

12-2006

CHILD FEEDING PRACTICES AND NUTRITION EDUCATION NEEDS OF THE LATINO POPULATION IN SOUTH CAROLINA

Claire Kirkpatrick
Clemson University, claire.kirkpatrick@gmail.com

Follow this and additional works at: https://tigerprints.clemson.edu/all_theses

 Part of the [Nutrition Commons](#)

Recommended Citation

Kirkpatrick, Claire, "CHILD FEEDING PRACTICES AND NUTRITION EDUCATION NEEDS OF THE LATINO POPULATION IN SOUTH CAROLINA" (2006). *All Theses*. 3.
https://tigerprints.clemson.edu/all_theses/3

This Thesis is brought to you for free and open access by the Theses at TigerPrints. It has been accepted for inclusion in All Theses by an authorized administrator of TigerPrints. For more information, please contact kokeefe@clemson.edu.

CHILD FEEDING PRACTICES AND NUTRITION EDUCATION NEEDS OF THE
LATINO POPULATION IN SOUTH CAROLINA

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
Food, Nutrition, and Culinary Science

by
Claire Hamer Kirkpatrick
December 2006

Accepted by:
Dr. Katherine Cason, Committee Chair
Dr. Katherine Cason
Dr. Vivian Haley-Zitlan
Dr. Rachel Mayo

ABSTRACT

The Latino population in South Carolina is rapidly growing. Much of this population is low-income and many have a low level of education. Latinos have a greater incidence of obesity and the resulting diseases than other ethnicities and Latino children are no exception. It is important to provide nutrition education to caregivers so that child overweight and obesity can be prevented in this population. In order to provide effective nutrition education it is essential to know what behaviors need to be targeted. This study used qualitative and quantitative methods to examine the child feeding practices used by this population to determine if currently used practices should be incorporated into nutrition education. In the quantitative study, feeding practices were compared to BMI, caregiver income and education. The only significant relationships found was that as education increased authoritarian feeding practices decreased. The qualitative study findings were that parents were more concerned about a child eating enough than about a child eating too much. The ultimate goal of caregivers was to get the child to eat and this resulted in the caregivers using feeding practices from all of the feeding styles, except the uninvolved style. This may indicate that a population more concerned with a child eating enough than a child eating too much may not be able to be categorized into feeding styles because they may use techniques from multiple styles. The prevention of individual feeding practices such as using rewards, bribes, punishment, and short order cooking should be the focus in this population in nutrition education. In addition, other variables such as child activity level, the health risks of child overweight and whole milk intake, and the benefits of consuming whole grains instead of refined carbohydrates should be targeted to prevent childhood obesity in this population.

DEDICATION

In loving memory of my grandfather, Palmer Kirkpatrick Sr. April 6, 1915-November 18, 2006. He was a great man and could bring a smile to anyone's face with a wiggle of his ears or a brilliantly told joke. He will never be forgotten.

ACKNOWLEDGMENTS

There were many people who were integral to the success of this project. First, I wish to thank Sergio Nieto Montenegro. Without his assistance this project would never have been able to be conducted or finished in such a short time. I also want to thank Mercedes Rossi and America Chavez for their assistance with data collection. I could not have done it without them.

Another person who was integral to this project was my thesis advisor, Dr. Katherine Cason. I wish to thank her for providing me the opportunity to participate in such interesting research and for all of her suggestions and support throughout the course of this project.

Next, I wish to thank my committee members, Dr. Vivian Haley-Zitlan and Dr. Rachel Mayo for their valuable suggestions and patience with this interesting yet challenging project.

Dr. Billy Bridges also deserves my thanks for his assistance with the statistical analysis of the data. It would have been virtually impossible without his patience and diligence in this matter.

I wish to thank my parents, without whom I would never have made it this far in my education. I thank them for their love and support through the years.

Finally, I wish to thank everyone in my life that has helped, supported, and entertained me through my time here in Clemson. There are too many to name, but they know who they are.

TABLE OF CONTENTS

| | Page |
|--|------|
| TITLE PAGE..... | i |
| ABSTRACT..... | ii |
| DEDICATION..... | iii |
| ACKNOWLEDGEMENTS..... | iv |
| LIST OF TABLES..... | vii |
| PREFACE..... | viii |
| LITERATURE REVIEW..... | 2 |
| Background..... | 2 |
| Statement of Purpose..... | 14 |
| Objectives..... | 14 |
| References..... | 16 |
| THE RELATIONSHIP OF CHILD FEEDING STYLES TO CHILD BMI, PARENTEducation, INCOME AND TIME LIVED IN THE U.S. IN THE LATINO POPULATION OF SOUTH CAROLINA..... | 21 |
| Introduction..... | 21 |
| Methodology..... | 27 |
| Statistical analysis..... | 31 |
| Results..... | 34 |
| Discussion..... | 39 |
| Conclusions..... | 45 |
| Implications for Reasearch..... | 47 |
| References Cited..... | 53 |
| CHILD FEEDING PRACTICES AND NUTRITION EDUCATION NEEDS OF THE LATINO POPULATION IN SOUTH CAROLINA..... | 57 |
| Abstract..... | 57 |
| Introduction..... | 57 |
| Methodology..... | 62 |
| Results..... | 65 |

Table of Contents (Continued)

| | Page |
|--|------|
| Discussion..... | 85 |
| Conclusions..... | 95 |
| Limitations..... | 96 |
| Implications for Research..... | 96 |
| References..... | 101 |
| CONCLUSIONS..... | 107 |
| APPENDICES..... | 109 |
| 1: Consent Forms for the Survey and for the Focus Groups..... | 110 |
| 2: Advertisements for the Survey and Focus Groups..... | 115 |
| 3: The Caregiver Feeding Style Questionnaire (CFSQ)..... | 118 |
| 4: The Demographic Survey..... | 124 |
| 5: The Focus Group Script..... | 133 |

LIST OF TABLES

| Table | | Page |
|-------|---|------|
| 1.1 | The determination of feeding styles described in Hughes et al. (2005)..... | 48 |
| 1.2 | Feeding styles and how they were determined..... | 48 |
| 1.3 | Questions that loaded on factors 1, 2, and 3 in the Exploratory Factor analysis..... | 49 |
| 1.4 | Pearson's correlation results: correlation of the three factors with child BMI, parent education, and income..... | 50 |
| 1.5 | Number of participants scoring above the median (high) and below the median(low) on the three factors. | 50 |
| 1.6 | Single-factor ANOVA results..... | 50 |
| 1.7 | Number of participants using each of the eight feeding "styles" | 51 |
| 1.8 | Percentage of children who were overweight, at risk for becoming overweight, normal and underweight..... | 51 |
| 1.9 | Mult-factor ANOVA results..... | 52 |
| 2.1 | Questions and probes used to direct the focus groups..... | 98 |

PREFACE

This thesis is divided into three sections. The first is the literature review followed by two journal articles. The literature review covers concepts focused on in both articles. The first article is entitled Child Feeding Practices and Nutrition Education Needs of the Latino Population in South Carolina. Focus Groups were conducted to determine the feeding practices in use by Latino Caregivers to children ages 2-6. In addition participants were questioned in regards to nutrition education.

The second article is entitled The Relationship of Child Feeding Styles to Child BMI, Parent Education and Income in the Latino Population of South Carolina. Interviews were conducted, children were weighed and child height was measured to determine the relationship between child feeding styles and the four variables of child BMI, parent education, income and time lived in the U.S.. All three sections have a respective bibliography and the tables are placed with the article to which they refer.

LITERATURE REVIEW

Background

Latino Demographics

As defined by the Center for Disease Control and Prevention (CDC), a person who is of Latino origin includes Mexican, Puerto Rican, Cuban, Central American, South American, or other Spanish Cultures or origin, regardless of race (CDC, Latino or Latino Population, 2006). Latinos comprise the fastest growing segment of the U.S population. As of 2002, they made up the largest ethnic group in the U.S., with the largest segment being children under the age of 12 (U.S. Census Bureau, 2001). South Carolina ranked among the top ten states for the change in proportion of Latino residents from 1990 to 2000 with a change of over 200% (CDC, NCHS, 2005). The number of Latinos living in South Carolina is estimated by the U.S. Census Bureau (2000, 2004) to have increased further from 95,076 in 2000 to 120,681 in 2004. Some authors even believe that there could be as many as 400,000 to 500,000 Latinos in South Carolina (Lacy E., 2005). As of 2000, there were 52,871 Mexicans, 12,211 Puerto Ricans, 2,875 Cubans and 27,119 classified as “other Latino” living in S.C (U.S. Census Bureau, 2001).

Childhood obesity in the U.S.

The percentages of overweight and at risk for becoming overweight children living in the U.S increased significantly from 1999 to 2004 (Ogden et al, 2006). In children, ages 2-5, the percent of overweight and at risk for becoming overweight children living in the U.S

increased from 22 to 26.2 percent and in children ages 2-19 from 28.2 to 33.6 percent (CDC, NHANES, 2006). These percentages are predicted to continue growing (Ogden et al, 2006). This is alarming due to the fact that childhood overweight and obesity predict greater morbidity and mortality later in life from diseases such as diabetes, cardiovascular disease and hypertension (Brewis and Gartin, 2006). In fact, although the obvious symptoms do not normally develop until adulthood, the risk factors for cardiovascular disease and diabetes, such as insulin resistance, elevated blood lipids, increased blood pressure, and impaired glucose tolerance, may start to develop as early as childhood (Must et al. 1999).

There are also more immediate conditions associated with severe childhood obesity such as pseudotumor cerebri, slipped capital femoral epiphysis, steatohepatitis, cholelithiasis, and sleep apnea (Lobstein et al. 2004; Must et al. 1999). In addition, the diagnosis of Type 2 diabetes is becoming more common in overweight children (Cook et al. 2003).

Latinos Health Risks

In 2000, Mexicans and Puerto Ricans had one of the highest rates of self reported obesity in the U.S., second only to Non-Latino Blacks. In addition, Latin American adults are nearly two times more likely to have Type-2 diabetes than non-Latino whites (CDC, National Diabetes Prevention and Control Program, 2006). Latino children are following similar trends to Latino adults. The prevalence of obesity in Mexican-American children has been found to be higher than in other ethnicities (Ogden et al. 2006) and Type-2 diabetes is now becoming a problem in Latino children and adolescents (CDC, National Diabetes Prevention and Control Program, 2006). This is a serious problem as diabetes is the leading cause of lower-extremity amputations, chronic irreversible kidney disease, and blindness

among working age adults (CDC, National Diabetes Prevention and Control Program, 2006).

Child Feeding Practices

A review by the American Dietetic Association concluded that the influence of caregivers on children's eating habits is a major factor in the etiology of childhood obesity. However, it also concluded that this subject has not been studied sufficiently to establish a sound idea of what these influences are (The American Dietetic Association, 2004).

Many studies have demonstrated that child feeding practices are one way in which caregivers influence a child's nutrition status (Birch et al. 2001, Hughes et al 2005, Olvera et al 1990, Melgar-Quinonez et al 2004). Feeding practices have been shown to impact a child's perception of food as well as the foods the child chooses (Melgar-Quinonez et al., 2004; Kaiser et al., 1999; Birch et al., 2001; Brewis et al., 2003; Sherry et al., 2004).

Some examples of these practices include: accommodating specific requests for alternative choices at meals: using foods as bribes, rewards, and pacifiers to encourage eating or another desired behavior: not allowing children to eat enough and not believing that a child is full. Use of strategies such as these has been found to interfere with a child's ability to self-regulate and can possibly lead to child becoming overweight (Sherry et al. 2004).

These strategies have been classified into four parental feeding styles: authoritarian, authoritative, permissive/indulgent and uninvolved. These classifications allow for the measurement of a broader spectrum of feeding styles than measured previously (Hughes et al. 2005). Studies typically look at feeding practices and then classify these practices into feeding styles based on face validity (Hughes et al., 2005; Baughcum et al 2001; Birch et al.,

2001). However, feeding styles have not been determined by grouping them based on the specific behaviors that give the feeding styles their characteristics (Hughes et al. 2005). Hughes wanted instead to classify feeding styles using more definable methods. Therefore, they examined specific behaviors from which feeding styles could be determined, categorized them into groups according to their levels of demandingness and responsiveness and used a score obtained from these levels to determine feeding styles. The feeding styles of authoritarian, authoritative, indulgent/permissive, and uninvolved were adapted by Hughes from parenting styles defined by Macoby and Martin in **Child Psychology** (Mussen, P.H & Hetherington E.M., 1983).

Parenting Styles

The Authoritarian- Autocratic Pattern

An authoritarian parent needs to maintain his or her complete control at all times. They suppress any challenges to their authority by the child. The demands an authoritarian parent places on a child are not matched or balanced by a reciprocal acceptance of the demands of the child. Therefore, there is a high level of demandingness from the parent but a low level of responsiveness to the child. Although the authoritarian parent understands that children have needs that parents should fulfill, authoritarian parents place strict limits on the expression of these needs by the children. Authoritarian parents try to shape, control and evaluate the behavior and attitudes of their children in accordance with an absolute set of standards. They value obedience, respect for authority, work, tradition, and the preservation of order. Additionally, verbal give and take between parent and child is discouraged.

Children of authoritarian parents have been shown to lack independence, have low self esteem and an external locus of control (Mussen, P.H & Hetherington E.M., 1983).

The Indulgent Permissive Pattern

Indulgent-permissive parents take a tolerant, accepting attitude toward their child's impulses, use little punishment and avoid asserting authority or imposing controls or restrictions. They make few demands for mature behavior and allow children to regulate their own behavior and make their own decisions. These parents do not tend to regulate mealtimes, bedtimes, and television viewing. Indulgent-permissive parents exhibit a low level of demandingness but are highly responsive to the needs of their children.

Children of indulgent parents have been found to be immature, in the sense that they lack both impulse control and self-reliance. They also tend to lack both responsibility and independence (Mussen, P.H & Hetherington E.M., 1983).

The Authoritative-Reciprocal Approach

The authoritative approach to parenting is characterized by the requirement that the children to be responsive to parental demands. In turn these parents attempt, as much as possible, to be responsive to the demands of their children. This style of parenting includes an expectation for mature behavior from the child, clear standard setting as well as firm enforcement of rules and standards. An authoritative parent uses commands and rules when necessary and also encourages independence and individuality. There is open communication between parents and children, with parents listening to children's point of view, as well as expressing their own and encouraging verbal give and take. Authoritative parenting

recognizes the rights of both the parents and the child and exhibits a high level of both demandingness and responsiveness.

Children of authoritative parents have proved to be more competent than the children of both authoritarian and indulgent parents. They tend to be more independent, responsible, able to control aggression, self-confident, and have higher self-esteem (Mussen, P.H & Hetherington E.M., 1983).

The Indifferent-Uninvolved Pattern

An uninvolved parent is characterized by the parent trying to avoid inconvenience. There is a general disinterest in the child and the parent can be detached, emotionally uninvolved and often depressed. Child demands are responded to in such a way as to stop the child from making them. This can result in physical abuse, verbal abuse and neglect. Uninvolved parent exhibit a low level of demandingness and responsiveness. Children of parents who are uninvolved are more likely to have poor impulse control, be uninterested in school and exhibit delinquent behavior. In addition, they are more likely to start dating, smoking, and drinking at an early age (Mussen, P.H & Hetherington E.M., 1983).

The Feeding Styles

Indulgent/Permissive

A study conducted by Brewis & Gartin (2006) suggests that a permissive feeding style can result in a higher caloric intake than is necessary. It was found that based on a disciplinary scale most of the participants (Euro-American and African American) were relatively permissive in their parenting. Latinos have been found to be permissive in their

feeding as well (Hughes et al 2005, Melgar-Quinonez et al 2004). In accordance with an indulgent- permissive feeding style, parents can become “short order cooks” for their children when the meal wasn’t liked. In these instances, the substitutions were almost always pre-packaged higher calorie and fat meals such as pizza and hot dogs. Even though, most of the parents had an ideal model of feeding consistent with guidelines for a healthy diet, it was rarely practiced even when the child was under direct parental supervision. It is theorized that although the parents may have had nutritional goals for the children, they also had the social goal of a pleasant mealtime. This pattern might interfere with the child's nutrition when the child refuses what is served, and to avoid a conflict, the parent prepares something else (Brewis & Gartin, 2006).

Uninvolved

The uninvolved feeding style is also a permissive feeding style. However, uninvolved parents use fewer child-centered techniques and more physical punishment. Uninvolved parents generally do not make many demands of the child and are less responsive to their child’s demands (Hughes et al. 2005).

Authoritarian

The authoritarian feeding style is characterized by parental control of food intake through restriction, or pressuring the child to eat through force, rewards or bribes (Hughes et al., 2005). Bribes can result in a higher fat and calorie intake by giving the child a large amount of a high fat, high calorie food in exchange for eating a smaller amount of a healthy food (i.e. if you eat three bites of broccoli you can have a bowl of ice cream). Restricting a specific food, such as chocolate, or an amount of food has been shown to lead to an

increased preference for as well as increase the intake of this food, a higher weight, and an inability to regulate energy intake (Sherry et al. 2004, Fisher & Birch, 1999, Hughes et al. 2005). Additionally, forcing a child to eat (i.e. requiring them to clean their plate or eat when not hungry) could decrease the child's responsiveness to their own feelings of hunger or satiation (Birch et al., 1987, Satter, 1986).

Authoritative

The authoritative feeding style includes the use of discussion, negotiation and reasoning, providing rationales, and praising the child during feeding times (Iannotti et al., 1994; Cousins et al., 1993; Hepinstall et al. 1987; Stanek, Abbott, & Cramer, 1990, Hughes et al., 2005). Research examining this feeding style has been limited even though it is supported as the most beneficial to the child in the literature (Birch et al., 1995).

Influences on Latino Health

According to the CDC's Office of Minority Health (2006), research is needed to develop intervention models that produce effective, sustainable improvements in urban health and quality of life for Latinos (CDC, Urban Research Centers, 2006). Poor health outcomes in the Latino population are associated with language and cultural barriers, lack of access to preventative care, and lack of health insurance (CDC, Latino and Latino Populations, 2006).

Latino health has also been shown to be largely influenced by social factors such as income, education, discrimination, and community characteristics, especially at the community level (CDC, Urban Research Centers, 2006).

Community characteristics, culture and child feeding

Perceptions of overweight and feeding strategies vary depending on culture (Sherry et al., 2004; Birch and Fisher, 1995). Many Latino parents view overweight as a sign of health. In a study conducted in Mexico, half of the parents of obese children did not identify their children as having any weight problem and they viewed food treats as acts of loving and caring (Brewis et al., 2003). Sherry et al. (2004) found that in the non-Latino groups, “full” or “not hungry” meant the child was bored, wanted to do something else, or was actually full, but in the Latino group it was found most commonly that “not hungry” meant ill.

Although the Latino culture can be generalized in some ways, such as the emphasis on extended family and the utilization of the Spanish language, there are cultural differences as well (CDC, National Center for Health Statistics, 2002). A study examining Puerto Ricans, Cuban-Americans, and Mexican-Americans found differences in dietary intake depending on the country of origin (Loria, et al. 1995).

The level of acculturation in the Latino population also varies and this affects the culture and environment in which a child is raised (Kaiser et al., 2001). Acculturation has been shown to affect child feeding practices and eating habits. More acculturated Latinos have been found to eat fewer servings of fruits and vegetables per day than those who are less acculturated (Neuhouser et al. 2004). In addition, adult obesity in this population has been shown to increase with the amount of time lived in the U.S. (Himmelgreen et al., 2004; Kaplan et al. 2004).

However, when examining the relationship of child feeding practices to the level of acculturation, Kaiser et al. (2001) reported that less acculturated Latino mothers are more likely to prepare different foods when a child refuses to eat, less likely to give vitamins, and

more likely to view bribes, threats, and punishment as effective feeding strategies than more acculturated Latino mothers.

Socioeconomic status and child feeding

Income

Nationally, Latinos are more likely than non-Latino Whites to live in poverty. About 21.9 % of Latinos lived in poverty in 2004, compared with 8.6 % of non-Latino Whites. It is estimated that 23.6% of the Latino population in SC lives in poverty (U.S. Census Bureau, 2001). Most are employed mainly in low-paying industries such as food processing, landscaping, agriculture, construction, and light manufacturing. The average pay for a Latino worker in this state is approximately \$14,000 per year (Lacy, 2005).

Latino and lower-income children have a higher prevalence of overweight and obesity than White, non-Latino, and higher-income children (Campaigne, et al., 1994; Dietz, 2004; Kimm, et al., 2001; Kimm et al., 2002; Strauss et al., 2001; Wang, 2004). It has also been found that low-income mothers tend to view their overweight or obese children as thick or solid and believe that a child's weight is more influenced by genetics than the environment (Jain et al., 2001).

Feeding practices thought to lead to obesity, have been observed among low income mothers such as: a heightened concern about child being hungry, difficulty withholding food from a child, even one who has just eaten, and concern about underweight even if child is above normal weight (Baughcum, A. E. et al., 2001). It has also been found that the lower their parent's education, the higher the likelihood that a child will have a VCR or DVD in the bedroom. This could affect child weight as overweight children tend to watch more television than their underweight counterparts (Ariza et al., 2004). Watching television

during meals is also more common in families with lower parental education, or lower income, as well as among Latinos and African Americans (McNutt et al., 1997).

In addition, focus group interviews found that many low income mothers believed if they tried to control their child's diet, other family members would challenge this control (Jain et al., 2001). Furthermore, the view that a fat child is a healthy child may be more common in families or groups that are food insecure presently or have been in the past (Kumanyika S., 2006).

Education

As a whole, the Latino population is one of the least educated ethnic groups, surpassed only by American Indians and Alaska Natives (Pew Latino Center, 2005). The median educational level of Latinos in SC, as reported by Lacy (2005), is eight years, with over one third having 6 years of education or less.

Watching television during meals is more common in families with lower parental education, or lower income, as well as among Latinos and African Americans (McNutt et al., 1997).

Latino mothers with a higher education level have been found to use more authoritative feeding techniques such as reasoning with the child, controlling consumption of unhealthy foods, and allowing their child to make suggestions regarding eating than are mothers with a lower level of education (Olvera-Ezzell et al., 1990).

Generational Transmission of Feeding Styles

A generational transmission of feeding styles has been found to occur (Fletcher and Branen, 1997, Vauthier et al., 1996). In a study conducted by Vauthier et al. (1996), young

adult eating habits such as eating all the food on the plate, eating dessert, and eating regularly scheduled meals were directly related to the types of feeding practices they remembered their parents using during their childhood. Moreover, young adults whose parents used threats and/or bribes were more likely to use these feeding techniques than young adults whose parents did not use them (Vauthier et al 1996). In addition, consideration of the nutrition content of food choices by adults has been found to be related to what was taught to them by their parents (Branen & Fletcher, 1999). This highlights the need to teach parents positive child feeding techniques so that these positive practices will be passed on from generation to generation.

Inconsistencies in the Literature

Further studies are needed on feeding strategies because many inconsistencies still exist in the literature. The perception that a child is overweight or underweight has been shown to influence feeding strategies in European-American populations (Johnson et al., 1994; Birch & Fisher, 2000; Faith et al., 2004). For example, parents may use restriction in response to an overweight child, especially with girls (Johnson & Birch, 2000). On the contrary, Anderson et al. (2005) found that the practice of food restriction is not related to child weight.

There are inconsistencies in the studies of feeding practices in the Latino culture as well. Some studies have found that Latinos typically use indulgent and permissive feeding practices, do not use restriction, and are less likely to use bribes and threats to influence child eating (Hughes et al., 2005, Melgar-Quinonez et al., 2004, Olvera-Ezzell et al., 1990). On the

other hand, a study in California found the most common feeding strategy used in the Latino population was bribes, threats, and punishment for not eating (Kaiser et al. 1999).

Statement of Purpose

The high prevalence of overweight and obesity in Latinos combined with the magnitude in the growth of this population necessitates further research on prevention of overweight and obesity in this population and the diseases that develop as a result. Feeding styles may have immediate and ongoing influence on child weight and health status (Vauthier et al., 1996). Parents and caregivers need to be educated on mealtime behaviors that encourage the adoption of healthy eating in early childhood. Research is needed to identify which characteristics of the caregiver's feeding style results in healthier eating habits of children as well as the long term consequences of these styles (Nicklas et al., 2001). There is limited research on this subject, especially in the Latino population and there is currently no research on child feeding practices used by Latino caregivers living in S.C. As compared to other states, Latinos in South Carolina might have different education and income levels, represent different countries of origin, as well as have different levels of acculturation; all of which could affect the child feeding practices used (Olvera-Ezzell et al., 1990; Baughcum et al., 2001; Jain et al., 2001; Loria, et al. 1995; Kaiser et al., 2001).

