

# **Family Influences and Healthy Weight for Korean-American Preschool Children**

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THESIS

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This dissertation is dedicated to my family who supported me and encouraged me to pursue my study. Without them, this thesis would never been accomplished.

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## **LIST OF ABBREVIATIONS**

AR	Adiposity Rebound
BMI	Body Mass Index
CDC	Centers for Disease Control and Prevention
CFQ	Child Feeding Questionnaire
CI	Confidence Interval
FAD	Family Assessment Device
FNPA	Family Nutrition Physical Activity
FST	Family Systems Theory
KA	Korean-American
KNHANES	Korean National Health and Nutrition Examination Survey
NHANES	National Health and Nutrition Examination Survey
OR	Odds Ratio
VIA	Vancouver Index of Acculturation

## SUMMARY

The number of Korean-Americans (KA) and the prevalence of obesity among them are increasing, but little is known about obesity among KA preschoolers. This doctoral dissertation was conducted to explore KA family context regarding child's obesity and to examine family factors that relate to obesity among KA preschool-age children.

This dissertation consists of two different manuscripts. Because there were no studies of KA mothers' experiences raising children in the U.S., manuscript one describes a preliminary qualitative study carried out to better understand KA families and children's weight prior to conducting a quantitative study. The second manuscript describes a quantitative cross-sectional study testing a conceptual model to identify family factors associated with obesity among KA preschool-age children.

In the first study, focus group interviews with 15 mothers were conducted. A semi-structured focus group guide allowed women to share their experience in bringing up children in the U.S., their perspectives about childhood obesity, and their children's dietary habits and physical activities. The first study found that KA mothers work to retain Korean culture in the U.S. They try to fulfill high expectation of mother's role without the supports they would have in Korea. KA mothers prefer plumpness in children and are not concerned about obesity among KA children because they believe their efforts in shaping a healthy environment are protective. Culturally appropriate approaches are needed to reduce KA mothers' stress and help them maintain a healthy lifestyle and appropriate weight for their children.

The second study was a cross-sectional study conducted with 104 KA preschoolers and their mothers in the Chicago metropolitan area. Twenty-two percent of the KA preschoolers were overweight or obese (Body Mass Index (BMI)  $\geq$ 85th percentile), and family factors explained

30% of the variance in child's obesity. When the children's BMI z-scores were dichotomized (overweight/obese vs. normal/underweight), the number of children in the family and perceived child weight were positively associated with obesity, while pressure to eat, monitoring of eating, and behavior control of children were negatively associated with obesity. Parental feeding style and child weight perception should be considered when advising KAs about reducing child's overweight and obesity.

Taken together, this dissertation research shows that overweight and obesity among KA preschool-age children is a substantial problem in KA communities. KA mothers make efforts to shape healthy habits in their children despite several challenges such as high role expectation and lack of supports. However, most KA mothers had a lack of awareness about obesity issue among their children. Therefore, more efforts are needed to arouse mother's attention to obesity prevention and control among KA preschool-age children.

In future studies, the influence of siblings and the child's routines during their stay in formal care settings, such as preschools, should be explored to comprehensively understand factors contributing child's obesity. Longitudinal studies are needed to examine causal relationships.

These results should contribute to the development of culturally appropriate intervention programs reflecting KAs unique attitudes and values toward obesity. Interventions should include enhancing supports for KA mothers, including utilizing available support through social networks such as KA churches.

## **I. INTRODUCTION**

### **A. Background**

Childhood obesity has both immediate and long-term negative effects on the physical and psychological health and social well-being of children (Center for Disease Control and Prevention [CDC], 2012). According to the National Health and Nutrition Examination Survey (NHANES), the number of obese children in the U.S. more than tripled during last three decades (rising from 5% to 17%) (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010). The prevalence of childhood obesity increases between preschool age (ages two to five) and grade school age (ages six to eleven) (Rhee, 2008).

Health problems such as type 2 diabetes and cardiovascular disease among obese children may persist not only throughout childhood but also into adulthood (McCurdy, Winterbottom, Mehta, & Roberts, 2010; Wofford, 2008). Obese children are also reported to experience a lower health-related quality of life. One study found that severely obese children have a quality of life similar to that of children diagnosed with cancer (Schwimmer, Burwinkle, & Varni, 2003).

The major modifiable factors contributing to childhood obesity are known to be unhealthy dietary habits, insufficient physical activity, and sedentary behavior. Increased high-fat and sugar-containing food consumption leads to higher BMI in children (Skelton, Irby, Miller, & Grzywacz, 2011). Decreased physical activities and increased screen time are associated with higher risk of being overweight and obese (Vos & Welsh, 2010). These factors are shaped within a family environment and can be changed by means of parental modeling and modification of lifestyles by family members.

The familial approach to obesity prevention and control emphasizes the importance of providing healthy environments (Golan & Weizman, 2001). Family is the proximal environment

of children; the influence of the family is crucial to healthy child development, including healthy eating, sufficient exercise, and weight management (Sousa, 2009).

The Family Systems Theory (FST) was derived from the General Systems Theory (Chibucos, Leite, & Weis, 2005). The FST involves two aspects of families: the elements comprising families and the processes existing within and between families (Chibucos et al., 2005). The FST provides a framework for examining the impact of a family system on children's health-related behaviors (Kitzman-Ulrich et al., 2010). According to the FST, family members function as a whole and have reciprocal influences. Because family members are closely interrelated, problems experienced by one family member affect all the members. The family's mutually influencing relationships may affect dietary habits and physical activity patterns among children (Berge, 2009).

To guide this study, we modified the conceptual model developed by Berge (2009) based on the FST, which views the family as a system in which change in one part of the system is followed by reciprocal changes in other parts (Bowen, 1966). In the conceptual model, we have defined the family domain as consisting of the family background, family system (family structure, family functioning, and family interactions affecting the child), childcare arrangement, and child's routines.

The relationships among the factors of the family system, childcare arrangement, and child's routines have not been studied, and how these factors affect overweight and obesity in KA preschool-age children has not been examined. The conceptual model in this study is presented in Figure 1 in the second manuscript.

## **B. Significance of the Study**

Racial and ethnic differences in risk factors for obesity begin in early childhood (Taveras, Gillman, Kleinman, Rich-Edwards, & Rifas-Shiman, 2010). The preschool years are a critical period for obesity prevention, because earlier adiposity rebound (AR), a point of maximal leanness or minimal BMI, is related to a higher risk of adult obesity. The earlier AR occurs, the greater the risk of adult obesity (Whitaker, Pepe, Wright, Seidel, & Dietz, 1998; Wofford, 2008). One study reported gender and racial/ethnic differences in AR: non-Hispanic African-American children have an earlier AR than other ethnic groups such as non-Hispanic Caucasian and Mexican-American, and girls in all racial and ethnic groups tended to experience AR earlier than boys (Boonpleng, Park, & Gallo, 2012).

Obesity prevention should be implemented in early childhood because childhood obesity typically persists into adulthood (Gruber & Haldeman, 2009; Salsberry & Reagan, 2005). Children's dietary habits and physical activity patterns are also shaped within this period. Although the preschool period is important in this regard, few studies related to childhood obesity have focused on preschool-age children.

Obesity prevention may be especially important to the health of Asian-Americans. Asian-Americans have a greater central adiposity, which may influence their greater susceptibility to chronic diseases (Wells, 2007). Therefore, although Asian-Americans have a lower prevalence of obesity compared to other ethnic groups, they are at higher risk of developing chronic diseases at the same BMI (Cho & Juon, 2006).

Similar to other American children, the prevalence of obesity among Korean children also has been gradually increasing; 9.1% of preschool-age children were overweight and 9.6% were obese in 2010 (Korean National Health and Nutrition Examination Survey [KNHANES],

2011). KAs are one of the most rapidly increasing minority populations in the U.S. ( Kim & Wolpin, 2008). In 2010, KA comprised the fifth largest subgroup among Asians, lived in the U.S. numbering more than 1.7 million (Barnes, Adams, & Powell-Griner, 2008; United Census Bureau, 2012). Most of them are concentrated in large cities such as Los Angeles (24%), New York (16%), Washington DC (7%), Chicago (5%), and San Francisco (5%) (Kim & Wolpin, 2008).

Koreans place an especially strong emphasis on family and tend to maintain their traditional cultural values, customs, and language: eating Korean food, using Korean language media, and engaging in Korean organizations (Kim & Wolpin, 2008; Lee, 1995). A strong sense of family obligation continues to be reinforced for the children as they grow older (McAdoo, Martinez, & Hughes, 2005). These unique characteristics of KA family may influence family systems and development of children's lifestyle.

Approximately 30% of KA adults in the U.S. were overweight or obese, and their obesity prevalence has increased with their acculturation to the U.S. (Barnes et al., 2008; Chen, Juon, & Lee, 2012; United Census Bureau, 2012). In spite of the increasing number of KAs and the increasing prevalence of obesity among Korean children and KA adults, there are no studies of how their family and childrearing patterns affect their children's weight. In addition, the voices of KA mothers regarding childrearing in the U.S. and child weight have not been heard.

In summary, the increasing prevalence of childhood obesity is a major health problem, because it is related to poor health outcomes across the lifespans and it places a large economic burden on society. Previous studies have found that racial and ethnic disparities exist with regard to childhood obesity and have emphasized importance of obesity prevention during early childhood. In addition, family involvement is pivotal to reduce and prevent childhood obesity

among preschool-age children. However, most studies of childhood obesity have focused on school-age children, and little is known about preschool children or how family factors influence obesity during the preschool years. Moreover, despite the growing number of KAs and known obesity issues among KA adults, there are no studies of family factors and preschool children's obesity for KA families. KA families have unique characteristics influencing development of children's health and habits. Identifying the family factors that influence the obesity of KA preschool-age children will be useful in developing culturally relevant obesity prevention strategies.

### **C. Purpose of the Study**

The long-term goal of the proposed research is to develop an intervention to prevent and decrease overweight and obesity among Korean-American (KA) preschool-age children.

The primary purpose of the study was: (1) to explore characteristics of KA families and the prevalence of overweight and obesity among KA preschoolers, (2) to test a conceptual model based on the FST that reflects relationships between family factors and BMI z-scores among these children, and (3) to understand the clinical implications of family factors with regard to overweight and obese KA children.

Little work has been done about KA family contexts regarding obesity among KA children. Therefore, two preliminary studies were conducted in preparation for addressing the primary study purpose. The first was undertaken to better understand the family context of KA in relation to childhood obesity. Focus group interviews were conducted: (1) to explore KA mothers' challenges while raising their children in the U.S. and (2) to obtain KA mothers' perspectives regarding childhood obesity among KA preschool-age children.



The second preliminary study was to provide evidence of construct reliability of the Family Nutrition Physical Activity (FNPA) instrument, a measure of child's routines, for use with KA families. Cognitive interviews were performed: (1) to develop a Korean language version of the FNPA instrument and (2) to confirm the appropriateness and comprehensibility of the translated FNPA in the KA context.

#### **D. Methods**

A qualitative descriptive study was conducted using three focus group interviews with a total of 15 KA mothers. Detailed information about the methods and findings of the focus group interviews is presented in Manuscript 1.

Cognitive interviews were conducted to develop a Korean version of the FNPA instrument and to evaluate the cultural appropriateness, construct validity and the conceptual equivalence of the Korean and English versions of the FNPA for KAs. The FNPA was developed to assess family lifestyle factors, including the child's routines, that may contribute to childhood obesity (Ihmels, Welk, Eisenmann, & Nusser, 2009).

The FNPA has never been translated into Korean or used for KA families. Therefore, the FNPA instrument was translated into Korean using a parallel blind technique (Behling & Law, 2000). The translation committee consisted of three bilingual members whose primary language is Korean and who had research experience in both Korea and the U.S. All the translation committee members had master's or doctoral degrees. Three translators independently prepared translations of the original English version into Korean. During translation, some FNPA questions were modified to reflect the KA family lifestyle while maintaining the core meaning of the questions. Subsequently, the three translators met to compare their versions and minor

inconsistencies were resolved to prepare a single draft version. The Korean version of the FNPA was finalized after modifying any inconsistent items.

To determine comprehensibility and appropriateness, the think aloud method was used for cognitive interviews with 19 KA mothers. The principal investigator read all questionnaire items and asked how they interpreted the question. If a question was misinterpreted or confusing, the participant was asked for suggestions to improve the phrasing. FNPA questionnaire items were modified using participants' suggestions to improve the items' comprehension. For example, Item 20 (My child gets 9 hours of sleep a night) was modified to state "at least 9 hours of sleep."

The revisions were discussed with the FNPA developer, and we agreed upon the changes to be made. We plan to write an article describing the adaptation of the instrument for KAs, including psychometric analyses using the larger survey sample.

Finally, a cross-sectional study that included a survey and weight and height measurements was conducted with 104 KA mothers and their children. The methodological details of this study are presented in Manuscript 2.

## **II. Korean-American Mothers' Perspectives on Child Rearing and Child Weight**

### **A. Introduction**

Childhood obesity is an important public health problem that is negatively associated with physical, psychological, and social well-being of children (Center for Disease Control and Prevention [CDC], 2012). Childhood obesity rates also are high among children of immigrant minority populations in the U.S., including Asian-Americans (26%) (Ike-Chinaka, 2013).

The major modifiable factors contributing to childhood obesity are unhealthy dietary habits, insufficient physical activity, and sedentary behavior. All of these lifestyle factors are shaped within a family environment, especially for young children. These factors have the potential to be changed by means of parental modeling and modification of lifestyles by family members. Therefore, family contexts contributing to childhood obesity should be explored. The family is especially important for preschool-age children, yet few studies have focused on how the family affects diet, physical activity and sedentary behaviors for preschool- age children.

Immigrants' family structures and lifestyles differ from those of people who do not immigrate, and these differences may influence preschool-age children's health (Lee, Sobal, & Frongillo, 2000). Among Asian-Americans, childhood obesity rates vary by country of origin and processes of assimilation for that group (Jain et al., 2012). The few studies that have been conducted regarding different Asian groups identified cultural factors that may affect the child's obesity. For example, in Chinese families, overfeeding children is considered a way parents show their love, and the dominant parent's unhealthy lifestyle contributes to the child's weight (Wong, 2011). In another study, Vietnamese mothers reported that they are more concerned about their children's underweight than overweight (McGarvey et al., 2006).

There are more than 1.7 million KAs now living in the U.S., mostly in large cities such as Los Angeles, New York, and Chicago (Kim & Wolpin, 2008; United Census Bureau, 2012). Most KAs have come to the U.S. relatively recently, within the last 50 years, after the U.S. government eased restrictions on Asian immigration in the late 1960's. KAs place an especially strong emphasis on family and tend to maintain their traditional cultural values, and customs: eating Korean food, using Korean language media, and being active in Korean organizations in the U.S. (Kim & Wolpin, 2008; Lee, 1995). Family is treated as an extension of the self and emphasizes children's obedience to parents (Kim & Wolpin, 2008). A strong sense of family obligation continues to be reinforced to the children as they grow older (McAdoo et al., 2005). Moreover, Korean parents place high importance on providing their children with a good education; educational success becomes a serious family concern (Sohng & Song, 2004). One study reported that authoritarian control and subsequent poor communication between parents and children are sources of conflict in the KA families (Sohng & Song, 2004). These characteristics of KA family may influence childhood obesity.

Although KAs are one of the most rapidly growing minority populations in the U.S., there are no studies investigating the relationship of family and childrearing patterns to children's weight (Jang & Chiriboga, 2010; Kim & Wolpin, 2008). In both Korea and among KAs, the primary caregiver of young children is almost always the mother. Responsibility for care taking is in their domain and they are well informed about their families and children (Sosa, 2012). Therefore mothers are a good source of information about their families, yet their perspectives are rarely brought into the discussion of child rearing and child weight. Moreover, mothers' perspectives on children's obesity can provide information to help develop culturally

appropriate childhood obesity prevention. However, little is known about KA families and KA preschool-age children's obesity.

The purpose of this study was to explore KA mothers' challenges while raising their children in the U.S. and to obtain KA mothers' perspectives regarding obesity among KA preschool-age children.

## **B. Methods**

### **1. Approach**

The goal of qualitative descriptive research is to provide a comprehensive summary of a particular group or situation about which little is currently known (Sandelowski, 2000).

Therefore, a qualitative descriptive study was selected to provide a detailed description of the phenomenon of childrearing within KA families in the U.S. from the perspectives of KA mothers.

A focus group interview is a group interview that involves listening to people and learning from them (Morgan, 1998). Focus groups are small groups that are homogeneous in regard to the topic of inquiry. One strength of the focus group interview is that it allows participants to respond to others' perspectives and is an excellent way to elicit shared group norms as well as variations (Herman, Malhotra, Wright, Fisher, & Whitaker, 2012).

Few studies explicitly focused on living experiences and challenges of KA mothers bringing up their preschool-age children in the U.S. Therefore, focus group interviews were conducted for this initial exploration of mothers' concerns and opinions about their children rearing and children's obesity.

## **2. Sample and Setting**

Three focus group interviews with a total of 15 KA mothers were conducted between March to May 2013 in the Chicago metropolitan area. Interview participants were recruited with the assistance of the director of one preschool and the pastors of two KA churches. The inclusion criteria for the participants were as follows: (1) mothers who self-identify as KA, (2) KA mothers who have lived in the U.S. at least 5 years, and (3) KA mothers who live with their 2 to 5 year old child. The interviews were held in private rooms at the research sites to maintain participant confidentiality and avoid disturbances.

## **3. Procedures**

The University of Illinois at Chicago Institutional Review Board approved this study. We contacted the director of each organization. The directors and pastors made announcements about our study to potential participants at meetings. Once participants showed their interest in the study and provided their contact information, we contacted them individually to establish eligibility, explain the study and set the interview date.

Prior to each focus group discussion, the interviewer explained the purpose and procedures of the interview, assured the participants that the discussion would be kept confidential by the interviewer and research team, and asked the participants not to talk about the discussion with others. We then obtained their signed informed consent.

The principal investigator (PI) led the interviews, and a research assistant took comprehensive notes of the discussions as they proceeded. All the discussions were audio-recorded and transcribed verbatim. The interviews were conducted in Korean and lasted 60 to 120 minutes. Immediately after each focus group interview, all the participants completed a

background questionnaire, including age, level of highest education, and household income. All the participants received a gift card for their time and effort.

