soda</b>	78 (37.9)	25 (39.1)	31 (37.8)	22 (36.7)	0.96
<b>Energy Drinks</b>	158 (76.7)	46 (71.9)	65 (79.3)	47 (78.3)	0.54



#### 4.7 Responses Regarding Beverage Sugar Content by Demographics

When asked to identify the presence of sugar in each beverage, approximately 10% of all respondents indicated that they believed both tap and bottled water had sugar (Appendix E, Table XIII). However, those with a higher education more frequently correctly identified water as not having sugar; all of the respondents who claimed some college/no degree answered this question correctly. Race had no impact on any variable. Responses for this item were consistently lower than 50% correct.

Across all categories, respondents consistently failed to identify the presence of sugar in all types of milk; approximately 75% of all respondents who were seen before answered incorrectly, and the responses only improved marginally with an increase in education (Appendix E, Table XIV). There was also consistently more agreement with the presence of sugar in flavored milk compared to all other types of milk. However, respondents more often identified sugar in juice drinks than in flavored milk or 100% fruit juice (Appendix E, Table XV).

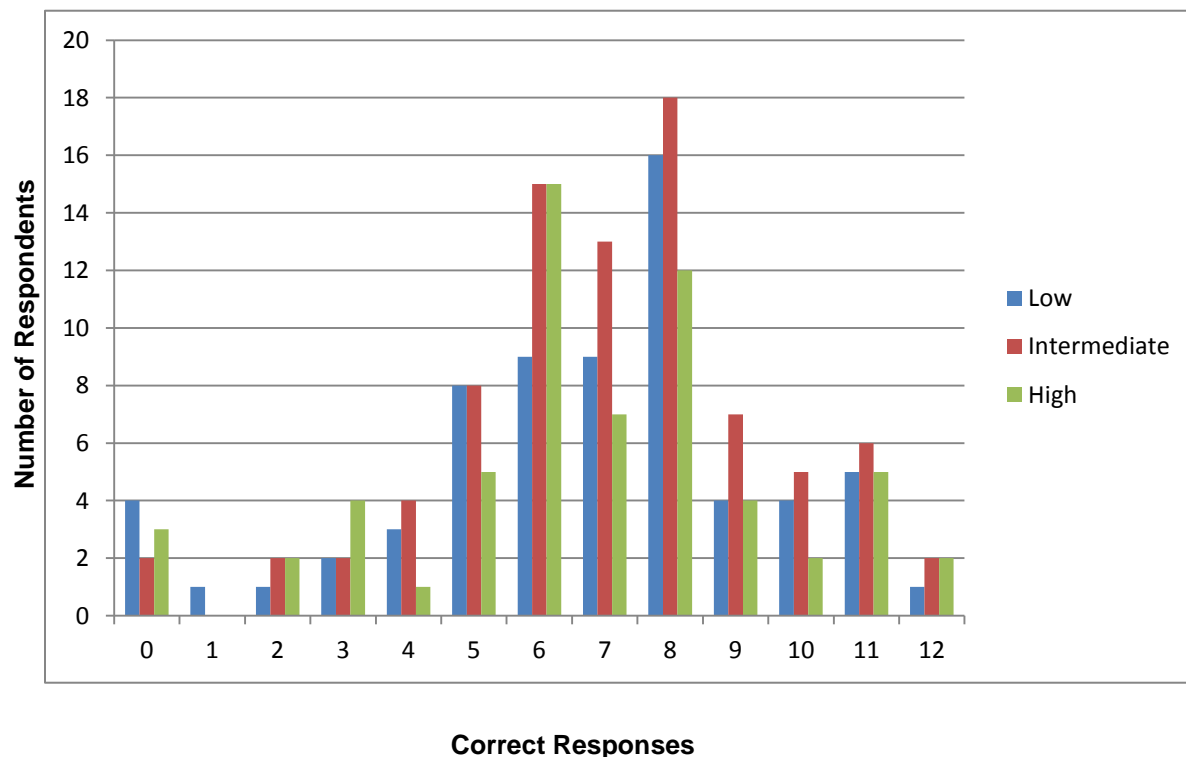
Finally, the majority of all groups correctly identified energy drinks and non-diet sodas as a source of sugar. However, over 50% of all respondents incorrectly reported that diet soda contained sugar, regardless of demographic information (Appendix E, Table XVI).

#### 4.8 Responses Regarding Presence of Sugar in Various Beverages by Intensity of Reported SSB Consumption and by Selected Demographics

In general, individuals who reported an Intermediate level of SSB intake scored at or above those who reported Low or High SSB intake, but scores did not statistically differ by intensity of SSB consumption (Table Via and VIb and Figure 1). There was not a statistical difference on the number of correct responses by being previously seen at UIC (Table Vic). Those who were born in the US, had a high school level of education or greater, and completed a survey in English identified more sugar-containing beverages correctly ( $p < 0.05$ ).

**Figure 1**

NUMBER OF CORRECT RESPONSES REGARDING PRESENCE OF SUGAR IN VARIOUS BEVERAGES BY INTENSITY OF REPORTED SSB CONSUMPTION



**TABLE VIa**

NUMBER OF CORRECT RESPONSES REGARDING PRESENCE OF SUGAR IN  
VARIOUS BEVERAGES BY INTENSITY OF REPORTED SSB CONSUMPTION

	Total	Low	Intermediate	High	P-value
<b>Number</b>		64 (31.1)	82 (39.8)	60 (29.1)	0.98
<b>0</b>	9 (4.2)	4 (1.9)	2 (0.9)	3 (1.4)	
<b>1</b>	1 (0.5)	1 (0.5)	0 (0.0)	0 (0.0)	
<b>2</b>	5 (2.3)	1 (0.5)	2 (0.9)	2 (0.9)	
<b>3</b>	8 (3.7)	2 (0.9)	2 (0.9)	4 (1.9)	
<b>4</b>	9 (4.2)	4 (1.9)	4 (1.9)	1 (0.5)	
<b>5</b>	21 (9.8)	8 (3.7)	8 (3.7)	5 (2.3)	
<b>6</b>	39 (18.2)	9 (4.2)	15 (7.0)	15 (7.0)	
<b>7</b>	29 (13.6)	9 (4.2)	13 (6.1)	7 (3.3)	
<b>8</b>	46 (21.5)	16 (7.5)	18 (8.4)	12 (5.6)	
<b>9</b>	15 (7.0)	4 (1.9)	7 (3.3)	4 (1.9)	
<b>10</b>	11 (5.1)	4 (1.9)	5 (2.3)	2 (0.9)	
<b>11</b>	16 (7.5)	5 (2.3)	6 (2.8)	5 (2.3)	
<b>12</b>	5 (2.3)	1 (0.5)	2 (0.9)	2 (0.9)	

**TABLE VIb**

MEAN NUMBER OF RESPONSES REGARDING PRESENCE OF SUGAR IN  
VARIOUS BEVERAGES BY INTENSITY OF REPORTED SSB CONSUMPTION

	Total	Low	Intermediate	High
<b>Mean (SD)</b>	6.83 (2.67)	6.66 (2.82)	7.07 (2.45)	6.69 (2.79)

*Independent t-test*

*Low vs. Intermediate p=.34*

*Low vs. High p=.95*

*Intermediate vs. High p=.40*

**Table VIc**

MEAN NUMBER OF CORRECT RESPONSES REGARDING PRESENCE OF SUGAR  
IN VARIOUS BEVERAGES BY SELECTED DEMOGRAPHIC INFORMATION OF  
RESPONDENTS

Variable	N (Total=214 )	Mean (SD)	P- value†
<b>Previously seen at UIC</b>			
Yes	182	6.77 (2.73)	.414
No	32	7.19 (2.26)	
<b>Born in the US</b>			
Yes	97	7.35 (2.68)	.009*
No	117	6.40 (2.59)	
<b>Place of Residence</b>			
1 Chicago	100	6.49 (2.74)	1 vs. 2 .109
2 Cook County (other than Chicago)	67	7.16 (2.50)	1 vs. 3 .175
3 Other	46	7.15 (2.69)	2 vs. 3 .981
<b>Caregiver's Education</b>			
Less than high school	46	5.20 (2.95)	<.001*
High school or greater	168	7.28 (2.41)	
<b>Race/Ethnicity</b>			
1 Caucasian	23	7.65 (3.13)	1 vs. 2 .486
2 African American	25	7.12 (2.05)	1 vs. 3 .142
3 Hispanic	142	6.75 (2.67)	2 vs. 3 .506
<b>Preferred Language</b>			
English	121	7.34 (2.51)	.001*
Spanish	93	6.17 (2.73)	

†Independent t-test \*Statistically significant at  $p < .05$

#### 4.9 Responses Regarding Perceived Recommended Maximum Daily Quantity of Juice and Milk Intake for a Child by Intensity of Reported SSB Consumption and Demographics

About half of all respondents selected the smallest option (4-6 oz) for the maximum daily juice quantity, and about 25% selected the medium option (8-12 oz), which was correct based on current guidelines (Table VII). A greater number of individuals indicated that they were not sure than those who selected the largest option (16-20 oz). There were no significant findings across demographic groups (Appendix E, Table XVII). The comparison across SSB consumption groups was relatively consistent, as well; although, a greater proportion of parents in the High category selected the medium option when compared to the other groups. Among the low SSB consumers, 20.3% selected the correct answer, whereas 22.0% for the intermediate and 35.0% for the high correctly responded ( $p=.11$ ).

About half of all respondents selected the smallest option (4-6 oz) for the maximum daily milk quantity, and about 25% selected the middle option (8-12 oz), which was correct based on current guidelines (Table VIII). A greater number of individuals indicated that they were not sure than those who selected the largest option (16-20 oz). There were no significant findings across demographic groups (Appendix E, Table XVIII). The comparison across SSB consumption groups was relatively consistent, as well, with the greatest proportion selecting the smallest quantity, and the lowest number choosing the largest option. Among the low SSB consumers, 20.3% selected the correct answer, whereas 31.7% of the intermediate and 26.7% of the high correctly responded ( $p=.25$ ).

**TABLE VII**

PARENTAL RESPONSES REGARDING PERCEIVED RECOMMENDED MAXIMUM  
DAILY QUANTITY OF JUICE INTAKE FOR A CHILD BY INTENSITY OF REPORTED  
SSB CONSUMPTION: N (TOTAL %)

	4-6 oz:S (Yes)	P-value	8-12 oz: M (Yes)	P-value	16-20 oz: L (Yes)	P-value	Not Sure	P-value
Total	113 (52.8)	<b>0.045</b>	52 (24.3)	0.11	10 (4.7)	0.74	38 (17.8)	0.65
Low	42 (19.6)		13 (6.1)		3 (1.4)		10 (4.7)	
Intermediate	46 (21.5)		18 (8.4)		5 (2.3)		15 (7.0)	
High	25 (11.7)		21 (9.8)		2 (0.9)		13 (6.1)	

Bold: p-value  $\leq 0.05$

**Recommended amount: 8-12 oz (Gidding, 2006)**

**TABLE VIII**

PARENTAL RESPONSES REGARDING PERCEIVED RECOMMENDED MAXIMUM  
DAILY QUANTITY OF MILK INTAKE FOR A CHILD BY INTENSITY OF REPORTED  
SSB CONSUMPTION, N (TOTAL %)

	8-12 oz:S (Yes)	P-value	16-24 oz: M (Yes)	P-value	34-40 oz: L (Yes)	P-value	Not Sure	P-value
Total	109 (50.9)	0.40	55 (25.7)	0.25	13 (6.1)	0.275	35 (16.4)	0.75
Low	39 (18.2)		13 (6.1)		2 (0.9)		13 (6.1)	
Intermediate	39 (18.2)		26 (12.1)		5 (2.3)		13 (6.1)	
High	31 (14.5)		16 (7.5)		6 (2.8)		9 (4.2)	

**Recommended amount: 16-24 oz (Gidding, 2006)**

#### 4.10 Parental Responses Regarding Sugar's Effect on Weight Gain and Dental Caries by Intensity of Reported SSB Consumption and Demographics

Across all categories, parents were more likely to agree than disagree that sugar is related to weight gain and to dental caries (Appendix E, Table XXI and XXII). Parents were more likely to agree with the relationship between sugar and caries than that with sugar and weight gain ( $p < .001$  for testing agree vs. disagree/uncertain). Hispanic respondents were more likely than any other race to disagree with these statements (Appendix E, Tables XiX and XX). Those individuals who indicated they were “not sure” were more likely to also report a High SSB consumption, and had nearly all been seen before at UIC (19 out of 20 were seen before). There was no association between the intensity of self-reported SSB consumption on distributions of agreement or disagreement on sugar relating to weight or caries (Tables IX and X, Figure 2 and 3).

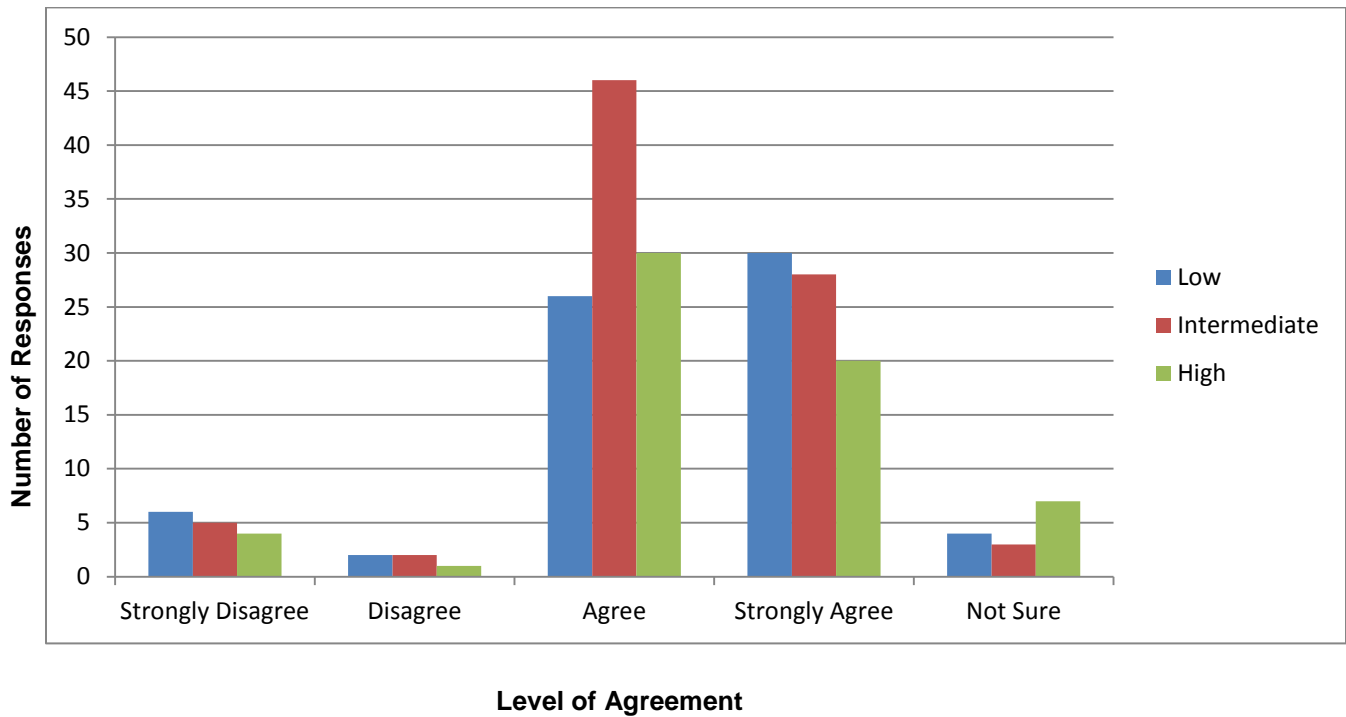
#### 4.11 Parental Responses Regarding Effect of Mixing Water in Juice on Weight Gain by Intensity of Reported SSB Consumption and Demographics

Respondents tended to show more agreement than disagreement that mixing water was better for a child's weight than drinking juice without adding water (Tables XI and XII, and Figures 4 and 5). However, more parents agreed with the statement related to weight than to teeth ( $p < .001$  for testing agree vs. disagree/uncertain). Low SSB consumers were more likely to disagree with this statement than both of the other groups, while a significant number of Intermediate and High consumers strongly agreed with the statement. There was no difference with the SSB consumption groupings in regards to adding water to juice being better for children's teeth. There was an association, however, with High SSB intensity parents being more likely to agree that adding water to juice is better for a child's weight ( $p = .035$ ).