Objectives

The purpose of this project is to use both qualitative and quantitative methods to learn about the feeding practices used by Latino caregivers in the state. Nutrition educators will be

able to use the results of the quantitative section of this study to know which feeding practices are currently being used by this population, whether feeding practices are influencing BMI and if these feeding practices vary between two measures of socioeconomic status and the time a caregivers has lived in the U.S. This will potentially provide nutrition educators in S.C. with data indicating whether or not feeding practices need to be incorporated in nutrition education with this population and if so, which practices should be targeted. The qualitative section may also provide nutrition educators with data indicating which feeding practices are being used in this population and may also provide them with the nutrition concerns caregivers have regarding their child's nutritional status, as well as their suggestions on how to improve nutrition education

References

- American Dietetic Association [ADA]. (2004). Position of the American Dietetic Association: dietary guidelines for children ages 2-11 years [Electronic Version]. **Journal of the American Dietetic Association**, 104, 660-667.
- Anderson, C.B., Hughes, S.O., Fisher, J.O., & Nicklas, T.A. (2005). Cross-cultural equivalence of feeding beliefs and practices: The psychometric properties of the child feeding questionnaire among Blacks and Latinos [Electronic Version]. **Preventative Medicine**, 41, 521-531.
- Ariza, A.J., Chen, E.H., Binns, H.J., Christoffel, K.K. (2004). Risk Factors for Overweight in Five to Six-Year-Old Latino American Children: A Pilot Study [Electronic Version]. **Journal of Urban Health**, 81(1)
- Baughcum, A.E., Powers S.W., Johnson S.B., Chamberlin L.A., Deeks C.M., Jain A., Whitaker R.C. (2001) "Maternal Feeding Practices and Beliefs and Their Relationships to Overweight in Early Childhood," **Journal of Developmental and Behavioral Pediatrics**, 22, (6), 391–408.
- Birch , L.L.(1987). The acquisition of food acceptance patterns in children. In R.A. Boakers, , D.A Popplewell, & M.J. Burton (Eds.), **Eating habits: Food, physiology, and learned behavior**. London: Wiley
- Birch, L.L. & Fisher, J.O. (1995). Appetite and eating behavior in children. In G.E. Gaull (Ed.), *The pediatric clinics of North America: **Pediatric Nutrition***. Philadelphia, PA: Saunders, 931-953.
- Birch, L.L. & Fisher, J.O. (2000). Mother's child feeding practices influence daughter's eating and weight [Electronic Version]. **American Journal of Clinical Nutrition**. 71, 1054-1061.
- Birch, L.L., Fisher, J.O., Grimm-Thomas, K., Markey, C.N., Sawyer, R., & Johnson S.L. (2001). Confirmatory factor analysis of the child feeding questionnaire: a measure of parental attitudes, beliefs, and practices about child feeding and obesity proneness [Electronic Version]. **Appetite**, 36(3), 201-210.
- Branen L, Fletcher J. (1999). Comparison of college students' current eating habits and recollections of their childhood food practices. **J Nutr Educ**;31:304-310.
- Brewis, A. (2003). Biocultural Aspects of Obesity in Young Mexican Schoolchildren [Electronic Version]. **American Journal of Human Biology**, 2003, 15, 446-460
- Brewis, A., Gartin M. (2006) Biocultural Construction of Obesogenic Ecologies of Childhood: Parent-Feeding Versus Child-Eating Strategies. **American Journal of Human Biology**, 2006, 18, 203-213

Campaigne BN, Morrison JA, Schumann BC et al. Indexes of obesity and comparisons with previous national survey data in 9- and 10-year-old black and white girls: the National Heart, Lung, and Blood Institute Growth and Health Study. **J Pediatr** 1994; 124:675-680.

Centers for Disease Control and Prevention. National Center for Health Statistics (NCHS). **Health, United States, 2005 With Chart Book on Trends in the Health of Americans**. Retrieved October 15, 2006, from <http://www.cdc.gov/nchs/hs.htm> .

Centers for Disease Control and Prevention. National Health and Nutrition Examination Survey . Available at: <http://www.cdc.gov/nchs/about/major/nhanes/datalink.htm>. Accessibility verified February 27, 2006.

Centers for Disease Control and Prevention (CDC), Office of Minority Health, Latino Health Program, Urban Research Centers, <www.cdc.gov/omh/populations/HL/HHP/UrbanRC.htm>, Accessed April 12, 2006

Centers for Disease Control and Prevention (CDC), Office of Minority Health. Latino Health Program, National Diabetes Prevention and Control Program, <www.cdc.gov/omh/populations/HL/HHP/Diabetes>, Accessed April 12, 2006

Centers for Disease Control and Prevention (CDC), Office of Minority Health, Latino or Latino Populations, <www.cdc.gov/omh/populations/HL/HL.htm>, Accessed April 12, 2006

Cook S., Weitzman M., Auinger P., Nguyen M., Dietz W.H. (2003). Prevalence of a metabolic syndrome phenotype in adolescents: findings from the third National Health and Nutrition Examination Survey, 1988–1994. **Arch Pediatr Adolesc Med.**;157:821–827

Cousins, J.H., Power, T.G. & Olvera-Ezzel, N. (1993). Mexican-American mother's socialization strategies: Effects of education, acculturation and health locus of control. **Journal of Experimental Child Psychology**, 55, 258-276.

Dietz WH. (2004). Overweight in childhood and adolescence. **N Engl J Me.** 350 (9),855-857.

Faith, M.S., Berkowitz, R.I., Stallings, V.A., Kerns, J., Storey, M., & Stunkard, A.J. (2004) Parental Feeding Attitudes and Styles and Child Body Mass Index: Prospective Analysis of a Gene-Environment Interaction [Electronic Version]. **Pediatrics**, 114 (4), e429-e436.

Fisher, J.O. & Birch, L.L. (1999). Restricting access to palatable foods affects children's behavioral response, food selection, and intake [Electronic Version]. **Am J Clin Nutr**, 69, 1264-1272.

Fletcher, J., Branen, L. (1997). Late Adolescents' perceptions of their caregiver's feeding styles and practices and those they will [Electronic Version]. **Adolescence**, 32 (126), 287-294.

- Heptinstall, E., Puckering, C., Skuse, D., Start, K., Zur-Szpiro, S., & Dowdney, L. (1987). Nutrition and mealtime behavior in families of growth-retarded children. **Human Nutrition: Applied Nutrition**, 41(6), 390-4-2.
- Himmelgreen, D.A., Perez-Escamilla, R., Martinez, D., Brettnall, A., Eells, B., Peng, Y., Bermudez, A. (2004). The Longer you Stay, the Bigger You Get: Length of Time and Language Use in the U.S. are associated with obesity in Puerto Rican women. **American Journal of Physical Anthropology**. 125, 90-96
- Hughes, S.H., Power, T.G., Orlet-Fisher J., Mueller, S. & Nicklas, T.A. (2005). Revisiting a neglected construct: parenting styles in a child-feeding context [Electronic Version]. **Appetite**, 44, 83-92.
- Iannotti, R.J., O'Brien, R.W., & Spillman, D.M. (1994). Parental and peer influences on food consumption of preschool African-American children. **Perceptual and Motor Skills**, 79(2), 747-752.
- Jain A., Sherman S.N., Chamberlin, L.A., Carter, Y. , Powers S.W., Whitaker, R.C.(2001). "Why Don't Low-Income Mothers Worry about Their Preschoolers Being Overweight?" **Pediatrics** 107 (5), 1138-46. Johnson et al., 1994
- Johnson, S.L., & Birch, L.L. (1994) Parent's and children's adiposity and eating style [Electronic Version]. **Pediatrics**, 94, 653-661.
- Kaiser, L. L., Martinez, N. A., Harwood, J. O., & Garcia, L. C. (1999). Child feeding strategies in low-income Latino households: Focus group observations [Electronic Version]. **Journal of the American Dietetic Association**, 99, 601-603.
- Kaiser, L.L., Melgar-Quinonez, H., Lamp, C.L. Johns, M. & Harwood, J. (2001). Acculturation of Mexican-American mothers influences child feeding strategies [Electronic Version]. **J Am Diet Assoc**, 101, 542-547.
- Kaplan MS, Huguet N, Newsom JT, McFarland BH. (2004) The association between length of residence and obesity among Hispanic immigrants. **American Journal of Preventive Medicine**.27, 323-326.
- Kimm S.Y., Barton B.A., Obarzanek E. et al. (2002). Obesity development during adolescence in a biracial cohort: the NHLBI Growth and Health Study. **Pediatrics** 110 (5):e54.
- Kimm S.Y., Barton B.A., Obarzanek E. et al. (2001). Racial divergence in adiposity during adolescence: The NHLBI Growth and Health Study. **Pediatrics** 107 (3):e34.
- Kumanyika S., Grier, S. (2006). Targeting Interventions for Ethnic Minority and Low-Income Populations [Electronic Version]. **The Future of children / Center for the Future of Children, the David and Lucile Packard Foundation**. 16 (1), 187-207

- Lacy, E. (2005, March). "Economic impact of Hispanics in South Carolina, Part 1." University of South Carolina's Consortium for Latino Immigration Studies. PowerPoint presentation. Retrieved August 31, 2005 from <http://www.cas.sc.edu/cli/papers.htm>, zip file
- Lobstein T, Baur L, Uauy R.(2004). Obesity in children and young people: a crisis in public health. **Obes Rev.**;5 (suppl 1):4-104
- Loria C.M., Bush T.L., Carrol M.D., Looker A.C., McDowell M.A., Johnson C.L., Sempos C.T. (1995). Macronutrients intakes among adult Hispanic: A comparison of Mexican Americans, Cuban Americans, and Mainland Puerto Ricans. **American Journal of Public Health.** 85, 684-689
- Melgar- Quinonez, H. & Kaiser, L.L. (2004). Relationship of child feeding practices to overweight in low-income Mexican-American preschool-aged children [Electronic Version]. **J Am Diet Assoc**, 104, 1110-1119.
- Mussen, P.H & Hetherington E.M. (Eds.). (1983). **Child Psychology.** (Vol. 4). New York: John Wiley & Sons.
- Must A, Strauss RS. (1999). Risks and consequences of childhood and adolescent obesity. **Int J Obes Relat Metab Disord**, 23(suppl 2):S2-S11
- Neuhouser, M.L., Thompson, B., Coronado, G.D., Solomon, C.(2004). Higher fat intake and lower fruit and vegetable intakes are associated with greater acculturation among Mexican living in Washington State. **J Am Diet Assoc.** 104, 51-57.
- Nicklas TA, Farris RP, Myers L, Berenson GS. (1995).Dietary fiber intake of children and young adults: The Bogalusa Heart Study [Electronic Version]. **The Journal of the American Dietetic Association**, 95, 209-214.
- Nicklas TA, Baranowski T, Baranowski J, Cullen K, Rittenberry L, Olvera N. (2001) Family and child-care provider influences on preschool children's fruit, juice, and vegetable consumption [Electronic Version]. **Nutrition Reviews.** 59(7), 224-235.
- Ogden, C., Flegal, K., Carrol, M. & Johnson, C. (2006). Prevalence and trends in overweight among U.S children and adolescents [Electronic Version]. **Journal of the American Medical Association**, 295(13) 1549-1555.
- Olvera-Ezzell, N., Power, T.G. & Cousins J. H. (1990). Maternal Socialization of children's eating habits: strategies used by obese Mexican-American mothers [Electronic Version]. **Child Development**, 61(2), 395-400.
- Pew Hispanic Center. Hispanics, a People in Motion. 2005. Available at: <http://pewhispanic.org/files/reports/40.pdf>. Accessed; September 12, 2005.
- Satter E. (1986). **Child of Mine.** Palo Alto, CA: Bull Publishing.

Sherry, B., McDivitt, J., Birch, L.L., Cook, F., Sanders, S., Prish, J., Francis, L.A. & Scanlon, K.S. (2004). Attitudes, practices, and concerns about child feeding and child weight status among socio-economically diverse White, Latino and African-American mothers [Electronic Version]. *J Am Diet Assoc*, 104, 215-221.

Stanek, K., Abbott, D., & Cramer, S. (1990). Diet quality and the eating environment of preschool children [Electronic version]. *Journal of the American Dietetic Association*, 90(11), 1582–1584.

Strauss R.S., Pollack H.A.(2001). Epidemic increase in childhood overweight, 1986-1998. *JAMA* 286 (22),2845-2848.

U.S. Census Bureau; “South Carolina Fact Sheet: 2000, 2004”; using American Fact finder. Retrieved April 12, 2005, from http://factfinder.census.gov/home/saff/main.html?_lang=en;

U.S. Census Bureau. (2001). “The Hispanic population.” Prepared by B. Guzman. Washington, DC: US. Census Bureau. Retrieved August 25, 2005 from <http://www.census.gov/prod/2001pubs/c2kbr01-3.pdf>).

Vauthier, J.M., Lluch A., Lecomte E., Artur Y., Herbeth B.(1996) Family resemblance in energy and macronutrient intakes: The Stanislas Family Study. *Int J Epidemiol.* 25,1030-1037.

Wang Y. (2004). Epidemiology of childhood obesity--methodological aspects and guidelines: what is new? *Int J Obes Relat Metab Disord.* 28, Suppl 3:S21-S28

THE RELATIONSHIP OF CHILD FEEDING STYLES TO CHILD BMI, CAREGIVER EDUCATION, INCOME AND TIME LIVED IN THE U.S. IN THE LATINO POPULATION OF SOUTH CAROLINA

Abstract

The objective of this study was to determine child feeding styles in a population of Latino caregivers of children ages 2-6 in South Carolina using the Child Feeding Questionnaire (CFSQ) and then to compare these styles to the variables of child BMI, caregiver education, income level and the amount of time the caregiver has lived in the U.S.

Due to a difference in participant scoring, different feeding styles than authoritative, authoritarian, uninvolved and authoritative had to be determined. There was no relationship found between these styles and the variables. However, it was found that as caregiver education and time lived in the U.S. increased, authoritarian feeding practices were used less frequently. In addition, those who had lived in the U.S. longer, used more child centered techniques to coerce their child to eat than those who had lived in the U.S. a shorter amount of time. It was also found that child BMI in this population was much higher than average, based on CDC growth charts.

Introduction

Latinos comprise the fastest growing segment of the U.S population. As of 2002, they make up the largest ethnic group in the U.S., with the largest segment being children under the age of 12 (U.S. Census Bureau, 2001). South Carolina ranked among the top ten states

for the change in proportion of Latino residents from 1990 to 2000 with a change of over 200% (CDC, NCHS, 2005). The number of Latinos living in South Carolina is estimated by the U.S. Census Bureau (2000, 2004) to have increased further from 95,076 in 2000 to 120,681 in 2004. However, some authors believe that there could be as many as 400,000 to 500,000 Latinos in South Carolina (Lacy E., 2005).

Childhood obesity is a growing problem in the U.S. The percentage of overweight children living in the U.S. increased significantly from 1999 to 2004 (Ogden et al, 2006). In children, ages 2-5, the percent of overweight and at risk for becoming overweight children living in the U.S increased from 22 to 26.2 percent and in children ages 2-19 from 28.2 to 33.6 percent (CDC, NHANES, 2006). These percentages are predicted to continue growing into the future (Ogden et al, 2006). This is concerning because childhood overweight and obesity predict greater morbidity and mortality later in life from diseases such as diabetes, cardiovascular disease and hypertension (Brewis and Gartin, 2006). In fact, although the obvious symptoms do not normally develop until adulthood, the risk factors for cardiovascular disease and diabetes, such as insulin resistance, elevated blood lipids, increased blood pressure, and impaired glucose tolerance, may start to develop as early as childhood (Must et al. 1999).

There are also more immediate conditions associated with severe childhood obesity such as pseudotumor cerebri, slipped capital femoral epiphysis, steatohepatitis, cholelithiasis, and sleep apnea (Lobstein et al. 2004; Must et al. 1999). In addition, the diagnosis of Type 2 diabetes is becoming more common in overweight children (Cook et al. 2003).

In 2000, Mexicans and Puerto Rican adults had one of the highest rates of self reported obesity in the U.S., second only to Non-Latino Blacks. The prevalence of obesity in Mexican-American children has also been found to be higher than in other ethnicities (CDC,

NHANES, 2006). Furthermore, Latino-American adults are nearly two times more likely to have Type-2 diabetes than non-Latino whites and it is now becoming a problem in Latino children and adolescents as well (CDC, National Diabetes Prevention and Control Program, 2006).

A review by the American Dietetic Association concluded that the influence of caregivers on children's eating habits is a major factor in the etiology of childhood obesity. However, it also concluded that this subject has not been studied sufficiently to establish a sound idea of what these influences are (The American Dietetic Association, 2004).

Many studies have demonstrated that child feeding practices are one way in which caregiver's influence a child's nutrition status (Birch et al. 2001, Hughes et al 2005, Olvera et al 1990, Melgar-Quinonez et al 2004). Feeding practices have been shown to impact a child's perception of food as well as what the child chooses (Melgar-Quinonez et al., 2004; Kaiser et al., 1999; Birch et al., 2001; Brewis et al., 2003; Sherry et al., 2004).

Studies have typically looked at feeding practices and then classified these practices into feeding styles based on face validity (Hughes et al., 2005; Baughcum et al 2001; Birch et al., 2001). Hughes wanted to classify these feeding styles using more definable methods. Therefore, they examined specific behaviors from which feeding styles could be determined, categorized them into groups according to their levels of demandingness and responsiveness and used a score obtained from these levels to determine feeding styles. The feeding styles of authoritarian, authoritative, indulgent/permissive, and uninvolved were adapted by Hughes et al. (2005) from parenting styles defined by Macoby and Martin in **Child Psychology** (Mussen, P.H & Hetherington E.M., 1983).

An authoritarian parent needs to maintain his or her authority and complete control at all times and suppresses any challenges of their authority by the child (Mussen, P.H &

Hetherington E.M., 1983). The authoritarian feeding style is characterized by the parent controlling the intake of food through restriction or strongly pressuring the child to eat through force, rewards or bribes (Hughes et al., 2005). Strategies such as these have been found to interfere with a child's ability to self regulate and can possibly lead to child overweight (Sherry et al. 2004). Restricting certain foods or the amount of food has been shown to lead to an increased preference for and intake of these foods, a higher weight, and an inability to regulate energy intake (Sherry et al. 2004, Fisher & Birch, 1999, Hughes et al. 2005). Bribes can result in a higher fat and calorie intake by giving the child a large amount of a high fat, high calorie food in exchange for eating a smaller amount of a healthy food (i.e. if you eat three bites of broccoli you can have a bowl of ice cream). Using bribes, threats or punishment to persuade a child to eat healthy food items may cause child acceptance of these items to decrease over time (Kaiser et al. 2001). Furthermore, forcing a child to eat (i.e. requiring them to clean their plate or eat when not hungry) could decrease the child's responsiveness to their own feelings of hunger or satiation (Birch et al., 1987, Kaiser et al. 2001).

The uninvolved parenting style is characterized by the parent trying to avoid inconvenience. Therefore, child demands are responded to in such a way as to stop the child from making them, not what is best for the child (Mussen, P.H & Hetherington E.M., 1983). The Uninvolved feeding style is a permissive feeding style. However, uninvolved parents use fewer child centered techniques and more physical punishment than those classified in the indulgent-permissive group. Uninvolved parents generally do not make many demands from the child and are less responsive to their child's demands (Hughes et al. 2005).

The authoritative approach to parenting is characterized by the expectation that a child to respond to parental demands. In turn, these parents attempt, as much as possible, to be

responsive to the demands of their children. An authoritative parent enforces rules when necessary but also encourages independence and individuality. There is open communication between the parent and child, with parents listening to their child's point of view, as well as expressing their own and encouraging verbal give and take. Authoritative parenting recognizes the rights of both the parents and the child (Mussen, P.H & Hetherington E.M., 1983). The authoritative feeding style includes the use of discussion, negotiations and reasoning, providing rationales, and praising the child during feeding times (Iannotti et al., 1994; Cousins et al., 1993; Hepinstall et al., 1987; Stanek, Abbott, & Cramer, 1990, Hughes et al., 2005). Research examining this feeding style has been limited even though it is supported as the most beneficial to the child in the literature (Birch et al., 1995, Satter, 1986).

The indulgent-permissive parenting style is characterized by a tolerant, accepting attitude toward a child's impulses, little use of punishment and an avoidance of asserting authority or imposing controls or restrictions (Mussen, P.H & Hetherington E.M., 1983). Latinos have been found to be permissive in their feeding (Hughes et al 2005, Melgar-Quinonez et al 2004). The indulgent feeding style can result in a higher caloric intake than is necessary. One example of indulgent feeding is when caregivers cook something else for a child if the food served is not liked. The replacement food is usually something quick and that the child will like and usually is higher in fat and calories than the original meal served (Brewis & Gartin 2006).

Feeding styles may influence child weight and health status. Parents and caregivers need to be educated on mealtime behaviors that advocate the adoption of healthy eating in early childhood. Research is needed to identify which characteristics of a caregivers feeding style results in healthy eating habits of children as well as the long term consequences of these styles (Nicklas et al., 2001). There is limited research on this subject, especially in the Latino

population, and there is currently no research on child feeding practices used by Latino caregivers living in South Carolina.

The large increase in the Latino population, combined with this population's high risk of becoming overweight and to suffer the health problems associated with overweight, necessitates further studies of this population. It is important to understand which factors contribute to the health disparities of this population in South Carolina and how they can be improved. As compared to other states, Latinos in South Carolina might be in different education and income levels, represent different countries of origin, as well as have different levels of acculturation; all of which could affect the child feeding practices used (Olvera-Ezzell et al., 1990; Baughcum et al., 2006; Jain et al., 2001; Loria, et al. 1995; Kaiser et al., 2001).

The goal of this study is to determine child feeding styles used by Latino caregivers in South Carolina, using methods outlined by Hughes et al. (2005), and then to compare these feeding styles to child BMI, parent education, income level and the time a caregiver has lived in the U.S. Nutrition educators may use the results of this study to help determine which feeding practices are currently being used by this population, whether feeding practices are influencing BMI and if these feeding practices vary between two measures of socioeconomic status and time lived in the U.S. This may enable nutrition educators in the state to decide if beneficial child feeding practices need to be included in the nutrition education of this population and, if so, which practices should be targeted.

Methods

Subject Recruitment and Interviewing

The target population for this project was Latino caregivers of children ages 2-6, currently residing in South Carolina. The population surveyed was a convenience sample within this population (Arcury, 1999). Participants were recruited from the upstate, the piedmont, the midlands, and the coastal regions of South Carolina. Formal contact was established with management or service providers aimed at Latinos. These included, but were not limited to; predominately Latino populated apartment complexes, churches serving the Latino population, a Head Start location, an English as a Second Language (ESL) class, and a weekly clinic conducted by the Sullivan Center at Clemson University. Staff in these locations were provided a detailed explanation of the project, including the instruments and commitment involved. All of the interested locations agreed to help with recruitment for the project and/or allowed the use of their facilities to conduct in-person interviews. Following this, the researchers were able to make contact with individuals and recruit them through word of mouth, personal invitations and flyers. Some caregivers invited the researchers to conduct the interviews in their homes and invited others to be participants.

Inclusion factors for participation in the interview were: Latino, age 18 years or greater, living or working in the county where the interview was conducted, primary caregiver (the person responsible for feeding and caring for a Latino child the majority of the time when the child was not in school) to a child between the ages of 2 and 6, the child could not have a health problem that would affect his or her diet, cognitively sound (**i.e.**, having the ability to comprehend and respond to questions appropriately). Interviews were conducted in Spanish

and, therefore, the participants were required to speak and understand Spanish. In addition the child had to be present at the time of interview so that height and weight could be measured. Each participant received \$10 as incentive for each child that participated. Clemson University's Institutional Review Board approved all procedures and instruments.

Interview Instruments

Demographic Questionnaire

Demographic data were gathered using a close-ended questionnaire developed by the researchers in Spanish.

Caregivers Feeding Style Questionnaire (CFSQ)

The CFSQ, developed by Hughes et al. (2005) consists of questions that assess verbal and physical child feeding strategies used by caregivers. In Hughes, feeding styles were determined based on demandingness and responsiveness. Demandingness was defined as the degree to which a parent made demands of their children and responsiveness was the degree to which a parent responded to a child's requests and needs. To determine the level of demandingness, an Exploratory Factor Analysis was run, forcing all items to load on one factor since all questions were expected to assess demandingness. This resulted in 17 items. A demandingness score was determined from the mean of the scores on these questions. To determine responsiveness, another Exploratory Factor Analysis was run in which the number of factors were allowed to vary. This resulted in 2 significant factors. Factor 1 consisted of 12 items describing parent centered strategies and 7 items loaded on factor 2

describing child centered feeding strategies. A responsiveness score was determined by dividing the 7 child centered items by the 19 items that loaded greater than .30. Based on the combinations of high and low scores on demandingness and responsiveness, Hughes determined feeding styles using the parenting style classifications of authoritarian, authoritative, indulgent/permissive, and uninvolved(see Table 1) (Mussen, P.H & Hetherington E.M., 1983).

The survey was specifically designed by Hughes et al. (2005) to be valid for use in minority, low income populations. It was developed, more specifically, to assess feeding styles in African Americans and Latinos. In the translated survey, back translations and cognitive interviewing were used to assure the items in the English and Spanish versions were interpreted in the same way by participants (Hughes et al, 2005, 2006).

