

University of Nevada, Reno

**Perspectives of Latino Parents of School-aged Children in Northern Nevada  
Regarding Beverage Choices and Nutrition Education**

A thesis submitted in partial fulfillment of the requirements for the degree of

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BACHELOR OF ARTS, SPANISH

by

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We recommend that the thesis  
prepared under our supervision by

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## ABSTRACT

This project aimed to explore the role of sugary drinks within the family setting of the Latino community in Northern Nevada. The resulting information will be used to strengthen the on-going Rethink Your Drink campaign. Latino children have a higher rate of sugary drink consumption compared to other race and ethnic groups. In order to reduce sugary drink intake effectively among members of Latino households, nutrition education efforts must be culturally relevant. Thirteen interviews with Latino parents in the Northern Nevada were conducted for the purpose of discovering significant considerations surrounding the beverage choices for their children; and their interests and preferences regarding nutrition information. The resulting qualitative data included the following considerations that Latino parents make when buying drinks for their children: cost, taste, convenience, nutrition, and their child(ren)'s preference. Topics of interest among the Latino parents regarding nutrition information include food for meals, food specifically for snack time, drinks, grocery shopping (including recipes and meal preparation), tips for getting children to eat healthier, weight management, and tips on feeding children when they are sick. Additionally, parents' preferred methods of obtaining nutrition information were mail, website, class, and other methods such as email. Parents' preferred professional sources were pediatricians, dentists, other health professionals, and organizations like the Supplemental Nutrition Program for Women, Infants, and Children (WIC), Supplemental Nutrition Assistance Program (SNAP) or the Boys and Girls Club. In conclusion, this qualitative research gathered information from Latino parents of school-aged children to learn more about drink choices in the Latino households as well as their preference of method and source for obtaining nutrition

education. Findings from this study may be useful to create additional nutritional education resources and thus may help meet the needs of the Latino community. Ultimately, the results from this study may enhance efforts in regards to nutrition education and children's intake of sugary drinks.

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## CHAPTER 1

### INTRODUCTION AND BACKGROUND

Sugar-sweetened beverages (SSB) are drinks that have added caloric sweeteners (e.g., fructose), and include such things as soft drinks, fruit drinks, sports drinks and energy drinks. When looking at SSB consumption globally, North America has the highest consumption of sports and energy drinks, fruit drinks, caloric soft drinks, and total SSB (Popkins & Hawkes, 2014). Nationwide, two-thirds of the U.S. youth consume SSB on a given day (Rosinger, Herrick, Gahche & Park, 2017). SSB are the largest source of added sugar and a significant contributor to the caloric intake in the U.S. diet. Consumption of SSB is greater among children in Latino families compared to other ethnicities (Wang et al., 2008). In ethnic groups, the number of calories from SSB was greater among Mexican-American children compared to white children (Wang et al., 2008). In a study of 504 students (25% African-American, 32% European American, 33% Mexican-American and 10% Asian American), Mexican-American children had the highest consumption of soft drinks (Cullen et al., 2002). In a more recent study, from 1988 to 2004, SSB consumption increased significantly among Mexican-American adolescents aged 12 to 19 years (Bogart, 2013). The increase is a concern for Latino communities since excessive intake of SSB is linked to health risks such as obesity (Apovian, 2004), diabetes (Apovian, 2004), cardiovascular diseases (Apovian, 2004), non-alcoholic fatty-liver disease (Malik & Hu, 2015), gout (Malik & Hu, 2015), and dental caries (Bernabé, Vehkalahti, Sheiham, Aromaa & Suominen, 2014). This is concerning among Mexican-Americans because Mexican American adults have higher

levels of obesity (24%) and overweight (20%) compared to white adults (16% and 14%, respectively) (Bogart, 2013).

There are many on-going public health efforts to reduce SSB consumption across the United States. One such effort in Northern Nevada is the Rethink Your Drink campaign directed by professor of nutrition Dr. Jamie Benedict in the Department of Agriculture, Nutrition and Veterinary Sciences at the University of Nevada, Reno. The campaign's goal is to reduce children's intake of sugary drinks and to promote healthier refreshments in Nevada. A tool that the campaign uses is nutrition education in order to inform the public about what drinks are nutritious. Nutrition education is a method used to previously reduce Latino children's intake of SSB (J. Benedict, personal communication, 2016). However, nutrition education materials should be designed to be culturally relevant in order for the efforts to make more of a lasting impact. Based on a study from Iowa State University, results of focus groups and surveys indicated that culturally relevant strategies were preferred from their samples (Esters, 2008). Learning more about the specific culture is important to shift beverage selection to more healthful options and to decrease the SSB consumption. SSB intake is greater among Latino children, but several questions remain in regards to the specific needs of Latino communities.

The research questions that guide this study are as follows:

1. What are significant considerations surrounding parents' beverage choices for young children in select Latino households at Northern Nevada?
2. What are the interests and preferences regarding nutrition information among select Latino households in Northern Nevada?

Answers to these questions may provide insights in regards to ways to improve the Rethink Your Drink nutrition education efforts, and ultimately decrease SSB consumption among children in Latino communities.

Interviews with parents of Latino families in Northern Nevada were conducted for the purpose of enhancing the understanding of cultural traditions, norms and beliefs that relate to beverage selection within the household- particularly sugary drinks. The interviews are significant in making efforts to decrease SSB consumption in Latino households more impactful. The resulting information will be used to enhance the Rethink Your Drink campaign.

## **CHAPTER 2**

### **LITERATURE REVIEW**

As a foundation for this honors thesis study, research regarding sugar-sweetened beverages (SSB) is discussed in this literature review. This research includes SSB consumption patterns among children and people of different ethnicities, as well as SSB's effects on weight. An overview of previous research to reduce SSB consumption is also included.

#### **Sugar Sweetened Beverages**

Sugar-sweetened beverages (SSB) are drinks that have added caloric sweeteners (e.g., fructose) such as soft drinks, fruit drinks, sports drinks and energy drinks. Most have high amounts of sugars like sucrose. According to Wang (2008), SSB consumption increased for all people from 204 to 224 kcal/day in 1988-1994, and 100% fruit juice increased from 38 to 48 kcal/day in 1999-2004.

SSB consumption is high among specific groups of individuals in relation to age and ethnicity. Wang conducted a study to record the increase in “caloric contributions from sugar-sweetened beverages and 100% fruit juice among US youth during 1988–2004” (Wang, 2008). In this study, Wang (2008) states that among the different age groups, SSB consumption is high among children aged 6 to 11 years old. In addition to age, SSB consumption is different among ethnic groups. The effects of SSB among different race and ethnic groups were noted in the study conducted by Popkin and Hawkes (2016) in which they utilized data from large-scale studies throughout the world to compare food sales that contain sweeteners among different countries. In their report, Popkin and Hawkes (2016) reported that North America, Latin America, Australia and

Western Europe consumed the most SSB and that North American sales of SSB were approximately 150 kilocalories per day while individuals in Asian-Pacific countries consumed about 20 kilocalories per day. This result is important because it demonstrates that individuals living in North American countries are consuming a significantly higher amount of SSB compared to individuals living in Asian-Pacific countries. This note is alarming when thinking about the effects of excessive SSB consumption, which will be discussed further in this literature review.

A study, Beck et al., (2014), showed the effects of SSB among the Latino community. They examined the influence of culture and SSB consumption. In this study, 29 interviews of Latino parents in Northern California who had 6-36 month old children were conducted. The qualitative study demonstrated that Latino parents perceived homemade beverages such as “agua fresca” as healthy even though it contained added sugar and were sold in stores. This misleading perception may lead to the increase intake of sugar-sweetened beverages from Latino households. This is a problem because excessive SSB consumption is linked to health risks such as obesity, diabetes, cardiovascular diseases, non-alcoholic fatty-liver disease, gout, and dental caries to be discussed below (Apovian, 2004).

In a study done by Mazarello, et al. (2015), SSB consumption among young children (0-6 years old) was studied. Mazarello, et al. (2015) defined SSB as drinks with high-added sugar and calories, which included sweetened milk, fruit drinks, soft drinks, tea, coffee, energy drinks, sports drinks and other drinks that has high fructose corn syrup, sucrose or table sugar. Twenty-eight interpersonal (parent and caregiver) interactions were studied. Based on the study, a child’s age and parents’ socioeconomic

status, occupation and education were seen as determinants of young children's SSB consumption. However, the researchers did not include parents' ethnicity associated with their child's SSB consumption. This study provides information regarding the possible reasons for excessive SSB consumption such as parents' socioeconomic status, occupation and education. However, it gives rise to the question of the role Latino culture plays on SSB consumption.