**TABLE IX**  
**PARENTAL RESPONSES REGARDING SUGAR'S EFFECT ON WEIGHT GAIN**  
**BY INTENSITY OF REPORTED SSB CONSUMPTION**

	LOW	INTERMEDIATE	HIGH	TOTAL	p-value
Strongly Disagree	6 (2.8)	5 (2.3)	4 (1.9)	15 (7.0)	0.45
Disagree	2 (0.9)	2 (0.9)	1 (0.5)	5 (2.3)	
Agree	26 (12.1)	46 (21.5)	30 (14.0)	102 (47.7)	
Strongly Agree	30 (14.0)	28 (13.1)	20 (9.3)	78 (36.4)	
Not Sure	4 (1.9)	3 (1.4)	7 (3.3)	14 (6.5)	

**Figure 2**  
**PARENTAL RESPONSES REGARDING SUGAR'S EFFECT ON WEIGHT GAIN**  
**BY INTENSITY OF REPORTED SSB CONSUMPTION**

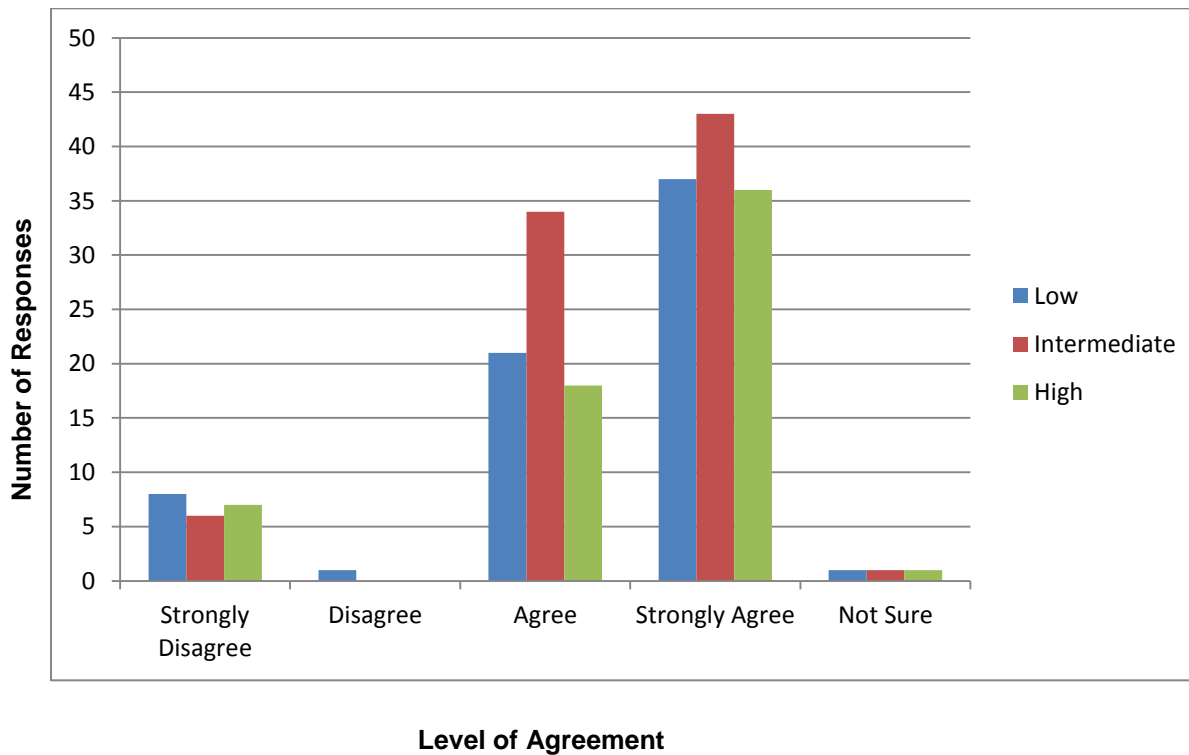


**TABLE X**  
**PARENTAL RESPONSES REGARDING SUGAR'S EFFECT ON DENTAL CARIES**  
**BY INTENSITY OF REPORTED SSB CONSUMPTION**

	LOW	INTERMEDIATE	HIGH	TOTAL	p-value
Strongly Disagree	8 (3.7)	6 (2.8)	7 (3.3)	21 (9.8)	0.74
Disagree	1 (0.5)	0 (0.0)	0 (0.0)	1 (0.5)	
Agree	21 (9.8)	34 (15.9)	18 (8.4)	73 (34.1)	
Strongly Agree	37 (17.3)	43 (20.1)	36 (16.8)	116 (54.2)	
Not Sure	1 (0.5)	1 (0.5)	1 (0.5)	3 (1.4)	

**Figure 3**

**PARENTAL RESPONSES REGARDING SUGAR'S EFFECT ON DENTAL CARIES**  
**BY INTENSITY OF REPORTED SSB CONSUMPTION**





**TABLE XI**

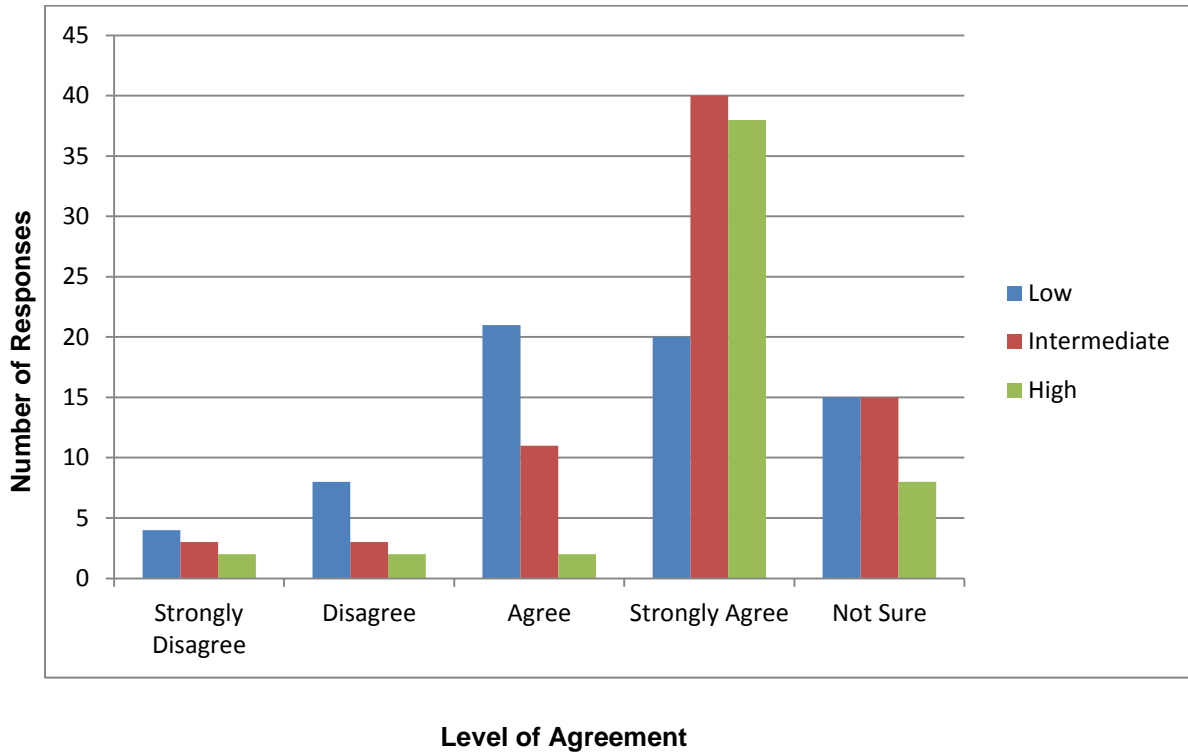
**PARENTAL RESPONSE REGARDING EFFECT OF MIXING WATER IN JUICE ON  
WEIGHT GAIN BY INTENSITY OF REPORTED SSB CONSUMPTION**

	LOW	INTERMEDIATE	HIGH	TOTAL	p-value
Strongly Disagree	4 (1.9)	3 (1.4)	2 (0.9)	9 (4.2)	<b>0.009</b>
Disagree	8 (3.7)	3 (1.4)	2 (0.9)	21 (9.8)	
Agree	21 (9.8)	11 (5.1)	2 (0.9)	99 (46.3)	
Strongly Agree	20 (9.3)	40 (18.7)	38 (17.8)	47 (22.0)	
Not Sure	15 (7.0)	15 (7.0)	8(3.7)	38 (17.8)	

Bold: p-value  $\leq 0.05$

**Figure 4**

**PARENTAL RESPONSE REGARDING EFFECT OF MIXING WATER IN JUICE ON  
WEIGHT GAIN BY INTENSITY OF REPORTED SSB CONSUMPTION**



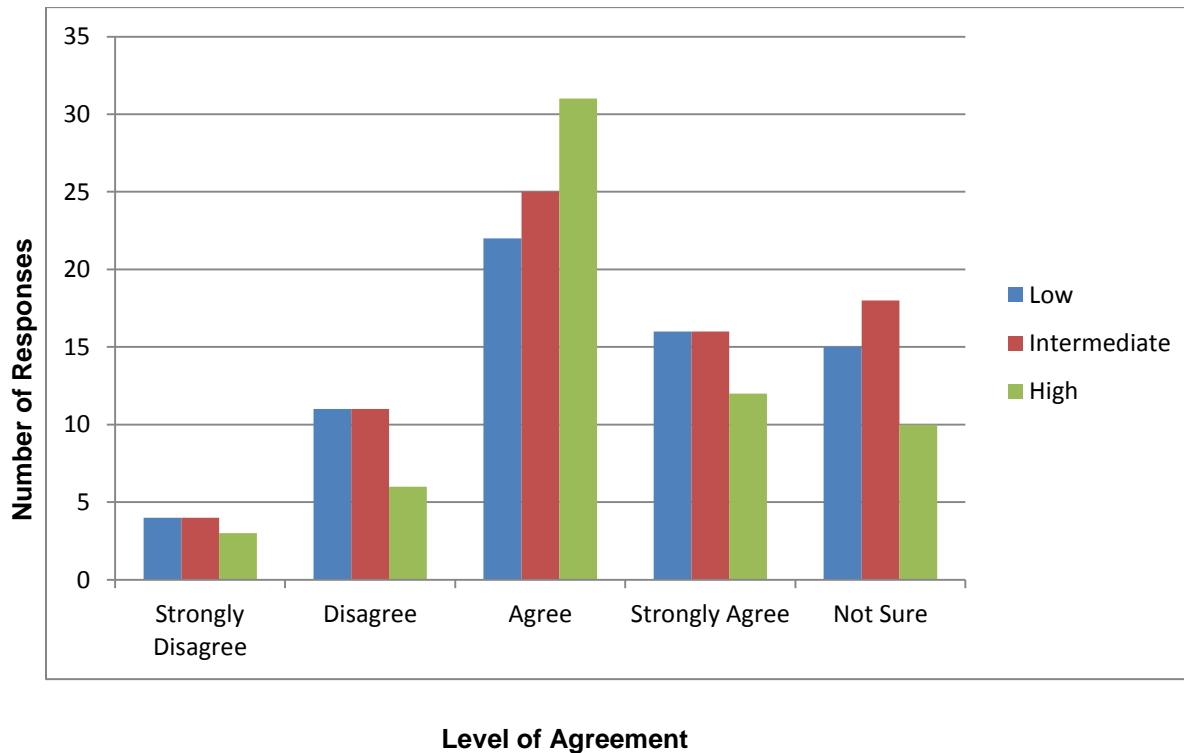
**TABLE XII**

**PARENTAL RESPONSE REGARDING EFFECT OF MIXING WATER IN JUICE ON  
DENTAL CARIES BY INTENSITY OF REPORTED SSB CONSUMPTION**

	LOW	INTERMEDIATE	HIGH	TOTAL	p-value
Strongly Disagree	4 (1.9)	4 (1.9)	3 (1.4)	11 (5.1)	0.79
Disagree	11 (5.1)	11 (5.1)	6 (2.8)	28 (13.1)	
Agree	22 (10.3)	25 (16.4)	31 (14.6)	88 (41.1)	
Strongly Agree	16 (7.5)	16 (7.5)	12 (5.6)	44 (20.6)	
Not Sure	15 (7.0)	18 (8.4)	10 (4.7)	43 (20.1)	

**Figure 5**

**PARENTAL RESPONSE REGARDING EFFECT OF MIXING WATER IN JUICE ON  
DENTAL CARIES BY INTENSITY OF REPORTED SSB CONSUMPTION**



## 5. Discussion

### 5.1 Summary of Findings

The results of this study indicate that, in general, there are no statistically significant relationships among the intensity of parents' self-reported SSB consumption behavior and the three major focus areas: correctly identifying sugar-containing beverages, application of portion size for juice and milk, and relationships between sugar and weight gain and dental caries in children. The study showed that there is significant confusion amongst parents regarding sugar content, portion size, and dietary practices related to beverage intake.

The sample of this study consisted of three-fourths having an education level of high school or greater. Two-thirds of our respondents identified themselves as Hispanic, and over half were not born in the United States. We found that parents born in the United States, have greater than a high school education, and/or completed an English survey identified more sugar-containing beverages correctly. However, those who had been seen previously at UIC did not identify these beverages differently than those who were new patients. This observation is discouraging because those who had been seen have received diet counseling at previous visits, and appear not to retain that information.

In our study parents showed difficulty identifying the presence of sugar in beverages. A study completed in Mississippi with primarily African American adults of a wide age range looked into a relationship between health literacy and SSB consumption by scoring individuals on their ability to answer questions after viewing a nutrition information label (Rampersaud, 2014). This study found that individuals with a higher health literacy score consumed less kilocalories of SSBs when compared to those with

lower score (Rampersaud, 2014). Another study suggested that people may benefit in terms of beverage consumption if they are better able to read and interpret nutritional information. This was not explored in our study, but the relationship between reading labels and understanding the sugar content of beverages would be worth future exploration.

Nearly half of all respondents indicated that they consume bottled water two or more times per day. However, approximately the same amount reported drinking tap water less than one time per week or not at all. This report is concerning due to the loss of the added dental benefits of fluoridated tap water. Oral healthcare professionals are trained to encourage the consumption of optimally fluoridated tap water; however, due to concerns such as taste and safety of non-bottled water, many individuals are still utilizing it in low quantities (Hobson, 2007; Williams, 2001).