Convergent Validity (a measure of validity which examines whether the scores are correlated between two or more instruments that are thought to measure the same construct (Hatcher, 1994)) was evaluated by comparing the results of the authoritarian feeding style in the Child Feeding Questionnaire, developed by Birch et al.(2001), to the CFSQ. It was also evaluated by comparing the feeding styles determined in Hughes et al. (2005) to independent measures of general parenting using the Parenting Dimensions Inventory, as described in Powers (2002).

Interview administration

One hundred and fifty six interviews, which consisted of the CFSQ and the demographic questionnaire, were conducted and 143 were retained. Some interviews were dropped as a result of a substantial amount of incomplete data and child age not being

between the ages of 2 and 6. Some caregivers reported a child being between 2 and 6 even if they were under or over the specified ages by a few months. Nonetheless, these interviews were still conducted to maintain a good rapport with the population.

Interviews were conducted in Spanish by a team of four bi-lingual researchers. Childcare was provided during the interviews by the same research team. Interviews were conducted through one-on-one in-person oral interviews and, in some instances, in a small group after obtaining informed consent. In the individual interviews the interviewer read each question to the respondent and the respondent had the option to record his or her answer on an answer sheet or to have the interviewer record the responses. Culturally compatible analogies were used to explain the mechanics of the interview and the scales used. Each interview of closed-ended questions lasted 15-35 minutes. Group interviews were necessary in some instances when there was a large group with limited time. Groups consisted of 2 to 8 people and approximately 30 interviews were conducted in this manner. Everyone in the group agreed to fill out their own questionnaire. If someone did not agree to this, either one of the researchers conducted an individual interview with this person or assisted him or her during the group interview. Participants were not allowed to discuss their answers during the interviews. However, it is possible that participants may have influenced one another when the interviews were conducted in this manner. The interviewer used the same techniques to administer both the individual and group interviews.

Child measurements

Child height and weight was measured onsite by research staff using procedures described by Frisancho (1990). Children were wearing summer clothing and removed their

shoes before measurements were taken. In two cases, recent measurements taken during an appointment at Women Infant's and Children (WIC) were accepted due to the child's refusal to have height and weight measured.

Child BMI was calculated using the formula kg/m^2 , and was then converted to a Z-score and a percentile using a tool provided on the Baylor College of Medicine's Children's Nutrition Research Website (<http://www.kidsnutrition.org/bodycomp/bmiz2.html>).

Statistical Analysis

All statistical analyses were performed using SAS 8.2 (SAS Institute, 2001). Data analysis included three steps: 1) Multiple imputation to replace missing data 2) Survey analysis to extract meaningful factors, and 3) determination of factors related to characteristics including child BMI, caregiver education, income and/or the time the caregiver had lived in the U.S.

Multiple Imputation

Not all questions were answered by some respondents for varying reasons. If a respondent did not answer a question, that respondent's information was omitted by SAS in steps two and three. To alleviate this problem, Rubin's (1987) multiple imputation procedure was used to estimate values for missing data in surveys with incomplete information. This procedure results in statistically valid inferences that properly reflect the uncertainty due to missing values (Rubin, 1987).

Survey Analysis

Confirmatory factor analyses (CFA) were performed to determine whether the two factors determined by Hughes et al. (2005) were present in the current study. Confirmatory Factor analysis is used to test the fit of the measurement model (Hatcher, 1994). The fit of the Hughes et al. (2005) factors to the current study was evaluated with several measures: Chi-Square, Bentler's Comparative Fit Index (CFI), Bentler and Bonnet's Non-normed index (NNI). Chi square provides a statistical test of the null hypothesis that the model fits the data when the data meets certain assumptions such as normality and a large sample size. A significant chi-square indicates a poor fit. However, the Chi-square statistic is frequently significant even if the model provides a good fit and this is particularly true of CFA models (Hatcher, 1994). Therefore the other measures (CFI and NNI) were used because they are less likely to produce biased estimates in small samples. Values over .9 for either provide an acceptable fit (Hatcher,1994).

The factors of Hughes et al. (2005) could not be confirmed using CFA and therefore, the data were subjected to an Exploratory Factor Analyses (EFA). Exploratory Factor Analysis is used to identify factors (a group of data measuring a similar idea or concept), underlying a set of data. The principal factor method was used to extract the factors and this was followed by an oblique rotation. Factors were retained if the proportion of variance explained (based on the Eigen value) greater than 10% of the variance (Hatcher, 1994). Questions were considered to "load" significantly on a factor if the coefficient was greater than 0.40 as recommended in Hatcher (1994).

Relationship of child BMI, parent education and income levels to Factor Scores

The relationships among child BMI and parent education, income levels and/or time lived in the U.S. were evaluated in four ways. The use of four approaches provided several possible explanations of the “true” relationship among these variables.

The first approach used Pearson's correlations to measure the relationship of each of the three factors with each of the following characteristics; child BMI, parent education, income and time lived in the U.S. This resulted in the twelve correlation coefficients found in Table 5. A significant correlation coefficient ($p=.05$) was considered evidence of a significant relationship between a factor and a caregiver characteristic.

The second approach was to use Multiple Regression techniques to determine if a combination of the characteristics (child BMI, parent education, income, and/or time lived in the U.S.) was related to any of the factors. A significant multiple regression model would be evidence of a significant relationship between a factor and a combination of parental characteristics.

The third approach was to define groups of parents based on “high” and “low” scores on the 3 factors. A theoretical median of 3 was used to determine the scores on each factor. Parents who scored above the median were considered “high” for a factor and parents scoring below or equal to the median were considered “low” for a factor. Analysis of variance (ANOVA) was used to compare the mean child BMI, the mean parent education, and the mean income to the “high” and “low” groups for factor 1. A significant difference between the means was considered evidence of a significant relationship between factor1 and a parent characteristic (child BMI, parent education, income or time lived in the U.S.). This was repeated for factors two and three.

The fourth approach was to create eight different feeding styles based on the “high” and “low” scores of the three factors. These styles and how they were determined are listed in Table 1. Analysis of variance (ANOVA) was used to compare mean child BMI, mean parent education, mean parent income and mean time lived in the U.S. among the eight feeding styles. A significant difference among the means was considered evidence of a significant relationship between the feeding styles (a combination of factors 1, 2, and 3) and a parent characteristic (child BMI, parent education, income or time lived in the U.S.).

Results

Demographic Data

The sample included one hundred and forty three participants. The mean age of the caregivers was 29.58 years old. Mothers represented 95.1% of the caretakers. The mean child age was 3.79 years old and 47.55% were male and 52.45% female. 55.94% of participants were from the upstate, 23.08% from the Piedmont, 9.09% were from the midlands, and 11.89% were from the coast. The majority of participants were from Mexico (67%). Other countries that were represented were Colombia(7.69%), Honduras(5.59%), El Salvador(5.59%), Argentina(1.4%), Uruguay(2.1%), Guatemala(2.8%), Panama(2.1%), Puerto Rico(1.4%), Dominican Republic(1.4%). Thirty-four percent had lived in the U.S. for five years or less, 80% had lived in the United States for 10 years or less and only 2.8 percent had lived in the U.S for longer than 20 yrs. The majority (88.11%) spoke Spanish at home, 69% did not speak much English, and 7.69% spoke English fluently. Educational attainment

averaged 9 years of school. Only 32% had finished high school, 47% had finished some high school and 38% had not gone to high school. A little under half (43.35%) reported having a monthly household income between \$751 and \$1,500. Another 41.26% reported having a monthly household income between \$1,501 and \$2,500, and 6.29% reported having more than \$2,500 in monthly household income. The majority (53.85%) paid \$300 to \$500 for housing in the month before the interview. The mean number of people living in the same household was five. The mean number of kids in a household was 2.5. The vast majority prepared traditional food at home (98.6%), with 68.53% preparing traditional food everyday, 15.38% preparing it 4 to 6 times per week and 12.59% preparing it 1-3 times per week. The majority (72.73%) of participants received some sort of governmental assistance. The assistance programs utilized by participants were WIC (58.04%), then school lunch (25.17%), school breakfast (18.88%), food-stamps (10.49%), and the summer food program (1.4%).

Survey Analysis

Confirmatory Factor Analysis

Several CFA were run allowing for slight variations in the factor definitions, however a sufficient fit could no be obtained (the best fit being Chi-square with $p < .0001$, CFI=.695, and NNI=.658).

Exploratory Factor Analysis

Factors 1, 2 and 3 accounted for 37.7, 20.4, and 11.6 percent of the variance respectively. The loadings ranged from 0.41 to 0.71. There were a total of 21 questions that loaded on the three factors (Table 3) and there were no questions that loaded on more than one factor

Factors Defined

The feeding styles utilized in Hughes et al. (2005) could not all be used because the factors used in that study could not be confirmed in this one. Instead, in the present study, the factors were grouped into feeding styles denoted by the factors. Factor 1 was classified as high parent control (PC) and contained 12 items (Table 3). This factor was defined by controlling, parent-centered strategies such as physically struggling using threats or rewards, begging, spoon-feeding and ordering to get the child to eat with little concern for the child's desires. This factor could be considered representative of the authoritarian feeding style. Factor 2, child autonomy (CA), contained 6 items (Table 3) and was defined by the degree to which the child controlled his or her own eating habits. The higher a caregiver scored on this factor, the more autonomous the child was.

Factor 3, child-centered parent involvement (PI) contained 3 items (Table 3). A high score on this factor indicated that the parent had some control in child feeding but used child-centered techniques such as asking the child questions about food, reasoning with the child, and saying something positive about the food the child was eating.

The reliability of this version of the survey was tested using Cronbach's α . The α score of the survey was 0.778 (raw) and 0.785 (standardized). This indicated a survey with reasonable internal reliability. .

Pearson Correlation Results

A Pearson's correlation revealed that education was negatively related to factor 1 ($r = -0.1670$, $p = .046$) and factor 2 ($r = -0.22912$, $p = 0.006$). It also revealed that time lived in the U.S. and factor 1 were negatively related ($r = -0.32737$, $p < .0001$). There were no other significant correlations (see Table 4).

Multiple Regression Results

Multiple regression revealed no evidence, at $p = 0.05$, that a combination of the variables would explain the data better than using each separately.

Single-Factor ANOVA Results

It was found that 62% of participants scored low on the factor assessing high parental control. Approximately half scored high and low on child autonomy, and 68% scored high on parent involvement (see Table 5).

There was no evidence of a relationship between BMI or income and the individual factors at $p = 0.05$.

A relationship was revealed between factor 1 and education. The mean education level differed among high and low factor 1 (8.11 yrs. vs. 9.83 yrs., $p = .02$). Therefore, as education level increased, factor 1 (high parent control) decreased. This test revealed no evidence of a relationship between factor 2 and education. It was therefore concluded that there was no significant relationship between factor 2 and education (see Table 6).

There was also a relationship revealed between factor 1 and time lived in the U.S. The mean time lived in the U.S. differed among high and low factor one (2.51yrs vs. 3.07 yrs, $p < .001$).

Multi-Factor ANOVA Results

The eight "feeding styles" that resulted from the combinations of were PC/CA/PI, PC/CA, PC, PC/PI, CA/PI, PI, CA, and low all. The number of participants falling into each feeding style is outlined in Table 7.

There was no evidence of a relationship between BMI, income, education and the combined factors (feeding styles) at the $p = .05$ level. P-values were 0.11 for BMI, 0.17 for education, and 0.22 for income.

However, there was a relationship found between the feeding styles and time lived in the U.S. ($p = .0011$). Those who had lived in the U.S. longer were more likely to use child-centered parent involvement and those who had lived in the U.S. for a shorter time were more likely to use high parent control (see Table 9).

Child BMI

The BMI mean Z-score was 1.014 which translates into approximately the 85 percentile based on CDC growth charts (USDA/ARS, 2004). Based on the CDC growth charts, 32.87% were overweight ($\geq 95^{\text{th}}$ percentile), 51.57% were at risk for being overweight, and overweight ($\geq 85^{\text{th}}$ percentile), 46.15% were normal (≥ 5 and < 85 percentile)^t, and 2.09% were underweight (< 5) (see Table 8).

Discussion

Hughes et al. (2005) has developed a survey to use in the Latino population with an intriguing way of determining feeding styles. The results from Hughes et al. (2005) were not able to be confirmed by this study. This made it impossible to determine the feeding styles of authoritarian, authoritative, indulgent, and uninvolved based on demandingness and responsiveness (Hughes et al. 2005). Therefore, different factors were used and a combination of these factors resulted in eight different "feeding styles" loosely based on the four feeding styles mentioned above. The eight different feeding styles were factors determined from combining the factors according to those that scored high on any factor. The "feeding styles" which emerged from this combination are listed in Table 2.

Focus groups conducted in the same population indicated that caregivers were very concerned about a child eating enough. There are techniques in every feeding style, those defined by Hughes et al.(2005) and in the present study, which could be used to coerce a child to eat. Therefore, if the caregiver's main goal is just to get a child to eat then it would be hard to place them into the classic feeding styles. They would exhibit aspects of all of the styles, with the exception of uninvolved. Therefore, it might be more important to look at specific feeding practices as opposed to style. Although the focus groups did not represent the entire population surveyed, the use of multiple feeding styles might have been one problem of trying to group the participants into feeding styles.

There was no significant relationship found between the eight feeding styles defined by this study and child BMI, parent education, or income. The only significant finding of the feeding styles and the time lived in the U.S. were PC and PI, which are basically just factors 1 and 3. (see below)

The insignificant findings of the feeding styles and the variables could be explained by the findings of the focus groups previously mentioned, the way that our factors loaded, the high number of feeding styles derived from these factors and/or to the distribution of people that fell into these "feeding styles"(see Table 7). For example, there were 25 people in the "PC/CA/PI" feeding style, which means that they scored above the median on all factors, and 17 in the "low all" feeding style, which means that they scored below the median on all factors. Theoretically, all participants should have scored low or high on at least one factor because each factor assessed such different aspects of child feeding. This odd scoring could be a result of a misunderstanding of the questions by participants or a perception that questions should be answered in a socially acceptable way. However, it may just be a result of the caregivers using techniques from all the styles to get their child to eat.

Another explanation for the strange scoring could be that this resulted from the sizeable difference between the educational level of participants in the current study and those in the study conducted by Hughes et al. (2005). In Hughes et al. (2005), 70% of the participants had achieved at least a high school education. In the current study, this number was only 32% with 38% of participants never having attended high school at all. This could indicate that this survey is not appropriate to use in a population with a very low level of education. The low level of education may also be correlated with the focus group findings, that parents are more concerned about under-weight than over-weight. The view that a fat child is a healthy child is thought to be more common in families or cultures that are food insecure presently or have been in the past (Kumanyika S, 2006). Those who had a low level of education may be more likely to have grown up in an impoverished environment where access to enough food may have been limited and, therefore, were witness to the sickness that comes with under-nutrition but not with over-nutrition.

Although the level of education in this sample was low, parent education was significantly correlated with Factor 1 (High Parent Control) or what could be considered authoritarian feeding practices. The authoritarian feeding style is characterized by a caregiver controlling the intake of food through restriction or strongly pressuring the child to eat through force, rewards or bribes (Hughes et al., 2005). Use of authoritarian practices such as these has been found to interfere with a child's ability to self regulate and can possibly lead to child overweight (Sherry et al. 2004).

This study found that as caregiver education increased, caregivers used highly controlling, authoritarian feeding techniques less. This result is similar to the finding of Olvera-Ezzell et al. (1990), which stated that Latino mothers with a higher education level have been found to use more authoritative feeding techniques like reasoning with the child and allowing their child to make suggestions regarding eating than those with a lower education level.

However, the mean education level for the less educated group was eight years and the mean for the highly educated group was only 9.83 years. The difference that education made, therefore, might not have been attributed to completion of high school or even college. It is hard to say why, at this level, education made a difference, unless it resulted from the influence of another variable that could be correlated with education. As mentioned before, one possible variable is that the lower the education level, the more necessary for the caregiver to drop out of school to work, or the less valued education was in their family. Therefore, this caregiver might have been more food insecure or have grown up in a culture that was food insecure. In addition, feeding practices developing from food insecurity could have been passed down through generations. It has been shown that there is a generational transmission of feeding styles (Fletcher and Branen, 1999, Vauthier et al., 1996).

There was also a relationship found between factor 1, the feeding styles, and the amount of time lived in the U.S. As time lived in the U.S. increased the use of child-centered parental involvement increased and the use of high parental control (authoritarian) feeding practices declined. This is consistent with the findings of Kaiser et al. (2001) that less acculturated Latino mothers are more likely to prepare different foods when a child refuses to eat, less likely to give vitamins, and more likely to view bribes, threats, and punishment as effective feeding strategies than more acculturated Latino mothers. Although Kaiser's and the current findings indicate that caregivers who have lived in the U.S longer, use negative feeding practices less, other studies have demonstrated that good nutrition declines with acculturation. For example, more acculturated Latinos have been found to eat fewer servings of fruits and vegetables per day than those who are less acculturated (Neuhouser et al. 2004). In addition, adult obesity in the Latino population has been shown to increase with the amount of time lived in the U.S. (Himmelgreen et al., 2004; Kaplan et al. 2004). These paradoxical results should be examined in the future.

There was approximately a 6 month difference of the mean number of years lived in the U.S. between those who scored high and those who scored low on factor 1 or high parental control. Therefore, the change is occurring quite rapidly. One possible source of this change is WIC participation. Although feeding practices may or may not be taught directly in WIC, the nutrition classes provided may be influencing feeding styles and practices. A little over half (58.04%) of the participants in this study participated in WIC. Caregivers who have lived in the U.S. for longer may be more likely to participate in WIC because they have been exposed to others who participate and may have increased access to transportation. However, a concurrent focus group study of this population did indicate that, in some areas of South Carolina, the WIC nutrition classes were not in Spanish. Therefore participants

were not learning much from these nutrition classes. It is difficult to determine, using the results of this study, the source of the relationship between the feeding styles and practices and the time lived in the U.S. This is an area for future investigation.

There was no relationship revealed between income and feeding style. This is contrary to the findings of other studies. One finding was that feeding practices thought to lead to obesity, are used among low income mothers such as, a heightened concern about child being hungry, difficulty withholding food from a child, even one who has just eaten, and a concern about underweight even if child is above normal weight (Baughcum, A. E. et al., 2006). Another finding was that a mother's perception of child weight has an influence on child feeding styles (Johnson et al., 1994; Birch & Fisher, 2000; Faith et al., 2004) and it has also been found that low-income mothers perceive their overweight or obese children as "thick" or "solid" and believe that a child's weight is more influenced by genetics than the environment (Jain et al., 2001).

The contradictions in results of the current study and previous studies may be due to some limitations in measuring income. The majority of the caregivers interviewed were "stay at home" mothers whose husbands worked. Consequently, many of the women were not responsible for the income, and might not have answered these questions accurately.

In addition, the majority (86.61%) of people interviewed in this study had a household income between \$751 and \$2500 per month. Therefore, in addition to the possibility that self-report of income was not valid, it is possible that the income level variations were not large enough to cause a difference in child feeding.

Although there was no relationship found between the feeding styles and BMI, there was a high incidence of childhood overweight in this population (see Table 8). This is consistent with findings of other studies which have found that Latino and lower-income children have

a higher prevalence of overweight and obesity than White, non-Latino, and higher-income children (Campagne, et al., 1994; Dietz, 2004; Kimm, et al., 2001; Kimm et al., 2002; Strauss et al., 2001; Wang, 2004). Over half of the children in this study were either at risk for becoming overweight or already overweight. Therefore, although the 8 feeding practices examined in this study may not be influencing child BMI in this population, something is causing the children to have a much higher than average BMI. The focus group interviews of this population indicated that caregivers were more highly concerned about child underweight than child overweight which could lead to putting more pressure than is needed on a child to eat. It was also found in the focus groups that permissive practices like "short order cooking", authoritarian practices like bribes, rewards and punishment were techniques commonly used to get a child to eat. These techniques are thought to lead a child to consume more calories than necessary and possibly to a child becoming overweight (Brewis & Gartin 2006; Sherry et al. 2004; Fisher & Birch, 1999; Hughes et al. 2005).

In addition, caregivers in the focus groups mentioned lack of physical activity, a child starting school, too much television, and a child eating too many carbohydrates as some of the possible causes for child overweight and obesity. There were many variables such as these, not measured, by this study, which might influence child weight, separately, or in combination with child feeding practices. BMI has been shown to be positively correlated with hours of television viewing, sweetened beverages consumption, as well as to the amount of free access to food at home (Ariza et al, 2004). These, among others, are variables that may need to be considered when studying child feeding practices.

Sample size and using a convenience sample were also limitations in this study. Although the latter has been shown to be an effective strategy in collecting data (Arcury, 1999), it may result in an inaccurate sampling due to some parts of the population being missed. In

addition, only 143 surveys were conducted, and therefore this data may not be representative of all Latinos in South Carolina. In addition, child feeding practices used by the primary caregiver were examined but the practices used by other caregivers were not. There may be more than one caregiver influencing a child's nutritional status and this was a limitation of the current study.

Conclusions

The high average BMI of the children in this study indicates the necessity for caregivers and children to be targeted for nutrition education. One method of nutrition education that has been proposed to prevent childhood overweight is to educate parents on beneficial feeding practices and to decrease negative practices. This study found no relationship between the feeding "styles" and BMI. However, the focus group findings that caregivers used a variety of techniques, from all of the feeding styles, with the ultimate goal of getting the child to eat, may indicate that this population cannot be grouped into feeding styles. The etiology of childhood overweight and obesity in this population may be influenced by feeding practices commonly used by this population and/or other variables such as child activity. The finding that education and using controlling, authoritarian feeding techniques are inversely related highlights the need for nutrition education in a population with low education levels, especially extremely low levels. It also indicates that different areas may need to be targeted when providing nutrition education to those of higher and lower education.

In addition, the longer a caregiver had lived in the U.S., the more likely they were to use child centered techniques to coerce a child to eat and less likely to use authoritarian

techniques like rewards, bribes, and forcing a child to clean their plate. The reason for this is unclear and, due to some contradictions in the literature, should be investigated further.

Implications for Research

It is recommended that the survey developed by Hughes et al. be further tested and validated in the Latino population, especially in those with a low-education level and in other populations as well. It may also be beneficial to have a larger sample size when conducting the validation. This would enable it to become very useful in evaluating feeding practices. It might even provide a tool that can be used by many researchers to create a more uniform measure which would provide more conclusive data in regards to feeding practices and their effects.

This study only examined children ages 2-6. However, during the interviews the researchers noted that many of the older siblings were visibly overweight. It would be interesting to analyze the feeding practices parents used during early and later childhood and compare it to the current weight of children ages 6-12 and 13-18.