### **Correlation of SSB Consumption on health risks**

Excessive SSB consumption is linked to health risks such as obesity, diabetes, cardiovascular diseases, non-alcoholic fatty-liver disease, gout, and dental caries (Apovian, 2004). According to Collison et al. (2010), sugar sweetened carbonated beverage consumption is correlated with body mass index (BMI), waist circumference, and poor dietary choices in school aged children. The study surveyed 5033 boys and 4400 girls 10 to 19 years old, who were asked to answer a Food Frequency Questionnaire. The prevalence of overweight subjects was 12.2% and obese subjects were 27.0%. They noted a significant positive correlation between BMI and sugar sweetened carbonated beverage in a multivariate regression model ( $P < 0.0001$ ) among males. Having an abnormally high BMI increases the potential risks of health concerns such as obesity. Van Rompay and her colleagues in 2015, too, examined the influence of SSB consumption on health risks. The sample in the study included 8 to 5 year aged children. Cross-sectional associations ( $n= 613$ ) were computed between SSB intake and blood lipid concentrations. Longitudinal associations (sample size of 380) between SSB intake, changes in SSB intake and lipid changed over a 12-month period were also assessed. The study showed that SSB intake was higher among those with lower-



socioeconomic status and that high SSB consumption was associated with higher plasma triglyceride concentrations. As seen previously, high consumption of SSB are associated with several health risks.

### **Consumption Patterns of SSB among Latino children**

Consumption patterns of SSB are related to several factors. According to Freedman (2013), one factor is affordability. Freedman (2013) states that the affordability and availability of SSB have facilitated its consumption. To better understand the consumption patterns of SSB, Cullen et al, (2002) did a study on the intake of soft drinks, fruit flavored beverages, and fruits and vegetables among children in grades 4 through 6. In this study, a sample of 504 students (25% African-American, 32% European American, 33% Mexican-American and 10% Asian American) was used to record students' food and beverage consumption for four days. The principal investigators found that of the 504 students, Mexican-American children had the highest consumption of soft drinks and total consumption of sweetened beverage (Cullen et al., 2002). It was also determined that sixth grade students and those with parents who only had a high school education had higher soft drink and SSB consumption rates compared to fourth grade students whose parents had more education. As seen, Cullen's study provides information regarding factors like education that influence SSB consumption. However, the study also raises the following question: Why is soft drink and total SSB consumption higher among Mexican-American children compared to other ethnic groups?

### **Influence of Culture on SSB consumption**

Culture has a significant influence in food and drink preference as recent work shows. Family, societal relationships and cultural identity are interwoven with food and

drink consumption (Boutaud, Becut, & Marinescu, 2016). An ethnographic study (interviews, life histories and participant observation) by Kaufman and Karpati was done in 2007 to further analyze the effect of culture on food practices and everyday lives of Latino families in Bushwick Brooklyn, a low-income neighborhood in New York City. The sample included 60 Bushwick residents, belonging to one of 12 families. The study indicated that the neighborhood food environment affects food practices (Kaufman & Karpati, 2007). In the study, the principal investigators argue that consistent poverty had affected food practices in the aforementioned low-income neighborhood, which led to overweight and obesity among the subjects' children. The aforementioned work provides an example of the influence of culture and SSB consumption.

### **Influence of Parents on children's SSB consumption**

Parents influence children's beverage consumption due to a variety of reasons. One obvious reason is that parents purchase the beverage in the households so beverage consumption is limited to what the parents buy. In addition, beverage preference is influenced by the parents' preferences. Several studies have examined the influence of parents on children's beverage selection. One study by Schwartz et al. (2015) used a longitudinal design to examine the association between perceived parenting behaviors and SSB consumption among low-income children who do and do not have television in their bedrooms. 480 middle school students were interviewed regarding their perception of their parents' controlling and nurturing behaviors and their level of SSB consumption the previous school day. The study demonstrated that children with authoritative parents had lower levels of SSB consumption but a television in a child's room appeared to weaken the influence of such parents (Schwartz et al., 2015). A qualitative study that

showed parents influence their children's beverage consumption was conducted by Mason et al., (2015). In their sample of 35 Hispanic caregivers of 0-5 year old children living in a low-income, predominantly Hispanic community in Chicago, Illinois, caregivers picked drinks based on cost, availability, health, and behavioral concerns; young children in that community drink several types of SSB. Both of these studies demonstrate the influence of parents on children's drink consumption. However, both studies were conducted in urban areas with greater population density than areas in Northern Nevada.

### **Efforts to decrease SSB consumption**

There have been many interventions to decrease SSB consumption throughout the world. Such efforts include behavioral and health literacy interventions (Zoellner et al., 2016). Strategies to decrease SSB consumption have included ensuring access to potable drinking water, promoting healthier beverage alternatives, decreasing healthy beverage cost, and limiting access to SSB (Escobar et al., 2013). Other strategies have included screening and counseling about SSB consumption as part of routine medical care and expanding knowledge of medical care providers to conduct a screening regarding SSB consumption (J. Benedict, personal communication, 2016). One effort that has been undertaken in Northern Nevada to decrease SSB consumption is the Rethink Your Drink campaign. The following studies examine interventions like the Rethink Your Drink campaign that have been implemented throughout the world.

Two studies that examine efforts with aims to decrease childhood obesity include Crespo et al., 2012 and Hoelscher, et al. (2015). *Aventuras Para Niños* study from Crespo and colleagues was conducted to decrease SSB consumption among Latino children. In

the study 13 elementary schools were randomly selected to one of four intervention conditions: “individual/family level (Family-only), school/community level (Community-only), combined (Family + Community), or a measurement-only condition” (Crespo, et al., 2012). A sample of 808 Latino parents and their kindergarten through second grade children were part of the study. The study examined the direct and indirect impact of changing home (parenting) and community (school, park, and stores) environments to prevent SSB consumption thus prevent childhood obesity in young Latino children. The intervention did not show any significant intervention effects on the children’s BMI. However, the study found that the family intervention altered obesity-related child behaviors such as food consumption (Crespo, et al., 2012). Another study conducted related to childhood obesity and SSB consumption is the study from Hoelscher et al. (2015), which evaluated obesity and prevention programs. Subjects in the samples were predominantly low income and Latino. Based on the study, integrating primary (physician) and secondary approaches (educational materials) would lead to significant decreases in childhood obesity. These two aforementioned studies are examples of attempts to decrease childhood obesity. One limitation is that these examples did not specifically and thoroughly examine the drink choices within the Latino community but the research provided a general view of efforts to decrease childhood obesity and its general link to SSB.

Other studies that examine interventions that specifically aim to decrease SSB consumption are the efforts of Bender et al. (2013) and Lesser et al. (2013). Bender and colleagues’ focused on using a culturally and linguistically tailored intervention program aimed to decrease SSB consumption of Latino children. Thirty-three mother-child

Hispanic dyads enrolled from a large California urban health center, and the professionals used a pre-test and post-test design to assess the children's SSB consumption. Based on the post-intervention, SSB consumption of soda and other sugary drinks significantly decreased. Another study specifically examined SSB consumption (Lesser et al., 2013). This study analyzed outdoor food advertising for obesity and soda consumption through telephone surveys from 220 18-98 years old adults from Los Angeles and Louisiana. According to the Lesser et al. (2013), there was a 1.05 (95% CI 1.003 - 1.093,  $p < 0.03$ ) greater chance of being overweight or obese with every 10% increase in food advertising. Individuals living in areas with 30% of food ads would also have a 2.6% increase in their chance of being obese (Lesser et al., 2013). Both of these studies suggest potential ways to decrease SSB consumption in highly populated urban areas such as marketing advertisements of healthy beverage choices. However, research raises the question as to how to decrease SSB consumption of Latino children in urban areas that are less populated and how such efforts could be altered in such a way that they are culturally relevant and impactful.

### **Summary of Literature Review**

As noted in this chapter, when examining SSB consumption globally, individuals in North America have the highest consumption of sports and energy drinks, fruit drinks, caloric soft drinks, and total SSB (Popkins & Hawkes, 2014). When examining the nation specifically, two-thirds of the U.S. youth consume SSB on a given day (Rosinger, Herrick, Gahche & Park, 2017). Focusing on a more specific group in the U.S., SSB consumption is greater among children in Latino families compared to other ethnic groups (Wang et al., 2008). This is a concern due to the correlation of SSB consumption

on health risks such as obesity, diabetes, cardiovascular diseases, non-alcoholic fatty-liver disease, gout, and dental caries (Apovian, 2004). Researchers conducted have demonstrated that both culture (Boutaud, Becut, & Marinescu, 2016) and parents (Mason et al., 2015) influence children's SSB consumption. Several efforts have also been made to decrease SSB consumption including the Rethink Your Drink campaign (J. Benedict, personal communication, 2016). However, questions still remain as to how to better serve the Latino community specifically to decrease Latino child(ren)'s SSB consumption. The knowledge and questions that arose from the literature review were utilized to create this research study.