The parents had challenges with recognizing beverages with and without sugar. A surprising finding was that approximately 10% of parents indicated a presence of sugar in either bottled or tap water. An explanation for these findings was not found in the literature. This study's respondents also frequently failed to identify the presence of sugar in all types of milk besides flavored milk. Perhaps the parents only consider added sugar when thinking of sugar in beverages, rather than thinking of those that have naturally occurring sugar. Also, over half believed that diet soda contains sugar. This response could potentially be related to the "sugary" taste of artificial sweeteners in diet beverages. The misclassification has been identified similarly by others. A study done by Rampersaud reported that half of their participants identified diet soft drinks as "sugary", while only 5% deemed milk as "sugary" (Rampersaud, 2014).

When asked about recommended serving sizes for milk and juice, parents were most likely to choose the smallest possibility. Although the “Medium” options were closest to the ideal daily values for both beverages (Gidding, 2006), perhaps it is promising to see that most people sense that a lower amount is recommended for their children, especially regarding consumption of juice. Nevertheless, it is concerning that the milk recommendations were under-estimated by so many parents selecting a small quantity. More parents displayed agreement than disagreement with a relationship between ‘sugar and dental caries’ and ‘sugar and weight gain’. However, parents displayed more uncertainty regarding the effects of diluted juice on weight and teeth by comparison. These questions could have raised some confusion amongst respondents. From a caloric standpoint, diluting juice may be beneficial. However, the literature shows a very limited dental benefit to diluting beverages, as the levels of acidity are minimally affected by the added water. Therefore, consumers are not likely to be drinking these beverages at effectively “safe” dilution levels (Cairns, 2002).

These findings suggest a need for more family nutritional guidance about the effects of SSBs on caries and weight, for which dental clinics and offices may serve as excellent resources. There is currently a major focus in the literature regarding policy development related to SSBs’ effect on weight, such as soda taxation and school vending machines. Continued inter-professional research studies that incorporate both topics obesity and dental caries are needed to allow for collaborative foci on children’s overall health.

## 5.2 Limitations and Strengths of the Study

During the months of data collection, UIC was in the process of changes regarding the types of insurance plans that were being accepted. Since the treatment for many of the patients under those specific plans was not covered during that time, there were an uncharacteristically low number of patients being seen in our clinics. Therefore, this contributed to a lower than expected number of responses. Another limitation was that the group was a convenience sample in our cross-sectional study; it consisted of individuals who presented to the pre- and post-graduate Pediatric Dental clinic setting in Chicago who are nearly 100% using Medicaid Insurance in the fall of 2014. Thus, it is not generalizable to the general population of children in Chicago or Cook County. Also, the self-report design for data collection may allow for social desirability or response bias. The small sample size and heterogentic composition limit generalizability. A comparison of this study with future studies completed at other locations, including non-dental sites, with larger samples may provide different results. Although the BEV-Q survey has proven to be valid, that validity was lost once it was abbreviated to better suit our study.

However, the availability of our survey in both English and Spanish could be considered a strength, as it allowed us to incorporate our parents who exclusively speak Spanish. Additionally, the study is distinct in that it investigates perceptions regarding both weight gain and dental caries, while the literature to date focus on one or the other.

## **6. Conclusions**

- High sugar beverage intake parents frequently consumed SSBs, soda (diet or non-diet), juice drink, and 100% fruit juice compared to Low or Intermediate sugar beverage intake parents
- Parents born in the US, have greater than a high school education, or completed an English survey identified more sugar-containing beverages correctly
- More parents displayed agreement than disagreement regarding the existence of a relationship between 'sugar and dental caries' and 'sugar and weight gain'
- Parents displayed more uncertainty regarding the effects of diluted juice on weight and teeth compared to their recognition of the relationship between 'sugar and dental caries' and 'sugar and weight gain'
- These findings suggest a need for more family nutritional guidance about the effects of SSBs on dental and overall health

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## APPENDICES

## APPENDIX A

### **Beverage Consumption Research Study Information Sheet**

Dear Parent or Guardian:

If you are the parent, legal guardian, or foster parent of a child six to 12 years old, you are invited to take this survey. We are interested in finding out how often you drink certain beverages, and also how you think they affect your child's weight and teeth. There are no harms or benefits to completing this survey. Participation is completely unrelated to the dental care your child is receiving at UIC. It is anonymous (does not have your name or your child's name) and is completely voluntary. If you do not participate, there is no effect on your child's treatment at UIC, and the results will not be shared with your child's dentist.

Please feel free to ask questions about the survey. Drs. Van Lieshout and Kaste can be reached at the numbers below. The survey should take about ten minutes to complete. Please place the survey in the box that says BEVERAGE CONSUMPTION STUDY when you are finished with it. It may benefit others if you respond because it will help us learn more about how parents' drinking habits affect their children's, as well as what dietary advice people find confusing. If you have previously completed this survey, please return it to the person who gave it to you and do not complete it again. Thank you for your time!

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## APPENDIX A (continued)

### THIS SURVEY HAS TWO SIDES. PLEASE TURN OVER TO COMPLETE BOTH. THANK YOU!

#### Part 1: Parental Consumption Questionnaire

- In the past month, indicate how often YOU (not your child) drink each type of beverage by marking an "X" in the appropriate bubble
- Do not count beverages used in cooking or other preparations, such as milk in cereal

Type of Beverage	How Often (Mark One)					
	Never or less than 1 time per week	1 time per week	2-3 times per week	4-6 times per week	1 time per day	2 or more times per day
Bottled Water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tap (sink) Water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Natural Water (contains fruit)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
100% Fruit Juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sweetened Juice Drink (fruitades, lemonade, punch, Sunny Delight)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whole Milk (non-flavored)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduced Fat Milk (2%; non-flavored)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low Fat/Fat Free Milk (non-flavored) (Skim, 1%, Buttermilk, Soymilk)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flavored Milk (Chocolate, Strawberry, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-Diet Soda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diet Soda or Drinks (Crystal Light)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Energy & Sports Drinks (Red Bull, Rockstar, Gatorade, Powerade)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Part 2: Beverage Survey: This is a survey, not a test. Your answers will help identify which dietary advice people find confusing.

- It is important that you complete it by yourself.
- Your answers will remain anonymous.
- If you do not know the answer, mark 'not sure' rather than guess.

#### 1) Mark an X in the circle next to all of the following drinks contain sugar, or mark 'not sure'.

<input type="radio"/> Bottled Water	<input type="radio"/> Tap (sink) Water	<input type="radio"/> Natural Water (containing fruit)	<input type="radio"/> Low Fat/Fat Free Milk (Skim, 1%, Buttermilk, Soymilk)	<input type="radio"/> Juice Drink (not 100% juice)	<input type="radio"/> Energy & Sports Drinks (Red Bull, Rockstar, Gatorade, Powerade)	<input type="radio"/> Not Sure
<input type="radio"/> Reduced Fat Milk (2%)	<input type="radio"/> 100% Fruit Juice	<input type="radio"/> Non-diet Soda	<input type="radio"/> Diet Soda	<input type="radio"/> Whole Milk	<input type="radio"/> Flavored Milk (Chocolate, Strawberry, etc)	

#### 2) What do you think is the largest amount of 100% fruit juice that a 6 to 12 year old child should drink in one day?

<input type="radio"/> One small glass: 4-6 ounces (about 1/10 – 1/5 of a liter)	<input type="radio"/> One medium glass: 8-12 ounces (about 1/4 – 2/5 of a liter)	<input type="radio"/> One large glass: 16-20 ounces (about 1/2 – 3/5 of a liter)	<input type="radio"/> Not Sure
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## APPENDIX A (continued)

- 3) What do you think is the total amount of nonfat or low-fat milk a 6 to 12 year old child should drink in one day?
- ☐ Two small glasses: 8-12 ounces total (about 1/4 – 2/5 of a liter)    ☐ Two medium glasses: 16-24 ounces total (about 1/2 – 7/10 of a liter)    ☐ Two large glasses: 32-40 ounces total (about 9/10 of a liter – 1.2 liters)    ☐ Not Sure

**Mark an X in the circle next to how you feel about the following statements:**

- 4) Sugar is related to weight gain in children.
- ☐ Strongly Disagree    ☐ Disagree    ☐ Agree    ☐ Strongly Agree    ☐ Not Sure
- 5) Sugar is related to dental cavities in children.
- ☐ Strongly Disagree    ☐ Disagree    ☐ Agree    ☐ Strongly Agree    ☐ Not Sure
- 6) Mixing water with my child's juice is better for his or her weight than drinking juice without adding water.
- ☐ Strongly Disagree    ☐ Disagree    ☐ Agree    ☐ Strongly Agree    ☐ Not Sure
- 7) Mixing water with my child's juice is better for his or her teeth than drinking juice without adding water.
- ☐ Strongly Disagree    ☐ Disagree    ☐ Agree    ☐ Strongly Agree    ☐ Not Sure

- 8) What is the age of your child being seen today? \_\_\_\_\_ years old

- 9) Has your child been seen here at UIC Pediatric Dental Clinic before?

☐ Yes    ☐ No

- 10) What is your relationship to this child?

☐ Mother    ☐ Father    ☐ Grandmother    ☐ Grandfather    ☐ Other (please specify) \_\_\_\_\_

- 11) Were you born in the United States? If no, what is your country of birth?

☐ Yes    ☐ No \_\_\_\_\_

- 12) If you answered "no" to the question above, how long have you lived in the United States? \_\_\_\_\_ years

- 13) Which of the following best describes where you live?

☐ Chicago    ☐ Cook County    ☐ Other (please specify) \_\_\_\_\_

- 14) How much education do you have? (Please check the circle next to the best answer)

☐ Less than high school    ☐ High School/GED    ☐ Some College/No Degree    ☐ Other (please specify) \_\_\_\_\_

- ☐ Associate's/Vocational degree    ☐ College

- 15) What is your primary ethnicity/race?

☐ Caucasian/White    ☐ African American/Black    ☐ American Indian/Alaska Native    ☐ Other (please specify) \_\_\_\_\_

☐ Asian    ☐ Native Hawaiian/Other Pacific Islander    ☐ Hispanic/Latino/Spanish origin    ☐ I prefer not to answer

## APPENDIX B

### **Estudio de Investigacion sobre Consumo de Bebidas: Pagina de Informacion**

Querido Padre/Guardian:

Si usted es padre, tutor legal, o padre de crianza de un niño de seis a 12 años de edad, lo invitamos a que participe en esta encuesta. Nos interesa averiguar con que frecuencia usted toma ciertas bebidas, y tambien averiguar como piensa que la bebida afecta el peso y los dientes de su niño. No hay riesgos ni beneficios en participar en esta encuesta. Su participacion en esta encuesta no esta relacionada con el tratamiento dental que su hijo/a esta recibiendo en UIC. Es anonima (no tendra su nombre ni el de su niño) y es completamente voluntario. Si usted no participa, no habra ningun efecto sobre el tratamiento de su niño en UIC, y los resultados no seran compartidos con el dentista de su hijo/a.

Sientase libre de hacer cualquier pregunta acerca de esta encuesta. Se puede comunicar con las Dras. Van Lieshout y Kaste al numero que aparece abajo. La encuesta tomara alrededor de diez minutos para completar. Favor de dejar la encuesta dentro de la caja marcada BEVERAGE CONSUMPTION STUDY cuando la haya completado. Podria beneficiar a otras personas si usted participa porque nos ayudara a saber mas sobre como los habitos de consumo de bebidas afectan los de sus niños, asi como tambien que consejos dieteticos encuentran confusos. Si usted ya ha llenado previamente esta encuesta, favor de devolverla a la persona que se la dio y de no llenar de nuevo. Gracias por su tiempo!

**Investigadora Principal:** Megan Van Lieshout, DDS (312) 996-1990

**Consejera de Facultad:** Linda M. Kaste, DDS, MS, PhD (312) 996-5724

**UIC Departamento de Odontopediatria:** 801 S. Paulina St, Chicago, IL 60612

Parental Perceptions of the Effect of Beverage Consumption Related to Obesity and Dental Caries

Version 2

Updated Beverage Consumption Information Sheet (Spanish)

Page 1 of 1

10/17/2014

## APPENDIX B (continued)

### ESTA ENCUESTA TIENE DOS LADOS. FAVOR DE DAR VUELTA PARA LLENAR LOS DOS LADOS. GRACIAS!

#### Part 1: Questionario de Consumo Paterno

- Indique con que frecuencia, durante el mes pasado, USTED (no su niño) tomo cada tipo de bebida marcando una "X" en la burbujita correspondiente.
- No cuente bebidas que uso para cocinar o preparar, tales como la leche para el cereal.

Tipo de Bebida	Con Que Frecuencia (Marque Uno Solo Por Cada Tipo de Bebida)					
	Nunca o menos de 1 vez por semana	1 vez por semana	2-3 veces por semana	4-6 veces por semana	1 vez al día	2 o mas veces al día
Agua Embotellada	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agua de la Llave	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agua Natural (de frutas)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
100% Jugo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bebidas Endulzadas (de marcas embotelladas limonada, ponches, Sunny Delight)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leche Entera (no saborizada)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leche Reducida en Grasa (2%; no saborizada)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leche Descremada/Libre de Grasa (no saborizada)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1%, Suero de la Leche, Leche de Soya)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leche Saborizada (Chocolate, Fresa, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Refresco (no de dieta)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Refrescos/Bebidas de Dieta (Crystal Light)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bebidas Energeticas/Deportivas (Red Bull, Rockstar, Gatorade, Powerade)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Part 2: Encuesta de Bebidas:** Esto es una encuesta, no una prueba. Sus respuestas ayudaran a identificar cuales consejos dieteticos la gente encuentra confusos. Es importante que lo llene usted solo.

- Sus respuestas permaneceran anonimas.
- Si no sabe la respuesta, marque "no estoy seguro/a" en vez de adivinar.

1) Marque una X dentro del circulo relacionado con todas las bebidas que contienen azucar, o marque "no estoy seguro/a".

<input type="radio"/> Agua Embotellada	<input type="radio"/> Agua de la Llave	<input type="radio"/> Agua Natural (conteniendo fruta)	<input type="radio"/> Leche Descremada/Libre de Grasa (1%, Suero de la leche, Leche de Soya)	<input type="radio"/> Bebidas de Jugos (no 100% jugo)	<input type="radio"/> Bebidas Energeticas/Deportivas (Red Bull, Rockstar, Gatorade, Powerade)	<input type="radio"/> No Estoy Seguro/a
<input type="radio"/> Leche Reducida en Grasa (2%)	<input type="radio"/> 100% Jugos	<input type="radio"/> Refresco de Dieta	<input type="radio"/> Refresco (no de Dieta)	<input type="radio"/> Leche Entera	<input type="radio"/> Leche Saborizada (Chocolate, Fresa, etc)	

2) Que creé que sea la cantidad mas grande de 100% Jugos que un niño de 6 a 12 años debe de beber por día?

<input type="radio"/> Un vaso chico: 4-6 onzas (acerca de 1/10 – 1/5 de litro)	<input type="radio"/> Un vaso mediano: 8-12 onzas (acerca de 1/4 – 2/5 de litro)	<input type="radio"/> Un vaso grande: 16-20 onzas (acerca de 1/2 – 3/5 de litro)	<input type="radio"/> Inseguro/a
--	--	--	----------------------------------

3) Que creé que sea la cantidad total de leche descremada o baja en grasa que un niño de 6 a 12 años debe beber en un día?