A focus group interview guide was developed and followed for the interviews to identify (1) major challenges of KA mothers with regard to raising their children in the U.S., (2) perspectives of KA mothers regarding obesity among KA children, (3) the dietary habits of KA children, (4) physical activity patterns among KA children, and (5) KA family physical activities. Table 1 summarizes the focus group questions used to guide the focus group interviews.

#### **4. Data Analysis**

Descriptive analysis was performed using SPSS version 20 to examine demographic characteristics of KA mothers. Qualitative content analysis, which is a dynamic form of verbal data analysis, was performed (Sandelowski, 2000). The Korean interviews were transcribed (written by the research assistant) and the PI's written transcripts based on the audio-tapes were compared for completeness and accuracy. The PI then translated Korean transcripts into English. Early coding was conducted and the final codes were identified in collaboration with two coauthors who are qualitative research experts (Norr & Patil). Codes similar in meaning were merged and then labeled as a category. Finally, primary interview themes were described and relationships between codes were found. Three major interrelated interview themes were identified.

#### **C. Results**

Demographic characteristics of participants are presented in Table 2. All but one of the mothers was born in Korea, all mothers were married, and lived with their husband. The mean age of the mothers was 38.53 years (range 31 to 44), and mothers had lived in the U.S. for an

average of 18 years (range 8 to 34). Most of them were working (73%) outside their homes, 40% had at least a master's degree, and 40% had a family household income of more than \$75,000 per year.

In the focus groups, KA mothers shared their challenges and experiences of raising their children in the U.S. Three themes emerged from the focus group interview discussions: (1) retaining Korean culture in the U.S.; (2) fulfilling the Korean mother's role without the supports they felt they would have in Korea; and (3) perceptions about the child's body and efforts to maintain their child's health. As depicted in Figure 1, all themes were interconnected and reflected the influences of KA culture in the American environment on child health.

### **1. Trying to Retain Korean Culture in the U.S.**

KA mothers made efforts to retain Korean culture when they are raising their children in the U.S. KA mothers pointed out that they emphasize strong relationships between family members. To maintain close relationships among family members, they intentionally engage in many activities together, including going to church together, grocery shopping, and participating together in outdoor activities. One mother said:

During the weekend, there is also not enough time because children spend most of their time in Korean language school and the Catholic church and they go to piano lessons. I take my children to the park if the weather is nice, or we go to watch soccer games during soccer season.

Despite their efforts to maintain family ties, mothers expressed concern about cultural gaps between their children and themselves. Mothers feel they cannot fully understand their children, because they did not grow up in the U.S.; as their children are getting older, the gaps between them are getting bigger. One mother said:

Sometimes when I talk with my children, I do not understand them at all. My older child used the word "grounded", and I did not know what it meant. Although I have studied



and lived here, I only know the dictionary meaning of words. Since I did not grow up here, there are many things that I cannot understand. My children are getting older, and the gaps between us are getting wider.

Moreover, KA mothers experienced conflicts between the traditional Korean value of respect for elders and what they perceive as overindulgence by grandparents. They disagree with their children's grandparents regarding parenting styles. Grandparents do not limit their children's behaviors and provide some unhealthy food (e.g., soda or snacks). Although KA mothers disagree with these indulgences, they try not to argue with grandparents to maintain the cultural value of respect for elders. Mothers said:

My father stays at home since his retirement, and my preschooler knows that her grandfather will turn on the TV for her. When she comes home, she grabs her grandfather's hand and then takes him upstairs to ask him to turn on the TV.

If my children see that I have a conflict with their grandparents, they will see it as a kind of disrespect for older people. It is a kind of conflict between educating children and respecting older people.

Family meals and foods are another aspect of traditional culture mothers try to maintain. Most mothers pointed out that they prefer to eat homemade Korean food because they believe it is healthier than American food. Therefore, they try to make sure that their children eat homemade Korean food (e.g., Kimchi, steamed rice, and hot soup) at home. One mother said:

I try to feed my children more Korean food at home because they eat more American food as they get older.

## **2. Fulfilling the Korean Mother's Role Without Usual Social Supports**

These KA mothers said they are struggling to meet the high expectations of the mother's role in Korean culture without the usual supports they would have in Korea. All KA mothers had high cultural expectations of mother involvement in early child rearing. In Asian culture, it is considered that child's growth and development, and even academic achievement are decided by

mother's dedication and efforts. Therefore, KA mothers stated that they felt strongly that they must take care of all of their children's' needs. Mothers said:

Compared to Korea, children living here spend more time with their mothers. Although mothers are working, they stay with their children except during their working hours. Children learn lots of things from their mothers. They can also learn bad things from their mother. There are few opportunities for children to be exposed to other things, so children learn a lot from their mothers.

I think Americans raise their children to be independent from the time that they are young. Americans let their children eat and sleep by themselves. However, Koreans help their children to eat, and it becomes a habit; therefore, one of my children lacks independence even though she is 4 years old. I think Asians have such habits. Still, I feed my child by following her around, and we sleep together until my child falls asleep.

The strains of trying to fulfill the Korean mother role in an environment that does not share this perspective on mothering and lacks support for it leads KA mothers to feel highly stressed and guilty about their performance as mothers. One mother said:

In my case, I did not cook in Korea. Then I started to cook here. I try to find one or two things that I can cook, and I feel that I have a limitation. I never learned how to cook and lack information, as I do not know what I have to cook. It takes time and effort to buy food and make it. I wish there was someone like my mother who could help me.

In Korea, mothers can utilize their social support network such as relatives when they need help. In addition, there are various types of local restaurants and delivered foods available, which may reduce mother's cooking responsibilities. Children can easily engage in physical activities by walking and using public transportations. However, in the U.S., KA mothers feel they have to take the responsibilities for raising their child without such supports. Available childcare arrangements are limited because their families, including children's grandparents live in Korea. Most delivery foods available in the U.S. are unhealthy, and eating at local restaurants is inconvenient because of long distances (they have to drive to get there). Moreover, there is no place to go outdoors unless the mother drives her children. In other words, mothers wish to have more resources, which could help them when they raise their children. As one mother put it,

I do not have much time, so my family tries to do things together. My children come home after preschool, eat dinner, and take a bath, and then it is around 8 p.m. The schedule is too tight, so we try to spend time together as much as possible. That is why Korean mothers eat and sleep with their children when they are young. We feel sorry for our children.

This situation is especially difficult for KA mothers who are working outside the home. They pointed out that they feel highly stressed and guilty about having too little time to spend with their children. Mothers said:

I am a working mother, so cooking is the most problematic thing for me. I cannot make food properly, so I just feed my children anything.

### **3. Perceptions About the Child's Body and Efforts to Maintain the Child's Health**

KA mothers felt that children should look plump or chubby by the time that they are 3 years old and mothers are responsible for ensuring this. They felt that a chubby or plump toddler is healthier than a skinny child, and mothers are more concerned about their child's well-being and development rather than overweight or obesity. Most KA mothers said that they have not seen or heard about childhood obesity among KA children. KA mothers stated that they did not worry about obesity among KA children, because they consciously work to provide healthy food and encourage their children to participate in physical activities. Mothers said:

I prefer to see children who are plump like a "Michelin tire" because my two children did not get plump. I heard that children, who are plump when they are young, become tall when they get older, so I envy them.

If I fed my children at McDonald's or KFC, I would have to worry about their becoming obese. However, since I feed my children healthy food such as meat and vegetables, I think they will be fine.

KA mothers think that a mother is largely responsible for her child's health. Therefore, KA mothers try to shape healthy habits for their children by providing healthy food, encouraging them to have adequate sleep time, and limiting screen time. Mothers think that they are primarily

responsible for feeding their children and try to make sure that their children eat well. Therefore, mothers put the highest priority on shaping their children's healthy dietary habits. Mothers try to cook homemade Korean food and when they eat outside the home, they try to go to Korean restaurants. Furthermore, many of the KA mothers interviewed stated that they mostly eat meals at home, because they believe eating at restaurants is unhealthy, expensive, and takes time. Some mothers pointed out that sometimes they struggle to provide homemade Korean food, because they have less cooking experience or skills with such foods or do not have the time to cook these meals. In addition, mothers reported that even though eating vegetables is important and necessary, cooking meat is easier and it keeps longer. So they tend to have more meat-based rather than vegetable-based meals. One mother said:

In my case, although I buy vegetables there is no time to cook it. Then few days later I throw the rotten vegetables away. So I rarely buy them. Meat does not easily decay and is easy to eat, so we eat it often.

All mothers pointed out they work hard to keep unhealthy foods out of their children's diet (e.g., snacks and soda). However, they noted that once children are exposed to these tastes, children request these foods at home and it is hard to control. While mothers do define promoting healthy eating as an important part of their job as mothers, they also noted that the health of family members influences how much concern they have. For example, if a grandparent has been diagnosed with a chronic disease such as diabetes or cancer, then they are much stricter about their children's diet. In other words, feeding styles are affected by family health history. Moreover, mothers mentioned that children's eating habits are affected by what those around them are eating (e.g., parents and siblings). Therefore, KA parents try to model healthy eating behaviors and avoid eating what they define as unhealthy foods, including snacks, soda, and pre-made foods in front of their children. Mothers said:

Although mothers are strict about food and feed their children well at home, once children go to school and experience new tastes such as sweet and salty foods, then they become addicted to those tastes. Even though I try not to feed my children such foods, after they started to eat them at school, then they wanted to eat them at home.

Since I started to eat snacks, my children also eat more snacks. My children do not ask to have snacks, but I think they are affected by snacking. Therefore, we should be careful to set a good example.

Mothers said that setting limits on their children's screen time (e.g., watching TV and playing computer games) is harder than controlling their diet and physical activity. They mentioned that most KA families do not place televisions in their children's rooms. KA parents try to implement screen time rules and the imposed limitation often creates tensions between parents and children. For example, mothers noted that they try to limit television watching or computer games to weekends. But even then, they try to limit the total amount of time spent watching TV and using the computer. One mother said:

We do not allow our children to watch TV on weekdays, but we allow them to watch it during the weekend. Once I allow my children to watch TV, they want to watch it without limitation, so it is hard to control.

In addition, KA mothers expressed concerns about their child's sleep. They think that children should have adequate sleep time for their growth and development. While KA parents want their children go to bed early in the evening, the children want to go to sleep late at night. Some mothers said that they sleep with their children until they fall asleep, and this makes mothers tired.

Despite high attention to diet, sleep, and screen time, mothers voiced less concerned about their children's physical activities. Mothers described that they encourage physical activity in their children by registering children in formal sports programs, but that they themselves rarely participated in family outdoor physical activity and do not see physical activity as entirely their responsibility. They noted that fathers take charge of outdoor physical activity. Therefore,

children's outdoor physical activity is primarily determined by what the father does. For example, if a father likes to go outside, he takes his children with him for outdoor activities. As one mother explained:

Whether or not children play outdoors is determined by characteristics of their fathers. If a child's father came to the U.S. when he was young or was born in the U.S., or likes sports, he goes out and plays with his children. However, as typical Koreans, we [mothers] are not used to doing physical activity, and we do not have an interest in sports.

#### **D. Discussion**

The purpose of this study was to identify KA mothers' experiences and challenges while raising their children in the U.S., and to explore their perspectives regarding obesity among KA preschool-age children. Previous research has shown that KAs tend to maintain their traditional cultural values (Kim & Wolpin, 2008; Lee, 1995). Consistent with previous studies, KA mothers in this study made strong efforts to keep Korean cultural identities. Retaining Korean culture is the overarching theme in these KA mothers' perspectives and behaviors with respect to child rearing. For example, they emphasized building strong family relationships and they intentionally engaged in family activities together to do so. These strong efforts mothers make to retain Korean culture may reflect the fact that almost all mothers in this study were born in Korea. These findings are congruent with the previous work describing KAs as accepting social order based on hierarchies of age and social status to maintain harmony, which is highly valued philosophy in Confucian cultures (Moon, 2012).

However, maintaining Korean culture in the U.S., such as respecting elders and providing homemade Korean foods to their children, sometimes lead to conflicts and increased levels of stress for these mothers. In this study, KA mothers said they try not to argue with children's grandparents to maintain the cultural value of respect for elders. This tension between

grandparents and mothers regarding grandparents' indulgence also has been identified in Chinese and Hispanic families (Herman et al., 2012; Lindsay, Sussner, Greaney, & Peterson, 2011).

KA mothers expressed concern about cultural and language gaps between their children and themselves. While KA mothers tend to maintain Korean cultural identities, their children very quickly become Americanized, so that KA mothers felt they couldn't keep up with them (Zhou, 1997). In a previous study, poor communication between KA parents and children was found to result in conflict among family members (Sohng & Song, 2004).

Korean immigrant mothers, whether they work outside home or not, are highly responsible for household work and raising their children (Hong & Hong, 1996). KA mothers in this study tried to meet these high expectations role. However, mothers struggled to fulfill these roles without available support resources such as a relative's childcare support. Moreover, time constraints made working mothers experience more stresses so that they sometimes indulged their children to compensate for their guilt (e.g., by allowing snacking). One study reported that lack of English fluency and lack of the usual support network available in their homeland made the task of good motherhood hard to achieve for Southeast Asian immigrant mothers (Liamputtong, 2006).

KA mothers think that their child's weight and health reflect the mother's care for their child. This is consistent with previous studies with Latina mothers. The child's weight status reflects parenting skills; therefore a "skinny" child is seen as a sign of bad parenting and poor health (Lindsay et al., 2011). KA mothers prefer a "chubby" child, because they believe that chubbiness represents healthy development. This preferences for plumpness are also found among other ethnic/racial groups such as Vietnamese and Hispanics (McGarvey et al., 2006; Wong, 2011). Preferences for chubby children may lead to underestimation of their children's

actual weight, and this could increase the prevalence of overweight and obesity among KA children. One study of mothers from China and Korea reported that if mothers experienced food insecurity, they evaluated their child as weighing less than ideal (Van Hook & Cheah, 2012). KA mothers believed that they shaped their children's healthy environments by providing healthy foods, limiting screen time, and encouraging adequate sleep. Therefore, they felt they did not need to be concerned about obesity among KA preschool-age children.

In this study, even though the majority of KA mothers are currently working outside the home, KA fathers take responsibility only for children's physical activities. This indicates that an imbalance of parents' roles in child rearing still exists, reflecting gender inequalities. One study reported that KA mother's heavy burden and the lack of role sharing might negatively impact family functioning (Kim & Grant, 1997).

#### **E. Limitations**

This study has several limitations. A relatively small number of KA mothers, all living in one metropolitan area, participated in this study. In addition, nearly all were born in Korea, so the findings in this study may not represent KA mothers who were born and raised in the U.S. Participants also were predominately middle-class, with high education and adequate income, and living with their husbands in a two-parent household. Experiences and challenges of mothers who are second or third generation, single mothers or with low education and/or income might be different. Moreover, it should be noted that these mothers may have a tendency to idealize life in Korea and may not have a realistic understanding of the supports they would have for rearing children there.



**F. Implications**

Emerging themes from this study have implications for developing effective future intervention programs. Further studies should explore how KA mothers utilize their social network when they raise their children and what types of supports they may need. Introducing new supports and utilizing available support through social networks such as KA churches or community organizations should help to reduce the excessive responsibilities of mothers, which lead to high stress and guilt. This high stress and guilt can lead mothers to engage in behaviors that do not promote health to save time and/or to make up for their lack of time with their children, such as using fast foods and giving unhealthy snacks. Providing opportunities such as support groups can help KA mothers share their challenges and obtain advice about raising their children from each other that will be beneficial.

Future studies should be conducted with more diverse groups, including second and third generation KAs, and should include the father's perspectives. Families who recently immigrated from Korea may have different and greater challenges such as struggling to settle down to the new environment and not enough time to take care of their children. Therefore, understanding new immigrant families' experiences is an important first step to develop supportive programs. In addition, culturally appropriate approaches are needed to help KA mothers realize that "plump" is not optimal for children and to increase awareness of the value of physical activity. Furthermore, awareness of cultural differences among family members (mothers and children) may be helpful when providing obesity control and prevention programs.

**TABLE I**

**FOCUS GROUP INTERVIEW QUESTIONS**

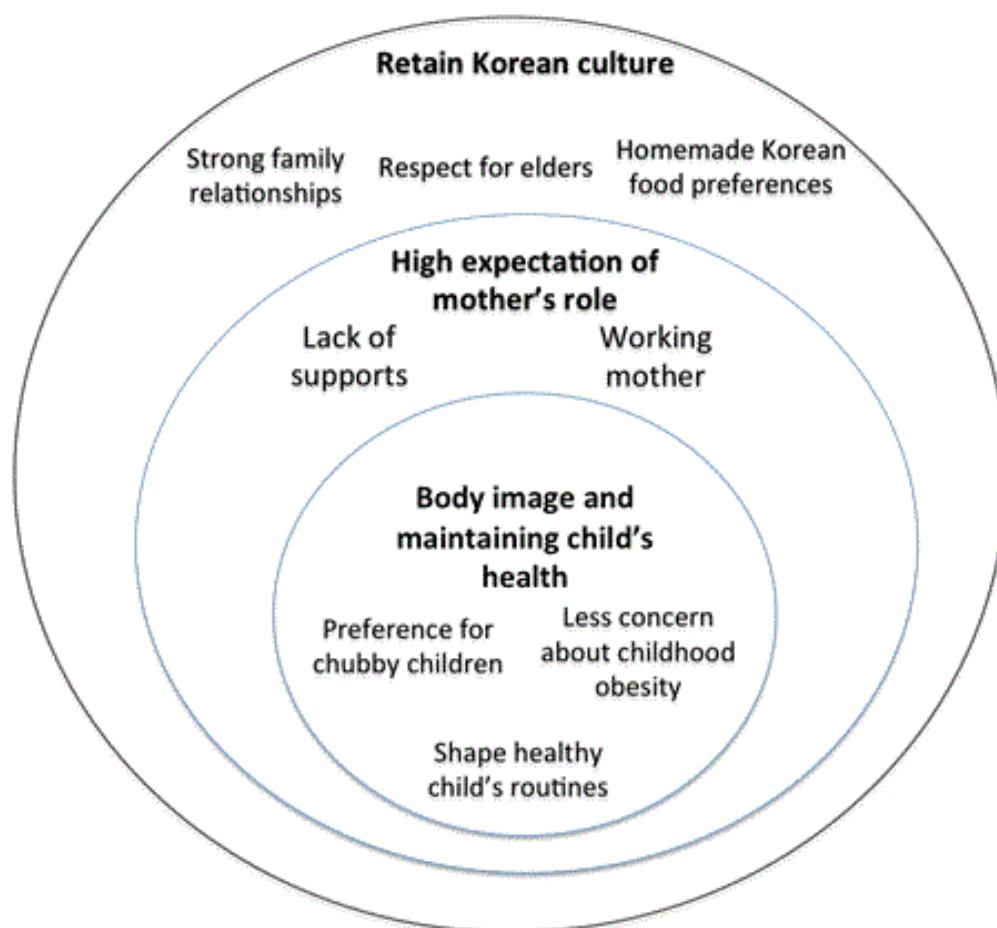
Can you tell me about your experiences in bringing up your children in the U.S.?
Are there any things that are different in bringing up a preschool child in the U.S.?
Do you think childhood overweight and obesity is a problem in the Korean-American community? Why? Why not?
Is overweight a problem for preschool children? Why? Why not?
Tell me what preschool children eat.
Tell me what kinds of activities preschool children do.
What about physical activities like walking and playing outdoors for preschoolers?