## **CHAPTER 3 METHODOLOGY**

### **Context**

This thesis research is one component of a larger effort that is directed by Dr. Jamie Benedict, in order to reduce children's SSB consumption. The campaign is called "Rethink Your Drink" and it is developed based on the principles of social marketing. Social marketing has been used to help decrease SSB consumption among school-aged children who are part of the Supplemental Nutrition Assistance Program (J. Benedict, personal communication, 2016). Efforts to reach out to the Latino community have been made by translating intervention materials from English to Spanish. The campaign aims to decrease the amount of SSB available in Northern Nevada households.

### **Research Purpose and Aims**

This project aims to explore the drink choices within the family setting among Latino households in Northern Nevada. SSB intake is greater among Latino children, but several questions remain in regards to the specific characteristics of Latino households related to beverage consumption. In order to effectively reduce sugary drink intake among members of Latino households, nutrition education efforts should be culturally relevant.

The research questions that this study will answer are the following:

1. What are significant considerations surrounding parents' beverage choices for young children in select Latino households at Northern Nevada?
2. What are the interests and preferences regarding nutrition information among select Latino households in Northern Nevada?

## Methods

In order to answer these questions, a qualitative research study that included interviews with 13 Latino parents in Northern Nevada was conducted for the purpose of enhancing the understanding of cultural traditions, norms, and beliefs that relate to beverage selection within the household- particularly sugary drinks. Qualitative research was selected as the method to answer the questions instead of a quantitative approach because qualitative research provides valuable information that analyzes behavior patterns and with qualitative study, there is no limitations regarding what attributes should be analyzed (Violante & Vezzetti, 2017). The answers to such research questions cannot be easily reduced to numbers. Qualitative research proposed here provides details regarding culture and human behavior and needs that quantitative designs cannot match.

Instrument Development: Interview questions were developed with the research questions in mind. Questions were developed starting from general to the specifics, which included drinks and nutrition education. Three pre-tests of the interview guide were then conducted to determine the length and overall quality of the interviews. Comments from those interviewees and self-reflections were taken into consideration for the revisions that needed to be made on the interview guide. After multiple revision, an IRB protocol was submitted.

IRB protocol: A protocol was submitted for the approval to the University of Nevada, Reno Institutional Review Board (IRB), via the Research Integrity Office. Approval from IRB was received prior to the start of the interviews. Descriptions regarding recruitment methods, data collection steps, and steps to protect participants were included with the submitted IRB protocol. Additionally, the protocol included the protection of



participants' information. It also included a request to waive participants' written consent. Approval was granted on February 28, 2015.

Sample (N=13): Thirteen parents of young school aged children who identified as Latino and had appointments at the Family Medicine Center in the University of Nevada, Reno were the subject population of this research. Participants were 18 years old or older, Hispanic/Latino parent or caregiver of school-aged children, able to read and speak English, and willing to stay for an additional 20 minutes after appointment.

Participant Recruitment: A table was set up in the waiting room at the Family Medicine Center with information about the research (Appendix A and Appendix B). All individuals in the waiting room were approached and were given an invitation (see Appendix A) to prevent discrimination and misidentification of individuals' ethnic identity. The purpose of this was to ensure that we did not limit the participant involvement based of appearance. If interested and eligible (see Appendix A), potential participants were given an information sheet (see Appendix B) about the study. A gift card of \$20 was served as an incentive for parents to participate. Stickers were also given to children as a way to approach potential participants in a friendlier manner.

Interview procedures: All interviews were done at the Family Medicine Center during March 2017. Interviews were conducted in English. One researcher conducted the interview while another took notes and operated the audio-recorder. My role was to conduct the interview after the first interview. All interviewers were audio-recorded. In order to protect the privacy and reduce risks, the interviews did not include sensitive questions that could have resulted in distress nor did the interviews include full names of the participants on the audio-recordings or in the resulting notes. Identification numbers

were created for each participant prior to interviews. The interviewer used the interview guide in order to facilitate the interview. All questions, including the follow-up questions from the interview guide were asked to all participants. If the interviewer needed additional clarification of the reported responses, probe questions were asked as well. The interviews lasted between 9-25 minutes in duration. Before asking about the drink choices in the interview guide (Appendix C), the researcher paused the audio recorder and participants were asked to complete the “What your kids drink” form (Appendix D). Participants were instructed to place a check next to the types of drinks their kids consume during meal, snack time, and special occasions. After the completion this form, the interviews were resumed.

After the interview, the participants were thanked and asked to complete a participation demographic information form (Appendix E) and provided with a \$20 gift card as a token of appreciation. They were also asked to complete a form as an acknowledgement that they received the gift card (Appendix F). This document was put in a separate envelope and later sent to the University’s Controller’s Office.

Data management and analysis: Immediately after the interviews, the audio-recorded interviews were downloaded onto a secure University of Nevada, Reno server. All of the interviews were transcribed verbatim by the researcher and then coded on NVivo with respect to the research objectives. NVivo was used to sort the qualitative data resulting from the interviews. Categories were made based on reported patterns. The categories are as follows:

- Table 2. Latino parent’s reported responsibilities for buying groceries
- Table 3. Reported considerations of Latino parents when buying food

- Table 4. Most and least important consideration when buying food
- Table 5. Reported considerations of Latino parents when buying drinks
- Table 6. Most and least important consideration when buying drinks
- Table 7. Latino parent's reported methods of resolution regarding drink choices for their children
- Table 8. Latino parents' reported preferences regarding nutrition information
- Table 9. Beverages that Latino children drink during meals, snack time, and special occasions.

Within each category, I analyzed the results to help answer the two research questions.

In summary, the organization of the feedback in the interviews as well as the analysis of the data allows for further understanding of the role of SSB in Latino households and the preference of Latino household in obtaining nutritional information.

## CHAPTER 4 RESULTS

This chapter explains the results of the semi-structured interviews with 13 Latino parents of school-aged children in Washoe County at Nevada. This chapter also provides the characteristics of the sample.

Sample characteristics

### Sample Characteristics

The thirteen participants of this study were Latino parents living in Washoe County who have school-aged children. Over 100 potential participants were approached but only 13 were eligible and had the time to participate. Instead of limiting the age of children from 6 to 12 years old as indicated on the recruitment flyer, individuals who had or were caring for a school-aged child younger and older than that range were eligible to participate as well. The reason for this was due to the limited number of individuals who met all of the requirements stated on the flyer and could dedicate the time to participate in the interview. Table 1 demonstrates the characteristics of the participants (n=13). Eleven of the participants were female and of all of the participants, 6 participants did not identify with a race, 6 identified as Caucasian and 1 identified as both American Indian/Native American and Hawaiian/Pacific Islander. All of the participants were of Hispanic and or Latino descent and the mean age was 34 years old. Regarding level of education, none of the participants obtained an Associates degree or a Baccalaureate degree. Of the participants, 1 did not obtain a high school degree or a General Education Diploma (GED), 5 obtained a high school degree and 2 obtained a GED. Five of the thirteen who were interviewed currently participate in SNAP and are receiving SNAP benefits. There was a range of 1-4 children present in their households and the average

number of children living in their homes was 3. The ages of the children in their households ranged from 10 months to 21 years-old. The information mentioned above are some information about the sample from this research study.

### **Qualitative Findings**

After completing the coding, I organized the data into categories that correspond to the research questions. The categories were as follows:

- Table 2. Latino parent's reported responsibilities for buying groceries
- Table 3. Reported considerations of Latino parents when buying food
- Table 4. Most and least important consideration when buying food
- Table 5. Reported considerations of Latino parents when buying drinks
- Table 6. Most and least important consideration when buying drinks
- Table 7. Latino parent's reported methods of resolution regarding drink choices for their children
- Table 8. Latino parents' reported preferences regarding nutrition information
- Table 9. Beverages that Latino children drink during meals, snack time, and special occasions.

The first research question, "What are significant considerations surrounding parents' beverage choices for young children in select Latino households at Northern Nevada?" was answered by questions 4, 5, 6 and 7 from the interview guide. These questions inquired more about the participants' considerations when buying beverages for young children. Specifically, Table 5, Table 6, Table 7, Table 9 and Table 10 illustrate the resulting qualitative data.

The second research question, “What are the interests and preferences regarding nutrition information among select Latino households in Northern Nevada?” was also answered by questions 8 and 9 from the interview guide. These questions inquired information about the participants’ preferences regarding nutrition information. Specifically, Table 8 illustrates the resulting qualitative data.