<input type="radio"/> Dos vasos chicos: 8-12 onzas total (acerca de 1/4 – 2/5 de litro)	<input type="radio"/> Dos vasos medianos: 16-24 onzas total (acerca de 1/2 – 7/10 de litro)	<input type="radio"/> Dos vasos grandes: 32-40 onzas total (acerca 9/10 de litro– 1.2 litros)	<input type="radio"/> Inseguro/a
---	---	---	----------------------------------



## APPENDIX B (continued)

Marque una X dentro del círculo que indique como se siente sobre las siguientes declaraciones:

- 4) El azúcar esta relacionado con el aumento de peso en los niños.  
☐ Muy En Desacuerdo    ☐ En Desacuerdo    ☐ De Acuerdo    ☐ Muy De Acuerdo    ☐ Inseguro/a
- 5) El azúcar esta relacionado con caries dentales en los niños.  
☐ Muy En Desacuerdo    ☐ En Desacuerdo    ☐ De Acuerdo    ☐ Muy De Acuerdo    ☐ Inseguro/a
- 6) Mezclar agua con el jugo de mi niño es mejor para su peso que tomar jugo sin mezclarle agua.  
☐ Muy En Desacuerdo    ☐ En Desacuerdo    ☐ De Acuerdo    ☐ Muy De Acuerdo    ☐ Inseguro/a
- 7) Mezclar agua con el jugo de mi niño es mejor para sus dientes que tomar jugo sin mezclarle agua.  
☐ Muy en Desacuerdo    ☐ En Desacuerdo    ☐ De Acuerdo    ☐ Muy De Acuerdo    ☐ Inseguro/a
- 8) Que edad tiene su niño que sera atendido hoy? \_\_\_\_\_ años
- 9) Su niño ha sido atendido anteriormente en la Clínica de Odontopediatria de UIC?  
☐ Si    ☐ No
- 10) Cual es su parentesco con el niño?  
☐ Madre    ☐ Padre    ☐ Abuela    ☐ Abuelo    ☐ Otro (favor de especificar) \_\_\_\_\_
- 11) Usted nacio en los Estados Unidos? Si no, en que pais nacio?  
☐ Si    ☐ No \_\_\_\_\_
- 12) Si contesto "no" a la respuesta previa, cuantos años ha vivido en los Estados Unidos? \_\_\_\_\_ años.
- 13) Cual de las siguientes opciones mejor describe donde vive?  
☐ Chicago    ☐ Condado de Cook    ☐ Otro (favor de especificar) \_\_\_\_\_  
☐ Menos de la secundaria    ☐ Secundaria/GED    ☐ Algo de Universidad/Sin Titulo  
☐ Titulo Asociado/Titulo Vocacional    ☐ Titulo Universitario    ☐ Otro (favor de especificar) \_\_\_\_\_
- 15) Cual es su grupo etnico principal?  
☐ Caucasico/Raza Blanca    ☐ Afroamericano/Raza Negra    ☐ Nativo Americano/Nativo de Alaska    ☐ Otro (favor de especificar) \_\_\_\_\_  
☐ Asiatico    ☐ Nativo de Hawaii/Otras Islas del Pacifico    ☐ Hispano/Latino/Origen Español    ☐ Prefiero no contestar

## **APPENDIX C**

### **UNIVERSITY OF ILLINOIS AT CHICAGO**

Office for the Protection of Research Subjects (OPRS)  
Office of the Vice Chancellor for Research (MC 672)  
203 Administrative Office Building  
1737 West Polk Street  
Chicago, Illinois 60612-7227

### **Exemption Granted**

October 22, 2014

Megan Van Lieshout, DDS

Pediatric Dentistry

801 S. Paulina Street

M/C 850

Chicago, IL 60612

Phone: (262) 510-1043 / Fax: (312) 413-8006

**RE: Research Protocol # 2014-0873**

**“Parental Perceptions of the Effect of Beverage Consumption Related to  
Obesity and Dental Caries”**

**Sponsors: None**

Dear Dr. Van Lieshout:

Your Claim of Exemption was reviewed on October 22, 2014 and it was determined that your research meets the criteria for exemption. You may now begin your research.

**Exemption Period:**                      **October 22, 2014 – October 22, 2017**

**Performance Site:**                      UIC

**Subject Population:**                      Adult (18+ years) subjects only

**Number of Subjects:**                      500

**The specific exemption category under 45 CFR 46.101(b) is:**

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

**Please note the Review History of this submission:**

Receipt Date	Submission Type	Review Process	Review Date	Review Action
09/12/2014	Initial Review	Exempt	09/22/2014	Modifications

				Required
10/17/2014	Response to Modifications	Exempt	10/22/2014	Approved

You are reminded that investigators whose research involving human subjects is determined to be exempt from the federal regulations for the protection of human subjects still have responsibilities for the ethical conduct of the research under state law and UIC policy. Please be aware of the following UIC policies and responsibilities for investigators:

1. Amendments You are responsible for reporting any amendments to your research protocol that may affect the determination of the exemption and may result in your research no longer being eligible for the exemption that has been granted.
2. Record Keeping You are responsible for maintaining a copy all research related records in a secure location in the event future verification is necessary, at a minimum these documents include: the research protocol, the claim of exemption application, all questionnaires, survey instruments, interview questions and/or data collection instruments associated with this research protocol, recruiting or advertising materials, any consent forms or information sheets given to subjects, or any other pertinent documents.

3. Final Report When you have completed work on your research protocol, you should submit a final report to the Office for Protection of Research Subjects (OPRS).
  
4. Information for Human Subjects UIC Policy requires investigators to provide information about the research protocol to subjects and to obtain their permission prior to their participating in the research. The information about the research protocol should be presented to subjects in writing or orally from a written script. When appropriate, the following information must be provided to all research subjects participating in exempt studies:
  - a. The researchers affiliation; UIC, JBVMAC or other institutions,
  - b. The purpose of the research,
  - c. The extent of the subject's involvement and an explanation of the procedures to be followed,
  - d. Whether the information being collected will be used for any purposes other than the proposed research,
  - e. A description of the procedures to protect the privacy of subjects and the confidentiality of the research information and data,
  - f. Description of any reasonable foreseeable risks,
  - g. Description of anticipated benefit,
  - h. A statement that participation is voluntary and subjects can refuse to participate or can stop at any time,

- i. A statement that the researcher is available to answer any questions that the subject may have and which includes the name and phone number of the investigator(s).
- j. A statement that the UIC IRB/OPRS or JBVMAC Patient Advocate Office is available if there are questions about subject's rights, which includes the appropriate phone numbers.

Please be sure to:

→ Use your research protocol number (2014-0873) on any documents or correspondence with the IRB concerning your research protocol.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact the OPRS office at (312) 996-1711 or me at (312) 355-2908. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Charles W. Hoehne, B.S., C.I.P.

Assistant Director

Office for the Protection of Research Subjects

cc: Marcio Da. Fonseca, Pediatric Dentistry, M/C 850

Linda Marie Kaste, Pediatric Dentistry, M/C 850

## APPENDIX D

Scoring and recoding of surveys (Appendices A and B):

### Survey Language

**Variable Name: E0S1**

() English = 0

() Spanish = 1

### Part 1

**1-12. In the past month, indicate how often YOU (not your child) drinks each type of beverage by marking an “X” in the appropriate bubble.**

**Do not count beverages used in cooking or other preparations, such as milk in cereal**

1. Bottled Water
2. Tap (sink) Water
3. Natural Water (contains fruit)
4. 100% Fruit Juice
5. Sweetened Juice Drink (fruitades, lemonade, punch, Sunny Delight)
6. Whole Milk (non-flavored)
7. Reduced Fat Milk (2%; non-flavored)
8. Low Fat/Fat Free Milk (non-flavored) (Skim, 1%, Buttermilk, Soymilk)
9. Flavored Milk (Chocolate, Strawberry, etc)
10. Non-Diet Soda
11. Diet Soda or Drinks (Crystal Light)
12. Energy & Sports Drinks (Red Bull, Rockstar, Gatorade, Powerade)

### **Variable names:**

1. P1Q1BotH2O
2. P1Q2TapH2O
3. P1Q3NH2O
4. P1Q4100PCJ
5. P1Q5SJuD
6. P1Q6WMIk
7. P1Q7RFMIk
8. P1Q8LFFMIk
9. P1Q9FMIk
10. P1Q10NDSda
11. P1Q11DSdaD
12. P1Q12ESDrk

() Never or less than 1 time per week = 0

() 1 time per week = 1

() 2-3 times per week = 2

() 4-6 times per week = 3

() 1 time per day = 4

() 2 or more times per day = 5

### 13. Total Sugar Sweetened Beverages

**Variable name: P1Q13TotalSSB**

(SUM: P1Q5SJuD + P1Q9FMlk + P1Q10NDSda + P1Q12ESDrk)

**Variable recoded into:**

**Name: RP1Q13TotalSSB**

() = 1

() = 2

() = 3

### Part 2

**1. Mark an X in the circle next to all of the following drinks containing sugar, or mark 'not sure'.**

Bottled Water

Tap (sink) Water

Natural Water (contains fruit)

Low Fat/Fat Free Milk (non-flavored) (Skim, 1%, Buttermilk, Soymilk)

Sweetened Juice Drink (fruitades, lemonade, punch, Sunny Delight)

Energy & Sports Drinks (Red Bull, Rockstar, Gatorade, Powerade)

Reduced Fat Milk (2%; non-flavored)

100% Fruit Juice

Non-Diet Soda

Diet Soda or Drinks (Crystal Light)

Whole Milk (non-flavored)

Flavored Milk (Chocolate, Strawberry, etc)

Not Sure

**Variable names:**

P2Q1BotH2O

P2Q1TapH2O

P2Q1NH2O

P2Q1LFFM

P2Q1JuD

P2Q1ESD

P2Q1RFMlk

P2Q1100PCJ

P2Q1NDSda

P2Q1DSdaD

P2Q1WMLk

P2Q1FMlk

P2Q1NS

() Not Sure = 0

() Bottled Water, Tap Water, Diet Soda WHEN CHECKED = 0



☐ Natural Water, Low Fat/Fat Free Milk, Juice Drink, Energy & Sports Drinks, Reduced Fat Milk, 100% Fruit Juice, Non-diet Soda, Whole Milk, Flavored Milk WHEN UNCHECKED = 0

☐ Bottled Water, Tap Water, Diet Soda WHEN UNCHECKED = 1

☐ Natural Water, Low Fat/Fat Free Milk, Juice Drink, Energy & Sports Drinks, Reduced Fat Milk, 100% Fruit Juice, Non-diet Soda, Whole Milk, Flavored Milk WHEN CHECKED = 1

### **Number of Correct Responses out of 12**

#### **Variable Name: P2Q1CorrectO12**

(SUM: P2Q1BotH2O + P2Q1TapH2O + P2Q1NH2O + P2Q1LFFM + P2Q1JuD + P2Q1ESD + P2Q1RFMIk + P2Q1100PCJ + P2Q1NDSda + P2Q1DSdaD + P2Q1WMIk + P2Q1FMIk + P2Q1NS); OR 0 if Not Sure

### **100% Correct Responses**

#### **Variable Name: P2Q1W0R1**

☐ Less than 12 correct responses = 0

☐ 12 correct responses = 1

### **2. What do you think is the largest amount of 100% fruit juice that a 6 to 12 year old child should drink in one day?**

#### **Variable Names:**

P2Q2SG

P2Q2MG

P2Q2LG

P2Q2NS

☐ Unchecked = 0

☐ Checked = 1

### **Correct response**

#### **Variable Name: P2Q2W0R1**

☐ One small glass, One large glass, Not Sure = 0

☐ One medium glass = 1

### **3. What do you think is the total amount of nonfat or low-fat milk a 6 to 12 year old child should drink in one day?**

#### **Variable Names:**

P2Q3SG

P2Q3MG

P2Q3LG

P2Q3NS

☐ Unchecked = 0

☐ Checked = 1

**Correct response**

**Variable Name: P2Q3W0R1**

() One small glass, One large glass, Not Sure = 0

() One medium glass = 1

**4. Sugar is related to weight gain in children.**

**Variable Name: P2Q4WG**

Strongly Disagree = 1   Disagree= 2   Agree = 3   Strongly Agree = 4   Not Sure = 0

**5. Sugar is related to dental cavities in children.**

**Variable Name: P2Q5DC**

Strongly Disagree = 1   Disagree= 2   Agree = 3   Strongly Agree = 4   Not Sure = 0

**6. Mixing water with my child's juice is better for his or her weight than drinking juice without adding water.**

**Variable Name: P2Q6H2OW**

Strongly Disagree = 1   Disagree= 2   Agree = 3   Strongly Agree = 4   Not Sure = 0

**7. Mixing water with my child's juice is better for his or her teeth than drinking juice without adding water.**

**Variable Name: P2Q7H2OC**

Strongly Disagree = 1   Disagree= 2   Agree = 3   Strongly Agree = 4   Not Sure = 0

**8. What is the age of your child being seen today? \_\_\_\_\_ years old**

**Variable Name: P2Q8Age**

**9. Has your child been seen here at UIC Pediatric Dental Clinic before?**

**Variable Name: P2Q9SeenY1N0**

() No = 0

() Yes = 1

**10. What is your relationship to this child?**

**Variable Name: P2Q10Rel**

() Mother = 1

() Father = 2

() Grandmother = 3

() Grandfather = 4

() Other = 5

**Variable recoded into:**

Name: RP2Q10Rel1Mom0Other

() Father, Grandmother, Grandfather, Other = 0

() Mother = 1

**11. Were you born in the United States?**

**Variable Name: P2Q11Born**

- ☐ No = 0
- ☐ Yes = 1

**If no, what is your country of birth?**

**Variable Name: P2Q11BornText**

**Variable recoded into:**

**Name: RP2Q11Born1US2Mex3Other**

- ☐ United States = 1
- ☐ Mexico = 2
- ☐ Other = 3

**12. If you answered “no” to the question above, how long have you lived in the United States? \_\_\_\_\_ years**

**Variable Name: P2Q12BornLivedInUSText**

**13. Which of the following best describes where you live?**

**Variable Name: P2Q13LiveC0CC1O2**

- ☐ Chicago = 0
- ☐ Cook County = 1
- ☐ Other = 2

**Variable recoded into:**

**Name: RP2Q13LiveC1Other0**

- ☐ Cook County, Other = 0
- ☐ Chicago = 1

**14. How much education do you have?**

**Variable Name: P2Q14Edu**

- ☐ Other = 0
- ☐ Less than high school = 1
- ☐ High School/GED = 2
- ☐ Some College/No Degree = 3
- ☐ Associate's/Vocational degree = 4
- ☐ College = 5

**Variable recoded into:**

**Name: RP2Q14Edu0less1HSplus**

- ☐ Less than high school = 0
- ☐ Other, Less than high school, High School/GED, Some College/No Degree, Associate's/Vocational degree, College = 1

**15. What is your primary ethnicity/race?**

**Variable Name: P2Q15Race**

- () Other = 0
- () Caucasian/White = 1
- () African American/Black = 2
- () American Indian/Alaska Native = 3
- () Asian = 4
- () Native Hawaiian/Other Pacific Islander = 5
- () Hispanic/Latino/Spanish origin = 6
- () I prefer not to answer = 7

**Variable recoded into:**

**Name: RP2Q15Race1Cauc2AA3Hisp4Else**

- () Caucasian/White = 1
- () African American/Black = 2
- () Hispanic/Latino/Spanish origin = 3
- () Other, American Indian/Alaska Native, Asian = 4, Native Hawaiian/Other Pacific Islander,
- I prefer not to answer = 4