In addition to analyzing feeding practices, we recommend looking at physical activity, television viewing and the child's actual dietary intake to see if one or a combination of factors is the cause of a higher average BMI in this population as compared to the majority of U.S. children

The cause of parents using more child centered techniques and less authoritarian techniques the longer the time lived in the U.S. should be further investigated. This may provide nutrition educators with an idea of what is causing this positive change and may allow nutrition education to become more effective. In addition, BMI could be compared in a population between caregivers having a higher and lower level of acculturation to determine if there is a difference and, if so, what this difference is.

| Feeding style | Demandingness | Responsiveness |
|---------------|---------------|----------------|
| Authoritarian | High | Low |
| Authoritative | High | High |
| Indulgent | Low | High |
| Uninvolved | Low | Low |

| Parenting technique | Score | Explanation |
|--|----------------------|---|
| PC/CA/PI | High F1, F2 F3 | scored higher than median on all questions |
| PC/CA | high F1, F2, lowF3 | scored higher than median on questions relating to parent control and child autonomy and lower or equal to median on questions relating to Parent involvement |
| PC | high F1, low F2, F3 | scored higher than median on questions relating to high parent and lower or equal to median on others |
| PC/PI | high F1, F3, low F2, | scored higher than median on parent control and parent involvement and lower or equal to median on child autonomy |
| CA/PI | low F1, high F2, F3 | scored lower than median on questions relating to parent control and higher than the median on questions relating to child autonomy and parent involvement |
| PI | low F1, F2, high F3 | scored lower than median on questions relating to parent control and child autonomy and higher or equal to median on questions relating to Parent involvement |
| low all | low F1, F2, F3 | scored lower than or equal to the median on all questions |
| CA | low F1, F3, high F2 | scored lower than or equal to the median on questions relating to parent control and parent involvement and higher than the median on child autonomy |
| PC (factor 1)= Parental Control/Authoritarian CA (factor 2)=Child Autonomy-allows child to make decisions regarding food intake PI (factor 3)= Parent involvement- the parent has control in child feeding but uses child centered techniques to encourage feeding | | |

| TABLE 1.3 Questions That Loaded on Factors 1, 2, and 3 in the Exploratory Factor Analysis | |
|--|--|
| Factor 1 | |
| 1. | Physically struggle with the child to get him or her to eat (for example, physically putting the child in the chair so he or she will eat). |
| 9. | Tell the child to eat at least a little bit of food on his or her plate. |
| 11. | Say something to show your disapproval of the child for not eating dinner. |
| 16. | Suggest to the child that he or she eats dinner, for example by saying, "Your dinner is getting cold". |
| 19. | Say to the child "Hurry up and eat your food". |
| 20. | Warn the child that you will take away something other than food if he or she doesn't eat (for example, "If you don't finish your meat, there will be no play time after dinner"). |
| 22. | Encourage the child to eat something by using food as a reward (for example, "If you finish your vegetables, you will get some fruit"). |
| 24. | Warn the child that you will take a food away if the child doesn't eat (for example, "If you don't finish your vegetables, you won't get fruit"). |
| 25. | Feel like not responding when your child asks about the food |
| 27. | Spoon-feed the child to get him or her to eat dinner. |
| 29. | Tell the child to eat something on the plate (for example, "Eat your beans"). |
| 30. | Beg the child to eat dinner. |
| Factor 2 | |
| 2. | Allow the child to eat as much as he or she wants. |
| 8. | Let the child decide when he or she is done eating. |
| 12. | Allow the child to choose the foods he or she wants to eat for dinner from foods already prepared. |
| 15. | Let the child decide how much he or she should eat off of the plate. |
| 17. | Allow the child to eat what he or she wants to eat. |
| Factor 3 | |
| 7. | Ask the child questions about the food during dinner. |
| 10. | Reason with the child to get him or her to eat (for example, "Milk is good for your health because it will make you strong"). |
| 26. | Say something positive about the food the child is eating during dinner. |

| | Factor 1 | Factor 2 | Factor 3 |
|--------------------|------------------|-----------------|----------------|
| BMIZ | 0.102 0.23 | 0.065 0.42 | 0.054 0.52 |
| education | -0.170 0.046 | -0.228 0.006 | -0.062 0.47 |
| Income | -0.046 0.21 | 0.021 0.89 | -0.096 0.21 |
| Time in U.S | -0.327 <.0001 | -0.097 0.250 | 0.141 .093 |

| Factors | High | Low |
|---|------------|------------|
| Factor 1 (High Parent Control) | 54 (38%) | 89 (62%) |
| Factor 2 (Child Autonomy) | 72 (50.3%) | 71 (49.7%) |
| Factor 3 (Child- Centered Parent Involvement) | 97 (68%) | 46 (32%) |

| There were no significant relationships found between the BMI, income, and education and the 3 factor's | | | | | | | | | |
|--|----------|-------|---------|----------|------|---------|----------|------|---------|
| Variables | Factor 1 | | | Factor 2 | | | Factor 3 | | |
| | High* | Low** | p-value | High | Low | p-value | High | Low | p-value |
| BMI | 1.19 | .90 | .78 | 1.05 | .98 | .76 | 1.06 | .99 | .48 |
| Income | 5.57 | 4.93 | .08 | 5.39 | 5.27 | .83 | 5.13 | 5.74 | .51 |
| Education | 9.83 | 8.09 | .02 | 9.5 | 8.8 | .69 | 9.34 | 8.85 | .26 |
| Time in U.S. | 2.52 | 3.07 | <.0001 | 2.74 | 2.99 | 0.7226 | 2.89 | 2.78 | .0336 |

*the mean score of all participants scoring above the median
** the mean score of all participants scoring below the median

| Table 1.7 Number of participants using each of the eight feeding "styles". | |
|--|---|
| Feeding technique | Number of participants in each category |
| PC/CA/PI | 25 (17.5%) |
| PC/CA | 18 (12.6%) |
| PC | 3 (2.09%) |
| PC/PI | 18 (12.6%) |
| CA/PI | 21 (14.7%) |
| PI | 33 (23.08%) |
| low all | 17 (11.09%) |
| CA | 18 (12.6%) |
| PC (factor 1)= Parental Control/Authoritarian CA (factor 2)=Child Autonomy-allows child to make decisions regarding food intake PI (factor 3)= Parent involvement- the parent has control in child feeding but uses child centered techniques to encourage feeding | |

| Table 1.8 Percentage of children who were overweight, at risk for becoming overweight, normal, and underweight | | |
|--|---|----------------------|
| Classification | BMI Percentile | % child participants |
| Overweight | $\geq 95^{\text{th}}$ | 32.87 |
| At risk for overweight and overweight | $\geq 85^{\text{th}}$ | 51.75 |
| Normal | $\geq 5^{\text{th}}$ and $< 85^{\text{th}}$ | 46.15 |
| Underweight | $< 5^{\text{th}}$ | 2.09 |

*based on CDC growth charts BMI Percentile (CDC, NCHS, 2005)

| Table 1.9 Multi-Factor ANOVA Results | | | | |
|--------------------------------------|---|---------------|--------------------------------|--------------------------------------|
| t-Grouping | | Feeding Style | Mean # years lived in the U.S. | # Participants falling into category |
| | A | PI | 3.21 | 33 |
| B | A | CA/PI | 3.05 | 21 |
| B | A | CA | 2.94 | 18 |
| B | A | Low all | 2.94 | 17 |
| B | A | PC/PI | 2.83 | 18 |
| B | | PC/CA | 2.5 | 8 |
| B | | PC/CA/PI | 2.4 | 25 |
| | C | PC | 1.67 | 3 |

References

- American Dietetic Association [ADA]. (2004). Position of the American Dietetic Association: dietary guidelines for children ages 2-11 years [Electronic Version]. *Journal of the American Dietetic Association*, 104, 660-667.
- Arcury, T.A., Quandt S.A., (1999). Participant recruitment for qualitative research: a site-based approach to community research in complex societies. *Human Organization*, 58, 128-133.
- Ariza, A.J., Chen, E.H., Binns, H.J., Christoffel, K.K. (2004). Risk Factors for Overweight in Five to Six-Year-Old Latino American Children: A Pilot Study [Electronic Version]. *Journal of Urban Health*, 81(1).
- Baughcum, A.E., Powers S.W., Johnson S.B., Chamberlin L.A., Deeks C.M., Jain A., Whitaker R.C. (2001) Maternal Feeding Practices and Beliefs and Their Relationships to Overweight in Early Childhood. *Journal of Developmental and Behavioral Pediatrics*, 22, (6), 391–408.
- Baughcum A.E., Chamberlin L.A., Deeks, C.M., Powers S.W, Whitaker R.C. (2000). Maternal Perceptions of Overweight Preschool Children [Electronic Version]. *Pediatrics*. 106, 1380 - 1386.
- Birch , L.L.(1987). The acquisition of food acceptance patterns in children. In R.A. Boakers, , D.A Popplewell, & M.J. Burton (Eds.), *Eating habits: Food, physiology, and learned behavior*. London: Wiley
- Birch, L.L. & Fisher, J.O. (1995). Appetite and eating behavior in children. In G.E. Gaull (Ed.), *The pediatric clinics of North America: Pediatric nutrition*. Philadelphia, PA: Saunders, 931-953.
- Birch, L.L. & Fisher, J.O. (2000). Mother's child feeding practices influence daughter's eating and weight [Electronic Version]. *American Journal of Clinical Nutrition*. 71, 1054-1061.
- Birch, L.L., Fisher, J.O., Grimm-Thomas, K., Markey, C.N., Sawyer, R., & Johnson S.L. (2001). Confirmatory factor analysis of the child feeding questionnaire: a measure of parental attitudes, beliefs, and practices about child feeding and obesity proneness [Electronic Version]. *Appetite*, 36(3), 201-210.
- Brewis, A. (2003). Biocultural Aspects of Obesity in Young Mexican Schoolchildren [Electronic Version]. *American Journal of Human Biology*, 2003, 15, 446-460.
- Brewis, A., Gartin M. (2006) Biocultural Construction of Obesogenic Ecologies of Childhood: Parent-Feeding Versus Child-Eating Strategies. *American Journal of Human Biology*, 2006, 18, 203-213

Campaigne BN, Morrison JA, Schumann BC et al. Indexes of obesity and comparisons with previous national survey data in 9- and 10-year-old black and white girls: the National Heart, Lung, and Blood Institute Growth and Health Study. **J Pediatr** 1994; 124:675-680.

Centers for Disease Control and Prevention. National Health and Nutrition Examination Survey. Retrieved February 27, 2006, from <http://www.cdc.gov/nchs/about/major/nhanes/datalink.htm>.

Centers for Disease Control and Prevention (CDC), Office of Minority Health. Latino Health Program, National Diabetes Prevention and Control Program, <www.cdc.gov/omh/populations/HL/HHP/Diabetes>, Accessed April 12, 2006

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS). Retrieved October 15, 2006, from <http://www.cdc.gov/growthcharts/>.

National Center for Health Statistics (NCHS). Health, United States, 2005 With Chart Book on Trends in the Health of Americans. Retrieved October 15, 2006, from <http://www.cdc.gov/nchs/hus.htm> .

Cousins, J.H., Power, T.G. & Olvera-Ezzel, N. (1993). Mexican-American mother's socialization strategies: Effects of education, acculturation and health locus of control. *Journal of Experimental Child Psychology*, 55, 258-276.

Dietz WH. (2004). Overweight in childhood and adolescence. **N Engl J Me**. 350 (9),855-857.

Faith, M.S., Berkowitz, R.I., Stallings, V.A., Kerns, J., Storey, M., & Stunkard, A.J. (2004) Parental Feeding Attitudes and Styles and Child Body Mass Index: Prospective Analysis of a Gene-Environment Interaction [Electronic Version]. **Pediatrics**, 114 (4), e429-e436.

Fisher, J.O. & Birch, L.L. (1999). Restricting access to palatable foods affects children's behavioral response, food selection, and intake [Electronic Version]. **Am J Clin Nutr**, 69, 1264-1272.

Frisancho, A. Roberto.(1990) *Anthropometric Standards for the Assessment of Growth and Nutritional Status*. Ann Arbor, MI:The University of Michigan Press.; 9-13.

Hatcher, L. (1994). **A Step by Step Approach to using SAS® for Factor Analysis and Structural Equation Modeling** Cary, NC: SAS Institute Inc. 57-127, 249-340.

Heptinstall, E., Puckering, C., Skuse, D., Start, K., Zur-Szpiro, S., & Dowdney, L. (1987). Nutrition and mealtime behavior in families of growth-retarded children. *Human Nutrition: Applied Nutrition*, 41(6), 390-4-2.

Hughes, S.H., Power, T.G., Orlet-Fisher J., Mueller, S. & Nicklas, T.A. (2005). Revisiting a neglected construct: parenting styles in a child-feeding context [Electronic Version]. **Appetite**, 44, 83-92.

Iannotti, R.J., O'Brien, R.W., & Spillman, D.M. (1994). Parental and peer influences on food consumption of preschool African-American children. *Perceptual and Motor Skills*, 79(2), 747-752.

Jain A., Sherman S.N., Chamberlin, L.A., Carter, Y., Powers S.W., Whitaker, R.C.(2001). "Why Don't Low-Income Mothers Worry about Their Preschoolers Being Overweight?" *Pediatrics* 107 (5), 1138-46.

Johnson, S.L., & Birch, L.L. (1994) Parent's and children's adiposity and eating style [Electronic Version]. *Pediatrics*, 94, 653-661.

Kaiser, L. L., Martinez, N. A., Harwood, J. O., & Garcia, L. C. (1999). Child feeding strategies in low-income Latino households: Focus group observations [Electronic Version]. *Journal of the American Dietetic Association*, 99, 601-603.

Kaiser, L.L., Melgar-Quinonez, H., Lamp, C.L. Johns, M. & Harwood, J. (2001). Acculturation of Mexican-American mothers influences child feeding strategies [Electronic Version]. *J Am Diet Assoc*, 101, 542-547.

Kimm S.Y., Barton B.A., Obarzanek, E. et al. (2002). Obesity development during adolescence in a biracial cohort: the NHLBI Growth and Health Study. *Pediatrics* 110 (5):e54.

Kimm S.Y., Barton B.A., Obarzanek E. et al. (2001). Racial divergence in adiposity during adolescence: The NHLBI Growth and Health Study. *Pediatrics* 107 (3):e34.

Kumanyika S., Grier, S. (2006). Targeting Interventions for Ethnic Minority and Low-Income Populations [Electronic Version]. *The Future of children / Center for the Future of Children, the David and Lucile Packard Foundation*. 16 (1), 187-207

Lacy, E. (2005, March). "Economic impact of Hispanics in South Carolina, Part 1." University of South Carolina's Consortium for Latino Immigration Studies. PowerPoint presentation. Retrieved August 31, 2005 from <http://www.cas.sc.edu/cli/papers.htm>, zip file

Loria C.M., Bush T.L., Carrol M.D., Looker A.C., McDowell M.A., Johnson C.L., Sempos C.T. (1995). Macronutrients intakes among adult Hispanic: A comparison of Mexican Americans, Cuban Americans, and Mainland Puerto Ricans. *American Journal of Public Health*. 85, 684-689

Melgar-Quinonez, H. & Kaiser, L.L. (2004). Relationship of child feeding practices to overweight in low-income Mexican-American preschool-aged children [Electronic Version]. *J Am Diet Assoc*, 104, 1110-1119.

Mussen, P.H & Hetherington E.M. (Eds.). (1983). *Child Psychology*. (Vol. 4). New York: John Wiley & Sons.

Nicklas TA, Farris RP, Myers L, Berenson GS. (1995). Dietary fiber intake of children and young adults: The Bogalusa Heart Study [Electronic Version]. **The Journal of the American Dietetic Association**, 95, 209-214.

Nicklas TA, Baranowski T, Baranowski J, Cullen K, Rittenberry L, Olvera N. (2001) Family and child-care provider influences on preschool children's fruit, juice, and vegetable consumption [Electronic Version]. **Nutrition Reviews**. 59(7), 224-235.

Olvera-Ezzell, N., Power, T.G. & Cousins J. H. (1990). Maternal Socialization of children's eating habits: strategies used by obese Mexican-American mothers [Electronic Version]. **Child Development**, 61(2), 395-400.

Ogden, C., Flegal, K., Carrol, M. & Johnson, C. (2006). Prevalence and trends in overweight among U.S children and adolescents [Electronic Version]. **Journal of the American Medical Association**, 295(13) 1549-1555.

Rubin, D. B. (1987), **Multiple Imputation for Nonresponse in Surveys**, New York: John Wiley & Sons, Inc.

Sherry, B., McDivitt, J., Birch, L.L., Cook, F., Sanders, S., Prish, J., Francis, L.A. & Scanlon, K.S. (2004). Attitudes, practices, and concerns about child feeding and child weight status among socio-economically diverse White, Latino and African-American mothers [Electronic Version]. **J Am Diet Assoc**, 104, 215-221.

Stanek, K., Abbott, D., & Cramer, S. (1990). Diet quality and the eating environment of preschool children [Electronic version]. *Journal of the American Dietetic Association*, 90(11), 1582–1584.

Strauss R.S., Pollack H.A.(2001). Epidemic increase in childhood overweight, 1986-1998. **JAMA** 286 (22),2845-2848.

U.S. Census Bureau. (2001, May). "The Hispanic population." Prepared by B. Guzman. Washington, DC. Retrieved August 25, 2005, from <http://www.census.gov/prod/2001pubs/c2kbr01-3.pdf>.

U.S. Census Bureau; "South Carolina Fact Sheet: 2000, 2004"; using American Fact finder. Retrieved April 12, 2005, from http://factfinder.census.gov/home/saff/main.html?_lang=en;

USDA/ARS Children's Nutrition Research Center at the Baylor College of Medicine's website **Calculator and tools**: <http://www.kidsnutrition.org/bodycomp/bmiz2.html>

Wang Y. (2004). Epidemiology of childhood obesity--methodological aspects and guidelines: what is new? **Int J Obes Relat Metab Disord**. 28, Suppl 3:S21-S28.

CHILD FEEDING PRACTICES AND NUTRITION EDUCATION NEEDS OF THE LATINO POPULATION IN SOUTH CAROLINA

Abstract

Focus Groups were conducted to learn about child feeding practices of Latino caregivers to children between the ages of two and six in South Carolina. In addition, participants were asked about nutritional concerns and nutrition education. Some common feeding practices used by the participants were “short order cooking”, and using rewards, bribes and punishment to coerce a child to eat. Caregivers were also found to be more concerned with child underweight than overweight and, therefore, used more feeding practices which pressured a child to eat than practices controlling for over-consumption. This study concluded that the health risks of overweight children should be addressed in the nutrition education of this population. In addition, parents should be educated about feeding practices which enable a child to learn self-regulation instead of those only aimed at coercing a child to eat, which may decrease a child’s ability to self regulate and ultimately child overweight.

Introduction

The Latino population is growing faster than any other segment of the U.S population. In fact, Latinos are now the largest minority group in the country (U.S. Census Bureau, 2005). The rate of increase in Latino populations in South Carolina (SC) from 1990-2000 was 211.2% (NCHS, 2005) and from 2000-2002 it outpaced all but Georgia, Nevada, and

North Carolina. Some authors believe that there could be as many as 300,000 to 400,000 Latinos living presently in South Carolina (Lacy E., 2004). South Carolina's Latino population consists primarily of young (20 – 35 years of age), limited English proficient, poorly educated, low income, newly arrived immigrants from Mexico and Central America (Kochar et al., 2005, Young, 2005). Nationally, Latinos are more likely than non-Latino Whites to live in poverty. In South Carolina, it is estimated that 23.6% of the Latino population in South Carolina lives in poverty (US. Census Bureau, 2001) and the average pay for a Latino worker in the state is approximately \$14,000 per year. (Lacy, 2005)

Women and those of low socioeconomic status within minority populations appear to be particularly affected by overweight and obesity (Flegal et al., 2002; Paeratakul et al., 2002; Schoenborn et al, 2002; Wardle, 2002). The overweight rate of Hispanic adult females is 75.4% with 42.3% being obese, compared with 58.0% and 30.2% in white females. In addition, 76.1% of Latino male adults are overweight, and 31.6% are obese (Odgen et al., 2006).

Childhood overweight and obesity is a growing problem in the U.S. in all races (NHANES, 2006); however, it is more prevalent in Latino and lower-income children than in White, non-Latino, and higher-income children (Campaigne, et al., 1994; Dietz, 2004; Kimm, et al., 2001; Kimm et al., 2002; Strauss et al., 2001; Wang, 2004). In addition, being overweight and obesity in childhood predict greater morbidity and mortality later in life from diseases such as diabetes, cardiovascular disease and hypertension (Brewis and Gartin, 2006). In fact, although the obvious symptoms do not normally develop until adulthood, the risk factors for cardiovascular disease and diabetes, such as insulin resistance, elevated blood lipids, increased blood pressure, and impaired glucose tolerance, may start to develop as early as childhood (Must et al. 1999).

Latino-American adults are nearly two times more likely to have Type-2 diabetes than non-Latino whites. With the current levels of childhood obesity, Type-2 diabetes is now becoming a problem in Latino children and adolescents as well (CDC, National Diabetes Prevention and Control Program, 2006).

A caregiver's influence on a child's eating habits is thought to be a major factor in the etiology of childhood obesity (The American Dietetic Association, 2004). Many studies have demonstrated that child feeding practices are one way in which caregivers influence a child's nutritional status (Birch et al. 2001, Hughes et al 2005, Olvera et al 1990, Melgar-Quinonez et al 2004). However, a review by the American Dietetic Association concluded that this subject has not been studied sufficiently to establish a sound idea of what these influences are (The American Dietetic Association, 2004).

Some examples of feeding practices include accommodating specific requests for alternative choices at meals ("short order cooking"), using foods as bribes, rewards, and pacifiers to encourage eating or another desired behavior, and not believing that a child is full (Sherry et al. 2004). Use of strategies such as these has been found to interfere with a child's ability to self regulate and can possibly lead to child overweight (Sherry et al. 2004).

Brewis & Gartin (2006) found that when parents were "short order cooks" for their child, the substitutions made were almost always pre-packed higher calorie and fat meals. Short order cooking is a practice that is considered part of the permissive feeding style (Brewis & Gartin 2006).

Using controlling techniques to regulate the intake of food through restriction or strongly pressuring the child to eat through force, rewards or bribes have been classified as authoritarian feeding practices (Hughes et al., 2005). Bribes can result in a higher fat and calorie intake by giving the child a large amount of a high fat, high calorie food in exchange

for eating a smaller amount of a healthy food (i.e. if you eat three bites of broccoli you can have a bowl of ice cream). Restricting certain foods or the amount of food has been shown to lead to an increased preference for as well as the intake of these foods, a higher weight, and an inability to regulate energy intake (Sherry et al. 2004, Fisher & Birch, 1999, Hughes et al. 2005). Additionally, forcing a child to eat (i.e. requiring them to clean their plate or eat when not hungry) could decrease the child's responsiveness to their own feelings of hunger or satiation (Birch et al., 1987).

Discussion, negotiations and reasoning, providing rationales and praising the child during feeding times have been classified as an authoritative style of feeding. (Iannotti et al., 1994; Cousins et al., 1993; Hepinstall et al. 1987; Stanek, Abbott, & Cramer, 1990, Hughes et al., 2005). Research examining this feeding style has been limited even though it is supported as the most beneficial to the child in the literature (Birch et al., 1995; Satter, 1987)

Latino mother's with a higher education level have been found to use more authoritative feeding techniques such as reasoning with the child, controlling a child's consumption of unhealthy foods, and allowing their child to make suggestions regarding what to eat than those with a lower education level (Olvera-Ezzell et al., 1990). The median educational level of Latinos in SC, as reported by Lacy (2005), is eight years, with over one third having 6 years of education or less. Therefore, the population in South Carolina may be less likely to use the authoritative feeding practices.

The low-income level of the average Latino Family in South Carolina may also influence feeding practices. Feeding practices thought to lead to obesity, have been observed among low income mothers such as: a heightened concern about child being hungry, difficulty withholding food from a child and concern about underweight even if the child is above normal weight (Baughcum, A. E. et al., 2006).

Feeding practices thought to lead to obesity have also been observed specifically in the Latino population. Latinos have been found to use permissive practices, like "short order cooking". (Hughes et al 2005, Melgar-Quinonez et al 2004). In addition, it has been found that this population uses bribes, threats, and punishment as well, especially caregivers who are less acculturated (Kaiser et al., 2001).

The high prevalence of overweight and obesity in Latinos combined with the magnitude in the growth of this population necessitates further studies on how to prevent overweight and obesity and the diseases that develop as a result. According to the Center for Disease Control and Preventions' Office of Minority Health (2006), research is needed to develop intervention models that produce effective, sustainable improvements in urban health and quality of life for Latinos (CDC, Urban Research Centers, 2006). It is important to understand what factors are influencing childhood overweight in this population so health can be improved in this "at risk" population.

Feeding practices may influence child weight and health status. There is limited research on this subject, especially in the Latino population, and there is currently no research on child feeding practices used by Latino caregivers living in South Carolina.

The Purpose of this study was to examine which feeding practices are being used by the Latino Population in South Carolina, as well as common problems and concerns parents have in regards to child feeding. There was also a significant portion of the focus groups dedicated to obtaining the opinions and suggestions from this group about what should be included in nutrition education curriculums as well as how nutrition education should be provided.

Methods

Description of the Focus Groups

Eight focus groups, averaging approximately 6 participants per group, were conducted at different locations across five different counties in SC between 04/10/06 and 6/04/06, in accordance with the methodology set out by Krueger (1998). The number of focus groups conducted per county was as follows: Greenville (3), Florence (1), Beaufort (2), Lexington (1) and Saluda (1). The focus groups were conducted in Spanish and consisted of open-ended questions with probes. Participants were male and female, and each session lasted approximately 90-120 minutes. Demographics were obtained using a close ended questionnaire developed by the research team. A focus group interview guide was developed to elicit answers to the research questions adapted from the Caregivers Feeding Style Questionnaire (CFSQ) developed by Hughes et al. (2005). The same two moderators, whose first language is Spanish, conducted all focus group sessions. The moderators had experience conducting focus groups and a strong background in the field of food science and nutrition. Culturally-compatible analogies and examples were used to explain the mechanics of the focus groups. An ice-breaker question was used to make participants feel comfortable with the moderators, and to promote participation during the discussion. All focus groups were audio-taped to allow for later analysis. Participants were required to sign an informed consent form, and at the end of the focus group interviews, each participant received \$25 for his or her participation. Clemson University's Institutional Review Board approved all procedures

Recruitment of Participants

The target population for this project was Latino caregivers of children between the ages of 2 and 6, currently residing in South Carolina. The population surveyed was a convenience sample (Arcury, 1999). Participants were recruited from the upstate, the piedmont, the midlands, and the coastal regions of South Carolina. Formal contact was established with management or service providers aimed at Latinos. These included, but were not limited to; predominately Latino populated apartment complexes, churches catering to the Latino population, a Head Start location, and an English as a Second Language (ESL) class. Staff in these locations were provided a detailed explanation of the project, including the instruments and commitment involved. All of the interested locations agreed to help with recruitment for the project and/or allowed the use of their facilities to conduct in-person interviews. Following this, the researchers were able to make contact with individuals and recruit them through word of mouth, personal invitations and flyers. Some caregivers invited the researchers to conduct the focus groups in their homes and invited others to be participants.