As shown in Table 5, the participants’ answers to characteristics that they consider when buying drinks were organized in the following categories: 1) cost, 2) taste, 3) convenience, 4) nutrition, and 5) other. Table 5 indicates that Latino parents consider cost, taste, nutrition, and other characteristics (preference of their child(ren) and brand) when they buy drinks for their children. One participant indicated that she considered cost a lot when buying drinks and another participant said if there was something cheap that her family and her haven’t tried, they would try it as long as it’s cheaper. Another person said that taste is important and that the aforementioned participant gets whatever drinks the family likes. Another participant mentioned that nutrition is considered a lot in the household when purchasing drinks because the amount of sugar is what the participant pays attention to. Another participant indicated, “If I’m going to get a drink, I’ll go with the brand name... Like when I get a soda drink or something.” With the statements above, it is clear to see that the participants consider several categories when buying drinks for their children.

As shown in Table 6, the participants’ answers to the most and least important considerations when buying drinks were organized in the following categories: 1) cost, 2) taste, 3) convenience, 4) nutrition, 5) quality, and 6) other. Of the categories, the reported most important consideration is listed from the greatest to least as: nutrition > taste > cost

> convenience > quality = other. Of the categories, the reported least important consideration is listed from the greatest to least as: convenience > cost > other > nutrition = taste = quality. In more simple terms, 10 out of 13 participants indicated that they consider nutrition the most when purchasing beverages, 4 of the 13 participants said that they consider taste as the most important while 2 and 1 individuals considered cost and convenience, respectively, as the most important when buying drinks. Additionally, most (7 out of 13) of the participants indicated that convenience is the least important considerations while no participants indicated that nutrition, taste, and quality are the least important considerations for them when they purchased drinks. Five of the thirteen participants indicated that cost is the least important consideration for them when buying drinks. 1 of the 13 on the other hand, considered other considerations like child(ren)'s drink preference as the least important consideration.

Table 7 indicates Latino parents' reported methods of resolving conflict regarding drink choices for their children. The reported methods were organized in the following categories: 1) standing firm and saying no, 2) diluting with water, 3) compromising, and 4) other. The reported quotes were provided as examples of the methods Latino parents' use when their children want a SSB and when they want their children to drink a specific drink but the children refuse to. One parent said, "...he's going through a time where he's asking me for soda all of the time and I constantly have to tell him no. It's like, "No. No, you cannot have any soda. No." Other participants dilute concentrated drinks with water whether their child(ren) know it or not. One parent indicated, "I cut their juice in half with water... They don't know the difference." In addition to diluting with water and standing firm and saying no, some parents have also compromised with their children.

One parent said, “You can have some milk or some juice but you cannot have no soda.” Other parents said, “I let them chose Caprisun. (Instead of Kool-Aid” and “. I do let them drink Sprite because it doesn’t have caffeine... ‘Can, I have um, Pepsi mom?’ No. Have Sprite.” Lastly some parents have tried other methods like using negative reinforcement, not deciding at all, and limiting the amount of SSB their children consume. As a way to make her children drink water, one parent said, “We tell them we’re not buying happy meals.” A parent said that he would flip a coin to see if he should give his children the SSB they wanted. Another parent said, “If it’s something that he hasn’t had (referring to child) in a long time, um, I’ll- I’ll go ahead and let him taste it and have a couple sips or a couple- a couple spoon fulls but then I’m like, ‘Okay, you got to taste it.’” Based on the aforementioned statements, the Latino parents interviewed had several ways to resolve conflicts with their child(ren) regarding SSB consumption in their households.

As stated before, Table 8 connects with the second research question, “What are the interests and preferences regarding nutrition information among select Latino households in Northern Nevada?” Table 8 demonstrates the participants’ reported preferences of method and source regarding obtaining nutrition information. The reported preference on method of receiving nutritional information is organized as the following: 1) mail, 2) website, 3) class, and 4) other. The reported preference on the source of receiving nutritional information is organized as the following: 1) child’s pediatrician, 2) child’s dentist, 3) other health professional, and 4) organization. It indicated that the method that most of the participants preferred was through mail (10 / 77%) and the least was website (6 / 46%). The aforementioned result demonstrated that the interviewees would like to receive and would most likely look through nutrition information when it is sent through



their mail. It demonstrated that they would like to receive nutrition information through the mail more than other methods like browsing through websites. The resulting information also indicated that the source that most of the participants preferred was from an organization like WIC, SNAP, and Boys and Girls Club (12 / 92 %) and the least was a child's dentist (10 / 77%). Although the most preferred source was from organizations, all of the other sources mentioned still had a high proportion of parents who preferred to get nutrition information from them.

Table 9 and Table 10 indicate the beverages that Latino children drink during meals, snack time, and special occasion based on their parents' or caregivers' perspective. They were ranked based on the top choices. Based on these results, Latino parents reported that the following drinks represent what their children drink the most often during the following events:

- Mealtime: Water (11 out of 13)
- Snack time: 100% fruit juice (10 out of 13)
- Special occasions: Soda (10 out of 13)

The results also demonstrated that the most frequently consumed drinks during meals, snack time and special occasions were as follows:

- Meals: Water (1<sup>st</sup>); 100% Fruit Juice, Whole Milk and Reduced Fat Milk (2<sup>nd</sup>); Soda; Fruit-flavored drink and Agua Fresca (3<sup>rd</sup>)
- Snack time: 100% Fruit Juice (1<sup>st</sup>); Water (2<sup>nd</sup>); Whole milk (3<sup>rd</sup>)
- Special Occasions: Soda (1<sup>st</sup>); Fruit-flavored drink (2<sup>nd</sup>); Flavored Milk and Sports drinks 3<sup>rd</sup>)

A pattern present in these tables include that 1 of the 3 most frequently consumed drinks that parents indicated their children drink during the varying events are SSB. Of the top three drinks consumed during meals, snack time, and special occasions, 5 out of 9 of the drinks that were mentioned are SSB. This demonstrates that in total, SSB drinks were mentioned 6 out of 13 times among the top 3 choices.

Supplemental information that does not directly correlate to the research questions but have indirect correlations to them are seen in Table 2, Table 3, and Table 4. Table 2 indicates the reported responsibilities of the Latino parent participants when buying groceries. Their reported quotes were organized in the following tasks: 1) budgeting, 2) deciding what groceries to get, and 3) doing the grocery shopping. Table 3 and Table 4 involve the parents' considerations when buying food and were categorized similarly to that of Table 5 and Table 6. The aforementioned two tables are supplemental information that indirectly connects with research question 1.

The information from the interviews provided data to help answer the research questions. The responses were coded and organized. By describing the data in tables, patterns were noted. In conclusion, these results may lead to a greater understanding of the role of SSB in the Latino households as well as their preferred method and source when obtaining nutrition education.

**Table 1. Characteristics of study participants (n=13)**

Gender n=13 / 100%	
Female	11 / 85%
Male	2 / 15%
Race n=13 / 100%	
American Indian / Native American	1 / 8%
Asian	0 / 0%
Black	0 / 0%
Caucasian	6 / 46%
Hawaiian / other Pacific Islander	1 / 8%
No response	6 / 46 %
Note: One participant indicated both Caucasian and Hawaiian / other Pacific Islander	
Ethnicity	
Hispanic / Latino	13 / 100%
Age (n=13)	
Mean	34
Standard Deviation	7
Highest level of education	
Less than high school degree	1 / 8%
High school degree	5 / 38%
Some college	4 / 38%
Associate's degree	0 / 0%
Baccalaureate degree	0 / 0%
Other (GED)	2 / 15 %
Currently receiving SNAP benefits or participate in SNAP	
Yes	5 / 38%
Number of children in household	
Mean	3
Standard Deviation	0.88
Range	1-4
Ages of children in the household	
Range	10 months – 21 years old