**Variable recoded into:**

**Name: RP2Q15Race0Other1Hisp**

- () Other, American Indian/Alaska Native, Asian, Native Hawaiian/Other Pacific Islander, I prefer not to answer, Caucasian/White, African American/Black = 0
- () Hispanic/Latino/Spanish origin = 1

## Appendix E

### Additional Tables and Figures

TABLE XIII

### Correct and Incorrect Parental Responses Regarding Presence of Sugar in Various Water Beverages by Demographics

	Bottled (C)*	Bottled (IC)**	P-value	Tap (C)	Tap (IC)	P-value	Natural (C)	Natural (IC)	P-value
Seen Before: N (%)									0.93
Yes	156 (84.8)	19 (86.4)	0.85	160 (84.7)	15 (88.2)	0.69	72 (84.7)	103 (85.1)	
No	28 (15.2)	3 (13.6)		29 (15.3)	2 (11.8)		13 (15.3)	18 (14.9)	
Relationship: N (%)			0.92			0.89			0.46
Mother	149 (81.0)	19 (86.4)		155 (82.0)	13 (76.5)		71 (83.5)	97 (80.2)	
Father	33 (17.9)	3 (13.6)		32 (16.9)	4 (23.5)		13 (15.3)	23 (19.0)	
Grandparent	1 (0.5)	0 (0.0)		1 (0.5)	0 (0.0)		0 (0.0)	1 (0.8)	
Other	1 (0.5)	0 (0.0)		1 (0.5)	0 (0.0)		1 (1.2)	0 (0.0)	
Relationship: N (%)			0.54			0.557			0.54
Mother	149 (81.0)	19 (86.4)		155 (82.0)	13 (76.5)		71 (83.5)	97 (80.2)	
Other	35 (19.0)	3 (13.6)		34 (18.0)	4 (23.5)		14 (16.5)	24 (19.8)	
Born in US: N (%)			0.16			0.35			0.36
Yes	88 (47.8)	7 (31.8)		89 (47.1)	6 (35.3)		36 (42.4)	59 (48.8)	
No	96 (52.2)	15 (68.2)		100 (52.9)	11 (64.7)		49 (57.6)	62 (51.2)	
Born: N (%)			0.66			0.63			0.20
US	88 (53.0)	7 (53.8)		89 (53.9)	6 (42.9)		36 (48.0)	59 (56.7)	
Mexico	64 (38.6)	4 (30.8)		61 (37.0)	7 (50.0)		34 (45.3)	34 (32.7)	
Other	14 (8.4)	2 (15.4)		15 (9.1)	1 (7.1)		5 (6.7)	11 (10.6)	
Live: N (%)			0.96			0.27			0.91
Chicago	85 (46.2)	10 (47.6)		84 (44.7)	11 (64.7)		40 (47.1)	55 (45.8)	
Cook County	59 (32.1)	7 (33.3)		62 (33.0)	4 (23.5)		26 (30.6)	40 (33.3)	
Other	40 (21.7)	4 (19.0)		42 (22.3)	2 (11.8)		19 (22.4)	25 (20.8)	
Live: N (%)			0.90			0.11			0.86
Chicago	85 (46.5)	10 (47.6)		84 (44.7)	11 (64.7)		40 (47.1)	55 (45.8)	
Other	99 (53.8)	11 (52.4)		104 (55.3)	6 (35.3)		45 (52.9)	65 (54.2)	
Education: N (%)			<b>0.001</b>			<b>0.005</b>			0.36
Less than high school	28 (15.2)	12 (54.5)		31 (16.4)	9 (52.9)		16 (18.8)	24 (19.8)	
High school/GED	77 (41.8)	6 (27.3)		76 (40.2)	7 (41.2)		36 (42.4)	47 (38.8)	
Some college/No degree	35 (19.0)	0 (0.0)		35 (18.5)	0 (0.0)		16 (18.8)	19 (15.7)	
Assoc/Vocational degree	17 (9.2)	1 (4.5)		18 (9.5)	0 (0.0)		7 (8.2)	11 (9.1)	
College degree	21 (11.4)	2 (9.1)		22 (11.6)	1 (5.9)		10 (11.8)	13 (10.7)	
Other	6 (3.3)	1 (4.5)		7 (3.74)	0 (0.0)		0 (0.0)	7 (5.8)	
Education: N (%)			<b>&lt;0.01</b>			<b>0.00</b>			0.86
Less than high school	28 (13.6)	12 (5.8)		31 (15.0)	9 (4.4)		16 (7.8)	24 (11.7)	
High school or greater	156 (75.7)	10 (4.9)		158 (76.7)	8 (3.9)		69 (33.5)	97 (47.1)	
Race: N (%)			0.15			0.434			0.21
Caucasian	19 (9.2)	4 (1.9)		22 (10.7)	1 (0.5)		10 (4.9)	13 (6.3)	
African American	24 (11.7)	1 (0.5)		25 (12.1)	0 (0.0)		7 (3.4)	18 (8.7)	
American Indian	2 (1.0)	0 (0.0)		2 (1.0)	0 (0.0)		1 (0.5)	1 (0.5)	
Asian	8 (3.9)	1 (0.5)		7 (3.4)	2 (1.0)		2 (1.0)	7 (3.4)	
Pacific Islander	0 (0.0)	0 (0.0)		0 (0.0)	0 (0.0)		0 (0.0)	0 (0.0)	
Hispanic	123 (59.7)	12 (5.8)		122 (59.2)	13 (6.3)		63 (30.6)	72 (35.0)	
Other	6 (2.9)	3 (1.5)		8 (3.9)	1 (0.5)		2 (1.0)	7 (3.4)	
I prefer not to answer	2 (1.0)	1 (0.5)		3 (1.5)	0 (0.0)		0 (0.0)	3 (1.5)	
Race: N (%)			0.13			0.29			0.069
Caucasian	19 (9.2)	4 (1.9)		22 (10.7)	1 (0.5)		10 (4.9)	13 (6.3)	
African American	24 (11.7)	1 (0.5)		25 (12.1)	0 (0.0)		7 (3.4)	18 (8.7)	
Hispanic	123 (59.7)	12 (5.8)		122 (59.2)	13 (6.3)		63 (30.6)	72 (35.0)	
Other	18 (8.7)	5 (2.4)		20 (9.7)	3 (1.5)		5 (2.4)	18 (8.7)	
Race: N (%)			0.25			0.32			<b>0.030</b>
Hispanic	123 (59.7)	12 (5.8)		122 (59.2)	13 (6.3)		63 (30.6)	72 (35.0)	
Other	61 (29.6)	10 (4.9)		67 (32.5)	4 (1.9)		22 (10.7)	49 (23.8)	

\*C: Correct \*\*IC: Incorrect Bold: p-value  $\leq 0.05$

## Appendix E (continued)

### TABLE XIV

#### Correct and Incorrect Parental Responses Regarding Presence of Sugar in Various Milk Beverages by Demographics

	Fat Free (C)	Fat Free (IC)	P- value	Reduced Fat (C)	Reduced Fat (IC)	P- value	Whole (C)	Whole (IC)	P- value
Seen Before: N (%)			0.77			0.35			0.09
Yes	32 (86.5)	143 (84.6)		48 (88.9)	127(83.6)		42 (77.8)	133 (87.5)	
No	5 (13.5)	26 (15.4)		6 (11.1)	25 (16.4)		12 (22.2)	19 (12.5)	
Relationship: N (%)			0.11			0.86			0.86
Mother	32 (86.5)	136 (80.5)		45 (83.3)	123 (80.9)		45 (83.3)	123 (80.9)	
Father	4 (10.8)	32 (18.9)		9 (16.7)	27 (17.8)		9 (16.7)	27 (17.8)	
Grandparent	0 (0.0)	1 (0.6)		0 (0.0)	1 (0.7)		0 (0.0)	1 (0.7)	
Other	1 (2.7)	0 (0.0)		0 (0.0)	1 (0.7)		0 (0.0)	1 (0.7)	
Relationship: N (%)			0.40			0.70			0.70
Mother	32 (86.5)	136 (80.5)		45 (83.3)	123 (80.9)		45 (21.8)	123 (59.7)	
Other	5 (13.5)	33 (19.5)		9 (16.7)	29 (19.1)		9 (4.4)	29 (14.1)	
Born in US: N (%)			<b>0.012</b>			0.19			<b>0.024</b>
Yes	24 (64.9)	71 (42.0)		29 (53.7)	66 (43.4)		32 (59.3)	63 (41.4)	
No	13 (35.1)	98 (58.0)		25 (46.3)	86 (56.6)		22 (40.7)	89 (58.6)	
Born: N (%)			0.18			0.26			0.31
US	24 (66.7)	71 (49.7)		29 (61.7)	66 (50.0)		32 (61.5)	63 (49.6)	
Mexico	10 (27.8)	58 (40.6)		16 (34.0)	52 (39.4)		17 (32.7)	51 (40.2)	
Other	2 (5.6)	14 (9.8)		2 (4.3)	14 (10.6)		3 (5.8)	13 (10.2)	
Live: N (%)			0.49			0.44			0.36
Chicago	20 (54.1)	75 (44.6)		21 (38.9)	74 (49.0)		23 (43.4)	72 (47.4)	
Cook County	9 (24.3)	57 (33.9)		20 (37.0)	46 (30.5)		21 (39.6)	45 (29.6)	
Other	8 (21.6)	36 (21.4)		13 (24.1)	31 (20.5)		9 (17.0)	35 (23.0)	
Live: N (%)			0.30			0.20			0.62
Chicago	20 (54.1)	75 (44.6)		21(38.9)	74 (49.0)		23 (43.4)	72 (47.4)	
Other	17 (45.9)	93 (55.4)		33 (61.1)	77 (51.0)		30 (56.6)	80 (52.6)	
Education: N (%)			<b>0.015</b>			0.17			0.083
Less than high school	3 (8.1)	37 (21.9)		13 (24.1)	27 (17.8)		9 (16.7)	31 (20.4)	
High school/GED	11 (29.7)	72 (42.6)		16 (29.6)	67 (44.1)		17 (31.5)	66 (43.4)	
Some college/No degree	10 (27.0)	25 (14.8)		10 (10.5)	25 (16.4)		11 (20.4)	24 (15.8)	
Assoc/Vocational degree	5 (13.5)	13 (7.7)		7 (13.0)	11 (7.2)		8 (14.8)	10 (6.6)	
College degree	8 (21.6)	15 (8.9)		8 (14.8)	15 (9.9)		9 (16.7)	14 (9.2)	
Other	0 (0.0)	7 (4.1)		0 (0.0)	7 (4.6)		0 (0.0)	7 (4.6)	
Education: N (%)			0.055			0.31			0.55
Less than high school	3 (1.5)	37 (18.0)		13 (6.3)	27 (13.1)		9 (4.4)	31 (15.0)	
High school or greater	34 (16.5)	132 (64.1)		41 (24.7)	125 (60.7)		45 (21.8)	121 (58.7)	
Race: N (%)			0.154			0.69			0.64
Caucasian	8 (3.9)	15 (7.3)		6 (2.9)	17 (8.3)		7 (3.4)	16 (7.8)	
African American	4 (1.9)	21 (10.2)		8 (3.9)	17 (8.3)		8 (3.9)	17 (8.3)	
American Indian	1 (0.5)	1 (0.5)		0 (0.0)	2 (1.0)		0 (0.0)	2 (1.0)	
Asian	1 (0.5)	8 (3.9)		2 (1.0)	7 (3.4)		2 (1.0)	7 (3.4)	
Pacific Islander	0 (0.0)	0 (0.0)		0 (0.0)	0 (0.0)		0 (0.0)	0 (0.0)	
Hispanic	20 (9.7)	115 (55.8)		34 (16.5)	101 (49.0)		33 (16.0)	102 (49.5)	
Other	3 (1.5)	6 (2.9)		4 (1.9)	5 (2.4)		4 (1.9)	5 (2.4)	
I prefer not to answer	0 (0.0)	3 (1.5)		0 (0.0)	3 (1.5)		0 (0.0)	3 (1.5)	
Race: N (%)			0.13			0.92			0.83
Caucasian	8 (3.9)	15 (7.3)		6 (2.9)	17 (8.3)		7 (3.4)	16 (7.8)	
African American	4 (1.9)	21 (10.2)		8(3.9)	17 (8.3)		8 (3.9)	17 (8.3)	
Hispanic	20 (9.7)	115 (55.8)		34 (16.5)	101 (49.0)		33 (16.0)	102 (49.5)	
Other	5 (2.4)	18 (8.7)		6 (2.9)	17 (8.3)		6 (2.9)	17 (8.3)	
Race: N (%)			0.11			0.64			0.43
Hispanic	20 (9.7)	115 (55.8)		34 (16.5)	101 (49.0)		33 (16.0)	102 (49.5)	
Other	17 (8.3)	54 (26.2)		20 (9.7)	51 (24.8)		21 (10.2)	50 (24.3)	

\*C: Correct

\*\*IC: Incorrect

Bold: p-value  $\leq 0.05$

## Appendix E (continued)

### TABLE XV

#### Correct and Incorrect Parental Responses Regarding Presence of Sugar in Flavored Milk and Juice Beverages by Demographics