**TABLE II**  
**CHARACTERISTICS OF PARTICIPATED KOREAN-AMERICAN MOTHERS**

		(N=15)
	Mean (SD)	N (%)
Age (years)	38.53 (4.19)	
Born in Korea		14 (93.3)
Living with husband		15 (100)
Years lived in the U.S.	17.57 (8.67)	
Education level		
Bachelor or less		9 (60.0)
Master or higher		6 (40.0)
Employment		
Working		11(73.3)
Homemaker		4 (26.7)
Household income		
\$20,000-74,999		9 (60.0)
\$75,000 or more		6 (40.0)

**FIGURE I**

KOREAN-AMERICAN MOTHERS' CHALLENGES RAISING CHILDREN IN THE UNITED STATES



### **III. Family Influences and Healthy Weight for Korean-American Preschool Children**

#### **A. Introduction**

The increasing prevalence of childhood obesity is a major health concern in the U.S. and globally. The number of obese children in the U.S. more than tripled during the last three decades, rising from 5% to 17% (Ogden et al., 2010).

Childhood obesity in the U.S. is responsible for \$14.1 billion in annual medical costs for drug prescriptions, emergency room visits, and outpatient visits (Trasande & Chatterjee, 2009). In addition to the economic burden associated with obesity, it has both immediate and long-term negative effects on the physical and psychological health and quality of life of children. It is significantly related to development of type 2 diabetes, cardiovascular disease, and other chronic illnesses (Berenson & Heart, 2012; Crawford, Story, Wang, Ritchie, & Sabry, 2001; Daniels, 2006). In addition, obese children are stigmatized due to negative attitudes toward obesity and thus have lower levels of self-esteem and higher depression rates than non-obese children (Schwartz & Puhl, 2003; Sheslow, Hassink, Wallace, & DeLancey, 1993). These health problems may persist not only throughout childhood but also into adulthood (McCurdy et al., 2010; Wofford, 2008). Because overweight is more common than obesity and is a risk factor for becoming obese, these two groups are often combined. In this study, we used the term “overweight” to include overweight and obesity.

There are racial/ethnic disparities in the prevalence of childhood overweight and obesity. Hispanic and non-Hispanic African-American children are at a higher risk of becoming overweight and obese than other racial/ethnic groups in the U.S. (Fox & Kumanyika, 2008). Moreover, obesity among children has begun increasing in other industrialized countries. In

Korea, the prevalence of obesity among children has been gradually increasing in recent decades; 9.1% of preschool children were overweight and 9.6% were obese in 2010 (Korean National Health and Nutrition Examination Survey [KNHANES], 2011). Asian-Americans have a lower prevalence of overweight and obesity than other racial/ethnic groups (World Health Organization [WHO] Expert Consultation, 2004). However, chronic diseases in Asian-Americans may develop at lower BMI than in other racial/ethnic groups because of Asian-Americans' greater tendency toward abdominal obesity (Taveras, Gillman, Kleinman, Rich-Edwards, & Rifas-Shiman, 2010; WHO Expert Consultation, 2004). In addition, the risk of overweight and obesity among Asian-Americans increases with their time in the U.S. (Unger, Reynolds, Shakib, Spruijt-Metz, Sun, & Johnson, 2004).

The number of Asians increased faster than that of any other racial group in the U.S. between 2000 and 2010 (United Census Bureau, 2012). Approximately 1.7 million KAs live in the U.S., and they are the fifth-largest subgroup among Asian-Americans (United States Census Bureau, 2013). Almost one in three KAs do not have health insurance, and approximately 30% of KA adults in the U.S. are overweight or obese (Asian and Pacific Islander American Health Forum, 2012; Barnes et al., 2008).

Korean families tend to maintain Confucian values with respect to child-rearing practices and family interactions (Farver & Lee-Shin, 2000; Lee et al., 2000). These unique characteristics of KA families may influence the prevalence of childhood overweight and obesity. Understanding overweight and obesity issues among KA children is important to develop effective and culturally appropriate obesity interventions. However, the familial factors that are linked to early childhood overweight and obesity among KAs have not been studied.

The preschool years are a critical period for obesity prevention and control. During this period, children experience adiposity rebound (AR), which means that their body fat is at its lowest level in their entire life. Previous studies have shown that the earlier AR occurs, the greater the risk of adult obesity (Whitaker et al., 1998; Wofford, 2008). In one study, AR was found to vary according to racial/ethnic and gender differences at an early age: non-Hispanic African-American children have a earlier AR than children of other ethnic groups such as non-Hispanic Caucasians and Mexican-Americans, and girls in all racial and ethnic groups tend to experience AR earlier than boys (Boonpleng et al., 2012). Moreover, children's dietary habits and physical activity patterns are shaped during the preschool period, and persist into adulthood (Gruber & Haldeman, 2009; Salsberry & Reagan, 2005).

### **1. Family Influences on Childhood Overweight and Obesity**

The family plays a pivotal role in shaping lifestyles related to childhood obesity, especially for preschool-age children. Modifiable factors contributing to obesity include excessive calorie intake, lack of physical activity, and increased sedentary behavior. Increased high-fat and sugar-containing food consumption leads to higher BMI in children (Skelton et al., 2011). Decreased physical activities and increased screen time are associated with a higher risk of being obese (Vos & Welsh, 2010). In a multilevel analysis, Boonpleng and her colleagues (2012) found that variation in childhood obesity was mostly explained at the family level (71%), followed by the school level (27%) and community level (2%). Identification of obesity risk factors within a shared family environment is necessary to provide successful intervention for obese preschool-age children (Kitzman-Ulrich et al., 2010). In addition, participation of family members in childhood obesity intervention leads to better outcomes than efforts focused on children alone (Spruijt-Metz, 2011).

Family factors have been found to be significantly associated with childhood obesity in previous studies. Children are more likely to be obese if they have working mothers, if they live with single parents, if the mother's educational level is low, if they have a low family income, or if they are cared for in informal care (e.g., by relatives and babysitters) (Chen & Escarce, 2010; Gibson, Byrne, Davis, Blair, & et al., 2007; Huffman, Kanikireddy, & Patel, 2010; Kang et al., 2006; Maher, Li, Carter, & Johnson, 2008; Patrick & Nicklas, 2005; Pearce et al., 2010)

Acculturation is related to ethnic, racial, and cultural identity, and the degree of acculturation also may contribute to racial and ethnic disparities regarding childhood obesity (Peña, Dixon, & Taveras, 2012). However, prior research results are inconsistent with respect to the association of acculturation with childhood obesity.

Family functioning is another aspect of the family environment that is related to childhood obesity (Kitzman-Ulrich et al., 2010). However, the relationships identified between family functioning and childhood obesity have been inconsistent. Some studies have found that family dysfunction is associated with greater BMI of children (Kennedy & Chen, 2004; Moens, Braet, & Soetens, 2007; Sousa, 2009). In contrast, Gibson and his colleagues (2007) did not find a significant relationship between childhood obesity and poor family functioning.

Parental feeding style refers to parents' approach to feeding their children, and it affects children's eating styles and weight outcomes (Johnson & Birch, 1994; Patrick, Nicklas, Hughes, & Morales, 2005). Prompting children to eat, use of rewards, and restricting access to food tend to result in intake of more food than is healthful for children (Rhee, 2008). Parents of overweight children monitor and restrict their food consumption more than parents of children who are not overweight (Moens et al., 2007). Furthermore, it has been reported that parental encouragement



of the choice of healthful foods through role modeling is important to establishing healthful dietary patterns for children (Tibbs et al., 2001).

Previous studies have suggested that healthy child's routines are key factors in preventing childhood obesity (Slusser et al., 2012). Anderson and Whitaker (2010) analyzed a nationally representative sample of preschool-age children and found that children who had dinner with their families, had adequate nighttime sleep, and had limited television viewing time exhibited a lower prevalence of obesity.

The family factors that contribute to KA childhood obesity may be different from other families because of their unique cultural attitudes and lifestyles with regard to obesity. The family systems approach provides a comprehensive perspective on families with regard to childhood obesity that can be adapted for examining KA families. According to Family Systems Theory (FST), family members function as a whole and have reciprocal influences (Chibucos et al., 2005). Therefore, the FST was chosen as the framework for this study.

Recent childhood obesity research has adapted the FST to focus on the specific issue of obesity. Berge (2009) has proposed a conceptual model of family domains that correlate with child and adolescent obesity and weight-related outcomes, and this conceptual model was modified for use in this study (Berge, 2009). Factors within the family domains, including the parental, family functioning, and sibling domains, have been found to exhibit significant associations with child and adolescent obesity (Lee, 1995).

Because the child's routines and the childcare arrangement may directly impact obesity in KA preschool-age children, these two factors were added to the conceptual model for this study. In addition, family background factors that have been associated with childhood obesity were included in the conceptual model. With the inclusion of the child's routines, the childcare

arrangement, and family background factors, the conceptual model can be used to comprehensively explore childhood obesity among KA preschool-age children.

In the conceptual model, we have defined the family domain as consisting of family background, family system (family structure, family functioning, and family interactions affecting the child), childcare arrangement, and child's routines. While siblings also may be important with regard to childhood obesity, including them was beyond the scope of this study (see Figure 1).

Childhood obesity is a growing health problem among all ethnic groups, but there have been few studies of preschool-age children and none of obesity among KA preschool-age children. This study focused on the family factors that related to obesity among KA preschool-age children. The purpose of this study was to identify the association between characteristics of KA families and the prevalence of obesity among KA preschoolers, and to test a conceptual model based on the FST that reflects relationships between family factors and BMI z-scores (overweight/obese status) among these children.

## **B. Methods**

### **1. Sample and Setting**

This study was conducted from May through August 2013 in the Chicago metropolitan area. A total of 104 KA mothers and their preschool-age children participated. Mothers had to meet the following inclusion criteria: (a) had lived in the U.S. for at least 5 years, (b) self-identified as KA, and (c) lived with their preschool-age children. The mean age of the preschool-age children was about 47 months, and 60% were boys. The mothers' mean age was 37.3 years, and their ages ranged from 29 to 49 years.

## 2. Procedures

Study approval was obtained from the Institutional Review Board of the University of Illinois at Chicago. We contacted the directors of preschools and KA churches, and they then announced the study to potential study participants. The principal investigator (PI) and two research assistants visited each research site. The PI checked the eligibility of each KA mother participant, explained the study's purpose and procedures, and obtained informed consent from the mothers and verbal assent from their preschool-age children. Children's weights and heights were measured three times each to reduce measurement error, and the means were used in data analysis. During these measurements, the KA mothers were present to reassure their children, and a screen was used to protect children's privacy and to increase their cooperation. No children refused to allow us to measure their weights and heights. Subsequently, the KA mothers completed self-administered survey questionnaires. The questionnaires were prepared in both Korean and English versions so that participants could select their preferred language; 60 of the 104 mothers chose to complete the Korean version. Questionnaire completion took approximately 20 to 40 minutes. After the measurements and survey were completed, each KA mother received a gift card and each child received a small gift for their time and effort.

## 3. Measures

The concepts and operational measures used in this study and their reliability and validity are summarized in Table 1. **Family background factors** consisted of parental employment status, level of parental education, household income, length of stay in the U.S., whether mothers are first-, second-, or third-generation immigrants to the U.S., and level of acculturation.

The Vancouver Index of Acculturation (VIA) was used to measure the level of acculturation of KA mothers. The VIA is self-administered and assesses two dimensions of

acculturation, identification with the culture of origin and identification with American culture, including adherence to traditions, social interactions, and values (Ryder, Alden, & Paulhus, 2000). The level of measurement is an interval scale with a 9-point Likert scale ranging from 1 (strongly disagree) to 9 (strongly agree). The total scores for each subscale range from 10 to 90. The concurrent validity of the VIA was confirmed in a previous study (Ryder et al., 2000). The reliability of the VIA was established in prior studies and continued to be high in this study (Choi, Miller, & Wilbur, 2009).

**Family system factors** included family structure, family functioning and family interactions affecting the child. **Family structure factors** included status as a single-parent or dual-parent family, generational composition (two-generation or three-generation), and total number of children in the household.

**Family functioning** was assessed using the Family Assessment Device (FAD), which included seven dimensions that distinguished between healthy and unhealthy families (Epstein, Baldwin, & Bishop, 1983). The concurrent validity of the FAD was confirmed in previous studies (Aarons, McDonald, Connelly, & Newton, 2007; Epstein et al., 1983; Miller, Epstein, Bishop, & Keitner, 1985). The FAD was modified and translated into Korean; items were deleted that showed low correlation and were culturally difficult to understand (Chung, 1993). The modified Korean version of the FAD consisted of 34 items across the same seven dimensions. Higher scores indicate fewer family problems and better family functioning. In our study, the internal consistency coefficients of the FAD ranged from 0.66 to 0.87.

**Family interactions affecting the child** included parental feeding style and parental role modeling of healthy behaviors. The Child Feeding Questionnaire (CFQ) was used to measure parental feeding style. The CFQ is a self-reporting instrument used to assess parental beliefs,

attitudes, and practices regarding child feeding, with a focus on obesity proneness in children (Birch et al., 2001). The construct validity of the CFQ was confirmed using confirmatory factor analysis, which confirmed that the seven-factor model fit the data well (Birch et al., 2001). The reliability of the CFQ has been established in prior studies (Birch et al., 2001; Van Hook & Cheah, 2012). The internal consistency coefficients of the Korean version of the CFQ used in this study ranged from 0.56 to 0.92.

Despite the conceptual importance of healthy **parental modeling**, there are no established measures of this factor. Therefore, we developed healthy parental modeling index from national surveillance data such as National Health and Nutrition Examination Survey (NHANES) to assess lifestyle patterns, including dietary, physical activity, drinking, and smoking habits. Mothers were asked about their own habits as well as their husbands' habits. The healthy parental modeling questions about two types of dietary habits (fruits/vegetables and salty snacks consumption) used a 4-point Likert scale (1 = less than once a day and 4 = 5 or more per day). One example of these questions is "How often do you eat fruits or vegetables at home?" Physical activity items also used a 4-point Likert scale (1 = Less than once a week and 4 = 5 or more per week). The questions about drinking and smoking asked about habits both at home and outside the home. One example of smoking question is "How many cigarettes per day do you usually smoke at your home?" The frequency of drinking was asked using a question "How often did you drink any type of alcoholic beverage?" Summary scores for healthy parental modeling were dichotomized as indicating healthy and unhealthy modeling. Parents were considered to be doing healthy modeling if they ate vegetables/fruits at least three times per day, ate snacks less than two times a day, exercised more than three times per week, did not smoke, and did not drink alcohol.

The **child's routines** were measured using the Family Nutrition and Physical Activity (FNPA). The FNPA was developed to assess family lifestyles, including the child's routines, which may contribute to childhood obesity (Ihmels et al., 2009). The FNPA contains 20 items and uses a 4-point Likert scale (1=almost never, 2=sometimes, 3=usually, and 4=almost always); possible scores range from 20 to 80. A higher score on the FNPA implies a healthier family lifestyle. The FNPA's construct validity and predictive validity were supported in a longitudinal study (Ihmels et al., 2009). The reliability of the FNPA has been established, with a Cronbach's  $\alpha = 0.72$  (Ihmels et al., 2009). The FNPA had never been translated into Korean or used for KA families. Therefore, we translated this instrument and conducted cognitive interviews with KA mothers to confirm the appropriateness and comprehensibility of the translated FNPA in the KA context. Only minor changes were needed. The internal consistency coefficient of the Korean version of the FNPA used in this study was 0.80.

**Childcare arrangements** included types of regular childcare arrangements and the hours of non-parental care per week. Because some children had more than one type of childcare, mothers were asked whether their child had each of four types of care (yes/no), including formal care (preschool or daycare), relative care, informal daycare by a non-relative, and parental care only, creating 5 partially overlapping dichotomous variables.

Trained nurse research assistants measured children's body weight to the nearest 0.1 lb. using a portable digital weight scale (Lifesource MD, Milpitas). During weight measurements, children were dressed in light clothing and were not wearing shoes. Children's height was measured to the nearest 0.1 cm. using a portable stadiometer (Seca Stadiometer, Seca Ltd, Birmingham, UK). Ages in years and months of preschoolers were recorded to calculate BMI-for-age values. BMI was calculated as weight in kilograms divided by the square of height in

meters. BMI values were transformed into age- and sex-specific BMI z-scores and percentiles using 2000 CDC growth chart data (CDC, 2012). Child's overweight and obesity was defined as BMI-for-age equal to or greater than 85th percentile. In this study, normal weight children refer to children who are underweight ( $\text{BMI} < 5^{\text{th}}$  percentile) and normal weight ( $5^{\text{th}}$  percentile  $\leq \text{BMI} < 85^{\text{th}}$  percentile). Overweight indicates children who are overweight ( $85^{\text{th}}$  percentile  $\leq \text{BMI} < 95^{\text{th}}$  percentile) and obese ( $\text{BMI} \geq 95^{\text{th}}$  percentile).