Inclusion factors for participation were: Latino, age 18 years or greater, living or working in the county where the interview was conducted, primary caregiver (the person responsible for feeding and caring for a Latino child the majority of the time when the child was not in school) to a child between the ages of 2 and 6, the child could not have a health problem that would affect his or her diet, cognitively sound (*i.e.*, having the ability to comprehend and respond to questions appropriately). Interviews were conducted in Spanish and, therefore, the participants were required to speak and understand Spanish.

Focus Groups Questions

The primary goals of these focus groups were to learn about feeding behaviors and practices in the Hispanic population. The focus groups addressed questions in 4 main topic areas: (1) child feeding practices; (2) child feeding issues; (3) nutritional concerns regarding children (4) nutrition education. The questions used to direct the focus group discussions can be found in Table 1. The same questions were utilized in all focus group interviews.

Data Analysis

Data tapes were transcribed and then translated from Spanish into English. All focus groups transcripts were reviewed again to verify accuracy. Using the constant comparative method (Glaser & Strauss, 1967), one researcher developed a list of thematic codes and sub-codes that was applied to all focus group scripts. A second researcher then independently coded the transcripts using the coding list. Finally, the results were compared and any disagreements were resolved. One researcher wrote thematic summaries that were checked by the second researcher. Final themes and representative quotes were developed by consensus. During the presentation and discussion of results, the focus group themes and sub-themes are supported by selected representative quotes.

Results

Demographic Data

The sample included 53 participants. The mean age of the caregivers was 30.7 years old. Mother's represented 98% of the caregivers. The mean child age was 3.66 years old and 47.62% male and 52.38% female. Thirty eight percent of participants were from the upstate, 29% from the Piedmont, 19% were from the midlands, and 14.% were from the coast. The majority of participants were from Mexico (61.90). Other countries that were represented were Colombia (11.90%), Venezuela (7.17%), Honduras (2.38%), El Salvador (4.76%), Argentina (2.38%), Guatemala (7.14%), Panama (2.1%), and Bolivia (2.38%). Thirty- one percent had lived in the U.S. for five years or less, 79% had lived in the U.S. for 10 years or less and only 2.4% had lived in the U.S for longer than 20 yrs. The majority (92.86%) spoke mostly Spanish at home, 64.29% did not speak much English, and 4.76% spoke English fluently. Educational attainment averaged 10 years of school. Almost half, 46.5% had finished high school, 28% had finished some high school and 25.5% had not gone to high school. Less than half (45.24%) reported having a monthly household income between \$751 and \$1,500. Another 38.1% reported having a monthly household income between \$1,501 and \$2,500, and 7.14% reported having more than \$2,500 in monthly household income. The average household consisted of approximately 2 parents and 2 children. The mean number of people living in the same household was 4.47. The mean number of kids in a household was 2.21. The majority (95.24%), prepared traditional food at home and 64.29% prepared traditional food everyday, 16.67% prepared it 4 to 6 times per week and 9.52% prepared it 1-3 times per

week. The majority (66.67%) of participants received some sort of governmental assistance. The assistance programs utilized by participants were WIC (64.29%), school lunch (21.43%), school breakfast (16.67%), Head Start (11.9%), and food-stamps(7.14%)

Child Feeding Practices

To learn more about the child feeding practices used by this population, parents were questioned about (1) mealtime, (2) the balance of parent and child control in feeding and (3) techniques that were used to coerce a child to eat.

Mealtime

To begin the child feeding practices theme, caregivers were asked about what mealtime was like for them. Participants in two groups stated that it was always relaxed with conversation and the children ate what was provided. However, five groups stated that mealtime was not pleasant. Some causes for this mentioned were because there was a struggle to get the child to eat, because the child cried because he or she did not get what was wanted, children fighting each other, and a child not wanting to feed himself. One group did not comment on mealtime specifically.

Parental and child control of child intake

To investigate the balance of parent and child control, parents were asked if they regulated what the child ate as well as who decides when, what, and how much the child ate. There were participants in all focus groups that regulated their child's intake in some way, however, the level that a child could control his or her own intake varied between caretakers.

There were no participants in the focus groups that let the child have complete control of his or her own eating with no parental regulation.

At least one participant in all of the focus groups mentioned their belief that children should control the amount they were eating. However, all focus groups admitted to using certain "techniques" to entice their child to eat.

Every focus group reached a consensus that they control what the child eats to a certain extent. They make the purchases and prepare food at home for their children, when they are not at school. Almost all children were allowed snacks.

When caregiver's were asked what types of foods they regulated, caregivers in 2 focus groups mentioned regulating fat and carbohydrates. Caregivers in all focus groups mentioned soda, juice and other high sugar beverages as well as foods perceived to be "junk" foods such as chips, cookies, and candy. Caregivers in one group mentioned limiting snacks between meals, dairy products, and calories.

Two methods used to prevent children from eating "too much" "unhealthy food" was not buying it (mentioned in 6 groups) and hiding it (2 groups). Only one person in all of the focus groups mentioned buying light or low sugar foods. Restricting the amount of unhealthy food consumed was a very common method used and was mentioned in all focus groups. Caregivers from all focus groups did not think that their child should be prohibited from eating certain items but that these items just needed to be moderated. One opinion stated regarding this was,

"I think that if she is not allowed to have candies at home, and she sees other kids eating them she will turn into one those kids that hide to eat, or it can cause her to suffer from anxiety. So I think she should get used to having everything but in limited amounts. "

When asked if children were required to clean their plate it was mentioned in 4 focus groups that they were required to do so. One participant stated, "When I finish they have to finish too. We have taught them this since they were little."

However, although many of the caretakers wanted their children to finish their plates, it wasn't mandatory for at least one participant in all focus groups. Instead they would use rewards and bribes to coerce their child to finish (see "Techniques used to get kids to eat").

Finishing everything at meals was not important for caretakers in 3 groups. They believed that the children could monitor their own hunger and would eat as much as they needed.

"For me I just need to know that it is enough for them, if they don't want more and are not able to eat more than they should. Maybe they have drunk a lot of juice or of something and now they don't eat all the food"

Caregivers in 3 focus groups believed that children knew when they were hungry and let the children decide when they were ready to eat. One caregiver stated, "Children eat whenever they are hungry because it is like us, you wake up and sometimes you are not hungry." These caregivers did not regulate snacks but let the children choose when and what they were going to eat, from what was available to them.

Children were given the option to choose what to eat, especially when going out to eat. Four focus groups mentioned that the child had at least some control over what they ordered at restaurants because going out was considered a special occasion. When at home, 6 groups discussed that although they prepared food, sometimes the children refused it these situations the caregivers made them something else.

It was indicated in 3 focus groups that the mothers felt they did not have sufficient control over their children to get them to eat healthily. There were complaints about the

child snacking too much during the day and not eating supper as a result and the mother's inability to carry through on punishment. Some of the mothers exhibited a helpless feeling in regards to getting their child to eat what they believe is sufficient amounts.

"My child doesn't eat, I try to give them what he likes but he doesn't eat what I fix him. Some times I don't know what to cook any more. He is not under weight or any thing like that, but he is kind of skinny. The doctor says that he is right on the limit with the weight."

In addition, multiple mothers in 2 of the focus groups mentioned that their children ate and behaved well for their fathers or other people but not for them.

"There are lots of children, and mine is one of them, that do not behave well with their parents but when they go to eat to someone else's place they are good. For instance, when we go to a friends place, they sit my kid at the Table and give him his food and silverware and just tell him "let's all eat." He sits and eats normally, finishes, and stands up. I think there are several children that are not good with their mothers. "

Two other mothers agreed with this statement, "Yes, you are right they do not behave well with us, their mothers". "They are well behaved with other people but not with us".

Techniques used to get kids to eat

After caregivers were asked what problems they had feeding their children, they were asked how they addressed these problems. Many different techniques were used to get their children to eat.

A technique used by 3 groups to get children to eat specific foods they didn't like was disguising them (i.e. blending or hiding them in foods), and serving them combined with other foods. An example one caretaker gave was,

"I think that all mothers have trouble. Let's say zucchini. My children do not really eat it. I have chopped it really well in the soups so they eat it. I hide it".

Caregivers in 3 groups stated that the only way to get their child to eat the healthy food was to add a lot of fat to it. One mother related one way her son would eat vegetables,

"Vegetables, things like broccoli. I think all of us have trouble with that, broccoli. They call them little trees but my son he sometimes eats them when we go the Chinese Buffet. You know they mix it with carrots in very good gravy. I do not know how to cook it, but I would like to learn how to make it so I can prepare it at home and that way he would eat his vegetables. He likes them better when they are fixed that way"

A technique used by caregivers in 6 of the focus groups was "short order cooking". This occurs when the child refuses the food served and therefore the caregiver makes them something else that they might like better. This is exemplified by one participant's comment, "We choose something and if they do not like it we have to give them something else, whatever they want."

Praising the child for eating was a technique used in 5 of the focus groups. Some, parents would tell the children that they were a princess or Superman for eating and others would just show their approval with a kiss, or by telling the child they were very good. One participant shared what she did with her daughter,

"I say to my daughter, 'Did you eat all of the soup? Now who is the most beautiful princess? Look at your pink cheeks, your hair will grow to be beautiful your skin will be rosy'. And she says, 'really mom?' And I say, 'yes daughter this is why it is important to eat'."

Although participants in 6 focus groups did not reward their children for eating, when asked about using rewards and bribes, caregivers in all focus groups said they had used them

in the past to get the child to eat. Some common bribes and rewards were chocolate or sweets (all focus groups), TV or video games (4 groups), allowing play (4 groups), and taking children out to eat (4 groups). One caregiver's example was,

" my kid is very lazy when it comes to eating.... a lot... and so I tell him if you eat we will go ride bikes...if you eat, I will let you play X-box ... if you eat you can watch cartoons and if not I punish him with a fight."

Punishing was a technique used by all focus groups to coerce children to eat. The most common method in this category was the use of threats. This was mentioned in 6 focus groups. The threats mentioned were taking away the TV or playtime outside, not giving the child a food item that they like (i.e. milk or cereal), sending the child to their room, and telling the child that they would not grow or would become ugly if they did not eat.

Some other methods of punishment for not eating were to take away TV and play time (5 groups), sending the child to his or her room(1), and taking away candy and other food treats(3). There were no caregivers who agreed with taking away "real" food for a punishment. Only one participant mentioned using any type of physical punishment, like spanking. Participants in 4 focus groups never used punishment when their child would not eat.

Some other techniques used to improve a child's appetite at meals were preventing them from eating snacks (2 groups), making them foods they like at meals (2 groups), getting the children to exercise (1 group), spoon-feeding the child (3 groups), making the food more attractive (i.e. decorating food) (1 group), and reasoning with the child (1 group).

Child Feeding Problems

The second topic addressed complaints or problems that parents faced when feeding their child. The responses fell into two main categories, (1) the child not eating enough and (2) the child eating too much.

Not eating enough

When asked about problems the parents face when feeding their children one complaint found in all focus groups was that the child did not eat sufficiently in some way. Some common complaints amongst the groups were the child not liking vegetables (mentioned in 7 in groups), not liking meat (4 groups), not liking milk (3 groups), not being hungry at mealtime (all groups), misbehaving and not eating for the mothers(2 groups), and picky eaters (3 groups). There were also some complaints about drinking too much milk or juice and this ruining child's appetite (2 groups). Parents in every focus group complained that the children did not want to eat at mealtime. It was only mentioned in 2 focus groups, that this was a problem all the time. However, at least one person in all of the focus groups believed one of their children ate too little in general. Three focus groups mentioned that these complaints were mostly regarding the younger children. One mother testified, "My little one is also very skinny so I want him to eat more, and he eats very little but the older one eats a lot."

It was mentioned in 2 focus groups that the child's lack of appetite was due to eating too many snacks. Another reason, stated in 4 focus groups was that the children were too distracted by television or playing to sit down and eat.

"I tell him to eat before he plays and the kid says, 'mom I want to play first'... so he eats one bite, then he plays and then he eats a little more and this is how the meal always is."

Eating too much

There were fewer complaints about the children eating too much in comparison with the number of complaints about the children not eating enough. However, this was a concern in 7 of the eight focus groups. Two of the focus groups mentioned concern regarding carbohydrates and fats. They indicated that their overweight children really liked bread and carbohydrates and this was perceived to be, at least in part, the cause of the child's overweight status. Another concern was fat, especially too much cheese. A child drinking too much milk was mentioned in 3 groups. The concerns were that it was ruining their child's appetite and that the child was too attached to the milk. Only 2 caregivers were concerned about the high amount of fat in milk and this was a result of their being told that their children needed to cut back on milk by the doctor or WIC. It was stated in two focus groups that they used whole milk but no one else mentioned the type of milk they use. In addition, 5 groups added chocolate flavoring to the milk they gave their child

Too much junk food was mentioned specifically as a concern in 4 groups. Some common items that caused concern were chips, cookies, cheese, and candy. The caregivers mentioned that the children loved these items and if they were not prevented from eating them they would eat a lot.

"The older eats very well but the younger one eats very little" was a sentiment expressed in 3 focus groups. Caretakers found it much easier to feed the older children but also expressed concern that the older children ate too much. One stated, "The oldest, I have to stop him because he always wants to eat more than what is normal, bread most of the time". There were not any clear explanations given for why this was so.

Participants in 5 groups said that their child's appetite varied from day to day. One mother stated,

"I try to have them eating because there are some days when they eat a lot, so much that I have to tell them to stop, but some other days, they don't. It depends on how their bodies are doing."

No problems eating

Although some parents were quick to complain, it was stated in 6 focus groups that they had no problems. Their children ate well so they couldn't complain. Two of these participants mentioned that their children ate a large amount but were still very thin so there was no cause for concern. Some participants in all of the groups believed that their child ate normally.

Nutritional Concerns

Caregivers were asked what concerns they had regarding their child's nutrition. One focus group expressed the concern that they worked and therefore did not have enough time to prepare healthy meals. Four focus groups expressed concern over under-nutrition. Two of these groups expressed concern that their child might become sick as a result of them not eating enough of specific nutrients like iron. In addition 2 groups mentioned concern that their child would not be strong enough to fight off sickness because of eating insufficiently. Three groups mentioned that they were concerned their child would not develop correctly. Specific concerns regarding this were weak bones and teeth, as a result of a calcium deficiency, and a decrease in intellectual ability, as a result of malnutrition. A child being too thin was mentioned as a problem in all of the groups. One of the participants made this

comment, "I would like to have her with few more pounds on her. I like to see kids chubby."

Three groups mentioned that they were concerned that their older child was "chubby" or "eats a lot" and their younger child was too skinny.

Four focus groups mentioned that they were worried that their child was underweight, but the doctor or WIC told them that the child's weight was fine. One caregiver commented, "I was worried about the weight of my daughter. I used to think that she was skinny but I took her to the doctor and she told me that her weight and height were ok."

Seven of the eight focus groups had members who were concerned about their child being overweight. One participant said,

"My six year old is getting very chubby. This worries me and I tell him to be careful because it could kill him and he has a harder time moving than the child that is thinner."

Eating too much, too much television and a lack of activities for children were cited as areas of concern as the cause of the child's overweight.

Six focus groups mentioned concern about their child becoming overweight in the future.

"I am concerned about weight gain in my kids, not me; I take care of my self, particularly in this country. It not only takes a physical toll but psychological toll as well. I have seen that kids are really bad with others and here at school the kids are divided into the popular, the intellectual, and the dumb chubbies. That makes them have low self-esteem."

Some other concerns were that although the child was skinny presently, he or she was eating foods high in fat, was not very active, and was starting school soon (see school and food).

Only 2 people mentioned the diseases associated with obesity as a concern and only one mentioned diabetes specifically.

Barriers to eating healthily

A barrier to eating healthy that was discussed in one focus group was the difficulty to find good fruit.

"Fruit drinks made from scratch are really good, pineapple, mango, but here you go to the Mexican grocery, get some limes, you cut them in half and they are really dry. And in Mexico you do not get those limes, you start cutting them and the juice is coming out from all over the lime. "

In addition cost was mentioned as a problem in 2 groups. Fruit, organic foods, and meat were mentioned as costly items. Multiple caregivers in one focus group expressed the concern that they worked and therefore did not have enough time to prepare healthy meals. Three groups mentioned that husbands undermine a mother's attempt to provide healthy food only. Husbands were said to either not want to eat the healthy food prepared by the mothers or they brought home sweets and snacks for the children after work. Two participants mentioned concern over other family members giving their children unhealthy food. The final barrier to good health, mentioned in 2 groups, was the difficulty of breaking habits and customs.

"They love when I make cakes, cookies and things like that, that are traditional family recipes and so sometimes is it hard to break these habits that you have as a custom."

Nutrition education

There were several topics addressed regarding nutrition education. Participants shared if and where they had received nutrition education, as well as their positive and negative experiences with it. Furthermore, caregivers conveyed what they wanted to learn about

nutrition and provided suggestions for effective strategies in providing education on the subject.

Where previous nutrition education had been received

Participant from every group had received nutrition education in the past. Seven of the groups mentioned Women, Infants, Children (WIC), 2 groups mentioned the doctor, and 2 groups mentioned the radio. Places mentioned, but only by one participant in each case were, magazines, books, television. Only two participants specifically stated that they had never received nutrition education.

Positive Experiences with Nutrition Education

Seven focus groups relayed the things they liked about nutrition education received in the past. WIC classes were cited as useful in 5 groups. Some of the positive aspects of WIC mentioned were: the classes in Spanish, the ability to choose the topic, learning about food substitutions (like instead of milk, a child can eat yogurt for calcium), learning how to protect a child's teeth, and learning about the correct foods and portion sizes to serve a child. Some comments regarding this were,

"I learned what I didn't know, like you shouldn't give the child milk at night because of cavities, and that you shouldn't give juice in the bottle but in a cup because this affects them."

"They talk about portions, how to feed the kids, how to prepare foods healthier and give them portions of cheese, milk, what not to give, what is bad for the kids teeth and how much to give them."

A source of nutrition education cited in 2 focus groups was the child's doctor. The doctor was said to give information such as replacing juice with crystal light if child was

overweight, that it was ok for a child not to eat sometimes and not to pressure a child to eat. The doctor was also said to provide information on what ages were appropriate for eating certain foods, and to provide cooking ideas for children.

"In Mexico I went to a meeting for them to teach you the things about nutrition. The doctor explained stuff and told us this and that. This is good. She told us what you can do if they don't like it and she gave us a lot of options on how to prepare things."

Negative Experiences with Nutrition Education

All of the focus groups had a complaint about their previous nutrition education. Three focus groups had complaints about their previous nutrition education being too vague and generalized,

"At WIC, but it is very vague. 'Here is the pyramid. You should eat a portion of egg, one of fish, one chicken, rice with beans, a fruit a vegetable' and that's it but that doesn't give you an idea of what the best thing to do to eat well. "

Another complaint was that the examples given did not seem nutritious.

"The foods that they use as examples do not really look nutritious as compared to what we give them."

Some other complaint's were that the nutritionist was overweight and therefore a bad role model (1 group), that the classes were always the same at WIC (1 group), the materials were in English (4 groups), classes end once child reaches certain age (1 group), and that classes are not culturally compatible (1).

Regarding the classes being in English, one participant stated,

“There are some forms or leaflets that they have in Spanish and that you can get, however I have not had a single class in Spanish at WIC. They are always in English, like the video, when they tell you that you have to come to a class, they put on a video and you have to try and understand as much as you can and then the lady asks you if you understood anything? And well, you do understand a little. You might pick up the main concept but you can't understand all the other things that you are being said.”

What caregivers want to learn

When asked what they would like to learn regarding nutrition, 4 groups mentioned that they wanted to learn how to prepare the foods their children did not like in a way that they would eat them. Learning how to improve their child's appetite, how to stop struggling with the child over eating, and how to feed the child well with limited time and on a low budget were mentioned as items of interest by one group. Five groups mentioned wanting to learn about the correct foods to give children at specific ages. All groups wanted to learn more about general nutrition information such as: portion sizes, nutritional values of foods, reading nutrition labels, healthy foods, which foods have specific nutrients like iron and calcium, how many fruits, vegetables and snacks are needed a day, and the difference between raw and cooked vegetables. One mother's response was,

“To learn about other kinds of foods, to learn how fix things with more nutrients, food that you can make and they would eat, because for example we do not know what foods have iron. To learn more, so we can fix dishes for our children. That is my opinion.”

One group mentioned wanting to learn more about exercise and how many calories were burned with different types exercise, what to do when the children want "bad foods", or appropriate weights and heights for children.

Four groups mentioned wanting to know more about the correct way to "combine foods." They expressed a need to know how to serve a meal that has all of the nutrients, and how to avoid serving a meal with too much of one nutrient. One opinion given was,

"I would like to learn how to combine foods correctly. What does one have to eat to have a balanced meal? Because we fix food but what happens is that sometimes we serve two foods from the same group and then the meal is not balanced."

Three groups expressed interest in learning methods on disciplining children in regards to eating. One problem was a difficulty controlling the child's eating as they got older.

"I think I'm interested in learning how to control the children when they get older child. Because they are harder to control in everything. My 11 year old is much harder to control than my five or six year old. "

Suggestions on how to provide nutrition education

The participants were also asked for suggestions on how they would like to receive nutrition education. Just one group suggested an individual meeting with a nutritionist, videos, pamphlets or a recipe book.

One participant had an idea for a video,

"Things to show the kids that other kids eat, like, for example, I have trouble with daughter because she does not want to fasten the car seatbelt but I tell her Dora the Explorer uses it, she says Dora, she is telling us that you have to buckle up. And I tell her, can you see what she says about the seatbelt, and then she looks at it and buckles her self up. So you should produce some videos with things like this"

Three groups wanted to have a class similar to the focus group where there is open discussion where mothers can share ideas. Regarding this one participant said,

"That there would women's clubs at WIC that they get together one day to give each other tips, just like what she is saying, to go to the flea market and get a big bag and get it cheaper, and that would make cooking several things feasible"

Six groups wanted to have a cooking class. Participants wanted to learn how to make quick healthy meals that children would like, about the correct oils to use and how to make traditional meals quicker and healthier. They also wanted to learn more about cooking vegetables in an appetizing way and to learn how to combine soy into meals to make them lower in fat.

One participant stated her reason for wanting a cooking class instead of just getting recipes,

"It's that sometimes, the recipes, no... But when you are doing it. That's different, you do it mechanically, but with recipes it's different, I have a lot of recipes but I don't know how to make them."

Two groups specifically mentioned wanting the classes in Spanish. Two groups also suggested that children be involved in the class as well.

"I think that it would be a good idea to include the kids too, not just the moms, that it isn't just the mom that goes, but the child should get introduced to stuff too. The groups should be divided by the kids age and let them know what are the benefits of eating certain foods."

Some other suggestions given in 3 focus groups were to have the class at a time when everyone can come. Mornings were most commonly mentioned as a good time. One participant provided the following suggestion for advertising the class,

"Maybe place flyers in the complex and a number for getting more info about the topic that will be covered and when people find out that this is related to the child nutrition everyone will come."

Four groups had suggestions on where to have classes. All locations mentioned were in Latino communities such as at apartment complexes highly populated by Latinos, at a class member's house, and at the school their children attended.

Some of the barriers mentioned to attending classes were a lack of childcare (2 groups), transportation problems (1 group), and time (1 group),

Emerging themes

Although not asked about specifically, three themes emerged during the focus groups, school and food, physical activity and parental beliefs regarding nutrition.

1) School and food

The first emergent theme was regarding school and its influence on child intake. Five groups complained that their child wasn't eating sufficiently at school. Participants stated that their children did not like the food at school and, therefore, were always very hungry and ate a great deal, sometimes an entire meal, when they came home from school. Another problem cited was that the children were not getting enough time to finish their lunch, especially if they were slow eaters.

Participants in three groups were worried that the school food was not good for their children and making them gain weight. One participant commented,

"At school is where you have trouble. I have a child that was really skinny before he went to school. He ate only vegetables and he felt he was very strong. He is still strong, but now he really likes the food that they serve at school. He is putting on a lot of weight. Now he is overweight."

Another comment was,

"I am preoccupied that at school the oldest that started school has gained a little weight and so I am worried that at school they give them a lot of food like pizzas. This is a problem."

One group expressed concern over the number of sweets their children were given at school. On the other hand, two groups commented that they had no problems with school food.

2) Physical Activity

The second emergent theme was regarding physical activity. Two groups mentioned that their kids were very active and 4 groups said that they were not very active. Some reasons for inactivity were TV, video games, and the computer.

A statement made regarding this was,

“The oldest is the problem. It’s that he isn’t very active, and he doesn’t like to go outside and play. He goes from the TV to the computer, to videos.”

Some other reasons given were a lack of a safe place to play (too many cars), no park, and living in a place where kids were not allowed to make noise. One participant could not find activities for her child,

"I think my child has gained weight since we have lived here these two years. We do not walk There aren’t many activities. I can’t find many activities for 5 year old children. It depends on where you live on whether you can ride a bicycle and around here there are not many places where you can go and play sports with your kids and all that."