	Flavored Milk (C)	Flavored Milk (IC)	P- value	Juice Drink (C)	Juice Drink (IC)	P- value	100% Juice (C)	100% Juice (IC)	P- value
<b>Seen Before: N (%)</b>			0.38			0.971			0.42
Yes	128 (83.7)	47 (88.7)		152 (84.9)	23 (85.2)		117 (83.6)	58 (87.9)	
No	25 (16.3)	6 (11.3)		27 (15.1)	4 (14.8)		23 (16.4)	8 (12.1)	
<b>Relationship: N (%)</b>			0.38			0.96			0.27
Mother	128 (83.7)	40 (75.5)		146 (81.6)	22 (81.5)		118 (84.3)	50 (75.8)	
Father	23 (15.0)	13 (24.5)		31 (17.3)	5 (18.5)		20 (14.3)	16 (24.2)	
Grandparent	1 (0.7)	0 (0.0)		1 (0.6)	0 (0.0)		1 (0.7)	0 (0.0)	
Other	1 (0.7)	0 (0.0)		1 (0.6)	0 (0.0)		1 (0.7)	0 (0.0)	
<b>Relationship: N (%)</b>			0.19			0.99			0.14
Mother	128 (83.7)	40 (75.5)		146 (81.6)	22 (81.5)		118 (84.3)	50 (75.8)	
Other	25 (16.3)	13 (24.5)		33 (18.4)	5 (18.5)		22 (15.7)	16 (24.2)	
<b>Born in US: N (%)</b>			<b>0.039</b>			<b>0.008</b>			0.30
Yes	77 (50.3)	18 (34.0)		89 (49.7)	6 (22.2)		68 (48.6)	27 (40.9)	
No	76 (49.7)	35 (66.0)		90 (50.3)	21 (77.8)		72 (51.4)	39 (59.1)	
<b>Born: N (%)</b>			0.44			0.18			0.69
US	77 (55.4)	18 (45.0)		89 (54.9)	6 (35.3)		68 (52.7)	27 (54.0)	
Mexico	51 (36.7)	17 (42.5)		58 (35.8)	10 (58.8)		49 (37.2)	20 (40.0)	
Other	11 (7.9)	5 (12.5)		15 (9.3)	1 (5.9)		13 (10.1)	3 (6.0)	
<b>Live: N (%)</b>			0.07			0.17			0.89
Chicago	64 (41.8)	31 (59.6)		80 (44.7)	15 (57.7)		63 (45.3)	32 (48.5)	
Cook County	52 (34.0)	14 (26.9)		57 (31.8)	9 (34.6)		45 (32.4)	21 (31.8)	
Other	37 (24.2)	7 (13.5)		42 (23.5)	2 (7.7)		31 (22.3)	13 (19.7)	
<b>Live: N (%)</b>			<b>0.026</b>			0.21			0.67
Chicago	64 (41.8)	31 (59.6)		80 (44.7)	15 (57.7)		63 (45.3)	32 (48.5)	
Other	89 (58.2)	21 (40.4)		99 (55.3)	11 (42.3)		76 (54.7)	34 (51.5)	
<b>Education: N (%)</b>			<b>0.012</b>			<b>0.002</b>			0.58
Less than high school	22 (14.4)	18 (34.0)		27 (15.1)	13 (48.1)		23 (16.4)	17 (25.8)	
High school/GED	60 (39.2)	23 (43.4)		74 (41.3)	9 (33.3)		56 (40.0)	27 (40.9)	
Some college/No degree	30 (19.6)	5 (9.4)		35 (19.6)	0 (0.0)		27 (19.3)	8 (12.1)	
Assoc/Vocational degree	15 (9.8)	3 (5.7)		16 (8.9)	2 (7.4)		15 (10.7)	3 (4.5)	
College degree	21 (13.7)	2 (3.8)		21 (11.7)	2 (7.4)		17 (12.1)	6 (9.1)	
Other	5 (3.3)	2 (3.8)		6 (3.4)	1 (3.7)		2 (1.4)	5 (7.6)	
<b>Education: N (%)</b>			<b>0.002</b>			<b>0.01</b>			0.11
Less than high school	22 (10.7)	18 (8.7)		27 (13.1)	13 (6.3)		23 (11.2)	17 (8.3)	
High school or greater	131 (63.6)	35 (17.0)		152 (73.8)	14 (6.8)		117 (56.8)	49 (23.8)	
<b>Race: N (%)</b>			0.44			0.61			0.50
Caucasian	20 (9.7)	3 (1.5)		20 (9.7)	3 (1.5)		17 (8.3)	6 (2.9)	
African American	19 (9.2)	6 (2.9)		24 (11.7)	1 (0.5)		17 (8.3)	8 (3.9)	
American Indian	2 (1.0)	0 (0.0)		2 (1.0)	0 (0.0)		2 (1.0)	0 (0.0)	
Asian	6 (2.9)	3 (1.5)		7 (3.4)	2 (1.0)		4 (1.9)	5 (2.4)	
Pacific Islander	0 (0.0)	0 (0.0)		0 (0.0)	0 (0.0)		0 (0.0)	0 (0.0)	
Hispanic	98 (47.6)	37 (18.0)		117 (56.8)	18 (8.7)		6 (2.9)	42 (20.4)	
Other	7 (3.4)	2 (1.0)		7 (3.4)	2 (1.0)		1 (0.5)	3 (1.5)	
I prefer not to answer	1 (0.5)	2 (1.0)		2 (1.0)	1 (0.5)			2 (1.0)	
<b>Race: N (%)</b>			0.49			0.34			0.61
Caucasian	20 (9.7)	3 (1.5)		20 (9.7)	3 (1.5)		17 (8.3)	6 (2.9)	
African American	19 (9.2)	6 (2.9)		24 (11.7)	1 (0.5)		17 (8.3)	8 (3.9)	
Hispanic	98 (47.6)	37 (18.0)		117 (56.8)	18 (8.7)		93 (45.1)	42 (20.4)	
Other	16 (7.8)	7 (3.4)		18 (8.7)	5 (21.7)		13 (6.3)	10 (4.9)	
<b>Race: N (%)</b>			0.45			0.89			0.69
Hispanic	98 (47.6)	37 (18.0)		117 (56.8)	18 (8.7)		93 (45.1)	42 (20.4)	
Other	55 (26.7)	16 (7.8)		62 (30.1)	9 (4.4)		47 (22.8)	24 (11.7)	

\*C: Correct

\*\*IC: Incorrect

Bold: p-value  $\leq 0.05$

## Appendix E (continued)

### TABLE XVI

#### Correct and Incorrect Parental Responses Regarding Presence of Sugar in Energy Drinks and Soda by Demographics

	Energy Drink (C)	Energy Drink (IC)	P- value	Diet Soda (C)	Diet Soda (IC)	P- value	Non-Diet Soda (C)	Non-Diet Soda (IC)	P- value
<b>Seen Before: N (%)</b>			0.57			0.77			0.15
Yes	133 (84.2)	42 (87.5)		67 (85.9)	108 (84.4)		125 (82.8)	50 (90.9)	
No	25 (15.8)	6 (12.5)		11 (14.1)	20 (15.6)		26 (17.2)	5 (9.1)	
<b>Relationship: N (%)</b>			0.27			0.47			0.80
Mother	128 (81.0)	40 (83.3)		62 (79.5)	106 (82.8)		124 (82.1)	44 (80.0)	
Father	29 (18.4)	7 (14.6)		15 (19.2)	21 (16.4)		25 (16.6)	11 (20.0)	
Grandparent	0 (0.0)	1 (2.1)		0 (0.0)	1 (0.8)		1 (0.7)	0 (0.0)	
Other	1 (0.6)	0 (0.0)		1 (1.3)	0 (0.0)		1 (0.7)	0 (0.0)	
<b>Relationship: N (%)</b>			0.72			0.55			0.73
Mother	128 (81.0)	40 (83.3)		62 (79.5)	106 (82.8)		124 (82.1)	44 (80.0)	
Other	30 (19.0)	8 (16.7)		16 (20.5)	22 (17.2)		27 (17.9)	11 (20.0)	
<b>Born in US: N (%)</b>			0.17			0.78			0.84
Yes	77 (48.7)	18 (37.5)		35 (44.9)	60 (46.9)		69 (45.7)	26 (47.3)	
No	81 (51.3)	30 (62.5)		43 (55.1)	68 (53.1)		82 (54.3)	29 (52.7)	
<b>Born: N (%)</b>			0.53			0.13			0.74
US	77 (54.6)	18 (47.4)		35 (54.7)	60 (52.2)		69 (51.5)	26 (57.8)	
Mexico	53 (37.6)	15 (39.5)		20 (31.3)	48 (41.7)		53 (39.6)	15 (33.3)	
Other	11 (7.8)	5 (13.2)		9 (14.1)	7 (6.1)		12 (9.0)	4 (8.9)	
<b>Live: N (%)</b>			0.30			0.63			0.10
Chicago	69 (43.7)	26 (55.4)		36 (46.8)	59 (46.1)		64 (42.4)	31 (57.4)	
Cook County	52 (32.9)	14 (29.8)		27 (35.1)	39 (30.5)		50 (33.1)	16 (29.6)	
Other	37 (23.4)	7 (14.9)		14 (18.2)	30 (23.4)		37 (24.5)	7 (13.0)	
<b>Live: N (%)</b>			0.16			0.93			0.57
Chicago	69 (43.7)	26 (55.3)		36 (46.8)	59 (46.1)		64 (42.4)	31 (57.4)	
Other	89 (56.3)	21 (44.7)		41 (53.2)	69 (53.9)		87 (57.6)	23 (42.6)	
<b>Education: N (%)</b>			0.09			0.80			0.40
Less than high school	24 (15.2)	16 (33.3)		18 (23.1)	22 (17.2)		25 (16.6)	15 (27.3)	
High school/GED	65 (41.1)	18 (37.5)		30 (38.5)	53 (41.4)		62 (41.1)	21 (38.2)	
Some college/No degree	30 (19.0)	5 (10.4)		12 (15.4)	23 (18.0)		28 (18.5)	7 (12.7)	
Assoc/Vocational degree	16 (10.1)	2 (4.2)		5 (6.4)	13 (10.2)		15 (9.9)	3 (5.5)	
College degree	18 (11.4)	5 (10.4)		10 (12.8)	13 (10.2)		17 (11.3)	6 (10.9)	
Other	5 (3.2)	2 (4.2)		3 (3.8)	4 (3.1)		4 (2.6)	3 (5.5)	
<b>Education: N (%)</b>			<b>0.005</b>			0.30			0.08
Less than high school	24 (11.7)	16 (7.8)		18 (8.7)	22 (10.7)		25 (12.1)	15 (7.3)	
High school or greater	134 (65.0)	32 (15.5)		60 (29.1)	106 (51.5)		126 (61.2)	40 (19.4)	
<b>Race: N (%)</b>			0.78			0.24			0.31
Caucasian	16 (7.8)	7 (3.4)		14 (6.8)	9 (4.4)		17 (8.3)	6 (2.9)	
African American	18 (8.7)	7 (3.4)		10 (4.9)	15 (7.3)		14 (6.8)	11 (5.3)	
American Indian	2 (1.0)	0 (0.0)		0 (0.0)	2 (1.0)		2 (1.0)	0 (0.0)	
Asian	8 (3.9)	1 (0.5)		4 (1.9)	5 (2.4)		5 (2.4)	4 (1.9)	
Pacific Islander	0 (0.0)	0 (0.0)		0 (0.0)	0 (0.0)		0 (0.0)	0 (0.0)	
Hispanic	106 (51.5)	29 (14.1)		45 (21.8)	90 (43.7)		104 (50.5)	31 (15.0)	
Other	6 (2.9)	3 (1.5)		4 (1.9)	5 (2.4)		7 (3.4)	2 (1.0)	
I prefer not to answer	2 (1.0)	1 (0.5)		1 (0.5)	2 (1.0)		2 (1.0)	1 (0.5)	
<b>Race: N (%)</b>			0.74			0.83			0.18
Caucasian	16 (7.8)	7 (3.4)		14 (6.8)	9 (4.4)		17 (8.3)	6 (2.9)	
African American	18 (8.7)	7 (3.4)		10 (4.9)	15 (7.3)		14 (6.8)	11 (5.3)	
Hispanic	106 (51.5)	29 (14.1)		45 (21.8)	90 (43.7)		104 (50.5)	31 (15.0)	
Other	18 (8.7)	5 (2.4)		9 (4.4)	14 (6.8)		16 (7.8)	7 (3.4)	
<b>Race: N (%)</b>			0.39			0.065			0.09
Hispanic	106 (51.5)	29 (14.1)		45 (21.8)	90 (43.7)		104 (50.5)	31 (15.0)	
Other	52 (25.2)	19 (9.2)		33 (16.0)	38 (18.4)		47 (22.8)	24 (11.7)	

\*C: Correct

\*\*IC: Incorrect

Bold: p-value  $\leq 0.05$



## Appendix E (continued)

### TABLE XVII

#### Parental Responses Regarding Perceived

#### Maximum Daily Quantity of Fruit Juice Intake for a Child by Demographics

	Total	4-6 oz: S (Yes)	P- value	8-12 oz: M (Yes)	P- value	16-20 oz: L (Yes)	P- value	Not Sure	P- value
<b>Seen Before: N (%)</b>			0.27		0.059		0.65		0.73
Yes	182 (85.0)	99 (87.6)		40 (76.9)		9 (90.0)		33 (86.8)	
No	32 (15.0)	14 (12.4)		12 (23.1)		1 (10.0)		5 (13.2)	
<b>Relationship: N (%)</b>			<b>0.009</b>		0.58		0.98		0.039
Mother	172 (80.4)	98 (86.7)		40 (76.9)		8 (80.0)		25 (65.8)	
Father	39 (18.2)	12 (10.6)		12 (23.1)		2 (20.0)		13 (34.2)	
Grandparent	2 (0.9)	2 (1.8)		0 (0.0)		0 (0.0)		0 (0.0)	
Other	1 (0.5)	1 (0.9)		0 (0.0)		0 (0.0)		0 (0.0)	
<b>Relationship: N (%)</b>			<b>0.013</b>		0.47		1.0		<b>0.013</b>
Mother	172 (80.4)	98 (86.7)		40 (76.9)		8 (80.0)		25 (65.8)	
Other	42 (19.6)	15 (13.3)		12 (23.1)		2 (20.0)		13 (34.2)	
<b>Born in US: N (%)</b>			0.087		0.65		<b>0.024</b>		0.78
Yes	97 (45.3)	45 (39.8)		25 (48.1)		8 (80.0)		18 (47.4)	
No	117 (54.7)	68 (60.2)		27 (51.9)		2 (20.0)		20 (52.6)	
<b>Born: N (%)</b>			0.082		0.066		0.078		0.42
US	97 (52.4)	45 (45.9)		25 (53.2)		8 (88.9)		18 (60.0)	
Mexico	71 (38.4)	45 (45.9)		14 (29.8)		1 (11.1)		11 (36.7)	
Other	17 (9.2)	8 (8.2)		8 (17.0)		0 (0.0)		1 (3.3)	
<b>Live: N (%)</b>			1.0		0.246		0.73		0.16
Chicago	100 (46.9)	53 (46.9)		20 (38.5)		5 (55.6)		21 (55.3)	
Cook County	67 (31.5)	36 (31.9)		21 (40.4)		3 (33.3)		7 (18.4)	
Other	46 (21.6)	24 (21.2)		11 (21.2)		1 (11.1)		10 (26.3)	
<b>Live: N (%)</b>			1.0		0.16		0.60		0.26
Chicago	100 (46.9)	53 (46.9)		20 (38.5)		5 (55.6)		21 (55.3)	
Other	113 (53.1)	60 (53.1)		32 (61.5)		4 (44.4)		17 (44.7)	
<b>Education: N (%)</b>			0.57		0.10		0.70		0.22
Less than high school	46 (21.5)	22 (19.5)		11 (21.2)		3 (30.0)		10 (26.3)	
High school/GED	85 (39.7)	48 (42.5)		15 (28.8)		3 (30.0)		19 (50.0)	
Some college/No degree	35 (16.4)	15 (13.3)		15 (28.8)		2 (20.0)		3 (7.9)	
Assoc/Vocational degree	18 (8.4)	9 (8.0)		5 (9.6)		0 (0.0)		4 (10.5)	
College degree	23 (10.7)	15 (13.3)		5 (9.6)		1 (10.0)		1 (2.6)	
Other	7 (3.3)	4 (3.5)		1 (1.9)		1 (10.0)		1 (2.6)	
<b>Education: N (%)</b>			0.45		0.95		0.50		0.43
Less than high school	46 (21.5)	22 (19.5)		11 (21.2)		3 (30.0)		10 (26.3)	
High school or greater	168 (78.5)	91 (80.5)		41 (78.8)		7 (70.0)		28 (73.7)	
<b>Race: N (%)</b>			0.084		0.59		<b>0.022</b>		0.80
Caucasian	23 (10.7)	12 (10.6)		7 (13.5)		1 (10.0)		3 (7.9)	
African American	25 (11.7)	8 (7.1)		8 (15.4)		3 (30.0)		5 (13.2)	
American Indian	2 (0.9)	0 (0.0)		1 (1.9)		1 (10.0)		0 (0.0)	
Asian	10 (4.7)	4 (3.5)		4 (7.7)		0 (0.0)		2 (5.3)	
Pacific Islander	0 (0.0)	0 (0.0)		0 (0.0)		0 (0.0)		0 (0.0)	
Hispanic	142 (66.4)	84 (74.3)		29 (55.8)		4 (40.0)		25 (65.8)	
Other	9 (4.2)	3 (2.7)		2 (3.8)		1 (10.0)		3 (7.9)	
I prefer not to answer	3 (1.4)	2 (1.8)		1 (1.9)		0 (0.0)		0 (0.0)	
<b>Race: N (%)</b>			<b>0.031</b>		0.32		0.18		0.90
Caucasian	23 (10.7)	12 (10.6)		7 (13.5)		1 (10.0)		3 (7.9)	
African American	25 (11.7)	8 (7.1)		8 (15.4)		3 (30.0)		5 (13.2)	
Hispanic	142 (66.4)	84 (74.3)		29 (55.8)		4 (40.0)		25 (65.8)	
Other	24 (11.2)	9 (8.0)		8 (15.4)		2 (20.0)		5 (13.2)	
<b>Race: N (%)</b>			<b>0.009</b>		0.063		0.071		0.94
Hispanic	142 (66.4)	84 (74.3)		29 (55.8)		4 (40.0)		25 (65.8)	
Other	72 (33.6)	29 (25.7)		23 (44.2)		6 (60.0)		13 (34.2)	