**Table 2. Latino parent's reported responsibilities for buying groceries (n=13)**

<b>Tasks</b>	<b>Representative Quotes</b>
Budgeting Participant	<p>“Yes (helps determine how much money to spend). I’m not trying to go over a hundred dollars cause ... nowadays, groceries are expensive.”</p> <p>“Oh I do the budget and she picks the groceries for the house.”</p> <p>“I’m the one who does all the shopping. I do the budgeting. I plan the meals and I cook the meals.”</p> <p>“Mmm yeah, sometimes, yeah most of the time yeah... Uh hmm, yeah cause I know we um, we get food stamps so it’s like not very much right now because my husband works so I guess, I guess it’s a little bit more than normal so we don’t get that much food stamps so we try ta, make that food stamp last at least, at least till like the middle of the month, sometimes it’s like the first 5 days and its gone already but we try to extend it till like the middle of the month.”</p>
Both partners Extended family	<p>“Me and my wife (helps with budgeting).”</p> <p>“I live with my in laws right now. So it’s easier and she’s the calculator... She’s better at it for seven people.”</p>
Deciding what groceries to get	<p>“Yeah, it’s all on me. (Deciding what groceries to buy) ... Always the mom.”</p> <p>“Yes. It’s a mutual agreement... My wife and I”</p> <p>“Well, I ask them what they would like to have for dinners and stuff so they can have a variety but I- yeah, I make the decision whether they’re gonna buy it or not.”</p>
Doing the grocery shopping Participant	<p>“I am the one who finds all the groceries for my family so I do all the shopping.”</p> <p>“Um, well just like I’m the one that... buys the groceries or if... I’m not able to get to the grocery store my husband gets the stuff... but mainly I like to um, pick out the-the stuff because I kinda know what my family likes.”</p>
Both partners Extended family	<p>“I’m usually the one buying it... Nine times out of ten, I go do it if she’s not with me. ”</p> <p>“Um me, I go with- me- it’s me and my mother in law. We go just us two. We usually have a list and we try to do it early in the morning when grand-grandpa- papa has the- those ones (pointing to kids).”</p>

**Table 3. Reported considerations of Latino parents when buying food (n=13)**

<b>Characteristics</b>	<b>Representative Quotes</b>
Cost	<p>“...most of the time it’s the cost. If I’m buying jelly I’ll always go for the cheapest one.”</p> <p>“Me, I- well I try to look at the different prices, you know to save as much money as we possibly can... So I try to get cheaper, you know, because I do have three kids of my own... It’s hard but I try to get cheaper-cheaper big family- cheaper the better.”</p> <p>“Well, I go to the one that’s most least expensive.”</p> <p>“...we get food stamps... we try ta, make that food stamp last at least, at least till like the middle of the month...”</p>
Taste	<p>“Well, I like them to go with me because they can tell me if they like it or not. So eh, that’s pretty important. You know, if they don’t like it, they’re not gonna eat it and it’s a waste. I hate wasting food.”</p> <p>“Uh, it’s important. I don’t want to eat anything that tastes gross so taste is pretty big. I’m pretty big on taste. Taste and cost.”</p> <p>“Taste? That makes a lot of difference. Cause if somebody doesn’t like the taste of it, they’re not gonna eat it.”</p>
Convenience	<p>“Like 50% of the time. (how much participant considers convenience) Like with the rice. I take the minute bag ones over than the ones that takes longer.”</p> <p>“...convenience is not really a problem because we have a big old freezer full of meat and stuff and another fridge outside.”</p> <p>“I’d rather cook it all up front from scratch.”</p> <p>“Not really. She cooks at home. So probably once in a while we stop at fast food which is what is that place called McDonalds.”</p>

**Table 3 Continued. Reported considerations of Latino parents when buying food (n=13)**

<b>Characteristics</b>	<b>Representative Quotes</b>
Nutrition	<p>“Um, a lot. I try to get them to eat all the better- better things. I mean they- they I mean, they eat chips and cookies. Don’t get me wrong but in moderation. I tell them everything is in moderation.”</p> <p>“Nutrition, a lot. (how much she considers nutrition)... Yeah. (Because of her kid who they thought had diabetes)”</p> <p>“I consider it, that’s probably my biggest priorities. (Referring to nutrition)”</p> <p>“Man, I’m guilty of- that’s- I mean, of course I pay attention to it but it’s not very um, it’s not- it’s not very- I don’t worry about it too much.”</p> <p>“Um, I make sure, you know I-I try to follow the-the food pyramid as much as possible.”</p>
Quality	<p>“I live in Stead and sometimes I go for something for quality... Marketon because there’s more food and it’s more fresh and sometimes I go there because you have to go there and get it fresh because it has more quality...I prefer to spend one or two dollars more for the food to have for a little longer”</p> <p>“Yeah, that’s really pretty much it. I mean, I don’t, I really hate buying like, fake meat so like fake stuff.”</p> <p>“Well, it depends. Um, it- depending on- it’s- depending on if we know the brand is better than the generic, then we will just go with the brand but if not, we’ll just buy whatever that’s on sale.”</p>

**Table 4. Most and least important consideration when buying food (n=13)**

<b>Characteristics</b>	<b>Most important (n / %)</b>	<b>Least important (n / %)</b>
Cost	4 / 31 %	2 / 15%
Taste	3 / 23%	0 / 0%
Convenience	0 / 0%	10 / 77%
Nutrition	9 / 69%	0 / 0 %
Quality	0 / 0 %	0 / 0 %
Other	1 / 8%	0 / 0 %

**Table 5. Reported considerations of Latino parents when buying drinks (n=13)**

<b>Characteristics</b>	<b>Representative Quotes</b>
Cost	<p>“Cost, umm, it doesn’t, sometimes we’ll go, like whatever is on sale. Or like, if there something cheap that we haven’t tried, we’ll try it. It is cheaper and it has more water bottles.”</p> <p>“A lot. (Considers cost a lot) Yeah. If my kids like it, then I’ll buy it but not if it’s not like, crap.”</p> <p>“A lot. Because we go through a lot... we drink a lot of liquids... I tell the kids, ‘Always stay hydrated.’”</p> <p>“So, cost really isn’t an issue when it comes to buying drinks.”</p> <p>“Yes. (Considers cost a lot)... Cause that’s- we spend more money in that than one meal.”</p>
Taste	<p>“Um, it’s important- taste. Like I, I’d like to drink cranberry juice. He likes apple juice. It’s whatever they like. You know.”</p> <p>“Um, I consider it but... we keep it limited on what we drink.”</p> <p>“Me?... A lot. But for the kids and my wife, it’s up to them.”</p>
Convenience	<p>“I don’t really consider it. I just buy it from the store... Yeah, I don’t go out of my way to buy a special drink or anything.”</p> <p>“I won’t go out of my way to go get a drink. Yeah, you know, if I’m going to go get a water or whatever, I can go to Smith’s. I don’t have to drive all the way down.”</p> <p>“Probably health and convenience... I try to really push water on them because when one of my kids were younger, he got dehydrated.”</p> <p>“Yeah, same thing. If I ran out, I’d want to grab something quick from the store... I’d rather just do the quick one.”</p>



**Table 5 Continued. Reported considerations of Latino parents when buying drinks (n=13)**

Characteristics	Representative Quotes
Nutrition	<p>“Hm maybe. Maybe seventy percent of the time- you know, it’s nutrition. Cause it has a lot of sugar.”</p> <p>“A lot... I look at all the labels and I’m cutting out all of it... Yeah and before they were relieved they were into Kool Aid and then we got that out. (Middle child had diabetes)”</p> <p>“It’s a big factor for the family... like Capri Sun- we try to avoid those because we know it has a lot of sugar in it.”</p> <p>“... they give me a headache so I wouldn’t buy them... if we are going to buy, like, drinks, we’re gonna go with 100% juice, which I was told that that’s not always the case that the su- a lot of sugar and then so. So we try to dilute them too.”</p> <p>“A lot. (How much participant considers nutrition)... Yeah. If my kids like it, then I’ll buy it but not if it’s not like, crap. (Referring to nutrition).”</p> <p>“We’ve got to work on the nutrition.”</p> <p>“Yes. I consider it a lot. (How much participant considers nutrition)... The amount of sugar that’s in it.”</p>
Other	<p>“I just get their favorite kind and usually it’s the least expensive.”</p>
Child’s preference	<p>“I-I make sure that, you know, that they like it. (Referring to drinks)”</p>
Diet restriction	<p>“Well my oldest is um, lactose free because she has issues with her tummy so that’s prolly the only extra thing whatever that doesn’t have too much dairy or-or like the milk that lactose free.”</p>
Brand recognition	<p>“No, I try to stick with the water but if I do, I go with the brand. If I’m going to get a drink, I’ll go with the brand name... Like when I get a soda drink or something.”</p> <p>“So that’s the brand we’re looking for- we look at the brand we’re more familiar with than stuff that’s cheaper but you don’t know what it contains for what it causes to your family in the long term or something.”</p>

**Table 6. Most and least important consideration when buying drinks (n=13)**

<b>Characteristics</b>	<b>Most important</b>	<b>Least important</b>
Cost	2 / 15 %	5 / 38 %
Taste	4 / 31%	0 / 0%
Convenience	1 / 8%	7 / 54 %
Nutrition	10 / 77%	0 / 0%
Quality	0 / 0%	0 / 0%
Other	0 / 0%	1 / 8%

\*Note: Other involves consideration of participants' child(ren)'s drink preference.