When asked if they thought their children needed more physical activity, 3 out of the 3 groups asked, answered this question affirmatively.

There were four groups that mentioned life in the U.S. being much more sedentary than in their country of origin. Many felt that it was much easier to go outside, exercise and play in Mexico. One mother commented, "That is the reason why my kids really like to go to Mexico, because kids are outside playing all the time."

Another participant described what it was like in her country of origin, "It was like running, jump around walls, climb the trees, you were not afraid to come down the hills in your bike."

3) Nutrition Beliefs Held by the Parents

The last emergent theme was caregiver beliefs regarding nutrition. Throughout the focus groups different parents expressed their beliefs about certain things. A belief expressed in 2 groups was that American food is bad for you. One belief was that the food in the U.S. was injected with something. A comment on this was,

"I was telling my doctor that I wanted to lose weight so that when I go to Colombia to eat all the things I haven't eaten all this time. He said that I should not be concerned about that because there you won't gain weight. Because here if you drink a glass of milk, or take your children to eat some nuggets, everything is injected, everything here is with proteins, too many proteins, too many vitamins, everything"

In addition to the food being injected, there was also a concern about freezing food. One participant stated, "Here the food has something, they inject it with something, freeze it." and another said,

"I will say that the food should have something because in my country you don't see all those frozen foods and it will be kept frozen in the super market for weeks and weeks. I don't think that is any good. In my country, you wash it, chop it, fix it and eat it. Whatever is leftover, you get it the next morning with breakfast or put in the fridge for later. Not frozen for days"

Two focus groups mentioned the belief that vitamins increase appetite. An example of one comment is, "My kids are skinny, but I am very scared to give them vitamins because my family and my self have a tendency to gain weight." There was nothing mentioned as to the source of this belief.

Discussion

Child Feeding Practices

All caregivers participating in this study had some involvement in what their child' eating. This is consistent with other findings that although Latino caregivers do use permissive feeding practices, it is uncommon for them to be completely uninvolved in regards to child feeding (Hughes et al. 2005).

There are incongruities in the studies of feeding practices in the Latino culture. Some studies have found that Latino's typically use indulgent and permissive feeding practices, do not use restriction, and are less likely to use bribes and threats to influence child eating (Hughes et al., 2005, Melgar-Quinonez et al., 2004, Olvera-Ezzell et al., 1990). On the other hand, a study in California found the most common feeding strategy used in the Latino population was bribes, threats, and punishment for not eating (Kaiser et al. 1999). The current study found that Latinos may use a combination of permissive feeding practices such as "short order cooking" and allowing the child to snack at his or her discretion and authoritarian type practices, to coerce their child to eat, such as bribes, rewards, and punishment. The Latino population in this study had a low level of educational attainment as compared to others such as Hughes et al.(2005). It may be that the incongruities in the literature can be attributed subcultures within the Latino population such as groups with lower education levels. This may be a factor that needs to be taken into consideration when conducting studies of this population. Another factor that may influence feeding practices and may need to be considered when conducting studies of this population is acculturation. Kaiser et al. (2001) reported that less acculturated Latino mothers are more likely to prepare

different foods when a child refuses to eat, and more likely to view bribes, threats, and punishment as effective feeding strategies than more acculturated Latino mothers. Although acculturation was not measured in the study, Kaiser et. al. (2001) had very similar findings to what was found in the population of South Carolina.

Controlling, authoritarian type practices were used by many parents, in this sample, especially when they felt the child was not eating enough. In fact some parents believed a child should finish their plate and put a lot of pressure on a child to do this. One comment regarding this was, "If my child eats a little bit, I tell him to eat more and tell him that I'm going to give him a candy if he eats everything. I keep asking him to eat a little bit more". Other authoritarian feeding practices commonly used in this group to coerce a child to eat were giving rewards, bribes, and punishment (although rarely physical). "Short order cooking", a permissive feeding practice, was also commonly used to ensure that a child ate at mealtime. These techniques are thought to lead a child to consume more calories than is necessary and possibly to a child becoming overweight (Brewis & Gartin 2006; Sherry et al. 2004; Fisher & Birch, 1999; Hughes et al. 2005). Therefore they may need to be addressed in nutrition education in this population.

Some caregivers in this population also stated that they did not use rewards and bribes and used praising instead. Praising a child, a practice considered to be authoritative, for eating well is supported as a beneficial feeding practice (Birch et al., 1995). Since it is supported in the Literature, this practice should be encouraged and reinforced in this population and may serve as a good replacement for those who use rewards, bribes, and punishment.

Another example of using authoritative feeding practices was that some caregivers let the child have some control over feeding but still provided parental regulation of what was

eaten. These caregivers provided meals for their children but believed that the children could decide when they were full and therefore did not pressure them to eat more than they wanted. This is thought to promote better self-regulation by the child (Hughes et al 2005).

When asked about food regulation, caregivers did try to limit some food items in their child's diet. The most common way they accomplished this was by not buying the item, hiding the item, and most the most common method was moderating the amount of the item consumed. No one mentioned prohibiting their child from eating one specific item. This is a practice supported by the literature as it has been shown that prohibiting children from eating foods can lead to an increased preference for as well as increase the intake of these foods, a higher weight, and an inability to regulate energy intake (Sherry et al. 2004, Fisher & Birch, 1999, Hughes et al. 2005).

Conversely, although only two focus groups mentioned this, many within the groups agreed that mothers have a very hard time controlling children and what they eat. Reasons for why they believed this were not mentioned, but some mothers also mentioned feeling like they could not control child feeding when the fathers brought home unhealthy items. Another study using focus group interviews found that many low-income mothers believed if they tried to control their child's diet, other family members would challenge this control (Jain et al., 2001). This might be a cultural barrier to nutrition education in this population and should be examined more thoroughly in future studies. It also might indicate a need to provide nutrition education, not only for the mothers, but for others who may influence child feeding.

Child Feeding Issues

When asked about problems in child feeding, many caregivers had problems with their child not eating what the caregiver perceived to be enough, especially with younger children. Every focus group mentioned that they had trouble getting their child to eat at mealtime. However, no one mentioned that a doctor indicated that their child was underweight and that this was a problem. In fact, four groups mentioned that they thought their child was underweight but when they took him or her to the doctor the doctor said his or her weight was fine. One possible explanation for why parents are worried about younger children eating too little is a misunderstanding of the correct portion size for their child's age. It might also be a result of a cultural issue influencing their perception of child hunger. It has been found that in the non-Latino groups, "full" or "not hungry" meant the child was bored, wanted to do something else, or was actually full, but in the Latino group it was found most commonly that "not hungry" meant ill. (Sherry et al. 2004).

Fewer caregivers were concerned that their child was eating too much, as compared to eating too little, but it was a concern in the focus groups. Some items that were the cause of concern were carbohydrates and fat. Carbohydrates, especially bread, were perceived to be very bad for children. One participant stated, "My daughter likes bread a lot, that is why I try to fool her and I buy those little rolls from 'Bimbo' with cinnamon and raisins". Perceptions like these might indicate that participants are paying attention to the media, advertising the "low-carb" diets, yet they might not fully understand which breads are healthier than others. In addition, very few mothers expressed concern over the fat content of whole milk. Whole-milk has been found to be more commonly used in low-income and Latino populations than in others (Dennison BA et al. 2001). Unless a doctor had specifically told the mother that

milk had too much fat, the concerns about milk were just that it was ruining a child's appetite or that the child was too dependent on it. The health benefits of switching from whole-milk to low-fat milk and eating whole grain bread should be addressed in the nutrition education of this population. In addition, many caregivers mentioned putting chocolate flavored syrup in milk for their children. This population should be educated that this practice needs to be limited as chocolate syrup would not only make the child want to drink more milk, but the milk would also have more added sugar. This could lead to a child consuming too much fat and too many calories throughout the day.

Older children, more than younger children, were said to have problems eating too much. The caregiver's did not give any explanations for why this was so, but it has been found that forcing a child to eat (*i.e.* requiring them to clean their plate or eat when not hungry) may decrease the child's responsiveness to their own feelings of hunger or satiation (Birch et al., 1987). If the younger children, in this study, were commonly perceived to eat insufficiently and received pressure to eat as a result, then the older children might have received the same treatment when they were younger. This might result in their eating more than is necessary as a result. One participant conveyed that the same children ate differently at different ages, "At my place, I did have some trouble with the kids especially when they were little but now they are at an age when they eat, you do not need to be all over them telling them what to eat. They eat whenever I tell them that it is meal time." This is an area for future research.

Nutritional Concerns

Caregivers were asked about the concerns they had regarding their child's nutrition. Concern over under-nutrition and the child being too thin was expressed again. In addition, many problems that result from malnutrition were mentioned. Caregiver's were especially concerned about the health risks of not consuming enough minerals like calcium and iron.

There was also a concern that children were overweight. However there was not the same degree of concern regarding the possibilities that childhood overweight could cause. This might result from the fact that much of this population has witnessed and heard about the problems associated with under-nutrition but have yet to realize or learn about the health problems that can result from child over-nutrition. In addition, many Latino parents have been found to view overweight as a sign of health. In fact, the view that a fat child is a healthy child may be more common in families or cultures that are food insecure presently or have been in the past (Kumanyika S., 2006). One participant's comment supported this theory, "In our culture, it used to be that you were healthy and beautiful when you were chubby." This is a cultural barrier that may need to be considered when providing nutrition education. Parents need to be educated about the risks associated with child overweight and obesity. Previous research has also indicated that it may be better to focus on positive eating behaviors instead of focusing on child weight when working with the Latino population because of the differences in perception of child weight (Crawford et al., 2004).

Physical Activity

Another concern, which emerged in the focus group, was that parents were worried about their children's lack of activity. However, they felt that there were many barriers to getting their child to exercise, especially in the U.S. Ideas on how to increase a child's physical activity should be addressed in nutrition education, as it might influence child weight. In addition, it may be helpful to study physical activity more in order to define what types of child activities are available to this population and their reasons for and for not participating in them. It would also be beneficial to discover in which activities this population would like to participate, if it was offered, and how much effort they are willing to expend to increase their child's activity level.

School and food

Another concern that emerged was child nutrition at school. There were complaints that the child was not eating sufficiently at school and, therefore, would eat a great deal when they came home. Some caregivers even prepared an entire meal for them. If a child is exaggerating how little they ate during a day, this extra meal could be contributing to child overweight. This is an area which needs future research.

Another complaint at school was that the schools served unhealthy items and this was causing to children to gain weight when they started school. School changing a child's food preferences to more unhealthy foods, like pizza and hamburgers, as well as giving the child too many sweets were also parental concerns. It is hard to say if school food served at school specifically is the problem or if there are other factors involved such as the caregiver's

inability to monitor how much their child is eating, that the child becomes less active as a result of attending classes and there being limited playtime, or that school age children may play more video games than their younger counterparts. There are many variables that could contribute to child weight gain when he or she starts school and this is an area that should be researched in the future.

Nutrition Beliefs

Another emerging theme found were some of the beliefs held by participants. It was found that some caregivers believed that vitamins increased their child's appetite and, therefore, would not give them to the children if they believed they had or would have a weight problem. In addition some caregivers believed that the food in the U.S. was injected with something to make people gain weight. This belief allows caregivers to not take responsibility for their own or their child's weight. Belief such as these, which could inhibit the effectiveness of nutrition education should be investigated further in the future to see how prevalent they are, and if they play a part in child health.

Nutrition Education

Most of the nutrition education the participants had received was from WIC. Over half of the participants were enrolled in WIC. There were some complaints, but overall it seemed to have helped participants.

Although some liked the idea of a video, the majority of participants wanted to have cooking classes or a class similar to a focus group so that ideas could be exchanged between

caregivers in addition to what was taught by the educator. Caregivers indicated a desire to learn about a variety of topics addressing child nutrition. These included but were not limited to, a child's nutrient needs at specific ages, what foods contain these nutrients, and how much a child needs to eat to fulfill these needs. Educating caregivers about the appropriate portion sizes for their children at specific ages would be helpful. Using visuals like food models and plate sizes may be an effective and less confusing way to teach this topic than using weights and measurements.

This population demonstrated a desire to learn about nutrition, however, they do have some barriers to attending classes. Barriers, specific to this population, need to be considered when planning classes in nutrition education. One of the barriers mentioned was that many mothers in this population do not work and have young children, and therefore need childcare. In addition, time was mentioned as an issue for working mothers who worked. It would be beneficial to investigate the working schedules of the population before scheduling classes. In regards to the location of the class, the suggestions only included places within the Latino community, such as a class member's home, the apartment complex, and at schools. Caregivers seemed to feel more comfortable having the class in a familiar place that they had easy access too. This should be considered when planning classes to increase attendance. In addition, due to the large amount of participation by this population in WIC, providing more in depth nutrition education in Spanish through WIC may be an effective intervention.

Many caregivers had the problem of their child not liking vegetables and to coerce their child to eat them, they usually disguised them or put them in a high-fat sauce. Caregivers also indicated that they wanted to learn how to make healthy and balanced but quick meals. Participants mentioned wanting to learn how to "combine foods". This usually meant that they wanted to learn how to make a meal with the appropriate quantities of protein, fat,

carbohydrate, vitamins and minerals. When teaching nutrition education to this population, it may be beneficial to teach the food groups in terms that are familiar such as how to "combine foods" instead of using other more foreign methods like the food guide pyramid. In addition, a complaint about previous education was that it was too vague and generalized and since the educator spoke English they could not ask questions. Using specific visual examples with traditional foods as well as targeting specific needs of individuals may also be helpful in nutrition education. Cooking classes were a popular idea and could be helpful to teach caregivers, using hands on methods, about how to prepare vegetables in a healthy, yet kid friendly way, as well as how to prepare healthy and quick meals.

Cost was not mentioned often as a barrier to purchasing food, however, Latinos in South Carolina are predominately low-income and, therefore, cost should be considered when providing nutrition education to this population.

Cultural compatibility in Nutrition Education

A barrier to good health mentioned was that it was hard to break habits and customs. This indicates the need to provide the caregivers with options on how to make their traditional food healthier, in addition to providing new recipes that would be accepted by this population. Providing culturally compatible nutrition education has been supported as the most effective way to incite behavior change (Crawford et al. 2004, Palmeri et al 1998, Cason et al. 2006). Teaching how to make small changes to traditional meals, like using less oil, would enable the caregivers to actually make these changes without feeling they are losing their traditions. This might enable them to continue with the changes and form new habits and customs to pass on to their own children. In addition to cultural compatibility materials, the classes for this population should be in Spanish. Only 2 groups mentioned

specifically wanting the class in Spanish. However, four groups complained that previous nutrition classes were in English. Due to the focus group being in Spanish, it was probably assumed by participants that the classes would be in Spanish, and therefore, it was not mentioned when providing suggestions.

Conclusions

This study provided many insights into the Latino Population in South Carolina. It provided a better picture of what was happening during child feeding, as well as parental concerns, beliefs and suggestions. Many mothers in this study were more concerned about getting their child to eat than with their child to eating too much. This resulted in their using feeding practices aimed at getting a child to eat. Some of those practices which are discouraged by the literature were "short order cooking", using rewards, bribes and punishing. In a concurrent quantitative study of this population it was found that the children in this population had a much higher than average BMI, based on the CDC growth charts. This might be partially due to the pressure children receive from caregivers in this population to eat. Although some caregivers did use practices supported by the literature, it may be beneficial to educate this population about the benefits of using authoritative feeding practices as well as educating parents about the health risks associated with child overweight.

Based on the findings of this study, some other topics which should be addressed in nutrition education of this population are the health benefits of using low-fat milk instead of whole-milk, that whole grain carbohydrates can be good for health, correct portion sizes for child age, and how to make traditional meals in a healthier way.

Some possible barriers to nutrition education that were found were: the belief that an overweight child is a healthy child, other family members hindering a mother's attempt at feeding children healthy foods, the need for childcare, and a lack of time for those who worked.

Nutrition education was desired by this population and it could be an effective weapon against the childhood obesity epidemic that is plaguing this population. Having classes in familiar, easily accessible places like at apartment complexes, at their child's school or through WIC could increase attendance and result in a greater impact in this population.

Limitations

This study used a convenience sample of this population and, therefore, the results from the focus groups may not represent the general Latino population. Another limitation of focus groups is that participant's answers and opinions may be influenced by other participants and the perception of what constitutes a socially acceptable answer.

However, the results do provide insight into some of the concerns, questions, practices and beliefs held by members of this population and are useful in planning nutrition education.

Implications for Research

An area for future research would be to study pre-school and school-age children to see if there is a significant increase in childhood overweight when they start school and, if so, what is the cause.

Another area for future research is to examine how prevalent the belief is that mothers cannot control their children and that they have little control over child feeding due to the father and other family members

Future research is also needed to study the perception found in this population that younger children eat too little and older children eat too much and if feeding practices and childhood overweight are related to this perception.

Table 2.1 Questions and probes used to direct the focus groups

1. Do you regulate what your children order when you go out? What about at home? Why or why not?

Probe:

- Do you control the intake of sweets, fat, or juice?
- Do you regulate snacks?
- Are you concerned about cavities, overweight, underweight, malnutrition?

2. When do you give your child special treats?

Probe:

- Do you give it as a reward?
- As a bribe for good behavior?
- To make him or her feel better?
- To make them stay quiet?
- To stop crying?
- For eating the foods you want them to eat?

3. What are these treats?

4. What do you think about withholding food for bad behavior?

5. Have you had problems getting your child to eat in the past?

If so how did you address the situation?

Probe:

- Did you offer a reward?
- Did you offer another food?
- Did you physically struggle with the child to make him or her eat?
- Did you threaten the child with punishment?
- Do you tell the child why it is important to eat?
- Did you let the child go without food until he/she was ready to eat?

6. What are some concerns you have in terms of your child's nutritional status?

Probes:

- Eating too little or too much.
- Eating too many sweets.
- Eating too much fat
- Child's overweight
- Child's underweight

7. How do you feel about your child's current weight?

Probes:

- Overweight
- Underweight
- Healthy
- Average

8. If you are concerned about the nutritional status of your child, what have you done to improve it, if anything?

9. What is mealtime typically like for you and your child? What happens during the meal?

Probe:

- What is the mood?
- What is the interaction normally like between you and your child?
- Are there foods that you find harder to feed your child?
- Are there foods that are easier to feed your child?
-

10. How many meals and snacks does your child eat each day and who decides what and how much?

Probe:

- Does he/she eat many meals at school?
- Who puts food on the plates at mealtime?
- How often do you eat with your child?

11. What types of snacks does your child eat?

12. What does your child typically eat at meals? Are you normally satisfied with what they have eaten? Why or why not?

Probe:

- Does he/she eat his/her vegetables?
- What are his/her favorite foods?
- What does your child eat most of on his/her plate?
- Do you pressure the child to eat more or less of certain items or just in general?

13. Do you praise or scold your child for eating certain foods or amounts?

Examples:

- You are such a good boy for eating your vegetables!
- You shouldn't be eating so many French fries!

14. What and how much does your typically child drink at meals and throughout the day?

15. What do you do if your child doesn't finish everything on his/her plate?

Probe:

- Does he/she get punished?
- Do you have a rule that your child finish everything on his/her plate?
- Are there certain foods that you are more insistent on them finishing?
- How about TV/Dessert?

16. Have you ever not let them leave the Table or participate in activities because they did not finish their meals?

17. Does your child normally eat enough, too much or too little?

18. What do you think is the best way to get a child to eat their meals well?

19. Have you or your child ever received any nutrition education?
Do you think it was effective? Why or why not?

20. What type of Nutrition Education do you believe would be beneficial in improving the nutritional status of your child?

Probes:

- Do you think it is more effective to educate the parents, the child, or both?
- Cooking classes?
- Nutrition classes?
- Newsletters with nutrition information?
- TV shows about healthy eating?

21. What questions do you have regarding the nutritional status of your child?

Probes:

- Ideal body weight?
- Healthy diet?
- How to get them to eat more fruits and/or vegetables?
- How to get them to eat more or less?
- Healthy snacks?
- Healthy desserts?

22. Do you have any other suggestions for how to improve the nutrition status of children in the Hispanic community?

References

- American Dietetic Association [ADA]. (2004). Position of the American Dietetic Association: dietary guidelines for children ages 2-11 years [Electronic Version]. **Journal of the American Dietetic Association**, 104, 660-667.
- Anderson, C.B., Hughes, S.O., Fisher, J.O., & Nicklas, T.A. (2005). Cross-cultural equivalence of feeding beliefs and practices: The psychometric properties of the child feeding questionnaire among Blacks and Latinos [Electronic Version]. **Preventative Medicine**, 41, 521-531.
- Arcury, T.A., Quandt S.A., (1999). Participant recruitment for qualitative research: a site-based approach to community research in complex societies. **Human Organization**, 58, 128-133.
- Ariza, A.J., Chen, E.H., Binns, H.J., Christoffel, K.K. (2004). Risk Factors for Overweight in Five to Six-Year-Old Latino American Children: A Pilot Study [Electronic Version]. **Journal of Urban Health**, 81(1)
- Baughcum, A.E., Powers S.W., Johnson S.B., Chamberlin L.A., Deeks C.M., Jain A., Whitaker R.C. (2001) "Maternal Feeding Practices and Beliefs and Their Relationships to Overweight in Early Childhood," **Journal of Developmental and Behavioral Pediatrics**, 22, (6), 391-408.
- Birch , L.L.(1987). The acquisition of food acceptance patterns in children. In R.A. Boakers, , D.A Popplewell, & M.J. Burton (Eds.), **Eating habits: Food, physiology, and learned behavior**. London: Wiley
- Birch, L.L. & Fisher, J.O. (1995). Appetite and eating behavior in children. In G.E. Gaull (Ed.), *The pediatric clinics of North America: Pediatric Nutrition*. Philadelphia, PA: Saunders, 931-953.
- Birch, L.L. & Fisher, J.O. (2000). Mother's child feeding practices influence daughter's eating and weight [Electronic Version]. **American Journal of Clinical Nutrition**. 71, 1054-1061.
- Birch, L.L., Fisher, J.O., Grimm-Thomas, K., Markey, C.N., Sawyer, R., & Johnson S.L. (2001). Confirmatory factor analysis of the child feeding questionnaire: a measure of parental attitudes, beliefs, and practices about child feeding and obesity proneness [Electronic Version]. **Appetite**, 36(3), 201-210.
- Branen, L., Fletcher, J. (1999). Comparison of college students' current eating habits and recollections of their childhood food practices. **J Nutr Educ**;31:304-310.
- Brewis, A. (2003). Biocultural Aspects of Obesity in Young Mexican Schoolchildren [Electronic Version]. **American Journal of Human Biology**, 2003, 15, 446-460.

Brewis, A., Gartin, M. (2006). Biocultural Construction of Obesogenic Ecologies of Childhood: Parent-Feeding Versus Child-Eating Strategies. **American Journal of Human Biology**, 2006, 18, 203-213

Campaigne BN, Morrison JA, Schumann BC et al. (1994). Indexes of obesity and comparisons with previous national survey data in 9- and 10-year-old black and white girls: the National Heart, Lung, and Blood Institute Growth and Health Study. **J Pediatr**. 124, 675-680.

Cason, K., Nieto-Montenegro, S., Chavez-Martinez, A. (2006). Nutrition Education Needs of Hispanic Migrant Worker in Pennsylvania. **Topics in Clinical Nutrition**. 21(2), 145-158

Centers for Disease Control and Prevention. National Center for Health Statistics (NCHS). **Health, United States, 2005 With Chart Book on Trends in the Health of Americans**. Retrieved October 15, 2006, from <http://www.cdc.gov/nchs/hus.htm> .

Centers for Disease Control and Prevention. National Health and Nutrition Examination Survey . Available at: <http://www.cdc.gov/nchs/about/major/nhanes/datalink.htm>. Accessibility verified February 27, 2006.

Centers for Disease Control and Prevention (CDC), Office of Minority Health, Latino Health Program, Urban Research Centers, <www.cdc.gov/omh/populations/HL/HHP/UrbanRC.htm>, Accessed April 12, 2006

Centers for Disease Control and Prevention (CDC), Office of Minority Health. Latino Health Program, National Diabetes Prevention and Control Program, <www.cdc.gov/omh/populations/HL/HHP/Diabetes>, Accessed April 12, 2006

Centers for Disease Control and Prevention (CDC), Office of Minority Health, Latino or Latino Populations, <www.cdc.gov/omh/populations/HL/HL.htm>, Accessed April 12, 2006

Cousins, J.H., Power, T.G. & Olvera-Ezzel, N. (1993). Mexican-American mother's socialization strategies: Effects of education, acculturation and health locus of control. **Journal of Experimental Child Psychology**, 55, 258-276.

Crawford P.B., Gosliner W., Anderson C., Strode P., Becerra-Jones Y., Samuels S., Carroll A.M., Ritchie L.D. (2004). Counseling Latina mothers of preschool children about weight issues: suggestions for a new framework. **Journal of the American Dietetic Association**. 104 (3), 387-94.