#### **4. Data Analysis**

Statistical analyses were performed using SPSS version 20.0 and STATA version 12.0 statistical software. Descriptive statistics (percentages, means, and standard deviations) were used to describe the family factors and prevalence of overweight among the KA preschool-age children. To compare characteristics of participants in between the normal weight and overweight child groups, independent t-test and chi-square test were utilized. When the dependent variable was not normally distributed, the Mann-Whitney U test was used. Fisher's exact test was applied when the expected frequency in any cell was less than five.

To test our conceptual model, we used hierarchical multiple linear regression to test the effect of each factor on the child's BMI z-score. To estimate the final model, only factors with at least some relationship with BMI z-scores ( $p < .20$ ) were entered, including perceived child weight, restriction, pressure to eat, monitoring, behavior control, and child's routines. The statistical significance was set at an alpha level of .05.

We also examined factors associated with children who were overweight versus those who were not, a way of looking at weight that has more practical relevance. We used multiple logistic regression to examine family factors on overweight status among children with an a priori significance level of  $p$  value of  $< .05$ .

## C. Results

### 1. **Bivariate Relationships Between Family Factors and Child Overweight**

Table 2 shows characteristics of participating KA preschool children in this study.

Among children, 22% of them were overweight or obese.

Table 3 shows the family characteristics expected to affect preschool children's weight for the total sample and for the children who were overweight or obese compared to those who were not.

The first set of factors was the family's **background characteristics**. Mothers were predominately born in Korea (95 %) and were living with their husbands (97%). The mean length of their stay in the U.S. was 15 years. Approximately 30% of mothers had at least a master's degree, more than half of them (56%) were working outside the home, and about 44% had a family household income of more than \$75,000 per year. Mothers had a higher level of Korean identity than American identity. The mean scores of Korean identity were 69.86 (range: 10 to 90), whereas mean American identity scores were 54.53 (range: 10 to 90), indicating a stronger identification with Korean than American culture. None of these factors was significantly related to child's overweight.

**Family system factors** were the next component of the model and included family structure, family functioning, and parental interactions with the child (parental feeding style and parental modeling). In terms of **family structure**, almost all (97.1%) mothers lived with their spouse or partner, and only 8.7% of them lived in a three-generation household. The majority of mothers (80.8%) had two or more children and almost half of the children (46.6%) had an older sibling. None of these factors was significantly related to the child's weight, but the number of children showed a trend, with overweight children more likely to have two or more siblings ( $p = .064$ ).



**Family functioning** was measured with seven subscales, including problem solving, communication, roles, affective responsiveness, affective involvement, behavior control, and general functioning. The general functioning subscale had the highest scores and roles had lowest scores. Problem solving, roles, behavior control, and general functioning were negatively related to child's overweight, but none of these relationships were statistically significant.

Parental interactions with the child included **parental feeding style and healthy parental modeling**. **Parental feeding style** was measured with seven subscales, including perceived responsibility, perceived parent weight, perceived child weight, concern about child weight, restriction, pressure to eat, and monitoring. Among subscales of parental feeding style, perceived child weight ( $r = .418$ ) and pressure to eat ( $r = -.244$ ) were significantly related to child's weight. The mean score of overall parental feeding style was 3.43 (range 1 to 5). Participants had lower scores on concern about child weight, perceived child weight, and perceived parent weight, and higher scores on monitoring and perceived responsibility. There was a significant difference in perceived child weight ( $t = -4.610, p < .001$ ) and pressure to eat ( $t = 2.551, p = .025$ ) between normal weight and overweight groups. Mothers of overweight children perceived their child to be more overweight than those of normal weight mothers. However, normal weight children's mothers provided more restriction, pressure to eat, and monitoring than those of overweight children's mothers.

Another factor was healthy **parental modeling**. About 76.9% of mothers showed healthy lifestyle role-modeling to their children while mothers reported that 59.2% of fathers did so. Mother modeling and father modeling were significantly correlated ( $r = .244$ ), but neither of these factors significantly related to the child's weight.

The last two factors were child's routines at home and childcare arrangements. The mean score of **child' routines** was 63.28. The majority of children (68.3%) were cared for in formal care settings such as preschools and daycare centers at least part of the time. Twenty three percent of children were cared for their relatives, followed by parental only care (18.4%) and non-relative informal care (e.g., baby sitter) (14.4%). There was a significant difference in formal care ( $\chi^2 = 4.492, p = .034$ ) between normal weight and overweight groups with overweight children more likely to be cared for in formal settings. Although child's routines was not related to child's weight, it was significantly related to healthy mother modeling ( $r = .223$ ), healthy father modeling ( $r = .214$ ), perceived responsibility ( $r = .351$ ), control ( $r = .210$ ), and monitoring ( $r = .333$ ). Child's routines were also significantly related to all subscales of family functioning: problem solving ( $r = .264$ ), communication ( $r = .353$ ), roles ( $r = .276$ ), affective responsiveness ( $r = .321$ ), affective involvement ( $r = .296$ ), behavior control ( $r = .297$ ), and general functioning ( $r = .335$ ).

## **2. Testing the Conceptual Model: Family Factors and Child's BMI z-score**

Table 4 shows the results of the hierarchical multiple linear regression to test our conceptual model. Family background and family structure factors were not included in this linear regression model. The KA families had very homogeneous backgrounds. According to the bivariate analysis in the previous section, there were no significant differences in family background factors (level of mother's acculturation, mother's education level, household income, employment status, and length in the U.S) and family structure (number of children, living with both parents, and living with relatives) between the normal weight and overweight groups. Healthy parental modeling was also excluded because these variables had no significant bivariate relationships with child weight.

In the first step of hierarchical multiple linear regression, seven subscales of family functioning (problem solving, communication, roles, affective responsiveness, affective involvement, behavior control, and general functioning) were entered. This model was not statistically significant [ $F(7, 93) = .941; p = .479$ ] and explained only 6.6% of variance in child's BMI z-score.

In step two, the seven subscales of parental feeding style (perceived responsibility, perceived parent weight, perceived child weight, concern about child's weight, restriction, pressure to eat, and monitoring) were added. The introduction of parental feeding style explained an additional 23.4% of variance in children's BMI z-score. When these factors were added, the total variance in child's BMI z-score explained by the model as a whole was 30.0%, and this model was statistically significant [ $F(14, 86) = 2.635; p = .003$ ].

In the third step, formal childcare was entered; this model was statistically significant [ $F(15, 85) = 2.435; p = .005$ ] and explained 30.1% of variance in child's BMI z-score.

In the fourth step, we added child's routines. This model was statistically significant [ $F(16, 84) = 2.256; p = .009$ ] and explained 30.1% of variance in child's BMI z-score. Perceived child weight ( $\beta = .357, p < .001$ ) and behavior control ( $\beta = -.271, p = .037$ ) were statistically significant. If mothers perceived their children as more overweight, children were more likely to be obese while if mothers provided more behavior control, their children were less likely to have a high BMI z-score. However, adding formal childcare and the child's routines did not increase the model's explained variance.

In the final model, only variables which had p-value less than .20 were entered: affective responsiveness, affective involvement, behavior control, general functioning, perceived child weight, concern about child weight, pressure to eat, and monitoring. This model was statistically

significant [ $F(8, 92) = 4.777; p < .001$ ] and explained 29.3% of variance in child's BMI z-score. Behavior control ( $\beta = -.246, p = .026$ ), perceived child weight ( $\beta = .355, p < .001$ ), pressure to eat ( $\beta = -.189, p = .056$ ), and monitoring ( $\beta = -.200, p = .043$ ) were statistically significant.

Consistent with the conceptual framework, family factors explained 30% of the variance in the children's BMI z-scores in both our complete and final (reduced) hierarchical multiple linear regression. Factors related to family feeding style made the greatest contribution to the explained variation.

### **3. Logistic Regression: Factors Related to Being Overweight Versus Normal Weight**

We used multiple logistic regression to examine effects of family factors on whether children were overweight or normal weight (Table 5). The model as a whole was statistically significant ( $\chi^2 = .008$ ) and was explained by the fitted model (Pseudo  $R^2 = 0.326$ ). Among the family factors, the number of children in the family, perceived child weight, pressure to eat, monitoring, behavior control, and child's routines were statistically related to child's overweight. Children were more likely to be overweight if: a family had more children in their home (OR 2.46, 95% CI 1.20-5.05); the mother perceived her child as overweight (OR 20.03, 95% CI 3.28-122.10); and the family had a regular child's routines (OR 1.10, 95% CI 1.02-1.18). If mother provided more pressure to eat (OR .42, 95% CI .18-.98), monitored more to restrict unhealthy food (OR .55, 95% CI .30-1.02), or expressed and maintained standards for the behavior of children (OR .27, 95% CI .08-.92), the children were less likely to be overweight.

#### **D. Discussion**

The purpose of this study was to explore KA family contexts and examine the relationships between family factors and childhood overweight among KA preschool-age children.

In this study, 22% of KA preschool-age children were found to be overweight or obese. The proportion of overweight KA preschool-age children in this study was similar to that reported for KA preschool-age children in U.S. national data (20%) (Jain et al., 2012). This similarity suggests that our small sample reasonably represented KA preschoolers' overweight. KA preschool-age children have a lower prevalence of overweight compared to other racial/ethnic groups; in previous studies, 33.1% of Hispanic preschoolers, 28.9% of Non-Hispanic Black preschoolers, and 23.8% of Non-Hispanic White preschoolers were overweight (Ogden, Carroll, Kit, & Flegal, 2012).

This study tested a conceptual model based on the Family Systems Theory (FST), which assumes that family members have reciprocal relationships that influence child health. Family factors, including family functioning, parental feeding style, parental modeling, childcare arrangement, and child's routines, explained 30% of the variance in the children's BMI z-scores. Parental feeding style (23.4%) and family functioning (6.6%) were the factors that most contributed to the variance explained in the BMI-z scores. These findings are consistent with a previous study analyzing national surveillance data which found that family-level factors were the main contributing factors and explained 70% of the variance for childhood overweight (Boonpleng et al., 2012). Childcare arrangement and child's routines did not increase the model's explained variance. Our final model (which excluded the non-related variables)

explained 29.3% of the variance in the children's BMI z-scores. In this model, behavior control, perceived child's weight, pressure to eat, and monitoring were statistically significant.

Consistent with the findings of the linear regression model using the children's BMI z-scores, a multiple logistic regression comparing overweight to non-overweight children identified similar factors. Specifically, a child was more likely to be overweight if the mother perceived her child as being overweight, if the family had more children in the home, or if the child had regular routines. A child was less likely to be overweight if the mother reported higher monitoring of unhealthy food consumption, more restriction of unhealthy food intake, and maintaining standards for the child's behavior.

Although family background factors have been associated with children's overweight in prior studies, none of the family background factors was found to be related to children's weight in this study. Because of the homogeneity among the KA families included in the study, such relationships may not be evident. For example, prior studies have found that a lower level of acculturation was associated with an increased risk of childhood overweight in minority groups, but no such relationship was found in this study (Balistreri, 2010; Jiménez-Cruz, Schwartz, Bacardi-Gascon, Heyman, & Wojcicki, 2012). The reason may be that the mothers were highly similar: they were predominantly born in Korea and had a higher level of Korean cultural identification than American cultural identification.

The overall mean family functioning score for the KA families in the study was higher than that of Chinese-American families in another study using the same measure (Kennedy & Chen, 2004). In addition, the KA families had lower scores for roles and behavior control subscales than for other family functioning subscales, while Chinese-American families had higher scores for the roles and behavior control subscales. This evidence suggests that different

Asian-American subgroups may have different family characteristics. These differences may relate to unique family structures and levels of acculturation. Therefore, future studies should separately examine Asian-American families from different countries of origin whenever possible.

In the previous studies, different subscales of family functioning such as general functioning or affective responsiveness have been negatively related to higher scores of BMI of children (Kennedy & Chen, 2004; Moens et al., 2007; Sousa, 2009). That broad idea was confirmed in this study, but in our measure of family functioning only one of the seven subscales, behavior control, was significantly associated with lower children's BMI z-scores; if the family expressed and maintained standards for the behavior of its members, such as having family rules, children were less likely to be overweight.

Parental feeding style (perceived child's weight, pressure to eat, and monitoring) was significantly related to children's overweight in the study sample. The mothers' perception of children's weight was highly correlated ( $r = 0.42$ ) with the actual children's weight. Considering that this was a cross-sectional study that measured children's BMI and other variables at one point in time, the direction of the relationship between mothers' perceptions of children's weight and actual children's weight is unclear. The general body image held by KA mothers may influence their perceptions of children's weight. In Asian cultures, child overweight is typically regarded as healthy and part of normal child development. These attitudes and preferences toward overweight children are also reported among Hispanic mothers (Nobari et al., 2013; Sosa, 2012).

Another study found that KA and Chinese-American mothers evaluated their children as weighing less than the ideal if the mother experienced food insecurity in her childhood (Van

Hook & Cheah, 2012). Such attitudes toward children's weight may influence not only parental feeding styles but also mothers' misperceptions about children's weight.

Many of the KA mothers reported applying pressure to eat, monitoring, and behavior control, and these behaviors were negatively related to children's overweight. These findings are inconsistent with prior research that has reported that if parents monitor and restrict children's food consumption, the children are more likely to be obese (Moens et al., 2007; Rhee, 2008). KA mothers reported relatively little concern about their children's risk of being overweight or their children's weight status, and also reported little concern about their own weight status. However, KA mothers expressed a high level of responsibility for their children's feeding and reported that they closely monitored their children's eating. This may reflect traditional cultural traits; when KA mothers monitor and restrict their children, they are behaving according to the cultural expectations of a "good mother," and this attention may have a positive effect on children's eating patterns rather than a negative one. KA mothers' high interest in and motivation toward their children's feeding should be considered when developing overweight intervention programs.

In this study, a child was more likely to be overweight if the family had more children in the home. One prior study reported that children who had siblings spent more time in physical activities than those without siblings (Bagley, Salmon, & Crawford, 2006). However, how siblings influence a preschool child's physical activity patterns, food consumption, and weight outcomes has not been examined. Further studies should be conducted to examine siblings' roles in overweight among preschool-age children.

Organizing regular healthy routines is important to shaping healthy environments for children during the preschool-age period. Child's routines, including adequate nighttime sleep



and family meals, has been related to a lower prevalence of overweight in prior studies (Anderson & Whitaker, 2010; Carskadon, Wolfson, Acebo, Tzischinsky, & Seifer, 1998; Crawford et al., 2001; Sekine et al., 2002; Sousa, 2009; Spruijt-Metz, 2011). In contrast to these findings, child's routines have a small positive relationship to child's overweight in this study. This study included a relatively small and homogeneous sample, and the KA children may have had similar family environments and routines. In the future, more studies should be conducted with greater numbers and more diverse groups of children and their families to identify how a child's routines relate to child overweight in KA families. Moreover, future studies should explore how child's routines of KAs differ from those of other racial/ethnic groups.

The childcare arrangement is a potentially important resource for shaping healthy dietary habits and physical activity patterns among preschool-age children (Robert Wood Johnson Foundation [RWJF], 2011). In this study, about 70% of the preschool-age children were cared for in formal care settings such as preschools and daycare centers. This indicates that formal care settings should be considered as important potential sites for future intervention studies.

In addition, KA churches are one of the major resources for social interaction and networking among KAs; more than 70% of KAs attend KA churches (Kim & Wolpin, 2008). Therefore, collaboration with such organizations would be helpful in providing effective interventions to prevent and reduce childhood overweight among KA preschool-age children.

#### **E. Limitations**

There are several limitations in this study. Most KA mother participants were first-generation. The small number of second- and third-generation participants, a growing segment of the KA population, may underrepresent U.S.-born KA families. A cross-sectional study that

measures children's BMI and other variables at one point in time cannot identify causal relationships between family factors and overweight among preschool-age children. Self-administered questionnaires were used, and the participants may have provided biased answers because of social desirability issues. Because the convenience sample of study participants was recruited from KA churches and preschools in the Chicago metropolitan area, the findings do not fully represent KA families with preschool-age children living in the U.S.

#### **F. Implications**

KA preschool-age children have a lower rate of overweight than children in general in the U.S. However, this rate is high (22%) and suggests that childhood overweight is a substantial problem in the KA community. Longitudinal studies should be conducted to examine causal relationships between family factors and childhood overweight. Further studies should be conducted to explore KA mothers' body image and their weight perceptions about their children, which are significantly related to children's overweight.

In terms of clinical implications for future interventions to reduce overweight among young KA children, health care professionals should consider the family as one unit of care and should use this strong social network to implement culturally appropriate childhood overweight prevention for KA preschool-age children.

Parental feeding style and child weight perception should be considered when advising KAs about reducing childhood overweight. In addition, KA churches and preschools should be considered as important potential sites for future intervention studies. Furthermore, KA children's physical activity patterns and food intake in formal care settings such as preschools

and daycare centers should be measured to fully examine the factors contributing to children's overweight.