**Table 7. Latino parent's reported methods of resolving conflict regarding drink choices for their children (n=13)**

<b>Method of resolution</b>	<b>Representative Quotes</b>
Standing firm and saying no	<p>"I'm like 'no.' I- I don't let them drink it (soda). It has to be something really special because most of the time, it's just juice or water... I always tell him, 'Well, when have you seen Hulk or Captain America drink soda? They don't drink soda. That doesn't make them nice and strong.'"</p> <p>"Yeah, I just don't give into them. It's sometimes a screaming kid comes out the doors, but it's what I have to do... Eventually they give in because I don't give up because in the fridge we only have water. So you drink that or you have nothing. It's their choice."</p> <p>"Yeah, and that was it. (Said no) They know not to ask more than once."</p> <p>"Uh, well not buy but he asks me- he's going through a time where he's asking me for soda all of the time and I constantly have to tell him no. It's like, 'No. No, you cannot have any soda. No.'"</p> <p>"I said no. They know that whenever I say no, they don't ask again."</p>
Diluting with water	<p>"One time my daughter, the little one, sometimes they like iced tea every now and then or a HiC. Sometimes we mix them with water."</p> <p>"I cut their juice in half with water... They don't know the difference."</p> <p>"My youngest, she just loves all her juices cause I always mix half water/half juice or whatever."</p>
Compromising	<p>"I'm like, 'You're not gonna get this soda. You can have your orange juice, milk, or water'... And he actually picked water."</p> <p>"You can have some milk or some juice but you cannot have no soda."</p> <p>"I told him I'd get him orange juice instead of something else (instead of soda) and he said, 'Okay, orange juice.'"</p> <p>"I let them chose Caprisun. (Instead of Kool-Aid)... The Ninja Turtle ones."</p> <p>"A soda- any kind of soda- yeah. I do let them drink Sprite because it doesn't have caffeine but nothing like- they try to get the Pepsi or like if we try to a fast- like it was his birthday so we went out and they try to slip in the, 'Can, I have um, Pepsi mom?' 'No. Have Sprite.'"</p>

***Table 7 Continued. Latino parent's reported methods of resolving conflict regarding drink choices for their children (n=13)***

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Other	<p data-bbox="680 264 1408 338">“We tell them we’re not buying happy meals. (A way to make them drink water)”</p> <p data-bbox="680 338 1408 369">“I flip a coin. (How he resolves the conflict)”</p> <p data-bbox="680 369 1408 525">“If it’s something that he hasn’t had (referring to child) in a long time, um, I’ll- I’ll go ahead and let him taste it and have a couple sips or a couple- a couple spoon fulls but then I’m like, ‘Okay, you got to taste it.’”</p>
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**Table 8. Latino parents' reported preferences regarding nutrition information (n=13)**

Interest in obtaining nutrition information	Yes	No
	12 / 92%	1 / 8%
Topics of interest		
Food	6 / 46%	
Snacks	2 / 15%	
Drinks	4 / 31%	
Grocery (Recipes and meal prep)	5 / 38%	
Tips for child(ren) to eat healthier	3 / 23%	
Weight management	3 / 23%	
Tips to feed children who are sick	1 / 8%	
Reported preference on the method of receiving information		
Mail	10 / 77%	
Website	6 / 46%	
Class	7 / 54%	
Other	8 / 62 %	
Reported preference on the source of receiving information		
Child's pediatrician	11 / 85%	
Child's dentist	10 / 77%	
Other health professional	11 / 85%	
Organization (e.g., WIC and SNAP)	12 / 92%	

**Table 9. Latino parents' report on the drinks their child(ren) consume during meals, snack time, and special occasions (n=13). Parents were instructed to place checks adjacent to all drinks that were consumed by their children at the respective times.**

<b>Drinks</b>	<b>With meals (n)</b>	<b>At snack time (n)</b>	<b>On special occasions (n)</b>
Water	11	9	4
Carbonated Water	1	1	0
Sweetened Water	2	1	0
100% Fruit Juice	6	10	2
Fruit-flavored drink (e.g., fruit nectar, lemonade, fruit punch)	4	4	6
Whole Milk	6	6	1
Flavored Milk (e.g., chocolate, strawberry)	2	4	5
Reduced Fat Milk	6	4	1
Low Fat/Fat Free Milk	2	3	2
Non-dairy Milk (e.g., almond, soy)	3	1	1
Unsweetened Tea	1	0	0
Sweetened Tea	0	1	2
Unsweetened Coffee	1	0	0
Soda	1	1	10
Diet Drinks/Artificially Sweetened Drinks	1	1	1
Sweetened Coffee	0	0	0
Sports drinks	3	2	5
Energy Drinks	0	0	0
Agua Fresca	4	5	4

Other (list):	0	0	0
<b><i>Table 10. Latino parents' reported drinks that are most frequently consumed by their children during meal, snack time, and special occasions (n=13)</i></b>			
<b>Top choices</b>	<b>With meals Drinks (n)</b>	<b>At snack time Drinks (n)</b>	<b>On special occasions Drinks (n)</b>
1 <sup>st</sup>	Water (11)	100% Fruit Juice (10)	Soda (10)
2 <sup>nd</sup>	100% Fruit Juice (6) Whole Milk (6) Reduced Fat Milk (6)	Water (9)	Fruit-flavored drink (6)
3 <sup>rd</sup>	Fruit-flavored drink (4) Agua Fresca (4)	Whole Milk (6)	Flavored Milk (5) Sports drinks (5)

## CHAPTER 5 DISCUSSION

The purpose of this thesis was to conduct formative research regarding SSB choices among Latino households and parents' preference regarding methods and sources of receiving nutrition information. This model is intended to demonstrate the considerations that Latino parents have when grocery shopping for drinks as well as their preferences for learning about ways to improve their child(ren)'s nutritional health. Semi-structured interviews were conducted with 13 Latino parents or caregivers of school aged children in Washoe County. Qualitative methods were utilized in this study to answer the research questions:

1. What are significant considerations surrounding parents' beverage choices for young children in select Latino households at Northern Nevada?
2. What are the interests and preferences regarding nutrition information among select Latino households in Northern Nevada?

The interviews included useful data regarding the research questions. This chapter provides in detail the categories and findings from the interviews with the Latino parents. Additionally, the limitations and strengths and limitations of the study as well as recommendations for future research are discussed.

### **Discussion of results regarding research question 1**

The considerations that Latino parents use when buying drinks for their children are the following order from most to least: nutrition, taste, cost, convenience, quality and other factors like their child(ren)'s preference. Of those considerations, the most significant amount (10) of the participants (n=13) indicated that the most important



consideration they paid attention to when buying drinks is nutrition while no participants indicated quality as the most important consideration. On the other hand, most of the participants (7 of the 13) indicated that the least important consideration was convenience. In summary, even though cost, taste, convenience, nutrition, quality and child(ren)'s drink preferences are some characteristics that Latino parents consider when buying drinks, nutrition is the most important consideration and convenience is the least important consideration for Latino parents. This result is interesting because it contradicts with some research that has been mentioned in the literature review that Mexican-Americans have the highest SSB consumption compared to other ethnic groups. Thus, this brings up more questions as to what is causing this gap between what the parents value when providing drinks for their children versus the actual SSB consumption patterns of the Latino households seen in research studies. Based on the results in this study, it was shown that nutrition is the most important aspect for the parents but based on the research mentioned in the literature review, Latino households still have high SSB consumption rates. It brings up the question: What is causing the increased rate of SSB consumption when the parents constantly think about their child's nutrition first? Based on some findings in my study, one of the reasons may be due to different perspectives of what nutritious beverages are. Per the interviews (See Table 7), one participant indicated that diluting concentrated drinks with water is healthy while another participant indicated that replacing dark soda with clear soda is healthy. Per the aforementioned example, one of the reasons for this gap between the ideal (based on the Latino parents' values) and reality (based on research) may be due to different perspectives of what constitutes a nutritious beverage.

In addition to the considerations that Latino parents make when buying drinks, their method of resolving conflict when their children wanted a SSB and or when the parents wanted their children to drink a specific drink but the children refused also contributed to the type of drinks Latino children consume in their household. Latino parents' reported 4 methods of resolution: 1) standing firm and saying no, 2) adding water, 3) compromising, and 4) manipulating via punishment and not deciding. The reported quotes in Table 7 demonstrate that while some parents stand firm and say no to their kids when their children want SSB, the parents also let the children have SSB using methods such as diluting the concentrated SSB with water, compromising with their child(ren), and other methods such as saying "yes," or manipulating the children to not drink the SSB via punishment (example: taking away something the child wants), or not making a decision at all. Per reports from parents, some of their children were aware of the fact that their SSB was being diluted with water while some were not. Compromising with their child(ren) included replacing the child(ren)'s desired drink with what the parents believed were healthier options. Some participants replaced soda with orange juice, milk, or water while another participant replaced dark soda with clear soda because non-caramelized drinks not contain caffeine. With different nutrition education background, this coincides with the results from research studies mentioned in the literature review that Mexican-Americans have high SSB consumption rate. All the aforementioned reported methods of resolution contribute to the choice of beverages that Latino children consume in the households.