Dietz WH. (2004). Overweight in childhood and adolescence. **N Engl J Me**. 350 (9),855-857.

Dennison, B.A., Erb, T.A., Jenkins, P.L. (2001). Predictors of dietary milk fat intake by preschool children. **Preventive Medicine**, 33 (6), 536-42.

Faith, M.S., Berkowitz, R.I., Stallings, V.A., Kerns, J., Storey, M., & Stunkard, A.J. (2004) Parental Feeding Attitudes and Styles and Child Body Mass Index: Prospective Analysis of a Gene-Environment Interaction [Electronic Version]. **Pediatrics**, 114 (4), e429-e436.

Fisher, J.O. & Birch, L.L. (1999). Restricting access to palatable foods affects children's behavioral response, food selection, and intake [Electronic Version]. **Am J Clin Nutr**, 69, 1264-1272.

Flegal, K.M., Carroll, M.D., Ogden, C.L., Johnson, C.L. (2002). Prevalence and trends in obesity among US adults, 1999-2000. **JAMA**. 288,1723-7.

Fletcher, J., Branen, L. (1997). Late Adolescents' perceptions of their caregiver's feeding styles and practices and those they will [Electronic Version]. **Adolescence**, 32 (126), 287-294.

Glaser B and Strauss A. (1967). **The discovery of grounded theory. Strategies for Qualitative research**. New York: Aldine.

Heptinstall, E., Puckering, C., Skuse, D., Start, K., Zur-Szpiro, S., & Dowdney, L. (1987). Nutrition and mealtime behavior in families of growth-retarded children. **Human Nutrition: Applied Nutrition**, 41(6), 390-4-2.

Hughes, S.H., Power, T.G., Orlet-Fisher J., Mueller, S. & Nicklas, T.A. (2005). Revisiting a neglected construct: parenting styles in a child-feeding context [Electronic Version]. **Appetite**, 44, 83-92.

Iannotti, R.J., O'Brien, R.W., & Spillman, D.M. (1994). Parental and peer influences on food consumption of preschool African-American children. **Perceptual and Motor Skills**, 79(2), 747-752.

Jain A., Sherman S.N., Chamberlin, L.A., Carter, Y. , Powers S.W., Whitaker, R.C.(2001). "Why Don't Low-Income Mothers Worry about Their Preschoolers Being Overweight?" **Pediatrics** 107 (5), 1138-46. Johnson et al., 1994

Johnson, S.L., & Birch, L.L. (1994) Parent's and children's adiposity and eating style [Electronic Version]. **Pediatrics**, 94, 653-661.

Kaiser, L. L., Martinez, N. A., Harwood, J. O., & Garcia, L. C. (1999). Child feeding strategies in low-income Latino households: Focus group observations [Electronic Version]. **Journal of the American Dietetic Association**, 99, 601-603.

Kaiser, L.L., Melgar-Quinonez, H., Lamp, C.L. Johns, M. & Harwood, J. (2001). Acculturation of Mexican-American mothers influences child feeding strategies [Electronic Version]. **J Am Diet Assoc**, 101, 542-547.

Kimm S.Y., Barton B.A., Obarzanek, E. et al. (2002). Obesity development during adolescence in a biracial cohort: the NHLBI Growth and Health Study. **Pediatrics** 110 (5):e54.

- Kimm S.Y., Barton B.A., Obarzanek E. et al. (2001). Racial divergence in adiposity during adolescence: The NHLBI Growth and Health Study. **Pediatrics** 107 (3):e34.
- Kochhar, R., Suro, R., Tafoya, S.(2005). The new Latino south: The context and consequences of rapid population growth. Pew Hispanic Center. A Pew research center project. Washington, DC.
- Kumanyika, S., Grier, S. (2006). Targeting Interventions for Ethnic Minority and Low-Income Populations [Electronic Version]. **The Future of children / Center for the Future of Children, the David and Lucile Packard Foundation.** 16 (1), 187-207
- Krueger, R.A. (1998). Analyzing and Reporting Focus Group Results. London, UK. Sage Publishing.
- Lacy, E. (2005, March). "Economic impact of Hispanics in South Carolina, Part 1." University of South Carolina's Consortium for Latino Immigration Studies. PowerPoint presentation. Retrieved February 15, 2006 from <http://www.cas.sc.edu/cli/papers.htm>.
- Loria, C.M., Bush, T.L., Carrol, M.D., Looker, A.C., McDowell, M.A., Johnson, C.L., Sempos, C.T. (1995). Macronutrients intakes among adult Hispanic: A comparison of Mexican Americans, Cuban Americans, and Mainland Puerto Ricans. **American Journal of Public Health.** 85, 684-689
- Melgar- Quinonez, H. & Kaiser, L.L. (2004). Relationship of child feeding practices to overweight in low-income Mexican-American preschool-aged children [Electronic Version]. **J Am Diet Assoc**, 104, 1110-1119.
- Mussen, P.H & Hetherington, E.M. (Eds.). (1983). **Child Psychology.** (Vol. 4). New York: John Wiley & Sons.
- Neuhouser, M.L., Thompson, B., Coronado, G.D., Solomon, C.(2004). Higher fat intake and lower fruit and vegetable intakes are associated with greater acculturation among Mexican living in Washington State. **J Am Diet Assoc.** 104, 51-57.
- Nicklas TA, Farris RP, Myers L, Berenson GS. (1995).Dietary fiber intake of children and young adults: The Bogalusa Heart Study [Electronic Version]. **The Journal of the American Dietetic Association**, 95, 209-214.
- Nicklas, T.A., Baranowski, T., Baranowski, J., Cullen, K., Rittenberry, L., Olvera, N. (2001). Family and child-care provider influences on preschool children's fruit, juice, and vegetable consumption [Electronic Version]. **Nutrition Reviews.** 59(7), 224-235.
- Ogden, C., Flegal, K., Carrol, M. & Johnson, C. (2006). Prevalence and trends in overweight among U.S children and adolescents [Electronic Version]. **Journal of the American Medical Association**, 295(13) 1549-1555.

- Olvera-Ezzell, N., Power, T.G. & Cousins J. H. (1990). Maternal Socialization of children's eating habits: strategies used by obese Mexican-American mothers [Electronic Version]. **Child Development**, 61(2), 395-400.
- Paeratakul, S., Lovejoy, J.C., Ryan, D.H., Bray, G.A.(2002). The relation of gender, race and socioeconomic status to obesity and obesity comorbidities in a sample of US adults. **Int J Obes Relat Metab Disord**. 26,1205-10.
- Palmeri D., Auld G.W., Taylor F., Kendall P., Anderson J.(1998). Multiple perspectives on nutrition education needs of low-income Hispanics. **The Journal of Community Health**. 23, 301-316.
- Pew Hispanic Center. Hispanics, a People in Motion. 2005. Available at: <http://pewhispanic.org/files/reports/40.pdf>. Accessed; September 12, 2005.
- Satter, E. (1986). **Child of Mine**. Palo Alto, CA: Bull Publishing.
- Schoenborn, C.A., Adams, P.F., Barnes, P.M. (2002) Body weight of adults: United States, 1997-98. **Adv Data**. 330,1-15.
- Sherry, B., McDivitt, J., Birch, L.L., Cook, F., Sanders, S., Prish, J., Francis, L.A. & Scanlon, K.S. (2004). Attitudes, practices, and concerns about child feeding and child weight status among socio-economically diverse White, Latino and African-American mothers [Electronic Version]. **J Am Diet Assoc**, 104, 215-221.
- Stanek, K., Abbott, D., & Cramer, S. (1990). Diet quality and the eating environment of preschool children [Electronic version]. **Journal of the American Dietetic Association**, 90(11), 1582-1584.
- Strauss R.S., Pollack H.A.(2001). Epidemic increase in childhood overweight, 1986-1998. **JAMA** 286 (22),2845-2848.
- U.S. Census Bureau; "South Carolina Fact Sheet: 2000, 2004"; using American Fact finder. Retrieved April 12, 2005, from <http://factfinder.census.gov/home/saff/main.html?_lang=en>;
- U.S. Census Bureau. (2001). "The Hispanic population." Prepared by B. Guzman. Washington, DC: US. Census Bureau. Retrieved August 25, 2005 from <http://www.census.gov/prod/2001pubs/c2kbr01-3.pdf>).
- Vauthier, J.M., Lluch, A., Lecomte, E., Artur, Y., Herbeth, B.(1996). Family resemblance in energy and macronutrient intakes: The Stanislas Family Study. **Int J Epidemiol**. 25,1030-1037.
- Wang Y. (2004). Epidemiology of childhood obesity--methodological aspects and guidelines: what is new? **Int J Obes Relat Metab Disord**. 28, Suppl 3:S21-S28.
- Wardle, J. (2002). Sex differences in association with SES and obesity. **Am J Public Health**. 92, 1299-304.

Young, R.D. The Growing Hispanic Population in South Carolina: Trends and Issues. 2005. Working paper. Available at:
<http://www.ipspr.sc.edu/publication/Population%20In%20SC.pdf>. Accessed February 13, 2006

CONCLUSIONS

This study provided insights into the feeding practices and nutritional concerns of the Latino population living in South Carolina. Obtaining data through both qualitative and quantitative methods provided a better picture of what was happening in this population than using either alone. It revealed what was influencing child feeding practices in this population, gave insights into parental concerns and beliefs regarding nutrition, and provided valuable suggestions on effective ways to present nutrition education to this population. In the quantitative study it was found that many of the children were at risk of becoming overweight or were already overweight. Many mothers in the focus groups expressed more concern about their child eating too little than too much. This resulted in their using feeding practices that would coerce a child to eat. However, very few children in the quantitative study were underweight and no one in the focus groups mentioned a doctor indicating that they should be concerned about their child's underweight status. Some of the feeding practices used to coerce a child to eat, which have been discouraged in the literature, were "short order cooking", using rewards, bribes and punishing. It was determined in the quantitative study that authoritarian practices were used more by participants with less education and who had lived in the U.S. for a shorter time.

The used of feeding practices like "short order cooking", using rewards, bribes and punishment to coerce a child to eat may need to be addressed in the Latino population in South Carolina, especially in those with less acculturation and a lower education level. Another area that may need to be addressed is the belief that an overweight child is a healthy child. Caregivers should be educated on the health risks associated with child overweight as

well as methods to prevent it. This study did not measure every variable which could contribute to child overweight but it did uncover some possible factors in the etiology of childhood overweight and obesity. However, future investigation is still needed to gain a better idea of what is causing the high levels of childhood overweight in this population as well as what would be the most effective way to target nutrition education in this population.

APPENDICES

APPENDIX 1
Consent Forms for the Survey and for the Focus Groups

**Consent Form for Participation in a Research Study
Clemson University
Child Feeding Practices and their relation to Body Mass Index in Hispanic
Families in South Carolina – *Focus Groups Interview***

Description of the research and your role as a participant:

You are invited to participate in a research study conducted by Katherine L. Cason (principal investigator), Sergio Nieto Montenegro (co-investigator), America Chavez-Martinez and Claire Kirkpatrick (graduate students). The purpose of the study is to determine the child feeding practices used in Hispanic families living in SC and to determine the relationship of these feeding practices to child body mass index. Approximately 150 people will participate in this part of the project.

Your participation will involve:

- An explanation of the study followed by informed consent procedures.
- A 75-120 minute discussion on child feeding practices. A group of people will gather around a Table and I will collect their opinions on this topic. There are no correct or incorrect answers in this discussion since all we need are your comments and opinions related to this topic.
- Measuring the height and weight of your child. Standardized procedures will be used to take these measurements. This is the only child participation that will be necessary.

Risks and discomforts

There are no known risks associated with this study.
You are free not to answer any questions with which you feel uncomfortable.

Potential benefits

You will be given \$25 in cash or as a grocery store card for your participation in this study. Apart from this, there are no known benefits to you, at the present moment, which would result from your participation in this study. However, it will help us to understand more about child feeding practices in Hispanic families living in SC so that we can improve our nutrition education programs for Hispanics in the future.

Protection of confidentiality

We will do everything we can to protect your privacy regarding what you say during the discussion. No names will be used during the discussion. Only the graduate students and the research team will have access to the tapes, the list containing your name, personal references, and the information you provide. The research team will be in charge of handling and transporting the tapes containing the data and the signed informed consent forms. The tapes, the signed informed consent forms and the list containing the codes and names will be stored in different locked cabinets in the researcher's office at Clemson University (209 Poole Agricultural Center, Clemson, SC).

All your responses will be kept confidential with the exception that law requires that any evidence of child abuse or neglect be reported to the appropriate authorities. The investigator will maintain your information at all times, and this information will be stored on a computer to which only the researchers have access. The tapes and notes containing the data will be destroyed when the research is completed. This study may result in scientific presentations and publications. Your identity will not be revealed in any publication that might result from this study.

In rare cases, a research study will be evaluated by an oversight agency, such as the Clemson University Institutional Review Board or the Federal Office for Human Research Protection, which would require us to share the information we collect from you. If this happens, the information would only be used to determine if we conducted this study properly and adequately protected your rights as a participant.

Voluntary participation

Your participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate at any time. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact Katherine L. Cason at 864-656-0539. If you have any questions or concerns about your rights as a research participant, please contact the Clemson University Institutional Review Board at 864.656.6460.

Consent

I have read this consent form and have been given the opportunity to ask questions. I give my consent to participate in this study.

Participant's signature: _____ Date: _____

A copy of this consent form should be given to you.

**Forma de Consentimiento para Participar en Proyectos de Investigación
Universidad de Clemson
Prácticas de Alimentación Infantil de las Familias Hispánicas en Carolina del Sur y
su relación con el Índice de Masa Corporal – *Focus Groups***

Descripción del Proyecto y de su Participación

Usted ha sido invitado a participar en un estudio que llevarán a cabo Dra. Katherine L. Cason (Investigador Principal), Sergio Nieto Montenegro (Co-investigador), América Chávez Martínez y Claire Kirkpatrick, (estudiantes de postgrado). El objetivo de este proyecto es el determinar las prácticas de alimentación infantil de las familias Hispánicas que viven en Carolina del Sur y como estas se relacionan con el índice de masa corporal de los niños. Aproximadamente 150 personas van a participar en esta parte del proyecto.

Su participación va a requerir que:

- Le expliquemos de que se trata el estudio y después vamos a obtener su consentimiento de participación.
- Participe en una discusión acerca de las prácticas de alimentación de los niños. Esta tiene una duración de entre 75 y 120 minutos. Un grupo de personas se sentará en la mesa y yo reuniré sus opiniones de este tema. No hay respuestas correctas o incorrectas en esta discusión ya que lo que necesitamos conocer es su opinión y comentarios relacionados con este tema.
- Midamos y pesemos a su hijo. Lo haremos siguiendo procedimientos estándar. Esta sería toda la participación de su hijo.

Incomodidades y Riesgos

No se conoce ningún riesgo asociado con este estudio de investigación. Usted posee la libertad de no contestar a cualquier pregunta con la que se sienta incómodo.

Beneficios Potenciales

Al terminar su participación recibirá \$25.00 en efectivo o como tarjeta de regalo para el supermercado. Aparte de esto no se conoce ningún beneficio asociado con su participación en este proyecto. Sin embargo su participación en este proyecto nos pudiera ayudar a entender más las prácticas de alimentación infantil en las familias Hispánicas y de esta forma en el futuro mejorar nuestros programas educativos en nutrición.

Protección de la Confidencialidad

Haremos todo lo que este en nuestras manos para proteger su confidencialidad y lo que haya dicho durante la discusión. Durante la discusión no se van a utilizar nombres. Solamente los estudiantes de postgrado y el equipo de investigadores tendrán acceso a la lista con su nombre, referencias personales, las audio cintas y la información que usted nos proporcione. El equipo de investigadores estará a cargo de transportar y manejar las audio-cintas que contienen los datos y las formas de consentimiento firmadas. Las audio cintas, las notas, las formas de consentimiento firmadas, la lista con los códigos y los nombres serán almacenados bajo llave en distintos en archiveros en 209 Poole Agricultural Center, Clemson, SC. que es la dirección de la oficina en la universidad de Clemson de uno de los investigadores. Todas sus respuestas serán confidenciales con la excepción de que la ley requiere que se reporte a las autoridades

cualquier evidencia de abuso infantil o negligencia. Todos los registros y las audio cintas serán destruidas al terminar el estudio. Las audio-cintas y las notas que contienen los datos del estudio serán destruidos cuando se termine el proyecto de investigación. El investigador siempre mantendrá en su poder toda la información y tal vez la almacene en una computadora a la que solo tiene acceso el equipo de investigadores. De este estudio pudiera resultar alguna publicación o presentación científica. Su identidad no será revelada en ninguna publicación resultante de este estudio.

En casos muy raros el estudio será evaluado por una agencia que vigila la conducción de estudios. Pudiera ser la el consejo institucional de revisión de la universidad de Clemson (IRB) o la oficina federal de protección a los participantes. Estas agencias requerirían que compartamos la información que recolectamos de usted. Si esto llegara a pasar la información solo se utilizaría para determinar si nosotros conducimos este estudio adecuadamente y que protegimos sus derechos como participante.

Participación Voluntaria

Su participación en este estudio es voluntaria. Usted pudiera elegir no participar y pudiera retirarse del estudio en cualquier momento. Usted no será penalizado si decide no participar o retirarse del estudio.

Para Mayor Información

Si tiene alguna pregunta o duda acerca de este estudio o si se presentara algún problema, por favor contacte a la Dra. Catherine L. Cason al 864-656-0539. Si tiene alguna pregunta o duda acerca de sus derechos como participante en esta investigación, por favor contacte al consejo institucional de revisión (IRB) de la Universidad de Clemson al 864-656-6460.

Consentimiento

Certifico que he leído esta forma de consentimiento y que se me dio la oportunidad de hacer preguntas. Doy mi consentimiento para participar en este estudio.

Firma del Participante: _____ Fecha: _____

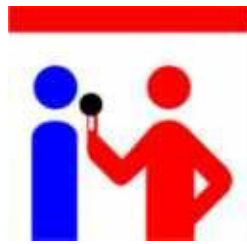
Se le debe entregar una copia de la forma de consentimiento.

APPENDIX 2
Advertisements for the Survey and Focus Groups

Help us to learn about the child feeding practices of Hispanic families in South Carolina

We are looking for participants for a research study. Your opinions and answers are important to us. You can help us by completing a 45 minute interview about your child feeding practices

The purpose of the study is to determine the child feeding practices used in Hispanic families living in SC and to determine the relationship of these feeding practices to child body mass index. All Hispanic mothers whose children are between 2 and 5 years old are eligible to participate.



If you are interested in participating we will be interviewing people on (day XXX) at (location XXX)

Each participant will be awarded \$10 in cash or as a grocery store card for their participation in this study

This is a [Clemson University](#) Research Project and the Principal Investigator is Katherine L. Cason
Department of Food Science and Human Nutrition
207 Poole Agricultural Center
Clemson University, Clemson, SC 29634
For more [details](#) you can contact Sergio Nieto at (864) 656-0587

Ayúdanos a aprender acerca de las prácticas de alimentación infantil de las familias Hispánicas en Carolina del Sur

Estamos buscando participantes para un proyecto de investigación. Tus opiniones y respuestas son importantes para nosotros. Tu nos puedes ayudar participando en un grupo de discusión sobre prácticas de alimentación infantil que dura entre 75 y 120 minutos.

El objetivo de este proyecto es el determinar las prácticas de alimentación infantil de las familias Hispánicas que viven en Carolina del Sur y como estas se relacionan con el índice de masa corporal de los niños. Todas la mamás Hispánicas que tengan un hijo de entre 2 y 5 años de edad son elegibles para participar.



Si estas interesado en participar vamos a
vamos a tener un grupo de discusión (XX day)
en (location XXX)

Al terminar su participación cada participante
recibirá \$25.00 en efectivo o como tarjeta de
regalo para el supermercado

Este es un proyecto de investigación de la [Universidad de Clemson](#) y el
Investigador Principal es:

Katherine L. Cason

Department of Food Science and Human Nutrition

207 Poole Agricultural Center

Clemson University. Clemson, SC 29634

Para más [detalles](#) contacta a

Sergio Nieto (864) 656-0587

APPENDIX 3
The Caregiver Feeding Style Questionnaire (CFSQ)

Child Feeding Style Questionnaire by Hughes et al.(2005)

| | <p>These questions deal with YOUR interactions with your preschool child during the dinner meal. Circle the best answer that describes how often these things happen. If you are not certain, make your best guess.</p> <p>How often during the dinner meal do you....</p> | Never | Rarely | <i>Some times</i> | <i>Most of the Time</i> | Always |
|-----|---|-------|--------|-------------------|-------------------------|--------|
| 1. | Physically struggle with the child to get him or her to eat (for example, physically putting the child in the chair so he or she will eat). | 1 | 2 | 3 | 4 | 5 |
| 2. | Allow the child to eat as much as he or she wants. | 1 | 2 | 3 | 4 | 5 |
| 3. | Promise the child something other than food if he or she eats (for example, "If you eat your beans, we can play ball after dinner"). | 1 | 2 | 3 | 4 | 5 |
| 4. | Permit the child to decide whether he or she gets a second or third helping. | 1 | 2 | 3 | 4 | 5 |
| 5. | Encourage the child to eat by arranging the food to make it more interesting (for example, making smiley faces on the pancakes). | 1 | 2 | 3 | 4 | 5 |
| 6. | Wait to give the child more food until he or she has finished another food on the plate. | 1 | 2 | 3 | 4 | 5 |
| 7. | Ask the child questions about the food during dinner. | 1 | 2 | 3 | 4 | 5 |
| 8. | Let the child decide when he or she is done eating. | 1 | 2 | 3 | 4 | 5 |
| 9. | Tell the child to eat at least a little bit of food on his or her plate. | 1 | 2 | 3 | 4 | 5 |
| 10. | Reason with the child to get him or her to eat (for example, "Milk is good for your health because it will make you strong"). | 1 | 2 | 3 | 4 | 5 |
| 11. | Say something to show your disapproval of the child for not eating dinner. | 1 | 2 | 3 | 4 | 5 |
| 12. | Allow the child to choose the foods he or she wants to eat for dinner from foods already prepared. | 1 | 2 | 3 | 4 | 5 |
| 13. | Give the child multiple servings of a certain food regardless of what has been eaten. | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|-----|--|---|---|---|---|---|
| 14. | Compliment the child for eating food (for example, “What a good boy! You’re eating your beans”). | 1 | 2 | 3 | 4 | 5 |
| 15. | Let the child decide how much he or she should eat off of the plate. | 1 | 2 | 3 | 4 | 5 |
| 16. | Suggest to the child that he or she eats dinner, for example by saying, “Your dinner is getting cold”. | 1 | 2 | 3 | 4 | 5 |
| 17. | Allow the child to eat what he or she wants to eat. | 1 | 2 | 3 | 4 | 5 |

| | How often during the dinner meal do you.... | Never | Rarely | Some times | Most of the Time | Always |
|-----|--|-------|--------|------------|------------------|--------|
| 18. | Offer the child a second helping during the dinner meal. | 1 | 2 | 3 | 4 | 5 |
| 19. | Say to the child “Hurry up and eat your food”. | 1 | 2 | 3 | 4 | 5 |
| 20. | Warn the child that you will take away something other than food if he or she doesn’t eat (for example, “If you don’t finish your meat, there will be no play time after dinner”). | 1 | 2 | 3 | 4 | 5 |
| 21. | Take a second helping yourself in front of the child during dinner. | 1 | 2 | 3 | 4 | 5 |
| 22. | Encourage the child to eat something by using food as a reward (for example, “If you finish your vegetables, you will get some fruit”). | 1 | 2 | 3 | 4 | 5 |
| 23. | Let the child eat when he or she wants to eat. | 1 | 2 | 3 | 4 | 5 |
| 24. | Warn the child that you will take a food away if the child doesn’t eat (for example, “If you don’t finish your vegetables, you won’t get fruit”). | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|-----|---|---|---|---|---|---|
| 25. | Feel like not responding when your child asks about the food. | 1 | 2 | 3 | 4 | 5 |
| 26. | Say something positive about the food the child is eating during dinner. | 1 | 2 | 3 | 4 | 5 |
| 27. | Spoon-feed the child to get him or her to eat dinner. | 1 | 2 | 3 | 4 | 5 |
| 28. | Help the child to eat dinner (for example, cutting the food into smaller pieces). | 1 | 2 | 3 | 4 | 5 |
| 29. | Tell the child to eat something on the plate (for example, “Eat your beans”). | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|-----|---|---|---|---|---|---|
| 30. | Beg the child to eat dinner. | 1 | 2 | 3 | 4 | 5 |
| 31. | Get too busy to notice when the child talks about the food. | 1 | 2 | 3 | 4 | 5 |