TABLE III

## CONCEPTS, OPERATIONAL MEASURES, AND RELIABILITY/VALIDITY

Concept	Operational measures	Reliability and validity
Acculturation	<ul style="list-style-type: none"> <li>· Vancouver Index of Acculturation (VIA) (Ryder, Alden, &amp; Paulhus, 2000)</li> <li>- two subscales (10 items each, 9-point Likert scale, scores 10-90)               <ul style="list-style-type: none"> <li>a. heritage culture</li> <li>b. mainstream culture</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Reliability</b> <ol style="list-style-type: none"> <li>1. Original:               <ul style="list-style-type: none"> <li>- heritage (<math>\alpha=0.91-0.92</math>)</li> <li>- mainstream (<math>\alpha=0.85-0.89</math>)</li> </ul> </li> <li>2. Korean-Americans:               <ul style="list-style-type: none"> <li>- heritage (<math>\alpha=0.79-0.85</math>)</li> <li>- mainstream (<math>\alpha=0.83-0.86</math>)</li> </ul> </li> <li>3. In this study               <ul style="list-style-type: none"> <li>- heritage (<math>\alpha=0.82</math>)</li> <li>- mainstream (<math>\alpha=0.92</math>)</li> </ul> </li> </ol> </li> <li>• <b>Validity:</b> concurrent validity established</li> </ul>
Family functioning	<ul style="list-style-type: none"> <li>· McMaster Family Assessment Device (FAD) (Epstein, Baldwin, &amp; Bishop, 1983)</li> <li>- self-reporting instrument with seven subscales with Korean-American sample (34 items, 4-point Likert scale)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Reliability</b> <ol style="list-style-type: none"> <li>1. Original: <math>\alpha=0.72-0.92</math></li> <li>2. Korean: <math>\alpha=0.67-0.78</math></li> <li>3. In this study: <math>\alpha=0.66-0.92</math></li> </ol> </li> <li>• <b>Validity:</b> concurrent validity was established</li> </ul>
Parental feeding style	<ul style="list-style-type: none"> <li>· Child Feeding Questionnaire (CFQ) (Birch et al., 2001)</li> <li>- self-reporting instrument with 2 dimensions and 7 subscales (31 items, 5-point Likert scale):               <ul style="list-style-type: none"> <li>a. <u>parents' perceptions and concerns regarding child obesity</u>: perceived responsibility (3 items), parent perceived weight (4 items), perceived child weight (6 items), parents' concerns about child weight (3 items),</li> <li>b. <u>child-feeding attitudes and practices</u>: restriction (8 items), pressure to eat (4 items), monitoring (3 items)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Reliability</b> <ol style="list-style-type: none"> <li>1. Original: <math>\alpha=0.70-0.92</math></li> <li>2. Korean-Americans: <math>\alpha=0.67-0.97</math></li> <li>3. In this study: <math>\alpha=0.56-0.92</math></li> </ol> </li> <li>• <b>Validity:</b> construct validity was established</li> </ul>

Parental modeling	<ul style="list-style-type: none"> <li>· Mother's role modeling (healthy dietary habits, including consumption of fruits and vegetables, avoidance of fatty, salty and sweet snacks; parental physical activity patterns (regular moderate exercise); parental smoking and drinking habits</li> <li>· Father's role modeling (same questions, reported by mother)</li> </ul>	Items developed for this study; pretested with KA mothers to establish comprehension and content validity
Child's routines	<ul style="list-style-type: none"> <li>· Family Nutrition and Physical Activity (FNPA) (Ihmels, Welk, Eisenmann, &amp; Nusser, 2009)</li> <li>- self-reporting instrument with 10 dimensions (4-point Likert): family meal patterns, family eating habits, food choices, beverage choices, restriction/reward, screen time behavior and monitoring, healthy environment, family activity involvement, child activity involvement, family routine</li> </ul>	<ul style="list-style-type: none"> <li>· <b>Reliability:</b> <ol style="list-style-type: none"> <li>1. Original: <math>\alpha=0.72</math></li> <li>2. In this study: <math>\alpha=0.80</math></li> </ol> </li> <li>· <b>Validity:</b> construct validity and predictive validity were established</li> </ul>

\*  $\alpha$ = Cronbach's  $\alpha$  coefficient of internal consistency reliability

**TABLE IV**  
CHILD WEIGHT CATEGORIES

BMI Category	Percentage
Underweight ( $< 5^{\text{th}}$ percentile)	1.9%
Normal ( $5^{\text{th}}$ - $< 85^{\text{th}}$ percentile)	75.8%
Overweight ( $85^{\text{th}}$ - $< 95^{\text{th}}$ percentile)	19.4%
Obese ( $\geq 95^{\text{th}}$ percentile)	2.9%

**TABLE V**  
**FAMILY FACTORS AND CHILD OVERWEIGHT**

Characteristic	Total (N=104)	Normal weight (N=81)	Overweight (N=23)	<i>p-value</i>
<b>Family background</b>				
First generation†	95.2%	95.0%	95.7%	NS
Mother years in the U.S. (Mean, SD)	15.1 (9.4)	14.7 (9.7)	16.5 (8.7)	NS
Marital Status (Married) †	97.1%	97.5%	95.7%	NS
Mother’s education				NS
More than bachelor	29.8%	28.7%	30.4%	
Mother’s employment				NS
Working	55.8%	57.5%	52.2%	
Family income (per year)				NS
< 40,000	21.8%	23.7%	17.4%	
40,000-75000	34.7%	32.9%	39.1%	
>75,000	43.5%	43.4%	43.5%	
Mother’s acculturation (Mean, SD)				NS
Heritage	69.86 (10.82)	69.49 (10.89)	71.13 (10.95)	
Mainstream	54.53 (17.09)	54.30 (16.46)	55.04 (19.79)	
<b>Family system</b>				
<i>Family structure</i>				
Living with spouse or partner†	97.1%	96.3%	100.0%	NS
Living with relatives†	8.7%	8.8%	8.7%	NS
Number of children in family				
One	19.2%	22.5%	8.7%	.064
Two	62.5%	61.3%	65.3%	
Three or more	18.3%	16.2%	26.0%	
<i>Family functioning (Mean, SD)</i>				
Family Assessment Device (FAD)	3.10 (0.35)	3.10 (0.36)	3.08 (0.27)	
Problem solving	3.17 (0.48)	3.18 (0.52)	3.13 (0.31)	NS
Communication	3.10 (0.49)	3.12 (0.51)	3.03 (0.44)	
Roles	2.76 (0.43)	2.77 (0.46)	2.73 (0.31)	
Affective responsiveness	3.20 (0.53)	3.18 (0.56)	3.23 (0.41)	
Affective involvement	3.16 (0.53)	3.13 (0.56)	3.21 (0.44)	
Behavior control	3.02 (0.46)	3.04 (0.49)	2.93 (0.32)	
General functioning*	3.26 (0.44)	3.26 (0.45)	3.26 (0.42)	
<i>Family interaction (Mean, SD)</i>				
Parental feeding style (CFQ)	3.43 (0.38)	3.44 (0.40)	3.38 (0.34)	NS
Perceived responsibility*	4.44 (0.60)	4.43 (0.63)	4.45 (0.53)	NS
Perceived parent weight	2.96 (0.39)	2.93 (0.40)	3.08 (0.32)	.119

Perceived child weight*	2.91 (0.48)	2.80 (0.44)	3.28 (0.41)	<.001
Concern about child weight	2.48 (1.03)	2.48 (1.07)	2.51 (0.91)	NS
Restriction*	3.58 (0.75)	3.60 (0.75)	3.47 (0.73)	NS
Pressure to eat*	3.47 (0.76)	3.57 (0.71)	3.14 (0.87)	.025
Monitoring	4.01 (0.95)	4.08 (0.95)	3.77 (0.93)	.178
Parental modeling				
Mother modeling (good)†	76.9%	73.8%	87.0%	NS
Father modeling (good)	59.2%	62.0%	52.2%	NS
<b>Child's routines*</b> (Mean, SD)	63.28 (7.46)	63.09 (7.75)	63.48 (6.28)	NS
<b>Childcare</b>				
Type of childcare				
Parental only†	18.4%	18.8%	13.0%	NS
Relative care	23.1%	21.3%	30.4%	.358
Non-relative informal care†	14.4%	17.5%	4.3%	.180
Formal care (e.g., preschool)†	68.3%	63.7%	87.0%	.034

† Fisher's exact test

\* Mann-Whitney U

P values from chi-square or independent t-test, testing for differences between non-obese and overweight group



**TABLE VI**  
**HIERARCHICAL MULTIPLE LINEAR REGRESSION**

Variables	Model 1 <sup>a</sup>	Model 2 <sup>b</sup>	Model 3 <sup>c</sup>	Model 4 <sup>d</sup>	Final Model
Intercept	1.355	.560	.438	.404	.192
<b>Family functioning<sup>a</sup></b>					
Problem solving	.047	.022	.021	.023	
Communication	.002	.023	.026	.024	
Roles	-.099	-.063	-.066	-.067	
Affective responsiveness	.233	.173	.176	.175	.156
Affective involvement	.163	.210	.208	.209	.174
Behavior control	-.269*	-.268*	-.268*	-.271*	-.246*
General functioning	-.203	-.181	-.175	-.176	-.154
<b>Parental feeding style<sup>b</sup></b>					
Perceived responsibility		.001	-.002	-.002	
Perceived parent weight		-.045	-.041	-.040	
Perceived child weight		.355**	.357**	.357**	.355**
Concern about child weight		.151	.155	.153	.160
Restriction		.061	.058	.059	
Pressure to eat		-.225*	-.220	-.220	-.189*
Monitoring		-.205	-.208	-.210	-.200*
<b>Formal childcare<sup>c</sup></b>			.022	.023	
<b>Child's routines<sup>d</sup></b>				.008	
R <sup>2</sup>	.066	.300	.301	.301	.293
R <sup>2</sup> change		.234	.001	.000	
Sig F. Change		.001	.830	.950	

\* p<.05 \*\*p<.01

**TABLE VII****MULTIPLE LOGISTIC REGRESSION OF CHILDHOOD OVERWEIGHT**

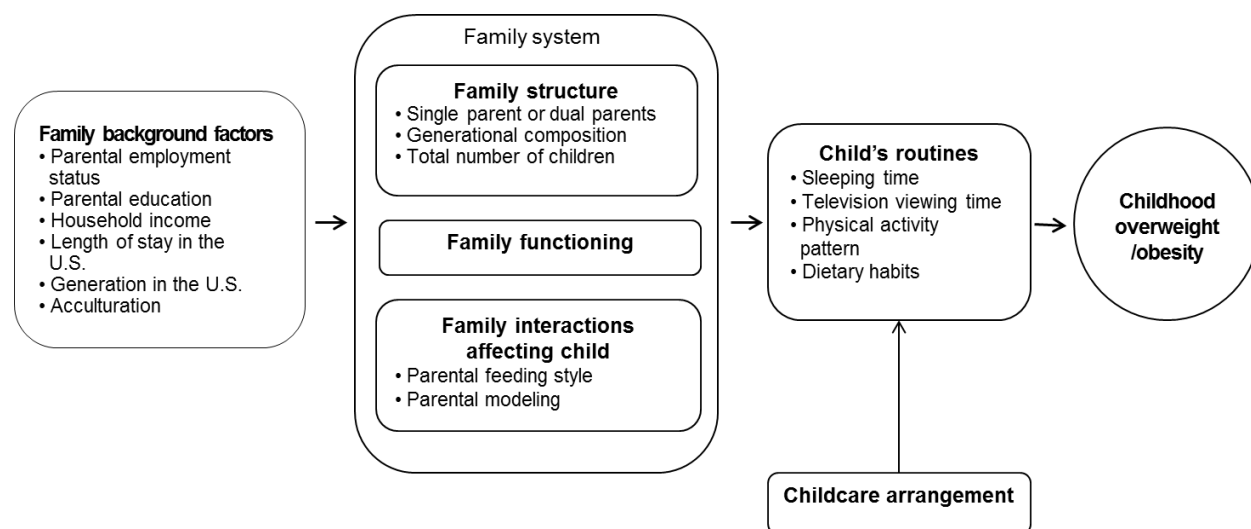
Variables	OR	95% CI	
		Lower	Upper
Number of children in family	2.460*	1.199	5.046
Family functioning			
Behavior control	.270*	.079	.919
Feeding Style			
Perceived child weight	20.025**	3.284	122.103
Restriction	1.253	.663	2.367
Pressure to eat	.424*	.184	.977
Monitoring	.552*	.300	1.015
Child's routines	1.095*	1.018	1.179

OR: Odds Ratio, CI: Confidence Interval

\*  $p < .05$  \*\*  $p < .01$

FIGURE II

## FAMILY SYSTEM AND PRESCHOOL-AGE CHILD OVERWEIGHT: CONCEPTUAL MODEL



## CITED LITERATURE

- Aarons, G. A., McDonald, E. J., Connelly, C. D., & Newton, R. R. (2007). Assessment of family functioning in Caucasian and Hispanic Americans: Reliability, validity, and factor structure of the Family Assessment Device. *Family process*, 46(4), 557–569.
- Anderson, S. E., & Whitaker, R. C. (2010). Household routines and obesity in US preschool-aged children. *Pediatrics*, 125(3), 420–428. doi:10.1542/peds.2009-0417
- Asian and Pacific Islander American Health Forum. (2012). *Opportunities and Challenges in the Affordable Care Act for Asian American, Native Hawaiian, and Pacific Islander Small Businesses*.
- Bagley, S., Salmon, J., & Crawford, D. (2006). Family structure and children's television viewing and physical activity. *Medicine & Science in Sports & Exercise*.
- Balistreri, K. S. . B. E. . & H. J. V. (2010). Generation, acculturation and weight: Obesity among the children of immigrants. . Retrieved from <http://papers.ccpr.ucla.edu/papers/PWP-BGSU-2012-001/PWP-BGSU-2012-001.pdf>
- Barnes, P. M., Adams, P. F., & Powell-Griner, E. (2008). Health characteristics of the Asian adult population: United States, 2004-2006. *Advance data from vital and health statistics; no 394. Advance data* (pp. 1–22). Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18271366>
- Behling, O., & Law, K. S. (2000). *Translating questionnaires and other research instruments*. Thousand Oaks: Sage Publications.
- Berenson, G. S., & Heart, B. (2012). Health consequences of obesity, (September 2011), 117–121. doi:10.1002/pbc
- Berge, J. M. (2009). A review of familial correlates of child and adolescent obesity: what has the 21st century taught us so far? *International journal of adolescent medicine and health*, 21(4), 457–83.
- 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. *Appetite*, 36(3), 201–10. doi:10.1006/appe.2001.0398
- Boonpleng, W., Park, C. G., & Gallo, A. M. (2012). Timing of adiposity rebound: a step toward preventing obesity. *Pediatric nursing*, 38(1), 37–42.

- Bowen, M. (1966). The use of family theory in clinical practice. *Comprehensive Psychiatry*, 7(5), 345–374. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0010440X66800652>
- Carskadon, M. A., Wolfson, A. R., Acebo, C., Tzischinsky, O., & Seifer, R. (1998). Adolescent sleep patterns, circadian timing, and sleepiness at a transition to school days. *Sleep*, 21(8), 871–881.
- Center for Disease Control and Prevention [CDC]. (2012). Basics about childhood obesity: How is childhood overweight and obesity measured? Retrieved from <http://www.cdc.gov/obesity/childhood/basics.html>
- Chen, A. Y., & Escarce, J. J. (2010). Family structure and childhood obesity, early childhood longitudinal study - kindergarten cohort. *Preventing chronic disease*, 7(3), A50.
- Chen, L., Juon, H.-S., & Lee, S. (2012). Acculturation and BMI among Chinese, Korean and Vietnamese adults. *Journal of community health*, 37(3), 539–46. doi:10.1007/s10900-011-9476-1
- Chibucos, T. R., Leite, R. W., & Weis, D. L. (2005). *Readings in family theory*. Thousand Oaks: Sage Publications.
- Cho, J., & Juon, H. S. (2006). Assessing overweight and obesity risk among Korean Americans in California using World Health Organization body mass index criteria for Asians. *Public Health Research, Practice, and Policy*, 3(3), 1–11.
- Choi, J., Miller, A., & Wilbur, J. (2009). Acculturation and depressive symptoms in Korean immigrant women. *Journal of immigrant and minority health / Center for Minority Public Health*, 11(1), 13–19. doi:10.1007/s10903-007-9080-8
- Chung, S. K. (1993). A study on the effectiveness of family functioning by the duration of schizophrenia. *Journal of Korean Family Therapy*, 1, 121–136.
- Crawford, P. B., Story, M., Wang, M. C., Ritchie, L. D., & Sabry, Z. I. (2001). Ethnic issues in the epidemiology of childhood obesity. *Pediatric clinics of North America*, 48(4), 855–878. doi:10.1016/S0031-3955(05)70345-X
- Daniels, S. R. (2006). The consequences of childhood overweight and obesity. *The Future of children / Center for the Future of Children, the David and Lucile Packard Foundation*, 16(1), 47–67.
- Epstein, N. B., Baldwin, L. M., & Bishop, D. S. (1983). The McMaster family assessment device. *Journal of Marital and Family Therapy*, 9(2), 171–180. doi:10.1111/j.1752-0606.1983.tb01497.x

- Farver, J. A., & Lee-Shin, Y. (2000). Acculturation and Korean-American children's social and play behavior. *Social Development*, 9(3), 316–336.
- Fox, E. A., & Kumanyika, S. K. (2008). Environmental influences on childhood obesity: Ethnic and cultural influences in context. *Physiology & Behavior*, 94(1), 61–70.
- Gibson, L. Y., Byrne, S. M., Davis, E. A., Blair, E., & et al. (2007). The role of family and maternal factors in childhood obesity. *Medical Journal of Australia*, 186(11), 591–595.
- Golan, M., & Weizman, A. (2001). Familial approach to the treatment of childhood obesity: conceptual model. *Journal of Nutrition Education*, 33(2), 102–107.
- Gruber, K. J., & Haldeman, L. A. (2009). Using the family to combat childhood and adult obesity. *Preventing chronic disease*, 6(3), A106.
- Herman, A. N., Malhotra, K., Wright, G., Fisher, J. O., & Whitaker, R. C. (2012). A qualitative study of the aspirations and challenges of low-income mothers in feeding their preschool-aged children. *The international journal of behavioral nutrition and physical activity*, 9(1), 132. doi:10.1186/1479-5868-9-132
- Hong, J. J., & Hong, S. (1996). The Korean American family: assimilation and its toll on the first and second generation relationship. *ERIC Institute of Education Sciences*, 1–19. Retrieved from <http://eric.ed.gov/?id=ED401348>
- Huffman, F. G., Kanikireddy, S., & Patel, M. (2010). Parenthood--a contributing factor to childhood obesity. *International journal of environmental research and public health*, 7(7), 2800–2810.
- Ihmels, M., Welk, G., Eisenmann, J., & Nusser, S. (2009). Development and preliminary validation of a Family Nutrition and Physical Activity (FNPA) screening tool. *International Journal of Behavioral Nutrition and Physical Activity*, 6(1), 14.
- Ike-Chinaka, C. G. (2013). Acculturation and childhood obesity among immigrant Nigerian children in northern California. *Interdisciplinary Journal of Contemporary Research in Business*, 4(10), 892–917.
- Jain, A., Mitchell, S., Chirumamilla, R., Zhang, J., Horn, I. B., Lewin, A., & Huang, Z. J. (2012). Prevalence of obesity among young Asian-American children. *Childhood Obesity*, 8(6), 518–525. doi: 10.1089/chi.2011.0077.
- Jang, Y., & Chiriboga, D. A. (2010). Living in a different world: acculturative stress among Korean American elders. *The journals of gerontology. Series B, Psychological sciences and social sciences*, 65B(1), 14–21. doi:10.1093/geronb/gbp019
- Jiménez-Cruz, A., Schwartz, N., Bacardi-Gascon, M., Heyman, M. B., & Wojcicki, J. M. (2012). Acculturation, dietary practices and risk for childhood obesity in an ethnically