Additionally, the results of the drink survey demonstrated that the type and amount of drinks are largely based on the meal event, whether it is during mealtime, snack time, or

on special occasions. These results indicate most parents (11 out of 13) said that their children drank water during meals but rarely drank water during special occasions. Also per the parents' reports, 100% fruit juice, a non-SSB is consumed the most (10 out of 13) during snack time. Additionally per the parents' report, soda, an SSB, is rarely consumed by their child(ren) during meal (1 out of 13) and snack (1 out of 13) times but often consumed during special occasions (10 out of 13). The results also demonstrated that the top choices of drinks during meals, snack time and special occasions are as follows:

- Meals: Water (1<sup>st</sup>); 100% Fruit Juice, Whole Milk and Reduced Fat Milk (2<sup>nd</sup>); soda Fruit-flavored drink and Agua Fresca (3<sup>rd</sup>)
- Snack time: 100% Fruit Juice (1<sup>st</sup>); Water (2<sup>nd</sup>); Whole milk (3<sup>rd</sup>)
- Special Occasions: Soda (1<sup>st</sup>); Fruit-flavored drink (2<sup>nd</sup>); Flavored Milk and Sports drinks 3<sup>rd</sup>)

Based on the parents' top choices, it is demonstrated that many of the drinks that they indicated as their top reported choices that their children consume are SSB. This relates to past studies mentioned in the literature review that Mexican-American children have the highest SSB consumption compared to other ethnic groups. The aforementioned considerations and results affect the drink choices of Latino children, which may affect the family's intake of SSB and eventually affect their health.

### **Discussion of results regarding research question 2**

Latino parents' reported preferences of method and source when obtaining nutrition information demonstrated that these parents prefer getting nutrition information via mail, website, class, and other methods like email but of those methods, the parents prefer mail the most. They prefer looking at a website the least. One interviewee indicated that she

would attend a workshop but suggested to have interactive educational activities for children regarding nutrition so that children know that it the rules that the parent enforces is for the benefit of the children. Cristancho, Peters, & Garces (2014) say the opposite in regards to Latino parents' preference of method in obtaining nutrition information. According to the aforementioned researchers who did a study with 894 Hispanic/Latino immigrants in the U.S. rural Midwest, the Hispanic/Latino immigrants preferred obtaining nutrition information through workshops in Spanish the most. They also indicated that they noted an increase in the preference for mailed printed material among the second generation. Thus considering the aforementioned study by Cristancho, Peters, & Garces (2014), this research both contradicts and complements the results from this investigation.

Additionally, Latino parents prefer receiving nutrition information from sources such as their child(ren)'s pediatrician, their child(ren)'s dentist, another health professional, and organizations like the Supplemental Nutrition Assistance Program for Women, Infants, and Children (WIC), Supplemental Nutrition Assistance Program (SNAP) or the Boys and Girls Club. Of those sources, parents prefer receiving information from organizations the most and their child's dentist the least. Although organizations was their most preferred source, the other aforementioned sources still had significantly high number of participants from the sample that indicated they wanted to receive nutrition information from them. This has been taken into consideration in the past with the Rethink Your Drink campaign program since they have provided printed nutrition education materials to offices of pediatricians and dentists.

Subjects of interest to Latino parents to help improve their child(ren)'s health include topics such as food for meals, food specifically snacks, drinks, grocery (recipes and meal prep), tips for getting children to eat healthier, weight management, and tips on feeding children when they are sick. Of those considerations, the highest interest is food for meals while the least is tips on feeding children when they are sick. The subject regarding healthier drink options was 3<sup>rd</sup> place with 4 out of 13 parents that mentioned it.

### **Strengths and limitations**

There were a few strengths in this research study. One of the strengths involved the quality of the interview and having two different researchers: one doing the interview and the other taking notes and working the audio-recorder. Having two researchers made the interview personal and let the interviewees know that one of the interviewer was solely paying attention to him or her. Another strength was the audio recording, which made it possible for the researcher to go back to the interviews and review the transcriptions verbatim. Doing so decreases the bias and confusion that may occur when only notes are considered. Additionally, the study possessed a great strength in that it included interviews from 13 participants, which provided rich substance in providing information about SSB choices in Latino households and Latino parents' preferences regarding educational information. Despite the strengths, there are a few limitations. One limitation was not being able to include the nonverbal communication that was presented during the interview because if the interviews were not video-recorded. Another limitation is that the findings from the interviews are not generalizable and therefore cannot be applied to all Latino parents. The sample was limited in size. Only individuals in Washoe County participated.

### **Recommendations for future research**

There are a few recommendations that can make a similar research more successful. One recommendation for future research includes recruiting potential participants from a clinic like the Community Health Alliance who serves a large Hispanic clientele in Nevada so that a greater sample size could be achieved. Another recommendation is conducting video interviews so that nonverbal cues can be taken into consideration. Have more time with the subjects and conducting the interviews during a time when their child(ren) are not present since would also enhance the study because it would decrease the amount of disturbances. Having materials that were written in Spanish as well as having a professional Spanish translator would be beneficial for future research as well. It would increase the amount of participants and the findings might be different. Those are a few of the recommendations for future research study that I learned during this research study.

## CHAPTER 6 CONCLUSIONS

In conclusion, this qualitative research gathered information from Latino parents of school-aged children to learn more about beverage choices in the Latino households as well as their preference for methods and sources for obtaining nutrition education. The findings of this research indicate that Latino parents consider nutrition the most and convenience as the least when buying beverages, which contradicts data that indicate high SSB consumption rate of Latino households. It also indicates different interpretations of what beverages are considered healthy among the participants. As an example, one participant believed fruit juice is a healthy beverage and another participant believed clear soda is a healthy drink. When thinking about what makes a beverage healthy, some considered sugar while another considered caffeine instead of sugar. This difference may result in different levels of consumption of SSB for Latino children since parents have a high influence into what their children consume. Additionally, the research indicates that soda is often consumed during special occasions. This pattern is consistent with another study that demonstrated that Mexican-American children had the highest consumption of soft drinks and total consumption of sweetened beverage compared to other ethnic groups (Cullen et al., 2002). This result gives an insight as to why beverage consumption is so high among this specific population.

The study also indicates that the Latino parents prefer mail the most as the method of obtaining nutrition information and that there are multiple challenges for them attending a workshop or class due to their work schedule or taking care of their child(ren). It also demonstrates that a topic of great interest is food for meals, food specific to snacks, with drink being the third highest topic of interest for the sample. As a

result of this study, the evidence obtained provided answers to the two research questions.

The results from this thesis present suggestions for future research studies as well as methods of reaching out to the Latino population regarding nutrition information. This qualitative study provided evidence that when choosing drinks for their children, the Latino parents interviewed often struggle with balancing cost, their child(ren)'s preferences, and the nutritional value of the drinks. However, the final choice is what they believe is the healthiest for their child(ren). In addition, the results suggest that it may be important to explore the use of mail and e-mail for the distribution of nutrition information. Lastly, organizations such as SNAP and WIC, as well as other health professionals such as nutritionists, dentists, and pediatricians were deemed as a preferred and credible resource for nutrition recommendations.

Although the results obtained are from a convenience sample, other researchers can use the results and lessons from this study to conduct a larger and randomized sample to answer the research questions in a more generalizable fashion. Findings from this study may be useful to create additional nutritional education resources and thus may help reach out to the Latino community's needs. Ultimately, the results from this study may help with outreaching to the Latino community in regards to nutrition education as well as change Latino children's intake of SSB by helping promote healthier beverage options for them.



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## Appendix A

# You're Invited!



## To participate in a research study

The purpose of the study is to learn about family drink choices. If you volunteer for the study, you will be asked to complete a survey and participate in an interview. It will take no more than 20 minutes.

### Volunteers must be:

1. Age 18 or older
2. Hispanic/Latino parent or caregiver to at least one child between the ages of 6 and 12.
3. Able to read, and speak English
4. Willing to stay for an additional 20 minutes after appointment

If you answered “yes” to all of the conditions above and are interested in participating in the study, please see us after your appointment. We are conducting the study in the waiting room.