| | Estas preguntas se tratan de las interacciones que tiene usted con su niño de pre-escolar durante la cena. Circule la respuesta que mejor describe cuan a menudo estas cosas ocurren. Si no esta segura, escoga la que es la mejor alternativa. | Nunca | Rara vez | Algunas veces | Seguidamente | Siempre |
|-----|---|-------|----------|---------------|--------------|---------|
| | Durante la comida o cena, cuan a menudo o que tan seguido... | | | | | |
| 1. | Lucha físicamente con el niño(a) para que el o ella coma. (Por ejemplo, pone el niño a fuerza en la sillita) | 1 | 2 | 3 | 4 | 5 |
| 2. | Permite que el niño coma la cantidad que el o ella quiera comer. | 1 | 2 | 3 | 4 | 5 |
| 3. | Le promete al niño(a) alguna cosa que no sean alimentos si el o ella come. (Por ejemplo, "si te comes los frijoles, podemos jugar a la pelota después de comer.") | 1 | 2 | 3 | 4 | 5 |
| 4. | Permite que el niño(a) decida si tomara una segunda o tercera porción. | 1 | 2 | 3 | 4 | 5 |
| 5. | Anima a que el niño(a) coma, arreglando los alimentos para que se vean más interesantes (Por ejemplo, hace los hot cakes en forma de caras sonrientes.) | 1 | 2 | 3 | 4 | 5 |
| 6. | <i>Espera a que el niño(a) se termine el alimento del plato para servirle otro alimento mas.</i> | 1 | 2 | 3 | 4 | 5 |
| 7. | Durante la hora de la comida le hace preguntas al niño acerca de los alimentos. | 1 | 2 | 3 | 4 | 5 |
| 8. | Deja que el niño(a) decida " el cuando ha terminado de comer". | 1 | 2 | 3 | 4 | 5 |
| 9. | Le dice al niño(a) que coma por lo menos un poco de la comida que fue servida en su plato. | 1 | 2 | 3 | 4 | 5 |
| 10. | Razona o le da explicaciones al niño(a) para que coma. (Por ejemplo, "La leche es buena para tu salud, porque te ayudará a crecer mas fuerte.") | 1 | 2 | 3 | 4 | 5 |
| 11. | Le dice algo al niño para mostrar su descontento o desaprobacion por no haberse comido la cena o comida. | 1 | 2 | 3 | 4 | 5 |
| 12. | Durante la comida o cena, cuan a menudo o que tan seguido... | 1 | 2 | 3 | 4 | 5 |
| 13. | Permite que el niño escoja los alimentos que desea comer de entre los alimentos que fueron preparados para cenar o comer | 1 | 2 | 3 | 4 | 5 |
| 14. | Le da al niño(a) varias porciones de un alimento en especifico sin importar lo que ya se ha comido. | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|-----|---|---|---|---|---|---|
| 15. | Elogia o felicita al niño(a) por comerse los alimentos. (Por ejemplo, “Que buen/bonito niño(a)! Te estás comiendo tus frijoles.”) | 1 | 2 | 3 | 4 | 5 |
| 16. | Deja que el niño(a) decida cuanto debe comerse del plato. | 1 | 2 | 3 | 4 | 5 |
| 17. | Le sugiere al niño(a) que se coma la comida o cena. (por ejemplo diciendole, “Se te está enfriando la comida/cena”). | 1 | 2 | 3 | 4 | 5 |
| 18. | Le ofrece al niño(a) un segunda porcion durante esa comida. | 1 | 2 | 3 | 4 | 5 |
| 19. | Le dice al niño(a), “Apúrate y comete los alimentos.” | 1 | 2 | 3 | 4 | 5 |
| 20. | Le advierte al niño(a) que le va quitar algo que no son alimentos si no come. (Por ejemplo, “Si no terminas la carne, no podrás jugar después de la cena.”) | 1 | 2 | 3 | 4 | 5 |
| 21. | Toma usted una segunda porcion frente al niño(a) durante la cena. | 1 | 2 | 3 | 4 | 5 |
| 22. | Anima al niño(a) para que coma algo usando comida como recompensa. (Por ejemplo, “Si terminas los vegetales, te voy a dar frutas.”) | 1 | 2 | 3 | 4 | 5 |
| 23. | Deja que el niño(a) coma cuando el o ella desea comer. | 1 | 2 | 3 | 4 | 5 |
| 24. | Le advierte/dice al niño(a) que le va a retirar otros alimentos si no come. (Por ejemplo, “Si no te terminas los vegetales, no te voy a dar fruta.”) | 1 | 2 | 3 | 4 | 5 |
| 25. | Siente usted que no tiene ganas de responder cuando el niño(a) le pregunta sobre la comida. | 1 | 2 | 3 | 4 | 5 |
| 26. | Durante la cena, comenta algo positivo acerca de los alimentos que el niño(a) está comiendo. | 1 | 2 | 3 | 4 | 5 |
| 27. | Le da la comida al niño(a) con la cuchara para hacer que él o ella se coma la comida/cena. | 1 | 2 | 3 | 4 | 5 |
| 28. | Ayuda al niño(a) a comerse la comida/cena (por ejemplo, cortandole los alimentos en pedazos más pequeños). | 1 | 2 | 3 | 4 | 5 |
| 29. | Le dice al niño(a) que se coma algún alimento del plato (Por ejemplo, “Comete los frijoles.”) | 1 | 2 | 3 | 4 | 5 |
| 30. | Le ruega al niño(a) para que se coma la comida/cena. | 1 | 2 | 3 | 4 | 5 |
| 31. | Se encuentra usted demasiado ocupada para fijarse cuando el niño(a) habla sobre los alimentos | 1 | 2 | 3 | 4 | |

APPENDIX 4
The Demographic Survey

Demographic Questionnaire

1. Please tell me about all people living in your household (including yourself) who eat from the same household food supply. Now, starting with the first person, how old is _____? Is _____ male or female? How is _____ related to you?

| Relationship to the Interviewee | Age | Sex |
|---------------------------------|---|-----|
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |

2. Do you have any other children not living in your household? If yes, starting with the first child, how old is _____? Is _____ male or female?

| | Age | Sex |
|-------|---|-----|
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |

M F

3. **How old are you?** 4. **What is your gender?** Male Female5. **Where were you born?** Mexico (List State _____) United States (List State _____) Other country _____ (write-in country)6. **How long have you lived in the United States?** Years _____ Months _____ Days _____ Don't know Refused**How long have you lived in South Carolina?** Years _____ Months _____ Days _____ Don't know Refused7. **Do you speak....** English only Spanish only Spanish and English Other (please specify): _____ Refused8. **Do you speak English...** Fluently Very well Well Fair Not very well Refused9. Which language do you usually speak at home? **mostly English** **mostly Spanish** **both equally**10. **Where do you currently live?** _____
(Write in town and county)11. **Do you consider yourself to be Hispanic, Mexican, or Latino?** Yes No12. **Do you prepare and/or serve the traditional foods of your country of origin in your home?** Yes No I don't know Refused13. **How often do you eat the traditional foods of your country of origin at home?** Every day Four to six times a week

- One to three times a week
- Once every two to three weeks
- Once a month or less
- Refused

14. How many years of school have you completed? _____years Declined to state

15. Where did you receive all or most of your education?

- Mexico United States Other country _____
(write-in country)

16. In which assistance programs does your family currently participate?

- WIC Head Start Food Pantries SSI Medicaid CHIP
- School lunch School breakfast Summer food program TANF (Temporary Assistance to
Needy Families)
- Food Stamps (if yes, date last received?) _____ Other

17. What is the approximate monthly income for your household? – (include wages, salary, food stamps, TANF, SSI for the previous month)

- < 500 per month \$1,001-1,250 per month \$1,751-2,000 per month
- \$501-750 per month \$1,251-1,500 per month \$2,001-2,500 per month
- \$751-1,000 per month \$1,501-1,750 per month more than \$2,500 per month
- Declined to state

18. How much did you pay for housing last month? _____

19. Do you know how to drive a car?

- Yes
- No
- Refused

20. Do you have access to transportation?

- Yes, whenever I want
- Most of the time
- Very limited
- No
- Refused

21. How many times a week do you leave the house?

- 0
- 1-3
- 4-7
- More than 7 times

22. Child's age on the day of the interview:

23. Child's weight:

24. Child's height:

2. ¿Hay algún otro niño viviendo en su casa? Si la respuesta es Si, comenzando con la primer persona, ¿Qué edad tiene ? Es niño o niña?

| | Edad | Sexo |
|-------|---|-------------|
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |
| _____ | <input type="checkbox"/> <input type="checkbox"/> | M F |

3. ¿Cuál es su edad?

4. ¿Sexo? Masculino Femenino

5. ¿Dónde nació? México Estados Unidos Otro país _____
(escriba el país)

Ciudad y Estado _____

6. ¿Cuántos años ha vivido en los Estados Unidos?

Años _____ Meses _____ Días _____
 No lo se Rehusa contestar

¿Cuánto tiempo ha vivido en Carolina del Sur?

Años _____ Meses _____ Días _____
 No lo se Rehusa contestar

7. Usted habla....

- Solamente ingles
 Solamente español
 Español e ingles
 Otro (favor de indicar): _____
 Rehusa contestar

8. Usted hable ingles...

- Fluido
 Muy bien
 Bien

- Regular
 No muy bien
 Rehusa contestar

9. ¿Qué idioma habla generalmente en la casa? **Principalmente inglés**

Principalmente español **ambos por igual**

10. ¿Dónde vive actualmente?

_____ (Escribir condado y nombre del pueblo)

11. ¿Se considera Hispano, Mexicano o Latino?

Si No

12. ¿Prepara y/o sirve alimentos tradicionales de su país en la casa?

- Si
 No
 No lo se
 Rehusa

13. ¿Qué tan frecuente come alimentos tradicionales de su país de origen en su casa?

- Todos los días
 Entre 4 y 6 veces a la semana
 De 1 a 3 veces a la semana
 Una vez cada dos o tres semanas
 Una vez por mes o menos
 Rehusa a contestar

14. ¿Cuántos años de escuela completo? _____ años Rehusa a contestar

15. ¿Dónde recibió toda o la mayoría de su educación escolar?

México Estados Unidos Otro país _____
 (escriba el país)

16. ¿En qué programas de asistencia participa su familia actualmente?

- WIC Head Start Food Pantries SSI
 School lunch School breakfast Summer food program TANF
 (Temporary Assistance to Needy Families)

Food Stamps (fecha de última vez que las recibió?) _____
 Otro _____

17. ¿Aproximadamente cuál es el ingreso mensual en su hogar? – (incluya compensaciones, salarios, food stamps, TANF, SSI del mes anterior)

< 500 por mes
2,000 por mes

\$1,001-1,250 por mes

\$1,751-

\$501-750 por mes
2,500 por mes

\$1,251-1,500 por mes

\$2,001-

\$751-1,000 por mes
\$2,500 por mes

\$1,501-1,750 por mes

más de

Rehusa contestar

18. ¿Cuanto pago de renta el mes pasado? _____

19. ¿Sabe manejar?

Si

No

Rehusa a contestar

20. ¿Tiene acceso a transportación?

Si, siempre que lo necesito

La mayor parte del tiempo

Muy limitado

No

Rehusa a contestar

21. ¿Cuántas veces a la semana sale de la casa?

0

1-3

4-7

Más de 7 veces

22. Edad del niño en el día de la entrevista (la fecha de nacimiento):

23. Peso del niño:

24. Estatura del niño:

APPENDIX 5
The Focus Group Script

FOCUS GROUP INTERVIEW SCRIPT

ICE BREAKER:

Let's go around the Table and introduce ourselves. Please answer the questions WHAT IS YOUR FIRST NAME? PLEASE ONLY PROVIDE YOUR FIRST NAME Where are you from? What do you like doing in your free time? Where are you living right now? I will start, again my name is XXXX and I'm from XXXXX....

FOCUS GROUP GROUND RULES

A focus group is nothing more than a group of people discussing a topic, there are no right or wrong answers, here all your comments are points of view and they are going to be taken into account for developing educational materials. We are interested in both your positive and negative comments, so bring both types of comments up.

You should feel free and comfortable with all the viewpoints that you express here. Tonight we will be using our names but later all the information will be coded and no names will be contained in the reports. Because we are doing focus groups in several counties, the collected information will be pooled with the opinions of people from the other counties. Since we are tape recording this session I'm going to ask that you speak up and speak one at a time. If several of you speak at once, it is impossible to have a record of your opinions later. I'll be moderating the discussion tonight and moving us from topic to topic. The session will last about 75-120 minutes including a five minutes break but if you feel like stretching, need to go to the bathroom or just want to grab a drink just stand up and do so.

WARM-UP QUESTION

TOPIC: EATING OUT

Does anyone in the room ever go out to eat?

What restaurants do you like to go to?

Why do you like these restaurants?

Probes:

- Are they healthy?
- Inexpensive?
- Kid-Friendly?
- Traditional food?
- Do the waiters speak Spanish?

What do your child think of eating out?

Probe:

- Do they enjoy eating out or do they prefer eating at home?

What are their favorite restaurants?

TOPIC: FOOD INTAKE REGULATION

Do you regulate what they order when you go out? What about at home?

Why or why not?

Probe:

- Do you control the intake of sweets, fat, or juice?
- Do you regulate snacks?
- Are you concerned about cavities, overweight, underweight, malnutrition?

When do you give your child special treats?

Probe:

- Do you give it as a reward?
- as a bribe for good behavior?
- to make him or her feel better?
- to make them stay quiet?
- to stop crying?
- for eating the foods you want them to eat?

What are these treats?

What do you think about withholding food for bad behavior?

Have you had problems getting your child to eat in the past?
If so how did you address the situation?

Probe:

- Did you offer a reward?
- Did you offer another food?
- Did you physically struggle with the child to make him or her eat?
- Did you threaten the child with punishment?
- Do you tell the child why it is important to eat?
- Did you let the child go without food until he/she was ready to eat?

TOPIC: NUTRITIONAL STATUS

Transition Statement:

Often, if parents regulate their child's intake it is because they are concerned about the child's nutrition status for some reason.

What are some concerns you have in terms of your child's nutritional status?

Probes:

- Eating too little or too much.
- Eating too many sweets.
- Eating too much fat
- Child's overweight
- Child's underweight

How do you feel about your child's current weight?

Probes:

- Overweight
- Underweight
- Healthy
- Average

If you are concerned about the nutritional status of your child, what have you done to improve it, if anything?

TOPIC: MEALS AND SNACKS

Transition Statement: Meals can sometimes be a wonderful experience but sometimes it can be difficult as well.

What is mealtime typically like for you and your child? What happens during the meal?

Probe:

- What is the mood?
- What is the interaction normally like between you and your child?
- Are there foods that you find harder to feed your child?
- Are there foods that are easier to feed your child?

How many meals and snacks does your child eat each day and who decides what and how much?

Probe:

- Does he/she eat many meals at school?
- Who puts food on the plates at mealtime?
- How often do you eat with your child?

What types of snacks does your child eat?

What does your child typically eat at meals? Are you normally satisfied with what they have eaten? Why or why not?

Probe:

- Does he/she eat his/her vegetables?
- What are his/her favorite foods?
- What does your child eat most of on his/her plate?
- Do you pressure the child to eat more or less of certain items or just in general?

Do you praise or scold your child for eating certain foods or amounts?

Examples:

- You are such a good boy for eating your vegetables!
- You shouldn't be eating so many French fries!

What and how much does your typically child drink at meals and throughout the day?

What do you do if your child doesn't finish everything on his/her plate?

Probe:

- Does he/she get punished?
- Do you have a rule that your child finish everything on his/her plate?
- Are there certain foods that you are more insistent on them finishing?
- How about TV/Dessert?

Have you ever not let them leave the Table or participate in activities because they did not finish their meals?

Does your child normally eat enough, too much or too little?

What do you think is the best way to get a child to eat their meals well?

TOPIC: NURITION EDUCATION

Transition Statement: One way to improve nutrition status is through nutrition education.

Have you or your child ever received any nutrition education?

Do you think it was effective? Why or why not?

What type of Nutrition Education do you believe would be beneficial in improving the nutritional status of your child?

Probes:

- Do you think it is more effective to educate the parents, the child, or both?

- Cooking classes?
- Nutrition classes?
- Newsletters with nutrition information?
- TV shows about healthy eating?

What questions do you have regarding the nutritional status of your child?

Probes:

- Ideal body weight?
- Healthy diet?
- How to get them to eat more fruits and/or vegetables?
- How to get them to eat more or less?
- Healthy snacks?
- Healthy desserts?

Do you have any other suggestions for how to improve the nutrition status of children in the Hispanic community?

ADJOURNMENT

I want to thank you for participating in this discussion tonight. Do you have any additional thoughts? Do you think we have missed something tonight? Thanks again and do not forget to pick up your award.

FOCUS GROUP SCRIPT

ROMPEHIELO:

Vamos a presentarnos y ver quienes estamos en la mesa. Por favor díganme su PRIMER nombre, SOLO EL PRIMER NOMBRE, de donde son, donde viven y que es lo que es lo que les gusta hacer en su tiempo libre. Comenzare yo, mi nombre es XXXXX y soy de XXXX .

REGLAS DEL FOCUS GROUP

Primero que nada les voy explicar de que se trata todo esto. Un grupo de discusión no es más que un grupo de personas reunidas para discutir algunos temas, no existen respuestas correctas o incorrectas, aquí todos sus comentarios y puntos de vista van a ser tomados en cuenta para el desarrollo de materiales educativos. Estamos interesados en todos sus comentarios tanto en los positivos como los negativos, así que pueden mencionar ambos.

Deben sentirse a gusto con todos los puntos de vista que expresen aquí. Esta noche estaremos utilizando nuestros nombres, pero después toda la información será codificada y ningún nombre será incluido en los reportes. Ya que estamos teniendo grupos de discusión en varios condados, la información reunida en esta sesión será mezclada con las opiniones de la gente de otros condados. Debido a que estamos grabando esta sesión, les voy a pedir de favor que hablen fuerte y uno a la vez. Si hablan todos a la vez, será imposible grabarlos y recolectar después sus opiniones. Yo seré el moderador de la sesión y estaré encargado de cambiar los temas. La sesión durará aproximadamente entre 75-120 minutos incluyendo cinco minutos de descanso, pero si sienten necesidad de estirarse, necesitan ir al baño o agarrar alguna botana, nada más párense y háganlo. Recuerden hablen alto y uno a la vez.

PREGUNTA DE CALENTAMIENTO

TEMA: COMIENDO FUERA DE CASA

¿Hay alguien aquí en la mesa que coma algunas veces fuera de la casa?

¿A que restaurantes les gusta ir?

¿Por que les gustan estos restaurantes?

Probes:

- Por que sirven comida nutritiva
- Por que son baratos
- Están diseñados para atender también a los niños
- Sirven comidas tradicionales
- Los meseros saben hablar español

¿Que es lo que piensan sus niños de comer fuera de casa?

Probe:

- ¿Les gusta comer fuera de casa o prefieren comer en casa?

¿Cuales son los restaurantes favoritos de los niños?

¿Por que?

TEMA: REGULACION DEL CONSUMO DE ALIMENTOS

¿Regula o controla que es lo que los niños piden cuando comen fuera? ¿y que pasa cuando comen en casa?

Si esto es positivo, ¿Qué es lo que regula y por que?

Probes:

- ¿Controla la ingesta de productos dulces, grasa o jugo?
- ¿Controla o regula las botanas o **snacks**?
- ¿Esta preocupada por la caries, el sobrepeso, el bajo peso, y la mala nutrición?

¿Cuándo le da usted a su niño alimentos especiales o premios “**special treats**”?

Probes:

- ¿Se lo da como premio?
- ¿Se lo da como soborno por un buen comportamiento?
- ¿Para hacerlo sentir mejor?
- ¿Para mantenerlo tranquilo y callado?
- ¿Para que deje de llorar?
- ¿Por haber consumido los alimentos que usted quería que el niño comiera?

¿Qué es lo que usa como alimentos especiales o premios “**tretas**”?

¿Que es lo que piensa de el retener los alimentos debidos a mal comportamiento?

¿Ha tenido problemas con su hijo por que no quiere comer?

En caso positivo ¿como soluciono o enfrento esta situación?

Probes:

- ¿Le ofreció algún premio?
- ¿Le ofreció algún otro alimento?
- ¿Tuvo algún enfrentamiento físico con el niño para hacerlo comer?
- ¿Amenazo al niño con castigarlo?
- ¿Le dijo al niño el por que era importante comer?
- ¿Dejo sin comer al niño hasta que el estuviera listo para comer o quisiera comer?

TEMA: ESATADO NUTRICIONAL

Enunciado de Transición:

Frecuentemente los papas regulan o controlan el consumo de alimentos de sus hijos y esto por que por alguna razón los papas están preocupados por el estado nutricional de sus hijos

¿Cuáles son algunas de las preocupaciones que usted tiene con respecto al estado nutricional de sus hijos?

Probes:

- Que coma muy poquito o mucho
- Que coma muchos dulces y alimentos dulces
- Que coma mucha grasa
- El sobrepeso en el niño
- El bajo peso del niño

¿Cómo siente que es el peso actual de su niño?

Probes:

- Tiene sobrepeso
- Esta bajo de peso
- Esta saludable
- Tiene peso promedio

Si usted esta preocupado por el estado nutricional de sus hijos, ¿Qué es lo que ha hecho para mejorarlo (en caso de que haya hecho algo)?

TEMA: COMIDA Y BOTANAS ("SNACKS")

Enunciado de Transición: Algunas veces la hora de la comida es una actividad placentera pero en otras ocasiones esta puede ser una actividad bastante difícil.

Típicamente ¿Cómo es la hora de la comida en casa para usted y sus hijos? ¿Qué cosas pasan durante la hora de la comida?

Probes:

- ¿De que humor están durante la comida?

- ¿Cuál es la interacción que hay normalmente a la hora de la comida entre usted y sus hijos?
- ¿Existen alimentos con los que batalla para que su hijo se los coma?
- ¿Existen alimentos que son más fáciles para alimentar a sus hijos?

¿Cuántas comidas y botanas hace su niño diariamente?

¿Quién decide que y cuanto van a comer?

Probes:

- ¿El/Ella comen cierto número de comidas en la escuela?
- ¿Quién sirve o pone los alimentos en el plato durante la hora de la comida?
- ¿Qué tan seguido come son su hijo?

¿Que tipo de botanas “snacks” comen sus hijos?

¿Que es lo que su niño generalmente come en la comida? ¿Esta satisfecho con lo que comen o han comido sus hijos? ¿Por qué si/no?

Probes:

- ¿El/Ella se comen los vegetales?
- ¿Cuales son los alimentos favoritos de los niños?
- Del plato que le sirve al niño, ¿Qué es lo que come más?
- ¿Presiona al niño para que coma mas o menos o que coma mas o menos de cierto tipo de alimentos?

Le premia, le hace fiesta o reprime a su niño por comer ciertos alimentos o por comer una cierta cantidad de alimentos?

Ejemplos:

- Eres muy buen niño por comerte todas las verduras!
- No deberías de estar comiendo tantas papitas fritas!

¿Que tipo y que tantos líquidos toma su hijo normalmente en las comidas y durante el día?

¿Qué es lo que hace si su hijo no se termina todo lo que le sirvió en el plato?

Probes:

- ¿Lo castiga?
- ¿Tiene alguna regla en casa para que su niño se tenga que terminar todo lo que esta en su plato?
- ¿Existen ciertos alimentos que usted es mas insistente para que su hijo se los termine?
- ¿Le prohíbe el postre o ver la televisión?

Alguna vez no ha permitido que el niño deje la mesa o participe en alguna actividad por que no se termino los alimentos que les sirvió en la comidas?

¿Su niño normalmente come lo suficiente, mucho o muy poquito?

¿Cual piensa que es el mejor método para hacer que su niño se coma bien todas sus comidas?

TEMA: EDUCATION EN NUTRICION

Enunciado de Transición: Una forma de mejorar el estado nutricional de las personas en mediante la educación en nutrición.

¿Alguna vez usted o su niño han recibió algo de educación sobre nutrición?

¿Piensa que esto fue efectivo? ¿Por que si o por que no?

¿Que tipo de educación sobre nutrición piensa que seria de utilidad para mejorar para mejorar el estado nutricional de sus hijos?

Probes:

- ¿Piensa que es más efectivo educar a los papas, a los niños o a ambos?
- ¿Clases de cocina?
- ¿Clases de nutrición?
- ¿Gacetillas con información en nutrición?
- ¿Programas de TV acerca de alimentación saludable?

¿Que preguntas tiene usted (quitar usted) acerca del estado nutricional de sus hijos?

Probes:

- ¿Cuál es el peso corporal ideal
- ¿Cómo es una dieta saludable?
- ¿Como hacerlos comer más frutas y verduras?
- ¿Cómo hacerlos que coman mas o menos?
- ¿Ejemplos de botanas o “snacks” saludables?
- ¿Ejemplos de postres saludables?

Tiene alguna otra sugerencia sobre el como mejorar el estado nutricional de los niños en la comunidad Hispana?

DESPEDIDA

Quiero agradecerles su participación en esta discusión. ¿Tienen algún comentario adicional? ¿Creen que hemos olvidado algo? Gracias de nueva cuenta y no olviden recoger su compensación.