Bold: p-value ≤ 0.05

## Appendix E (continued)

### TABLE XVIII

#### Parental Responses Regarding Perceived Maximum Daily Quantity of Milk Intake for a Child by Demographics

	Total	8-12 oz: S (Yes)	P- value	16-24 oz: M (Yes)	P- value	34-40 oz: L (Yes)	P- value	Not Sure	P-value
<b>Seen Before: N (%)</b>			0.21		0.44		0.099		0.90
Yes	182 (85.0)	96 (88.1)		45 (81.8)		9 (69.2)		30 (85.7)	
No	32 (15.0)	13 (11.9)		10 (18.2)		4 (30.8)		5 (14.3)	
<b>Relationship: N (%)</b>			0.16		0.76		0.66		0.17
Mother	172 (80.4)	93 (85.3)		44 (80.0)		9 (69.2)		24 (68.6)	
Father	39 (18.2)	14 (12.8)		11 (20.0)		4 (30.8)		10 (28.6)	
Grandparent	2 (0.9)	1 (0.9)		0 (0.0)		0 (0.0)		1 (2.9)	
Other	1 (0.5)	1 (0.9)		0 (0.0)		0 (0.0)		0 (0.0)	
<b>Relationship: N (%)</b>			0.063		0.94		0.30		0.55
Mother	172 (80.4)	93 (85.3)		44 (80.0)		9 (69.2)		24 (68.6)	
Other	42 (19.6)	16 (14.7)		11 (20.0)		4 (30.8)		11 (31.4)	
<b>Born in US: N (%)</b>			0.51		0.52		0.52		0.75
Yes	97 (45.3)	47 (43.1)		27 (49.1)		7 (53.8)		15 (42.9)	
No	117 (54.7)	62 (56.9)		28 (50.9)		6 (46.2)		20 (57.1)	
<b>Born: N (%)</b>			0.56		0.51		0.48		0.57
US	97 (52.4)	47 (49.5)		27 (55.1)		7 (58.3)		15 (55.6)	
Mexico	71 (38.4)	40 (42.1)		16 (32.7)		3 (25.0)		11 (40.7)	
Other	17 (9.2)	8 (8.4)		6 (12.2)		2 (16.7)		1 (3.7)	
<b>Live: N (%)</b>			0.77		0.66		0.99		0.93
Chicago	100 (46.9)	52 (47.7)		24 (43.6)		6 (46.2)		17 (50.0)	
Cook County	67 (31.5)	32 (29.4)		20 (36.4)		4 (30.8)		10 (29.4)	
Other	46 (21.6)	25 (22.9)		11 (20.0)		3 (23.1)		7 (20.6)	
<b>Live: N (%)</b>			0.82		0.57		0.95		0.70
Chicago	100 (46.9)	52 (47.7)		24 (43.6)		6 (46.2)		17 (50.0)	
Other	113 (53.1)	57 (52.3)		31 (56.4)		7 (53.8)		17 (50.0)	
<b>Education: N (%)</b>			0.19		<b>0.002</b>		<b>0.013</b>		0.56
Less than high school	46 (21.5)	22 (20.2)		10 (18.2)		2 (15.4)		11 (31.4)	
High school/GED	85 (39.7)	52 (47.7)		13 (23.6)		5 (38.5)		14 (40.0)	
Some college/No degree	35 (16.4)	15 (13.8)		15 (27.3)		0 (0.0)		5 (14.3)	
Assoc/Vocational degree	18 (8.4)	6 (5.5)		10 (18.2)		0 (0.0)		2 (5.7)	
College degree	23 (10.7)	10 (9.2)		5 (9.1)		5 (38.5)		3 (8.6)	
Other	7 (3.3)	4 (3.7)		2 (3.6)		1 (7.7)		0 (0.0)	
<b>Education: N (%)</b>			0.49		0.58		0.12		0.12
Less than high school	46 (21.5)	22 (20.2)		10 (18.2)		2 (15.4)		11 (31.4)	
High school or greater	168 (78.5)	87 (79.8)		45 (81.8)		11 (84.6)		24 (68.6)	
<b>Race: N (%)</b>			0.62		0.91		0.49		0.28
Caucasian	23 (10.7)	13 (11.9)		7 (12.7)		1 (7.7)		2 (5.7)	
African American	25 (11.7)	9 (8.3)		8 (14.5)		2 (15.4)		6 (17.1)	
American Indian	2 (0.9)	1 (0.9)		1 (1.8)		0 (0.0)		0 (0.0)	
Asian	10 (4.7)	7 (6.4)		3 (5.5)		0 (0.0)		0 (0.0)	
Pacific Islander	0 (0.0)	0 (0.0)		0 (0.0)		0 (0.0)		0 (0.0)	
Hispanic	142 (66.4)	73 (67.0)		33 (60.0)		8 (61.5)		27 (77.1)	
Other	9 (4.2)	4 (3.7)		2 (3.6)		2 (15.4)		0 (0.0)	
I prefer not to answer	3 (1.4)	2 (1.8)		1 (1.8)		0 (0.0)		0 (0.0)	
<b>Race: N (%)</b>			0.38		0.71		0.91		0.058
Caucasian	23 (10.7)	13 (11.9)		7 (12.7)		1 (7.7)		2 (5.7)	
African American	25 (11.7)	9 (8.3)		8 (14.5)		2 (15.4)		6 (17.1)	
Hispanic	142 (66.4)	73 (67.0)		33 (60.0)		8 (61.5)		27 (77.1)	
Other	24 (11.2)	14 (12.8)		7 (12.7)		2 (15.4)		0 (0.0)	
<b>Race: N (%)</b>			0.85		0.25		0.70		0.14
Hispanic	142 (66.4)	73 (67.0)		33 (60.0)		8 (61.5)		27 (77.1)	
Other	72 (33.6)	36 (33.0)		22 (40.0)		5 (38.5)		8 (22.9)	

Bold: p-value ≤ 0.05

## Appendix E (continued)

### TABLE XIX

#### Parental Response Regarding Sugar's Effect on Weight Gain by Demographic

	Not Sure	Strongly Disagree	Disagree	Agree	Strongly Agree	P-value
<b>Seen Before: N (%)</b>						0.75
Yes	13 (92.9)	12 (80.0)	5 (100.0)	86 (84.3)	66 (84.6)	
No	1 (7.1)	3 (20.0)	0 (0.0)	16 (15.7)	12 (15.4)	
<b>Relationship: N (%)</b>						0.82
Mother	9 (64.3)	13 (86.7)	5 (100.0)	80 (78.4)	65 (83.3)	
Father	5 (35.7)	2 (13.3)	0 (0.0)	21 (20.6)	11 (14.1)	
Grandparent	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.0)	1 (1.0)	
Other	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.0)	
<b>Relationship: N (%)</b>						0.33
Mother	9 (64.3)	13 (86.7)	5 (100.0)	80 (78.4)	65 (83.3)	
Other	5 (35.7)	2 (13.3)	0 (0.0)	22 (21.6)	13 (16.7)	
<b>Born in US: N (%)</b>						0.81
Yes	6 (42.9)	6 (40.0)	1 (20.0)	48 (74.1)	36 (46.2)	
No	8 (57.1)	9 (60.0)	4 (80.0)	54 (52.9)	42 (53.8)	
<b>Born: N (%)</b>						0.82
US	6 (66.7)	6 (50.0)	1 (25.0)	48 (52.2)	36 (52.9)	
Mexico	2 (22.2)	5 (41.7)	3 (75.0)	37 (40.2)	24 (35.3)	
Other	1 (11.1)	1 (8.3)	0 (0.0)	7 (7.6)	8 (11.8)	
<b>Live: N (%)</b>						0.51
Chicago	7 (50.0)	11 (73.3)	1 (20.0)	47 (46.5)	34 (43.6)	
Cook County	5 (35.7)	2 (13.3)	3 (60.0)	31 (30.7)	26 (33.3)	
Other	2 (14.3)	2 (13.3)	1 (20.0)	23 (22.8)	18 (23.1)	
<b>Live: N (%)</b>						0.19
Chicago	7 (50.0)	11 (73.3)	1 (20.0)	47 (46.5)	34 (43.6)	
Other	7 (50.0)	4 (26.7)	4 (80.0)	54 (53.5)	44 (56.4)	
<b>Education: N (%)</b>						0.15
Less than high school	5 (14.3)	1 (6.7)	1 (20.0)	25 (24.5)	14 (17.9)	
High school/GED	4 (35.7)	9 (60.0)	2 (40.0)	34 (33.3)	36 (46.2)	
Some college/No degree	1 (7.1)	1 (6.7)	1 (20.0)	17 (16.7)	15 (19.2)	
Assoc/Vocational degree	1 (7.1)	1 (6.7)	1 (20.0)	12 (11.8)	3 (3.8)	
College degree	1 (7.1)	1 (6.7)	0 (0.0)	12 (11.8)	9 (11.5)	
Other	2 (14.3)	2 (13.3)	0 (0.0)	2 (2.0)	1 (1.3)	
<b>Education: N (%)</b>						0.31
Less than high school	5 (35.7)	1 (6.7)	1 (20.0)	25 (24.5)	14 (17.9)	
High school or greater	9 (64.3)	14 (93.3)	4 (80.0)	77 (75.5)	64 (82.1)	
<b>Race: N (%)</b>						0.27
Caucasian	1 (7.1)	0 (0.0)	0 (0.0)	12 (11.8)	10 (12.8)	
African American	3 (21.4)	1 (6.7)	0 (0.0)	16 (15.7)	5 (6.4)	
American Indian	0 (0.0)	1 (6.7)	0 (0.0)	0 (0.0)	1 (1.3)	
Asian	1 (7.1)	0 (0.0)	0 (0.0)	6 (5.9)	3 (3.8)	
Pacific Islander	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Hispanic	6 (42.9)	13 (86.7)	6 (100.0)	64 (62.7)	54 (69.2)	
Other	2 (14.3)	0 (0.0)	0 (0.0)	3 (2.9)	4 (5.1)	
I prefer not to answer	1 (7.1)	0 (0.0)	0 (0.0)	1 (1.0)	1 (1.3)	
<b>Race: N (%)</b>						0.19
Caucasian	1 (7.1)	0 (0.0)	0 (0.0)	12 (11.8)	10 (12.8)	
African American	3 (21.4)	1 (6.7)	0 (0.0)	16 (15.7)	5 (6.4)	
Hispanic	6 (42.9)	13 (86.7)	5 (100.0)	64 (62.7)	54 (69.2)	
Other	4 (28.6)	1 (6.7)	0 (0.0)	10 (9.8)	9 (11.5)	
<b>Race: N (%)</b>						<b>0.047</b>
Hispanic	6 (42.9)	13 (86.7)	5 (100.0)	64 (62.7)	54 (69.2)	
Other	8 (57.1)	2 (13.3)	0 (0.0)	38 (37.3)	24 (30.8)	

Bold: p-value  $\leq 0.05$

## Appendix E (continued)

### TABLE XX

#### Parental Response Regarding Sugar's Effect on Dental Caries by Demographic

	Not Sure	Strongly Disagree	Disagree	Agree	Strongly Agree	P-value
<b>Seen Before: N (%)</b>						0.78
Yes	3 (100.0)	19 (90.5)	1 (100.0)	63 (86.3)	96 (82.8)	
No	0 (0.0)	2 (9.5)	0 (0.0)	10 (13.7)	20 (17.2)	
<b>Relationship: N (%)</b>						0.97
Mother	3 (100.0)	18 (85.7)	1 (100.0)	61 (83.6)	89 (76.7)	
Father	0 (0.0)	3 (14.3)	0 (0.0)	12 (16.4)	24 (20.7)	
Grandparent	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.7)	
Other	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.9)	
<b>Relationship: N (%)</b>						0.59
Mother	3 (100.0)	18 (85.7)	1 (100.0)	61 (83.6)	89 (76.7)	
Other	0 (0.0)	3 (14.3)	0 (0.0)	12 (16.4)	27 (23.3)	
<b>Born in US: N (%)</b>						0.34
Yes	2 (66.7)	11 (52.4)	0 (0.0)	27 (37.0)	57 (49.1)	
No	1 (33.3)	10 (47.6)	1 (100.0)	46 (63.0)	59 (50.9)	
<b>Born: N (%)</b>						0.35
US	2 (100.0)	11 (57.9)	0 (0.0)	27 (42.9)	57 (57.0)	
Mexico	0 (0.0)	8 (42.1)	1 (100.0)	29 (46.0)	33 (33.0)	
Other	0 (0.0)	0 (0.0)	0 (0.0)	7 (11.1)	10 (10.0)	
<b>Live: N (%)</b>						0.28
Chicago	1 (33.3)	15 (71.4)	0 (0.0)	33 (45.8)	51 (44.0)	
Cook County	2 (66.7)	4 (19.0)	1 (100.0)	23 (31.9)	37 (31.9)	
Other	0 (0.0)	2 (9.5)	0 (0.0)	16 (22.2)	28 (24.1)	
<b>Live: N (%)</b>						0.16
Chicago	1 (33.3)	15 (71.4)	0 (0.0)	33 (45.8)	51 (44.0)	
Other	2 (66.7)	6 (28.6)	1 (100.0)	39 (54.2)	65 (56.0)	
<b>Education: N (%)</b>						<b>0.039</b>
Less than high school	0 (0.0)	3 (14.3)	1 (100.0)	24 (32.9)	18 (15.5)	
High school/GED	1 (33.3)	12 (57.1)	0 (0.0)	25 (34.2)	47 (40.5)	
Some college/No degree	1 (33.3)	1 (4.8)	0 (0.0)	8 (11.0)	25 (21.6)	
Assoc/Vocational degree	0 (0.0)	2 (9.5)	0 (0.0)	5 (6.8)	11 (9.5)	
College degree	0 (0.0)	1 (4.8)	0 (0.0)	9 (12.3)	13 (11.2)	
Other	1 (33.3)	2 (9.5)	0 (0.0)	2 (2.7)	2 (1.7)	
<b>Education: N (%)</b>						<b>0.010</b>
Less than high school	0 (0.0)	3 (14.3)	1 (100.0)	24 (32.9)	18 (15.5)	
High school or greater	3 (100.0)	18 (85.7)	0 (0.0)	49 (67.1)	98 (84.5)	
<b>Race: N (%)</b>						0.55
Caucasian	0 (0.0)	0 (0.0)	0 (0.0)	8 (11.0)	15 (12.9)	
African American	2 (66.7)	2 (9.5)	0 (0.0)	7 (9.6)	14 (12.1)	
American Indian	0 (0.0)	1 (4.8)	0 (0.0)	0 (0.0)	1 (0.9)	
Asian	0 (0.0)	1 (4.8)	0 (0.0)	2 (2.7)	7 (6.0)	
Pacific Islander	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Hispanic	1 (33.3)	16 (76.2)	1 (100.0)	52 (71.2)	72 (62.1)	
Other	0 (0.0)	0 (0.0)	0 (0.0)	4 (5.5)	5 (4.3)	
I prefer not to answer	0 (0.0)	1 (4.8)	0 (0.0)	0 (0.0)	2 (1.7)	
<b>Race: N (%)</b>						0.27
Caucasian	0 (0.0)	0 (0.0)	0 (0.0)	8 (11.0)	15 (12.9)	
African American	2 (66.7)	2 (9.5)	0 (0.0)	7 (9.6)	14 (12.1)	
Hispanic	1 (33.3)	16 (76.2)	1 (100.0)	52 (71.2)	72 (62.1)	
Other	0 (0.0)	3 (14.3)	0 (0.0)	6 (8.2)	15 (12.9)	
<b>Race: N (%)</b>						0.33
Hispanic	1 (33.3)	16 (76.2)	1 (100.0)	52 (71.2)	72 (62.1)	
Other	2 (66.7)	5 (23.8)	0 (0.0)	21 (28.8)	44 (37.9)	