- heterogeneous population of Latino school children in the San Francisco bay area. *Journal of Immigrant and Minority Health*, 14(4), 533-539. doi:10.1007/s10903-011-9553-7
- Johnson, S. L., & Birch, L. L. (1994). Parents' and children's adiposity and eating style. *Pediatrics*, 94(5), 653-661.
- Kang, H.-T., Ju, Y.-S., Park, K.-H., Kwon, Y.-J., Im, H.-J., Paek, D.-M., & Lee, H.-J. (2006). Study on the relationship between childhood obesity and various determinants, including socioeconomic factors, in an urban area. *Journal of preventive medicine and public health = Yebang Uihakhoe chi*, 39(5), 371-378.
- Kennedy, C., & Chen, J.-L. (2004). Family functioning, parenting style, and Chinese children's weight status. *Journal of Family Nursing*. doi:10.1177/1074840704264021
- Kim, E., & Wolpin, S. (2008). The Korean American family: Adolescents versus parents acculturation to American culture. *Journal of cultural diversity*, 15(3), 108-16.
- Kim, Y. & Grant, D. (1997). Immigration patterns, social support, and adaptation among Korean immigrant women and Korean American women. *Cultural Diversity and Mental Health*, 3(4), 235-245.
- Kitzman-Ulrich, H., Wilson, D. K., St George, S. M., Lawman, H., Segal, M., & Fairchild, A. (2010). The integration of a family systems approach for understanding youth obesity, physical activity, and dietary programs. *Clinical child and family psychology review*, 13(3), 231-253. doi:10.1007/s10567-010-0073-0
- Korean National Health and Nutrition Examination Survey [KNHANES]. (2011). *2010 National health report*. Retrieved from <http://knhanes.cdc.go.kr/knhanes/index.do>
- Lee, S. . K., Sobal, J., & Frongillo, E. A. (2000). Acculturation and health in Korean Americans. *Social science & medicine*, 51(2), 159-173. doi:10.1016/S0277-9536(99)00446-3
- Lee, W. (1995). *Child care and parental beliefs in Korean-Americans*. Doctoral dissertation. Utah State University.
- Liamputtong, P. (2006). Motherhood and "moral career": discourses of good motherhood among Southeast Asian immigrant women in Australia. *Qualitative Sociology*, 29(1), 25-53. doi:10.1007/s11133-005-9006-5
- Lindsay, A. C., Sussner, K. M., Greaney, M. L., & Peterson, K. E. (2011). Latina mothers' beliefs and practices related to weight status, feeding, and the development of child overweight. *Public health nursing*, 28(2), 107-18. doi:10.1111/j.1525-1446.2010.00906.x
- Maher, E. J., Li, G., Carter, L., & Johnson, D. B. (2008). Preschool child care participation and obesity at the start of kindergarten. *Pediatrics*, 122(2), 322-330. doi:10.1542/peds.2007-2233

- McAdoo, H. P., Martinez, E. A., & Hughes, H. (2005). Ecological changes in ethnic families of color. In *Sourcebook of family theory and research*. Thousand: Sage Publications.
- McCurdy, L. E., Winterbottom, K. E., Mehta, S. S., & Roberts, J. R. (2010). Using nature and outdoor activity to improve children's health. *Current problems in pediatric and adolescent health care*, 40(5), 102–117. doi:10.1016/j.cppeds.2010.02.003
- McGarvey, E. L., Collie, K. R., Fraser, G., Shufflebarger, C., Lloyd, B., & Norman Oliver, M. (2006). Using focus group results to inform preschool childhood obesity prevention programming. *Ethnicity & health*, 11(3), 265–85. doi:10.1080/13557850600565707
- Miller, I. W., Epstein, N. B., Bishop, D. S., & Keitner, G. I. (1985). The McMaster family assessment device: Reliability and validity. *Journal of Marital and Family Therapy*, 11(4), 345–356. doi:10.1111/j.1752-0606.1985.tb00028.x
- Moens, E., Braet, C., & Soetens, B. (2007). Observation of family functioning at mealtime: A comparison between families of children with and without overweight. *Journal of pediatric psychology*, 32(1), 52–63. doi:10.1093/jpepsy/jsl011
- Moon, S. Y. (2012). Cultural perspectives on attention deficit hyperactivity disorder: A comparison between Korea and the U.S. *Journal of International Business and Cultural Studies*. Retrieved from <http://www.aabri.com/manuscripts/11898.pdf>
- Morgan, D. L. (1998). Why should you use focus groups? In *The focus group guidebook*. Thousand Oaks: Sage publications.
- Nobari, T. Z., Wang, M.-C., Chaparro, M. P., Crespi, C. M., Koleilat, M., & Whaley, S. E. (2013). Immigrant enclaves and obesity in preschool-aged children in Los Angeles County. *Social science & medicine* (1982), 92, 1–8. doi:10.1016/j.socscimed.2013.05.019
- Ogden, C. L., Carroll, M. D., Curtin, L. R., Lamb, M. M., & Flegal, K. M. (2010). Prevalence of high body mass index in US children and adolescents, 2007-2008. *JAMA : the journal of the American Medical Association*, 303(3), 242–249. doi:10.1001/jama.2009.2012
- Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2012). Prevalence of obesity and trends in body mass index among US children and adolescents, 1999-2010. *JAMA : the journal of the American Medical Association*, 307(5), 483–90. doi:10.1001/jama.2012.40
- Patrick, H., & Nicklas, T. A. (2005). A review of family and social determinants of children's eating patterns and diet quality. *Journal of the American College of Nutrition*, 24(2), 83–92. doi:10.1080/07315724.2005.10719448
- Patrick, H., Nicklas, T. A., Hughes, S. O., & Morales, M. (2005). The benefits of authoritative feeding style: caregiver feeding styles and children's food consumption patterns. *Appetite*, 44(2), 243–249. doi:10.1016/j.appet.2002.07.001



- Pearce, A., Li, L., Abbas, J., Ferguson, B., Graham, H., & Law, C. (2010). Is childcare associated with the risk of overweight and obesity in the early years? findings from the UK millennium cohort study. *International journal of obesity (2005)*, 34(7), 1160–1168.
- Peña, M.-M., Dixon, B., & Taveras, E. M. (2012). Are you talking to ME? The importance of ethnicity and culture in childhood obesity prevention and management. *Childhood obesity (Print)*, 8(1), 23–7. doi:10.1089/chi.2011.0109
- Rhee, K. (2008). Childhood overweight and the relationship between parent behaviors, parenting style, and family functioning. *The Annals of the American Academy of Political and Social Science*, 615(1), 11–37. doi:10.1177/0002716207308400
- Robert Wood Johnson Foundation [RWJF]. (2011). Preventing obesity among preschool children: How can child-care settings promote healthy eating and physical activity? Retrieved from <http://www.rwjf.org/content/dam/farm/reports/reports/2011/rwjf71500>
- Ryder, A. G., Alden, L. E., & Paulhus, D. L. (2000). Is acculturation unidimensional or bidimensional? A head-to-head comparison in the prediction of personality, self-identity, and adjustment. *Journal of personality and social psychology*, 79(1), 49–65. doi:10.1037/0022-3514.79.1.49
- Salsberry, P. J., & Reagan, P. B. (2005). Dynamics of early childhood overweight. *Pediatrics*, 116(6), 1329–1338.
- Sandelowski, M. (2000). Focus on research methods whatever happened to qualitative description ? *Research in Nursing & Health*, 23, 334–340.
- Schwartz, M. B., & Puhl, R. (2003). Childhood obesity: A societal problem to solve. *Obesity reviews : an official journal of the International Association for the Study of Obesity*, 4(1), 57–71.
- Schwimmer, J. B., Burwinkle, T. M., & Varni, J. W. (2003). Health-related quality of life of severely obese children and adolescents. *JAMA : the journal of the American Medical Association*, 289(14), 1813–9. doi:10.1001/jama.289.14.1813
- Sekine, M., Yamagami, T., Handa, K., Saito, T., Nanri, S., Kawaminami, K., ... Kagamimori, S. (2002). A dose-response relationship between short sleeping hours and childhood obesity: Results of the Toyama Birth Cohort Study. *Child: care, health and development*, 28(2), 163–70.
- Sheslow, D., Hassink, S., Wallace, W., & DeLancey, E. (1993). The relationship between self-esteem and depression in obese children. *Annals of the New York Academy of Sciences*, 699, 289–291.

- Skelton, J. A., Irby, M. B., Miller, G., & Grzywacz, J. G. (2011). Etiologies of obesity in children: nature and nurture. *Pediatric Clinics of North America*. doi:10.1016/j.pcl.2011.09.006
- Slusser, W., Frankel, F., Robison, K., Fischer, H., Cumberland, W. G., & Neumann, C. (2012). Pediatric overweight prevention through a parent training program for 2-4 year old Latino children. *Childhood obesity (Print)*, 8(1), 52–9. doi:10.1089/chi.2011.0060
- Sohng, S. L., & Song, K. (2004). Korean children and families. In *Culturally competent practice with immigrant and refugee children and families* (pp. 81–99).
- Sosa, E. T. (2012). Mexican American mothers' perceptions of childhood obesity: A theory-guided systematic literature review. *Health education & behavior : the official publication of the Society for Public Health Education*, 39(4), 396–404. doi:10.1177/1090198111398129
- Sousa, A. D. (2009). Maternal, child and family factors in childhood obesity. *International Journal of Diabetes & Metabolism*, 17, 111–114.
- Spruijt-Metz, D. (2011). Etiology, treatment and prevention of obesity in childhood and adolescence: A decade in review. *Journal of research on adolescence : the official journal of the Society for Research on Adolescence*, 21(1), 129–152. doi:10.1111/j.1532-7795.2010.00719.x
- Taveras, E. M., Gillman, M. W., Kleinman, K., Rich-Edwards, J. W., & Rifas-Shiman, S. L. (2010). Racial/ethnic differences in early-life risk factors for childhood obesity. *Pediatrics*, 125(4), 686–95. doi:10.1542/peds.2009-2100
- Tibbs, T., Haire-Joshu, D., Schechtman, K. B., Brownson, R. C., Nannery, M. S., Houston, C., & Auslander, W. (2001). The relationship between parental modeling, eating patterns, and dietary intake among African-American parents. *Journal of the American Dietetic Association*, 101(5), 535–541. doi:10.1016/S0002-8223(01)00134-1
- Trasande, L., & Chatterjee, S. (2009). The impact of obesity on health service utilization and costs in childhood. *Obesity (Silver Spring)*, 17, 1749–1754. doi:oby200967 [pii]n10.1038/oby.2009.67 [doi]
- Unger, J.B., Reynolds, K., Shakib, S., Spruijt-Metz, D., Sun, P., & Johnson, A. (2004). Acculturation, physical activity, and fast-food consumption among Asian-American and Hispanic adolescents. *Journal of Community Nursing*, 29(6), 467–481.
- United Census Bureau. (2012). *The Asian Population : 2010* (pp. 1–24). Retrieved from [http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_10\\_1YR\\_B02006&prodType=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_1YR_B02006&prodType=table)

- United States Census Bureau. (2013). Facts for features: Asian/Pacific American heritage month: May 2013 - Facts for Features & Special Editions - Newsroom - U.S. Census Bureau. Retrieved November 12, 2013, from [http://www.census.gov/newsroom/releases/archives/facts\\_for\\_features\\_special\\_editions/cb13-ff09.html](http://www.census.gov/newsroom/releases/archives/facts_for_features_special_editions/cb13-ff09.html)
- Van Hook, J., & Cheah, C. S. L. (2012). Chinese and Korean immigrants' early life deprivation: An important factor for child feeding practices and children's body weight in the United States. *Social Science & Medicine*. doi:10.1016/j.socscimed.2011.10.040
- Vos, M. B., & Welsh, J. (2010). Childhood obesity: update on predisposing factors and prevention strategies. *Current gastroenterology reports*, 12(4), 280–287.
- Wells, J. C. K. (2007). Commentary: why are South Asians susceptible to central obesity?--the El Niño hypothesis. *International journal of epidemiology*, 36(1), 226–7. doi:10.1093/ije/dyl287
- Whitaker, R. C., Pepe, M. S., Wright, J. A., Seidel, K. D., & Dietz, W. H. (1998). Early adiposity rebound and the risk of adult obesity. *Pediatrics*, 101(3), E5. doi:10.1542/peds.101.3.e5
- Wofford, L. G. (2008). Systematic review of childhood obesity prevention. *Journal of pediatric nursing*, 23(1), 5–19. doi:10.1016/j.pedn.2007.07.006
- Wong, O. L. (2011). Gendered power in eating habits: insight into childhood obesity in a Chinese family context. *Journal of Family Therapy*, 33(3), 332–352. doi:10.1111/j.1467-6427.2011.00536.x
- World Health Organization [WHO] Expert Consultation. (2004). Public health appropriate body-mass index for Asian populations and its implications for policy and intervention strategies. *Lancet*, 363(9403), 157–163. doi:10.1016/S0140-6736(03)15268-3
- Zhou, M. (1997). Growing up American : The challenge confronting immigrant children and children of immigrants *Annual Review of Sociology*, 23(1997), 63–95. doi:10.1146/annurev.soc.23.1.63

## APPENDICES

## APPENDIX A

University of Illinois at Chicago Institutional Review Board Notice of Determination of Human

Subject Research

### UNIVERSITY OF ILLINOIS AT CHICAGO

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

#### Approval Notice Initial Review (Response To Modifications)

March 20, 2013

So Hyun Park  
Women, Child, & Family Health Science  
Women, Children, and Family Sciences  
845 S Damen, M/C 802  
Chicago, IL 60661  
Phone: (312) 996-2270 / Fax: (312) 996-8945

RE: **Protocol # 2013-0156**  
**“Family Influences and Healthy Weight for Korean-American Preschool Children”**

Dear Ms. Park:

Your Initial Review application (Response To Modifications) was reviewed and approved by the Expedited review process on March 19, 2013. You may now begin your research

Please note the following information about your approved research protocol:

**Protocol Approval Period:** March 19, 2013 - March 19, 2014

**Approved Subject Enrollment #:** 505

**Additional Determinations for Research Involving Minors:** The Board determined that this research satisfies 45CFR46.404, research not involving greater than minimal risk. Therefore, in accordance with 45CFR46.408, the IRB determined that only one parent's/legal guardian's permission/signature is needed. Wards of the State may not be enrolled unless the IRB grants specific approval and assures inclusion of additional protections in the research required under 45CFR46.409. If you wish to enroll Wards of the State contact OPRS and refer to the tip sheet.

**Performance Sites:** UIC, Korean Martyrs' Catholic Church - Chicago  
**Sponsor:** Chancellor's Graduate Research Fellowship

**PAF#:** - Not applicable

**Grant/Contract No:** Not applicable

**Grant/Contract Title:** Not applicable

**Research Protocol:**

- a) Research Protocol; Version 1; 02/15/2013

**Recruitment Materials:**

- a) Research Flyer (English); Version 1; 02/15/2013
- b) Recruitment Script for Focus Group Interview (English); Version 1; 02/15/2013
- c) Recruitment Script for Survey and Child Measurement (English); Version 1; 02/15/2013
- d) Recruitment Script for Cognitive Interview (English); Version 1; 02/15/2013
- e) Research Flyer (Korean); Version 1; 03/13/2013
- f) Announcement Script for Cognitive Interviews (English); Version 1; 03/13/2013
- g) Announcement Script for Survey and Child Measurement (English); Version 1; 03/13/2013
- h) Recruitment Script for Focus Group Interview (Korean); Version 1; 03/13/2013
- i) Announcement Script for Focus Group Interviews (English); Version 1; 03/13/2013

**Informed Consents:**

- a) Focus Group Interview Consent (English); Version 1; 02/15/2013
- b) Cognitive Interview Consent (English); Version 1; 02/15/2013
- c) Focus Group Interview Consent (Korean); Version 1; 03/13/2013
- d) A waiver of informed consent for the collection of identifiable data from the mother about the mother subject's partner has been granted under 45 CFR 46.116(d) for this research (minimal risk; collection of secondary parenting data from the mother)
- e) An alteration of consent and waiver of documentation of informed consent for recruitment/screening purposes only has been granted under 45 CFR 46.116(d) and 45 CFR 46.117(c)(2) (minimal risk; written consent/permission will be obtained from mother at enrollment)

**Assent:**

- a) A waiver of child assent for the collection of data from mothers about and measurements from their infants has been granted under 45 CFR 46.116(d) (minimal risk; written permission obtained from mother; impracticable to obtain assent from infants)

**Parental Permission:**

- a) Survey and Child Measurement Consent/Permission (English); Version 1; 02/15/2013

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific categories:

(4) Collection of data through noninvasive procedures (not involving general anesthesia or sedation) routinely employed in clinical practice, excluding procedures involving X-rays or microwaves. Where medical devices are employed, they must be cleared/approved for marketing. (Studies intended to evaluate the safety and effectiveness of the medical device are not generally eligible for expedited review, including studies of cleared medical devices for new indications.)