All study participants will take home a \$20.00 gift card to a local grocery store.

**This study is sponsored by the Department of Agriculture, Nutrition and Veterinary Sciences of the University of Nevada, Reno and the Honors Undergraduate Research Award.** In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, religion, political beliefs or disability. To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800)795-3272 (voice) or (202)720-6382 (TTY). USDA is an equal opportunity provider and employer. This material was funded by USDA's Supplemental Nutrition Assistance Program—SNAP. SNAP provides nutrition assistance to people with low income. It can help you buy nutritious foods for a better diet. To find out more, ask for information at the Nevada Department of Welfare and Supportive Services (775) 684-7200.

## Appendix B

### **Rethink Your Drink: A Study of Family Drink Choices Information Sheet**

We are conducting a research study about family drink choices with Latino parents and caregivers of young school-aged children. The findings of this study will be used to improve the ongoing Rethink Your Drink program in Northern Nevada.

If you volunteer to be in this study, you will be given a survey about children's drinks in your household. Next, you will be interviewed by a member of the research team. During the interview you will first be asked how decisions are made about what foods and drinks are purchased for your family, and about your interest in nutrition information. The interview will be audio-recorded. Please note that we will ask you to use a made-up name for the interview and your name will not be written on the survey.

The interview will take about 20 minutes and will take place in the waiting room of the University of Nevada Family Medicine Center.

This study is considered to be minimal risk of harm. This means that the risk level is typical of those encountered during daily activities. Because the waiting area is open to all patients, there is a possibility that someone else may overhear you during the interview. Please note that we will not ask you any personal questions. In addition, you may refuse to answer any question during the interview.

Benefits of doing research are not definite but we hope to learn more about drink choices made by Latino parents and caregivers for their young school-aged children. There are no direct benefits to you as a research study volunteer.

The researchers of the University of Nevada-Reno, will treat your identity and information collected about you with professional standards of confidentiality and protect it to the extent allowed by law. You will not be personally identified in any reports or publications that may results from this study. The US Department of Health and Human Services, the Division of Welfare and Supportive Services, the University of Nevada, Reno Research Integrity Office and the Institutional Review Board may look at our study records.

You may ask questions of the researchers at any time by using the contact information below: Jamie Benedict, PhD, RD, LD: email [jamieb@cabnr.unr.edu](mailto:jamieb@cabnr.unr.edu), phone 775-784-6445

Gemma Beltran, Honors Student: email [rethinkyourdrink@cabnr.unr.edu](mailto:rethinkyourdrink@cabnr.unr.edu), phone 775-784-6450



### **Appendix B Continued**

Your participation in this study is completely voluntary. You may stop at any time. Declining to participate or not answering any specific questions will not have any negative effects on you.

You may ask about your rights as a research participant. If you have questions, concerns, or complaints about this research, you may report them (anonymously if you choose) by calling the University of Nevada, Reno Research Integrity Office at 775-327-2368.

## Appendix C

### Rethink Your Drink: A Study of Family Drink Choices

#### Interview Guide Page 1

Thank you again for taking the time to talk with me. I have a number of topics to ask you about. There are no right or wrong answers. Please don't take offense if I ask you to tell me more. I just want to be sure I understand.

1. To begin with, I would like to ask you about buying groceries – including food and drinks - for your family?

1.a. Can you describe your responsibility of buying groceries for your family? In other words, what is your involvement when buying groceries?

- Do you help determine how much money to spend on groceries?
- Do you help decide what groceries to buy? Including the types and amounts?
- Do you help with grocery shopping?

First, I am going to ask you about food.

2. When you are making decisions about what food to buy for your family, what do you consider?

(Follow-up questions to be used as/if needed)

- 2.a. How much do you consider cost?
- 2.b. How much do you consider taste?
- 2.c. How much do you consider convenience?
- 2.d. How much do you consider nutrition?

**Appendix C Continued**

**Rethink Your Drink: A Study of Family Drink Choices**

**Interview Guide Page 2**

2.e. Is there anything else you consider that we haven't talked about yet?

(For example allergies, vegan, vegetarian)

3.

3.a. Of the considerations you have just mentioned, which is most important to you when you make decisions about what food to buy for your family?

3.b. What is the least important consideration?

Next I would like to ask you some questions about drinks but before I do, would you mind filling out these questionnaire?

4. When you are making decisions about what drinks to buy for your family, what do you consider?

(Follow-up questions to be used as/if needed)

4.a. How much do you consider cost?

4.b. How much do you consider taste?

4.c. How much do you consider convenience?

4.d. How much do you consider nutrition?

4.e. Is there anything else you consider that we haven't talked about yet?

(For example allergies, vegan, vegetarian)

**Appendix C Continued**

**Rethink Your Drink: A Study of Family Drink Choices**

**Interview Guide Page 3**

5.
  - 5.a. Of the considerations you have just mentioned, which is most important to you when you make decisions about what drinks to buy for your family?
  - 5.b. What is the least important consideration?
6. Can you describe the most recent time when your child (or children) wanted you to buy a specific drink but you said “No”?  
(Follow-up questions as needed)
  - 6.a. What was the age of child?
  - 6.b. What was the drink?
  - 6.c. How was the situation resolved?
7. Can you describe the most recent time when you wanted your child (or children) to drink a specific beverage but they did not want to?
  - 7.a. What was the age of child?
  - 7.b. What was the drink?
  - 7.c. How was the situation resolved?

Thank you. I have just a few more questions.

**Appendix C Continued**

**Rethink Your Drink: A Study of Family Drink Choices**

**Interview Guide Page 4**

8. Would you be interested in learning more about ways to improve your child's (or children) nutrition?

(If no, skip to the closing statement below. If yes, continue with (8.a. and 8.b.)

8.a. What topics are of interest to you?

8.b. How would you like to receive information?

(Follow-up questions as/if needed)

8.b.i. Would you like to receive information by mail?

8.b.ii. Would you like to get information from a website?

8.b.iii. Would you like to attend a workshop or class?

8.b.iv. Is there another way to get information that we haven't discussed?

9. Who would you most like to get this information from?

(Follow-up questions as/if needed)

9.a. Would you like to get this information from your child's pediatrician?

9.b. Would you like to get this information from your child's dentist?

9.c. Would you like to get this information from another health professional?

9.d. Would you like to get this information from an organization? (For example WIC or SNAP)?

Can you tell me more about that?

**Appendix C Continued**

**Rethink Your Drink: A Study of Family Drink Choices**

**Interview Guide Page 5**

That is all the questions I have for today. Thank you again for participating in our study. If you would please sign this acknowledgement form and the participant information form, I will give you your gift card.

Appendix D

# What do your kids drink?

	<i>With meals</i>	<i>At snack time</i>	<i>On special occasions</i>
Water			
Carbonated Water			
Sweetened Water			
100% Fruit Juice			
Fruit-flavored drink (example: fruit nectar, lemonade, fruit punch)			
Whole Milk			
Flavored Milk (example: chocolate, strawberry)			
Reduced Fat Milk			
Low Fat/Fat Free Milk			
Non-dairy Milk (example: almond, soy)			
Unsweetened Tea			
Sweetened Tea			
Unsweetened Coffee			
Soda			
Diet Drinks/Artificially Sweetened Drinks			
Sweetened Coffee			
Sports drinks			
Energy Drinks			
Agua Fresca			

## Appendix E

## Participation Information Form

**Instructions:** Please answer each of the following questions below. The information will be used to describe, in general, those that participated in this study.

**1. What is your gender?**

Female

Male

**2. What is your race? (Check all that apply)**

American Indian / Native American

Asian

Black

Caucasian

Hawaiian / other Pacific Islander

**3. What is your ethnicity (check one)**

I am Hispanic / Latino

I am not Hispanic / Latino

**4. What year were you born? \_\_\_\_\_**

**5. What is your highest level of education?**

Less than high school degree

High school degree

Some college

Associates degree

Baccalaureate degree

Other (please specify): \_\_\_\_\_

**6. Do you currently receive SNAP benefits or participate in SNAP (formerly named Food Stamps)?**

Yes

No

**7. What are the ages of your children in your household? (fill in the blanks - see the example below)**

There are \_\_\_\_\_ children in my household and their ages are

\_\_\_\_\_.

*Example: There are 3 children in my household and their ages are 5, 7 and 9.*



**Appendix F**

**Rethink Your Drink  
Receipt of Participant "Thank You" Gift**

**Instructions:** To show receipt of your gift certificate, please print and sign your name below. This information will be provided to the UNR Controller's Offices for accounting purposes only.

Name (please print):

\_\_\_\_\_

Signature: \_\_\_\_\_ Date \_\_\_\_\_

Gift Card # \_\_\_\_\_