Bold: p-value ≤0.05

## Appendix E (continued)

### TABLE XXI

#### Parental Response Regarding Effect of Mixing Water in Juice on Weight Gain by Demographic

	Not Sure	Strongly Disagree	Disagree	Agree	Strongly Agree	P-value
<b>Seen Before: N (%)</b>						0.18
Yes	36 (94.7)	7 (77.8)	19 (90.5)	84 (84.8)	36 (76.6)	
No	2 (5.3)	2 (22.2)	2 (9.5)	15 (15.2)	11 (23.4)	
<b>Relationship: N (%)</b>						0.82
Mother	28 (73.7)	8 (88.9)	20 (95.2)	80 (80.8)	36 (76.6)	
Father	10 (26.3)	1 (11.1)	1 (4.8)	17 (17.2)	10 (21.3)	
Grandparent	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.0)	1 (2.1)	
Other	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.0)	0 (0.0)	
<b>Relationship: N (%)</b>						0.30
Mother	28 (73.7)	8 (88.9)	20 (95.2)	80 (80.8)	36 (76.6)	
Other	10 (26.3)	1 (11.1)	1 (4.8)	19 (19.2)	11 (23.4)	
<b>Born in US: N (%)</b>						<b>0.023</b>
Yes	17 (44.7)	3 (33.3)	14 (66.6)	50 (50.5)	13 (27.7)	
No	21 (55.3)	6 (66.7)	7 (33.3)	49 (49.5)	34 (72.3)	
<b>Born: N (%)</b>						0.31
US	17 (47.2)	3 (50.0)	14 (70.0)	50 (58.1)	13 (35.1)	
Mexico	16 (44.4)	2 (33.3)	5 (25.0)	28 (32.6)	20 (54.1)	
Other	3 (8.3)	1 (16.7)	1 (5.0)	8 (9.3)	4 (10.8)	
<b>Live: N (%)</b>						0.80
Chicago	19 (50.0)	6 (66.7)	10 (47.6)	47 (48.0)	18 (38.3)	
Cook County	12 (31.6)	3 (33.3)	6 (28.6)	29 (29.6)	17 (36.2)	
Other	7 (18.4)	0 (0.0)	5 (23.8)	22 (22.4)	12 (25.5)	
<b>Live: N (%)</b>						0.56
Chicago	19 (50.0)	6 (66.7)	10 (47.6)	47 (48.0)	18 (38.3)	
Other	19 (50.0)	3 (33.3)	11 (52.4)	51 (52.0)	29 (61.7)	
<b>Education: N (%)</b>						0.45
Less than high school	10 (26.3)	1 (11.1)	1 (4.8)	22 (22.2)	12 (25.5)	
High school/GED	14 (36.8)	5 (55.6)	6 (28.6)	37 (37.4)	23 (48.9)	
Some college/No degree	7 (18.4)	2 (22.2)	5 (23.8)	15 (15.2)	6 (12.8)	
Assoc/Vocational degree	1 (2.6)	0 (0.0)	4 (19.0)	11 (11.1)	2 (4.3)	
College degree	4 (10.5)	1 (11.1)	3 (14.3)	11 (11.1)	4 (8.5)	
Other	2 (5.3)	0 (0.0)	2 (9.5)	3 (3.0)	0 (0.0)	
<b>Education: N (%)</b>						0.28
Less than high school	10 (26.3)	1 (11.1)	1 (4.8)	22 (22.2)	12 (25.5)	
High school or greater	28 (73.7)	8 (88.9)	20 (95.2)	77 (77.8)	35 (74.5)	
<b>Race: N (%)</b>						0.11
Caucasian	3 (7.9)	1 (11.1)	4 (19.0)	11 (11.1)	4 (8.5)	
African American	5 (13.2)	0 (0.0)	5 (23.8)	14 (14.1)	1 (2.1)	
American Indian	0 (0.0)	1 (11.1)	0 (0.0)	1 (1.0)	0 (0.0)	
Asian	3 (7.9)	0 (0.0)	0 (0.0)	5 (5.1)	2 (4.3)	
Pacific Islander	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Hispanic	27 (71.1)	7 (77.8)	10 (47.6)	60 (60.6)	38 (80.9)	
Other	0 (0.0)	0 (0.0)	1 (4.8)	6 (6.1)	2 (4.3)	
I prefer not to answer	0 (0.0)	0 (0.0)	1 (4.8)	2 (2.0)	0 (0.0)	
<b>Race: N (%)</b>						0.26
Caucasian	3 (7.9)	1 (11.1)	4 (19.0)	11 (11.1)	4 (8.5)	
African American	5 (13.2)	0 (0.0)	5 (23.8)	14 (14.1)	1 (2.1)	
Hispanic	27 (71.1)	7 (77.8)	10 (47.6)	60 (60.6)	38 (80.9)	
Other	3 (7.9)	1 (11.1)	2 (9.5)	14 (14.1)	4 (8.5)	
<b>Race: N (%)</b>						<b>0.039</b>
Hispanic	27 (71.1)	7 (77.8)	10 (47.6)	60 (60.6)	38 (80.9)	
Other	11 (28.9)	2 (22.2)	11 (52.4)	39 (39.4)	9 (19.1)	

Bold: p-value  $\leq 0.05$

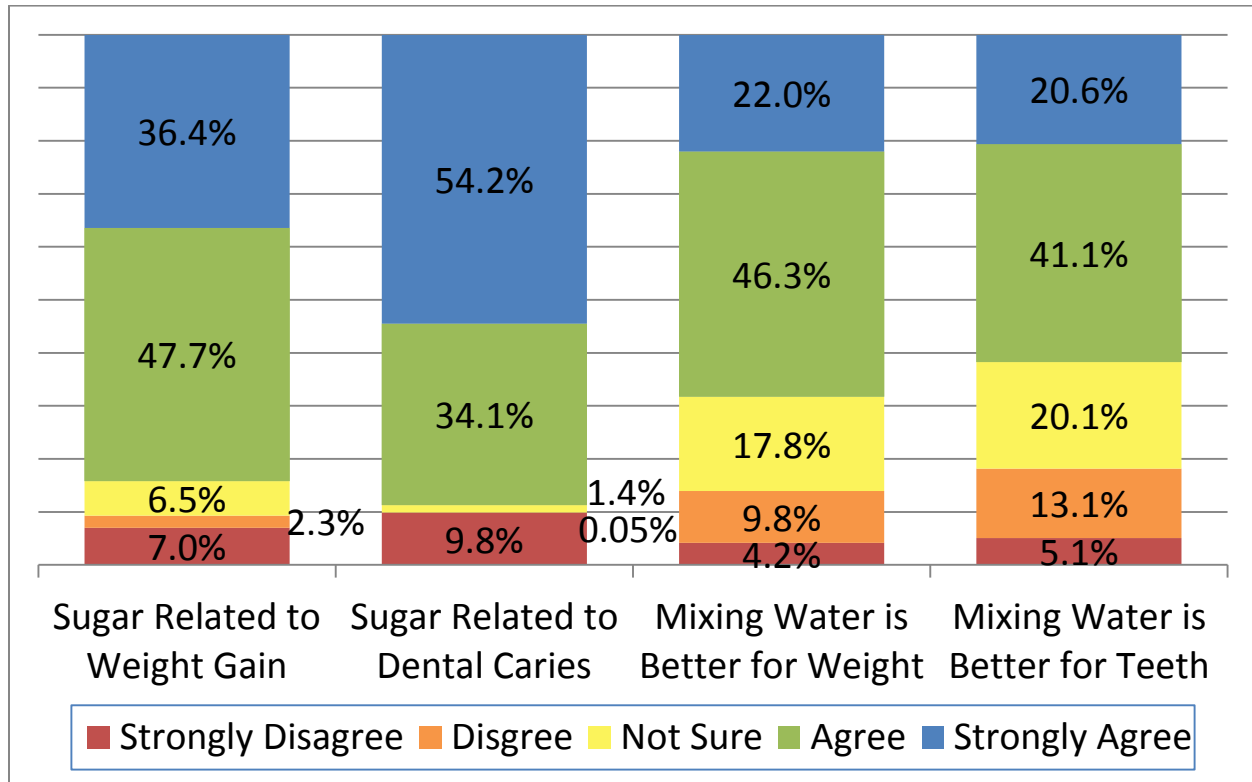
## Appendix E (continued)

### TABLE XXII

#### Parental Response Regarding Effect of Mixing Water in Juice on Dental Caries by Demographics

	Not Sure	Strongly Disagree	Disagree	Agree	Strongly Agree	P-value
<b>Seen Before: N (%)</b>						0.41
Yes	40 (93.0)	9 (81.8)	25 (89.3)	73 (83.0)	35 (79.5)	
No	3 (7.0)	2 (18.2)	3 (10.7)	15 (17.0)	9 (20.5)	
<b>Relationship: N (%)</b>						0.96
Mother	34 (79.1)	9 (81.8)	24 (85.7)	70 (79.5)	35 (79.5)	
Father	9 (20.9)	2 (18.2)	4 (14.3)	15 (17.0)	9 (20.5)	
Grandparent	0 (0.0)	0 (0.0)	0 (0.0)	2 (2.3)	0 (0.0)	
Other	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.1)	0 (0.0)	
<b>Relationship: N (%)</b>						0.96
Mother	34 (79.1)	9 (81.8)	24 (85.7)	70 (79.5)	35 (79.5)	
Other	9 (20.9)	2 (18.2)	4 (14.3)	18 (20.5)	9 (20.5)	
<b>Born in US: N (%)</b>						0.47
Yes	18 (41.9)	4 (36.4)	15 (53.6)	44 (50.0)	16 (36.5)	
No	25 (58.1)	7 (63.6)	13 (46.4)	44 (50.0)	28 (63.6)	
<b>Born: N (%)</b>						0.39
US	18 (48.6)	4 (57.1)	15 (60.0)	44 (56.4)	16 (42.1)	
Mexico	18 (48.6)	2 (28.6)	6 (24.0)	28 (35.9)	17 (44.7)	
Other	1 (2.7)	1 (14.3)	4 (16.0)	6 (7.7)	5 (13.2)	
<b>Live: N (%)</b>						0.06
Chicago	22 (51.2)	7 (63.6)	16 (57.1)	36 (41.4)	19 (43.2)	
Cook County	12 (27.9)	4 (36.4)	6 (21.4)	30 (34.5)	15 (34.1)	
Other	9 (20.9)	0 (0.0)	6 (21.4)	21 (24.1)	10 (22.7)	
<b>Live: N (%)</b>						0.40
Chicago	22 (51.2)	7 (63.6)	16 (57.1)	36 (41.4)	19 (43.2)	
Other	21 (48.8)	4 (36.4)	12 (42.9)	51 (58.6)	25 (56.8)	
<b>Education: N (%)</b>						0.70
Less than high school	10 (23.3)	2 (18.2)	3 (10.7)	23 (26.1)	8 (18.2)	
High school/GED	15 (34.9)	5 (45.5)	13 (46.4)	33 (37.5)	19 (43.2)	
Some college/No degree	8 (18.6)	2 (18.2)	3 (10.7)	16 (18.2)	6 (13.6)	
Assoc/Vocational degree	2 (4.7)	0 (0.0)	5 (17.9)	5 (5.7)	6 (13.6)	
College degree	5 (11.6)	1 (9.1)	3 (10.7)	9 (10.2)	5 (11.4)	
Other	3 (7.0)	1 (9.1)	1 (3.6)	2 (2.3)	0 (0.0)	
<b>Education: N (%)</b>						0.48
Less than high school	10 (23.3)	2 (18.2)	3 (10.7)	23 (26.1)	8 (18.2)	
High school or greater	33 (76.7)	9 (81.8)	25 (89.3)	65 (73.9)	36 (81.8)	
<b>Race: N (%)</b>						0.055
Caucasian	2 (4.7)	1 (9.1)	4 (14.3)	10 (11.4)	6 (13.6)	
African American	6 (14.0)	0 (0.0)	5 (17.9)	11 (12.5)	3 (6.8)	
American Indian	0 (0.0)	1 (9.1)	0 (0.0)	1 (1.1)	0 (0.0)	
Asian	1 (2.3)	0 (0.0)	4 (14.3)	2 (2.3)	3 (6.8)	
Pacific Islander	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Hispanic	34 (79.1)	8 (72.7)	13 (46.4)	57 (64.8)	30 (68.2)	
Other	0 (0.0)	0 (0.0)	1 (3.6)	6 (6.8)	2 (4.5)	
I prefer not to answer	0 (0.0)	1 (9.1)	1 (3.6)	1 (1.1)	0 (0.0)	
<b>Race: N (%)</b>						0.27
Caucasian	2 (4.7)	1 (9.1)	4 (14.3)	10 (11.4)	6 (13.6)	
African American	6 (14.0)	0 (0.0)	5 (17.9)	11 (12.5)	3 (6.8)	
Hispanic	34 (79.1)	8 (72.7)	13 (46.4)	57 (64.8)	30 (68.2)	
Other	1 (2.3)	2 (18.2)	6 (21.4)	10 (11.4)	5 (11.4)	
<b>Race: N (%)</b>						0.76
Hispanic	34 (79.1)	8 (72.7)	13 (46.4)	57 (64.8)	30 (68.2)	
Other	9 (20.9)	3 (27.3)	15 (53.6)	31 (35.2)	14 (31.8)	

**Figure 6**  
**Summary of Figures 2, 3, 4, and 5: Parental Agreement with Questions about**  
**Sugar, Weight Gain, and Caries**



## Appendix F

### VITA

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Chicago Dental Society  
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ABSTRACTS: Van Lieshout, M., and Kaste, L.M.: Associations between obesity, dental caries, or co-morbidity of obesity/dental caries with beverage consumption in children 6-12 years old. University of Illinois at Chicago Clinic and Research Day 2014: 92-93 (#304).

Van Lieshout, M., Kaste, L.M., Avenetti, D., Chriqui, J., Reyes de Lobos, M. Parental perceptions of the effect of beverage consumption related to obesity and dental caries. University of Illinois at Chicago Clinic and Research Day 2015: 56 (#150).

PUBLICATIONS: Van Lieshout, M. Retirement planning for students. ASDA News. 42(7): 9, 2012.