Examples: (a) physical sensors that are applied either to the surface of the body or at a distance and do not involve input of significant amounts of energy into the subject or an invasion of the subject's privacy; (b) weighing or testing sensory acuity; (c) magnetic resonance imaging; (d) electrocardiography, electroencephalography, thermography, detection of naturally occurring radioactivity, electroretinography, ultrasound, diagnostic infrared imaging, doppler blood flow, and echocardiography; (e) moderate exercise, muscular strength testing, body composition assessment, and flexibility testing where appropriate given the age, weight, and health of the individual,

(6) Collection of data from voice, video, digital, or image recordings made for research purposes., (7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

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

Receipt Date	Submission Type	Review Process	Review Date	Review Action
02/15/2013	Initial Review	Expedited	02/18/2013	Modifications Required
03/13/2013	Response To Modifications	Expedited	03/19/2013	Approved

Please remember to:

→ Use your **research protocol number** (2013-0156) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,

**"UIC Investigator Responsibilities, Protection of Human Research Subjects"**

(<http://tiger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf>)

**Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.**

**Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.**

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 996-2014. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Sandra Costello

Assistant Director, IRB # 2  
Office for the Protection of Research

Subjects

Enclosures:

- 1. UIC Investigator Responsibilities, Protection of Human Research Subjects**
- 2. Informed Consent Documents:**
  - a) Focus Group Interview Consent (English); Version 1; 02/15/2013
  - b) Cognitive Interview Consent (English); Version 1; 02/15/2013
  - c) Focus Group Interview Consent (Korean); Version 1; 03/13/2013
- 3. Parental Permission:**
  - a) Survey and Child Measurement Consent/Permission (English); Version 1; 02/15/2013
- 4. Recruiting Materials:**
  - a) Research Flyer (English); Version 1; 02/15/2013
  - b) Recruitment Script for Focus Group Interview (English); Version 1; 02/15/2013
  - c) Recruitment Script for Survey and Child Measurement (English); Version 1; 02/15/2013
  - d) Recruitment Script for Cognitive Interview (English); Version 1; 02/15/2013
  - e) Research Flyer (Korean); Version 1; 03/13/2013
  - f) Announcement Script for Cognitive Interviews (English); Version 1; 03/13/2013
  - g) Announcement Script for Survey and Child Measurement (English); Version 1; 03/13/2013
  - h) Recruitment Script for Focus Group Interview (Korean); Version 1; 03/13/2013
  - i) Announcement Script for Focus Group Interviews (English); Version 1; 03/13/2013

cc: Barbara McFarlin, Women, Child, & Family Health Science, M/C 802  
Kathleen F. Norr (faculty advisor), Women, Child & family Health Science, M/C 802



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[illegible]

## APPENDIX C

### Informed Consent Form for Focus Group Interview (English)

#### **University of Illinois at Chicago Research Information and Focus Group Interview Consent**

#### **Family Influences and Healthy Weight for Korean-American Preschool Children**

You are being asked to participate in a research study. Researchers are required to provide a consent form such as this one to tell you about the research, to explain that taking part is voluntary, to describe the risks and benefits of participation, and to help you to make an informed decision. You should feel free to ask the researchers any questions you may have.

Principal Investigator (PI) Name and Title: So Hyun Park, MSN, RN, Doctoral Candidate  
 Department and Institution: College of Nursing, University of Illinois at Chicago  
 Address and Contact Information: 845 S. Damen Avenue, Chicago, IL, 60612.  
 312-996-2270, spark224@uic.edu

#### **Why am I being asked?**

You are being asked to be part of a group discussion about family and healthy weight for preschoolers in the Korean-American (KA) community. This study will discuss by So Hyun Park a doctoral candidate in the College of Nursing at the University of Illinois at Chicago (UIC). You have been asked to participate in the research because you are a Korean American mother with a child between ages 2-5.

Participating in this research is voluntary. Your decision of whether or not to participate will not affect your current or future dealings with UIC. If you decide to participate, you are free to withdraw at any time without affecting that relationship.

During the research study, focus group interviews will be held with groups of 5 to 12 KA mothers. The total maximum number of focus group interview participants is 25.

#### **What is the purpose of this research?**

The purpose of this study is to examine family influences on healthy weight among KA preschool-age children.

#### **What procedures are involved?**

You will discuss regarding bringing up children in the Korean American community in a group with 5-12 mothers. One of the topics we'll discuss is the growing trend for even young children to be overweight and how this is viewed in your community. The PI and a research assistant will lead the focus group interviews. The interview sessions will be audio-taped, transcribed, and analyzed.

#### **What are the potential risks and discomforts?**

To the best of our knowledge, the things you will be doing pose no more risk of harm than you would experience in everyday life. Minimal risks are expected from participation in the study,

and no physical risks are associated with any of the procedures in the study. You may have some discomforts in thinking and talking about your family and relationships. There is also a risk of saying something in the group that you don't want others to know.

Although we will ask everyone in the group to not discuss what other people say outside the group, we have no way to control this. You should not say anything in the group that you would not want others to repeat. You can decline to answer any question that you are not comfortable with, and you can withdraw from the study at any time.

**Are there benefits to taking part in the research?**

You will not directly benefit from participation in the research. However, we hope to learn new things about KA families and young children's healthy weight among their children. The findings of this study can provide better understanding of KA families and can identify factors influencing healthy weight among KA preschool-age children. Thus, the findings can be used to develop a culturally appropriate intervention to improve preschool children's health in the KA community.

**What other options are there?**

You have the option to not participate in this study. You can withdraw from the study at any time.

**What about privacy and confidentiality?**

Information about you will be disclosed to others only with your written permission or if necessary to protect your rights or welfare or if required by law.

Before the group discussion starts we will remind everyone not to say anything they don't want repeated and to not talk about what others say outside the group. Others in the focus group may know who the subject is and although everyone will be told to please not repeat what is said, there is no guarantee of confidentiality. When the results of the research are published or discussed in conferences, no information will be disclosed that would reveal your identity. Any information that is obtained in connection with this study and that can be associated with you will remain confidential and will be disclosed only with your permission or as required by law.

All study materials, including the interview audiotapes, transcripts, and consent forms, will be stored in a locked file cabinet in the PI's locked office at the UIC College of Nursing to ensure the protection of confidential participant information. Identifiable information (participant names and telephone numbers) as well as signed consent forms will be stored separately from the information collected during interviews in the PI's locked office at the UIC College of Nursing. Only de-identified information will be maintained on the PI's password protected computer. The data will be accessed only by the PI using a password known only to the PI. The data will be destroyed within approximately five years after this study ends.

**What are the costs for participating in this research?**

There are no costs to you for participating in this research.

**Will I be reimbursed for any of my expenses or paid for my participation in this research?**

You will receive a \$20 Target gift card upon completion of the focus group interview as compensation for your time and effort.

**Can I withdraw or be removed from the study?**

You can choose whether to participate in this study or not. If you decide to participate, you are free to withdraw your consent and discontinue your participation at any time without penalty. You may also refuse to answer any questions that you do not want to answer and still remain in the study. If serious disruptions arise from your participation in this study, you may be removed from the study by the PI.

**Who should I contact if I have questions?**

This study is being conducted by So Hyun Park, PI and doctoral candidate, and Dr. Kathleen F. Norr, PhD, Professor Emerita of the UIC College of Nursing. You may ask any questions you have now. If you have any questions about this study later, you may contact Ms. Park at (312) 996-2270, spark224@uic.edu or Dr. Norr at (312) 996-7490, knorr@uic.edu.

**What are my rights as a research subject?**

If you feel that you have not been treated according to the descriptions in this form, or if you have any questions about your rights as a research subject, including questions, concerns, complaints, or to offer input, you may call the Office for the Protection of Research Subjects (OPRS) at 312-996-1711 or 1-866-789-6215 (toll-free) or e-mail OPRS at [uicirb@uic.edu](mailto:uicirb@uic.edu).

**Remember:**

Your participation in this research is voluntary. Your decision of whether or not to participate will not affect your current or future relations with the University. If you decide to participate, you are free to withdraw at any time without affecting that relationship. You will be given a copy of this form for your information and to keep for your records.

**Signature of Subject or Legally Authorized Representative**

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I agree to participate in this research. I will be given a copy of this signed and dated form.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature of Person Obtaining Consent

\_\_\_\_\_  
Date (must be same as subject's)

\_\_\_\_\_  
Printed Name of Person Obtaining Consent

## APPENDIX C

### Informed Consent Form for Focus Group Interview (Korean)

#### University of Illinois at Chicago

#### 그룹 인터뷰 참여에 대한 동의서

#### 한인 미취학 아동의 건강 체중에 미치는 가족의 영향

귀하께서는 본 연구에 참여할 것을 요청 받으셨습니다. 연구자는 귀하께 본 연구에 대해 설명하고, 본 연구에의 참여가 자발적인 점과 본 연구 참여의 위험성과 이득에 대하여 알려드리고, 정보가 제공된 상태에서 결정 하도록 도와드리기 위한 동의서를 제공해야 합니다. 질문이 있으시면 연구자에게 문의하시기 바랍니다.

연구 책임자: 박소현, MSN, RN, Doctoral Candidate

소속: 일리노이 주립대학교 시카고 캠퍼스 간호대학

연락처: 845 S. Damen Avenue, Chicago, IL, 60612.

312-996-2270, [spark224@uic.edu](mailto:spark224@uic.edu)

#### 왜 내가 요청받았나요

귀하는 한인 미취학 아동의 건강 체중과 가족의 영향에 대한 그룹 인터뷰에 참여하도록 요청되었습니다. 본 연구는 University of Illinois at Chicago 의 박소현 (박사과정생)에 의해 진행될 것입니다. 귀하는 2-5 세의 한인미취학 자녀를 키우는어머니로서 본 연구에 참여하게 되었습니다.

본 연구에의 참여는 자발적인 것입니다. 귀하의 참여여부에 대한 결정이 귀하와 대학의 현재나 미래의 관계에 영향을 미치지 않는 것입니다. 귀하께서 본 연구에 참여하기로 하였다면, 언제든지 자유롭게 참가취소를 할 수 있습니다.

본 연구의 각 그룹 인터뷰는 한 그룹당 5-12 명의 어머니들로 구성되어 진행될 것입니다. 최대 25 명의 참가자가 그룹 인터뷰에 참여할 것 입니다.

#### 이 연구의 목적은 무엇인가요?

본 연구의 목적은 한인 미취학 아동의 건강한 체중에 미치는 가족의 영향을 알아보기 위한 것입니다.

### **어떤 절차가 필요한가요?**

귀하께서는 5-12 명의 어머니들로 구성된 그룹에서, 한인 사회에서 미취학 자녀를 양육하는 것에 대하여 토론할 것입니다. 우리가 토론할 주제 중의 하나는 미취학 아동들의 비만증가와 한인 사회에서 이 문제를 어떻게 보는가에 관한 것입니다. 연구책임자와 연구조교가 그룹 인터뷰를 진행할 것입니다. 본 인터뷰 내용은 음성녹음되고, 기록되고, 분석되어질 것입니다.

### **잠재적 위험과 불편함은 무엇인가요?**

본 연구에의 참여는 일상생활에서 일어날 수 있는 정도의 위험을 넘지 않을 것입니다. 최소한의 위험이 있을 수 있으나 이 연구에 참여함으로써 일어나는 신체적 손상은 없을 것입니다. 귀하께서는 귀하의 가족과 가족간의 관계에 대해서 생각하고 말하는 것에 대해 불편함을 느끼실 수 있을 것입니다. 다른 사람에게는 알리고 싶지 않은 내용을 말하는 것에 대한 위험 또한 있을 수 있습니다.

비록 연구자가 연구 참여자 전원에게 다른사람들이 그룹 인터뷰에서 했던 이야기들을 그룹 밖에서 이야기 하지 않도록 요청할지라도 비밀을 완벽히 보장할 수는 없습니다. 귀하께서 타인이 알게되는 것을 원하지 않는 내용을 다른 사람에게 이야기 하지 마십시오. 귀하께서 대답하기 곤란하신 문제는 대답을 하지 않으셔도 되며 언제든지 연구참여를 중단하실 수 있습니다.

### **본 연구에 참여하는데 따르는 이익이 있습니까?**

본 연구에 참여함으로써 얻게되는 직접적인 이익은 없지만, 귀하께서 한인가족과 한인 미취학 아동의 건강한 체중에 대한 새로운 사실을 알게되는 기회가 될 것입니다. 본 연구의 결과는 한인 가족과 한인 미취학 아동의 건강한 체중에 영향을 주는 요인들에 대해 이해하는데 기여할 것입니다. 본 연구에서 얻어진 정보는 한인 미취학 아동의 건강을 증진시키기 위해 한국의 문화적인 측면과 관련된 적절한 프로그램을 개발하는 데 이용될 것입니다.

### **다른 선택사항은 무엇이 있나요?**

귀하께서는 본 연구에 참여하지 않을 수 있습니다. 귀하께서는 언제든지 본 연구에의 참여를 중단하실 수 있습니다.

### **사생활과 비밀 보장은?**

귀하에 대한 정보는 귀하의 권리를 보호할 필요가 있을 때 또는 법에 의해 요구되어질 때 또는 귀하의 문서화된 허락이 있을때에만 다른사람에게 공개될 것입니다.

그룹 인터뷰가 시작되기 전에 우리는 모든 참여자분 들께 본인 각자가 다른사람이 알게되는 것을 원하지 않는 부분에 대해서 그룹 밖에서 이야기 하지 않아야 함을 알려드릴 것입니다. 그룹 인터뷰 내 다른 사람들은 연구 참여자가 누구인지 알 수 있을것입니다. 비록 토론 참가자들에게 그들이 그룹 면담에서 이야기 한 내용에 대해 발설하지 말라고 요청 할지라도 비밀보장을 장담할 수 는 없습니다. 연구결과가 발표되거나 학회에서 논의될 때 귀하의 신원은 공개되지 않을 것입니다. 이 연구와 관련되어 얻어진

정보나 귀하에 대한 정보는 비밀에 부쳐질 것이고, 귀하가 허락하거나 법에 의해 요구될 때만 공개될 것입니다.

오디오 녹취파일, 동의서, 기록지를 포함한 모든 자료는 귀하의 비밀보장을 위해 University of Illinois at Chicago 간호대학의 사무실 내 잠겨진 캐비닛에 보관될 것입니다. 귀하의 신상정보 (이름과 전화번호)와 사인된 동의서는 그룹 인터뷰동안 수집된 자료와 별개로 관리되어 UIC 간호대학의 사무실 내에 잠겨진 다른 캐비닛에 보관될 것입니다. 오직 신상정보가 섞여지지 않은 자료만이 비밀번호로 보호된 연구 책임자의 컴퓨터에 보관될 것이고 연구책임자만이 비밀번호를 이용하여 자료에 접근할 수 있을 것입니다. 자료는 연구가 종료된 후 5년 이내에 파기될 것입니다.

### **이 연구의 참가 비용은?**

귀하께서는 본 연구에 대한 참가 비용을 지불할 필요가 없습니다.

### **내가 이 연구에 참여한 비용을 보상받을 수 있나요?**

그룹 인터뷰가 끝나면 귀하께서 본 연구를 위해 시간을 내주시고 참여해 주신데에 대한 감사의 마음으로 타겟 상품권 (\$20)을 드릴 것입니다.

### **이 연구에 대한 참여를 거절할 수 있나요?**

귀하께서는 본 연구의 참여여부를 결정할 수 있습니다. 만약 귀하가 연구에 참여하기로 결정하셨다면, 귀하께서는 연구결과에 상관없이 언제든지 연구참여를 중단하실 수 있습니다. 귀하께서는 대답하고 싶지 않은 질문에 대해 대답하지 않을 수 있고 여전히 연구에 참여할 수 있습니다. 만약 귀하의 연구참여로 인해 심각한 상황이 발생할 경우에 연구 책임자는 귀하를 본 연구에서 제외 시킬 수 있습니다.

### **만약 질문이 있다면 누구와 연락해야 하나요?**

본 연구를 수행하는 연구자는 UIC 간호대학의 박소현 (박사과정생)과 Dr. Kathleen Norr 교수(PhD)입니다. 귀하께서는 질문이 있으시면 지금 질문하실 수 있습니다. 만약 귀하께서 나중에 질문이 생길 경우, 연구자인 박소현 (박사과정생), 전화 (312) 996-2270, 이메일 [spark224@uic.edu](mailto:spark224@uic.edu) 또는 Dr. Kathleen Norr, 전화 (312) 996-7490, 이메일 [knorr@uic.edu](mailto:knorr@uic.edu) 로 연락하시면 됩니다.

### **연구대상자로서 어떤 권리가 있나요**

만약 귀하께서여기에 적혀진대로 대우되어지지 않았다고 생각하시거나, 연구대상자로서 귀하의 권리에 대해 질문이 있다면, the Office for the Protection of Research Subjects (OPRS) 전화 312-996-1711 or 1-866-789-6215 (toll-free) 혹은 e-mail OPRS at [uicirb@uic.edu](mailto:uicirb@uic.edu)로 연락하십시오

### **중요사항:**

귀하의 본 연구에의 참여는 자발적인 것입니다. 귀하의 연구 참여여부에 대한 결정이 귀하와 대학의 현재나 미래의 관계에 영향을 미치지 않을 것입니다. 귀하가 참여하기로 결정 하였던더라도, 언제든지



자유롭게 연구 결과에 상관없이 연구 참여를 중단 할 수 있습니다. 귀하는 귀하의 정보와 기록보관을 위해 이 동의서의 복사본을 받게 될 것입니다.

### **참가자, 연구자, 증인의 서명**

본인은 위의 정보를 읽었습니다 (혹은 다른 사람이 본인을 위해 읽었습니다). 본인은 질문을 할 기회를 가졌고 질문에 대한 만족스러운 대답을 받았습니다. 본인은 이 연구에 참여하는데 동의합니다. 본인은 이 연구의 복사본을 받았습니다.

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서명

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날짜

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이름

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동의서 받은 연구자 서명

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참가자와 같은 날짜

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동의서 받은 연구자 이름

## **APPENDIX C**

### **Informed Consent Form for Survey and Measurement (English)**

#### **University of Illinois at Chicago Research Information and Consent for Survey and Child Measurement**

##### **Family Influences and Healthy Weight for Korean-American Preschool Children**

You and your child are being asked to participate in a research study. Researchers are required to provide a consent form such as this one to tell you about the research, to explain that taking part is voluntary, to describe the risks and benefits of participation, and to help you to make an informed decision. You should feel free to ask the researchers any questions you may have.

Principal Investigator (PI) Name and Title: So Hyun Park, MSN, RN, Doctoral Candidate  
Department and Institution: College of Nursing, University of Illinois at Chicago  
Address and Contact Information: 845 S. Damen Avenue, Chicago, IL, 60612.  
312-996-2270, spark224@uic.edu

##### **Why am I being asked?**

You and your child are being asked to be a subject in a research study of family influences on healthy weight among Korean-American (KA) preschool-age children. This study will conduct by So Hyun Park a doctoral candidate in the College of Nursing at the University of Illinois at Chicago (UIC). You have been asked to participate because you are a Korean-American mother with a child between ages 2-5.

Participating in this research by you and your child is voluntary. Whether or not you decide to participate will not affect your current or future dealings with UIC. If you and your child decide to participate, you are free to withdraw at any time without affecting that relationship.

Approximately 225 mothers and 225 their children may be involved in this research.

##### **What is the purpose of this research?**

The purpose of this study is to examine family influences on healthy weight among KA preschool-age children.

##### **What procedures are involved?**

After you agree to participate in this study, your child's weight and height will be measured. The researchers will explain the weight and height measurement procedures to your child and ask if it's okay to do this. If your child does not want to be weighed and measured, you and your child will be withdrawn from the study.

The researchers will record your child's age in years and months and will measure the weight, height, waist/arm circumference, and abdominal/arm skinfold of your child. A digital weight

scale and a portable height measuring stick will be used. Weight and height will be measured three times and will take 5 to 10 minutes.

Then you will complete a 45-60 minute survey about your family and your child's routines. During this time we will provide fun quiet activities for your child.

**What are the potential risks and discomforts?**

To the best of our knowledge, the things you and your child will be doing pose no more risk of harm than you would experience in everyday life. Your child's weight and height will be measured using non-invasive methods (scale and measuring stick), and a screen will be used to protect your child's privacy. However, there are potential risks of breach of privacy (others may know you are participating in the research) and confidentiality (accidental disclosure of identifiable data). Also, you may have some discomfort in thinking about your family and relationships. You can decline to answer any survey question that you are not comfortable with, and you can withdraw from the study at any time.

**Are there benefits to taking part in the research?**

You and your child will not directly benefit from participation in the research, but we hope to learn new things about KA families and young children's healthy weights. Handouts providing diet and physical activity information for young children will be given to you. The findings of this study can provide a better understanding of KA families and can identify factors that will help improve health among KA preschool-age children, like getting exercise, eating healthy foods and not being overweight. Thus, the findings can be used to develop a culturally appropriate intervention to improve preschool-age children's health in the Korean American community.

**What other options are there?**

You and your child have the option to not participate in this study. You and your child can withdraw from the study at any time.

**What about privacy and confidentiality?**

Information about you will be disclosed to others only with your written permission, or if necessary to protect your rights or welfare or if required by law.

When the results of the research are published or discussed in conferences, no information will be disclosed that would reveal your identity. Any information that is obtained in connection with this study and that can be associated with you will remain confidential and will be disclosed only with your permission or as required by law.

All study materials, including children's weight and height data, consent forms, and survey questionnaires, will be stored in a locked file cabinet in the PI's locked office at the UIC College of Nursing to ensure the protection of confidential participant information. Identifiable information (participant names and telephone numbers) as well as signed consent forms will be stored separately from the information collected during interviews in locked filing cabinet in the locked office at the UIC College of Nursing. Only de-identified information will be maintained on the PI's password protected computer. The data will be accessed only by the PI using a

password known only to the PI. The data will be destroyed within approximately five years after the study ends.

**What are the costs for participating in this research?**

There are no costs to you and your child for participating in this research.

**Will I be reimbursed for any of my expenses or paid for my participation in this research?**

You will receive a \$10 Target gift card upon completion of the survey questionnaire as compensation for your time and effort.

**Can I withdraw or be removed from the study?**

You and your child can choose whether to participate in this study or not. If you and your child decide to participate, you are free to withdraw your consent and discontinue your participation at any time without penalty. You may also refuse to answer any survey questions that you do not want to answer and still remain in the study. If your child refuses to be weighed and measured, you may be removed from the study by the PI.

**Who should I contact if I have questions?**

This study is being conducted by So Hyun Park, PI and doctoral candidate, and Dr. Kathleen F. Norr, PhD, Professor Emerita of the UIC College of Nursing. You may ask any questions you have now. If you have any questions about this study later, you may contact Ms. Park at (312) 996-2270, spark224@uic.edu or Dr. Norr at (312) 996-7490, knorr@uic.edu.

**What are my rights as a research subject?**

If you feel that you and your child have not been treated according to the descriptions in this form, or if you have any questions about your rights as a research subject, including questions, concerns, complaints, or to offer input, you may call the Office for the Protection of Research Subjects (OPRS) at 312-996-1711 or 1-866-789-6215 (toll-free) or e-mail OPRS at uicirb@uic.edu.

**Remember:**

You and your child's participation in this research are voluntary. You and your child's decision of whether or not to participate will not affect your current or future relations with the University. If you decide to participate, you are free to withdraw at any time without affecting that relationship. You will be given a copy of this form for your information and to keep for your records.

**Signature of Parent**

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I also agree to have my daughter/son, \_\_\_\_\_, who is \_\_\_\_\_ years old, participate in this research. I have been given a copy of this form.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

---

Printed Name

---

Signature of Person Obtaining Consent

---

Date (must be same as subject's)

---

Printed Name of Person Obtaining Consent

## APPENDIX C

### Informed Consent Form for Survey and Measurement (Korean)

#### University of Illinois at Chicago

#### 설문지와 아동 키/체중 측정을 위한 동의서

#### 한인 미취학 아동의 건강 체중에 미치는 가족의 영향

귀하께서는 본 연구에 참여할 것을 요청받으셨습니다. 연구자는 귀하께 본 연구에 대해 설명하고, 본 연구의 참여가 자발적인 점과 본 연구 참여의 위험성과 이득에 대하여 알려드리고, 정보가 제공된 상태에서 결정하도록 도와드리기 위한 동의서를 제공해야 합니다. 질문이 있으시면 연구자에게 문의하시기 바랍니다.

연구 책임자: 박소현, MSN, RN, 박사과정생

소속: 일리노이 주립대학교 시카고 캠퍼스 간호대학

연락처: 845 S. Damen Avenue, Chicago, IL, 60612.

312-996-2270, spark224@uic.edu

#### 왜 내가 요청받았나요

귀하와 귀하의 자녀는 한인 미취학 아동의 건강 체중과 가족의 영향에 대한 연구에 참여하도록 요청되었습니다. 본 연구는 University of Illinois at Chicago 의 박소현 (박사과정생)이 진행할 것입니다. 귀하는 2-5 세의 한인 자녀를 키우는 어머니로서 본 연구에 참여하게 되었습니다.

귀하와 귀하 자녀의 본 연구 참여는 자발적인 것입니다. 귀하의 참여여부에 대한 결정이 귀하와 대학의 현재나 미래의 관계에 영향을 미치지 않을 것입니다. 귀하께서 본 연구에 참여하기로 하였다면, 언제든지 자유롭게 참가취소를 할 수 있습니다.

대략 225 명의 어머니와 225 명의 자녀가 본 연구에 참여할 것입니다.

#### 이 연구의 목적은 무엇인가요?

본 연구의 목적은 한인 미취학 아동의 건강한 체중에 미치는 가족의 영향을 알아보기 위한 것입니다.

#### 진행 절차는 어떻게 되나요?

귀하께서 본 연구에 참여하기로 동의하셨다면, 연구자들이 귀하 자녀의 키와 몸무게를 측정할 것입니다. 연구자들은 키와 몸무게를 측정하는 절차를 귀하 자녀에게 설명하고 동의를 구할 것입니다. 만약 귀하의 자녀가 키와 몸무게 측정을 거절한다면 귀하와 귀하의 자녀는 본 연구에서 제외될 것입니다.

연구자들은 귀하 자녀의 나이 (년수와 개월수)를 기록하고 키와 몸무게, 허리둘레와 팔둘레, 복부와 팔 피하지방 두께를 측정할 것입니다. 디지털 체중계와 키 측정기를 사용하여 키와 몸무게를 세 번 재는데 5 분에서 10 분이 소요될 것입니다.

자녀의 키와 몸무게를 측정한 뒤 귀하께서는 귀하의 가족과 자녀의 일상생활에 대한 설문지를 45 분에서 60 분 동안 작성하실 것입니다. 귀하께서 설문지를 작성하시는 동안, 저의 연구조교가 귀하 자녀와 함께 놀이를 하면서 안전하게 함께 시간을 보낼 것입니다.

### **잠재적 위험과 불편함은 무엇인가요?**

본 연구에의 참여는 일상생활에서 일어날 수 있는 정도의 위험을 넘지 않을 것입니다. 귀하 자녀의 키와 몸무게는 체중계와 신장 측정기를 이용하여 측정하는 비침습적인 방법으로 측정될 것이고 자녀의 사생활 보호를 위해 칸막이가 사용될 것입니다. 하지만 다른사람이 귀하께서 연구에 참여한다는 사실과 불가피하게 신원정보가 알려지는 것에 대한 잠재적인 위험이 있을 수 있습니다. 또한 귀하께서는 귀하의 가족과 가족간의 관계에 대해서 생각하고 말한 것에 대해 불편함을 느끼실 수 있을 것입니다. 귀하께서 대답하기 곤란하신 문제는 대답을 하지 않으셔도 되며 언제든지 연구참여를 중단하실 수 있습니다.

### **본 연구에 참여하는데 따르는 이익이 있습니까?**

귀하와 귀하의 자녀가 본 연구에 참여함으로써 얻게되는 직접적인 이익은 없지만, 귀하께서 한인가족과 한인 미취학 아동의 건강한 체중에 대한 새로운 사실을 알게되는 기회가 될 것입니다. 귀하 자녀의 건강을 위한 식사와 신체활동에 대한 정보를 제공하는 유인물을 드릴것 입니다. 본 연구의 결과는 한인 가족과, 한인 미취학 아동의 건강을 증진시키고 비만해지지 않도록 도와주는 요인들 (운동, 건강한 음식 섭취 등)에 대한 이해를 높여줄 것입니다. 그러므로, 본 연구에서 얻어진 정보는 한인 미취학 아동의 건강을 증진시키기 위해 한국인의 문화에 적합한 프로그램을 개발하는 데 이용될 것입니다.

### **다른 선택사항은 무엇이 있나요?**

귀하께서는 본 연구에 참여하지 않을 수 있습니다. 귀하께서는 언제든지 본 연구에의 참여를 중단하실 수 있습니다.

### **사생활과 비밀 보장은?**

귀하에 대한 정보는 귀하의 권리를 보호할 필요가 있을 때 또는 법에 의해 요구되어질 때 또는 귀하의 문서화된 허락이 있을때에만 다른사람에게 공개될 것입니다.

연구결과가 발표되거나 학회에서 논의될 때 귀하의 신원은 공개되지 않을 것입니다. 이 연구와 관련되어 얻어진 정보나 귀하에 대한 정보는 비밀에 부쳐질 것이고, 귀하가 허락하거나 법에 의해 요구될 때만 공개될 것입니다.

자녀의 키와 몸무게 자료, 동의서, 설문지를 포함한 모든 자료는 귀하의 비밀보장을 위해 University of Illinois at Chicago 간호대학의 사무실 내 잠겨진 캐비닛에 보관될 것입니다. 귀하의 신상정보 (이름과

전화번호)와 사인된 동의서는 자녀의 키,몸무게 측정과 설문지 작성동안 수집된 자료와 별개로 관리되어 UIC 간호대학의 사무실 내에 잠겨진 다른 캐비닛에 보관될 것입니다. 오직 신상정보가 쓰여지지 않은 자료만이 연구 책임자의 컴퓨터에 보관될 것이고 연구책임자만이 비밀번호를 이용하여 자료에 접근할 수 있을 것입니다. 자료는 연구가 종료된 후 5 년 이내에 파기될 것입니다.

### **이 연구의 참가 비용은?**

귀하께서는 본 연구에 대한 참가 비용을 지불할 필요가 없습니다.

### **내가 이 연구에 참여한 비용을 보상받을 수 있나요?**

그룹 인터뷰가 끝나면 귀하께서 본 연구를 위해 시간을 내주시고 참여해 주신데에 대한 감사의 마음으로 타겟 상품권 (\$10)을 드릴 것입니다.

### **이 연구에 대한 참여를 거절할 수 있나요?**

귀하와 귀하의 자녀는 본 연구의 참여여부를 결정할 수 있습니다. 만약 귀하와 귀하자녀가 연구에 참여하기로 결정하셨다면, 귀하께서는 연구결과에 상관없이 언제든지 연구참여를 중단하실 수 있습니다. 귀하께서는 대답하고 싶지않은 질문에 대해 대답하지 않을 수 있고 여전히 연구에 참여할 수 있습니다. 만약 귀하의 자녀가 키와 몸무게 측정을 거부할 경우에 연구 책임자는 귀하를 본 연구에서 제외 시킬 수 있습니다.

### **만약 질문이 있다면 누구와 연락해야 하나요?**

본 연구를 수행하는 연구자는 UIC 간호대학의 박소현 (박사과정생)과 Dr. Kathleen Norr 교수(PhD)입니다. 귀하께서는 질문이 있으시면 지금 질문하실 수 있습니다. 만약 귀하께서 나중에 질문이 생길 경우, 연구자인 박소현 (박사과정생)에게, 전화 (312) 996-2270, 이메일 [spark224@uic.edu](mailto:spark224@uic.edu) 또는 Dr. Kathleen Norr 에게, 전화 (312) 996-7490, 이메일 [knorr@uic.edu](mailto:knorr@uic.edu) 로 연락하시면 됩니다.

### **연구대상자로서 어떤 권리가 있나요**

만약 귀하께서여기에 적혀진대로 대우받지 않았다고 생각하시거나, 연구대상자로서 귀하의 권리에 대해 질문이 있다면, the Office for the Protection of Research Subjects (OPRS) 전화 312-996-1711 or 1-866-789-6215 (toll-free) 혹은 e-mail OPRS at [uicirb@uic.edu](mailto:uicirb@uic.edu) 로 연락하십시오

### **중요사항:**

귀하와 귀하 자녀의 본 연구의 참여는 자발적인 것입니다. 귀하의 연구 참여여부에 대한 결정이 귀하와 대학의 현재나 미래의 관계에 영향을 미치지 않을 것입니다. 귀하가 참여하기로 결정 하였던더라도, 언제든지 자유롭게 연구 결과에 상관없이 연구 참여를 중단 할 수 있습니다. 귀하는 귀하의 정보와 기록보관을 위해 이 동의서의 복사본을 받게 될 것입니다.



**부모 동의서**

본인은 위의 정보를 읽었습니다 (혹은 다른 사람이 본인을 위해 읽었습니다). 본인은 질문을 할 기회를 가졌고 질문에 대한 만족스러운 대답을 받았습니다. 본인은 \_\_\_\_\_세의 나의 딸/아들 \_\_\_\_\_이 연구에 참여하는데 동의합니다. 본인은 이 연구의 참여동의서 복사본을 받았습니다.

\_\_\_\_\_  
서명

\_\_\_\_\_  
날짜

\_\_\_\_\_  
이름

\_\_\_\_\_  
동의를 받은 연구자 서명

\_\_\_\_\_  
날짜 (참가자와 같은 날짜)

\_\_\_\_\_  
동의를 받은 연구자 이름

## APPENDIX D

### Questionnaire for Survey and Measurement (English)

	Disagree					Agree				
1. I often participate in my heritage cultural traditions.	1	2	3	4	5	6	7	8	9	
2. I often participate in mainstream American cultural traditions.	1	2	3	4	5	6	7	8	9	
3. I would be willing to marry a person from my heritage culture.	1	2	3	4	5	6	7	8	9	
4. I would be willing to marry a white American person.	1	2	3	4	5	6	7	8	9	
5. I enjoy social activities with people from the same heritage culture as myself.	1	2	3	4	5	6	7	8	9	
6. I enjoy social activities with typical American people.	1	2	3	4	5	6	7	8	9	
7. I am comfortable interacting with people of the same heritage culture as myself.	1	2	3	4	5	6	7	8	9	
8. I am comfortable interacting with typical American people	1	2	3	4	5	6	7	8	9	
9. I enjoy entertainment (e.g. movies, music) from my heritage culture.	1	2	3	4	5	6	7	8	9	
10. I enjoy American entertainment (e.g. movies, music).	1	2	3	4	5	6	7	8	9	
11. I often behave in ways that are typical of my heritage culture.	1	2	3	4	5	6	7	8	9	
12. I often behave in ways that are typically American.	1	2	3	4	5	6	7	8	9	
13. It is important for me to maintain or develop the practices of my heritage culture.	1	2	3	4	5	6	7	8	9	
14. It is important for me to maintain or develop American cultural practices.	1	2	3	4	5	6	7	8	9	
15. I believe in the values of my heritage culture.	1	2	3	4	5	6	7	8	9	
16. I believe in mainstream American values.	1	2	3	4	5	6	7	8	9	
17. I enjoy the jokes and humor of my heritage culture.	1	2	3	4	5	6	7	8	9	
18. I enjoy white American jokes and humor.	1	2	3	4	5	6	7	8	9	
19. I am interested in having friends from my heritage culture.	1	2	3	4	5	6	7	8	9	
20. I am interested in having white American friends.	1	2	3	4	5	6	7	8	9	

The following questions ask you how you feed your children. Please choose one response code number that indicates which choice most closely corresponds to your opinion.

	Never	Seldom	Half of the time	Most of the time	Always
1. When your child is at home, how often are you responsible for feeding him/her?	1	2	3	4	5
2. How often are you responsible for deciding what your child's portion sizes are?	1	2	3	4	5
3. How often are you responsible for deciding if your child has eaten the right kind of foods?	1	2	3	4	5

How would you describe <b>your own weight</b> during...	Markedly underweight	Underweight	Normal	Overweight	Markedly Overweight
4. Your childhood (5 to 10 years old)	1	2	3	4	5
5. Your adolescence	1	2	3	4	5
6. Your 20s	1	2	3	4	5
7. At present	1	2	3	4	5

How would you describe <b>your child's weight</b> ...	Markedly Underweight	Underweight	Normal	Overweight	Markedly Overweight
8. during the first year of life	1	2	3	4	5
9. as a toddler	1	2	3	4	5
10. as a preschooler	1	2	3	4	5
11. kindergarten through 2nd grade (if not applicable, leave blank)	1	2	3	4	5

	<b>Unconcerned</b>	<b>A Little Concerned</b>	<b>Concerned</b>	<b>Fairly Concerned</b>	<b>Very Concerned</b>
12. How concerned are you about your child eating too much when you are not around him/her?	1	2	3	4	5
13. How concerned are you about your child having to diet to maintain a desirable weight?	1	2	3	4	5
14. How concerned are you about your child becoming overweight?	1	2	3	4	5
	<b>Disagree</b>	<b>Slightly Disagree</b>	<b>Neutral</b>	<b>Slightly Agree</b>	<b>Agree</b>
15. I have to be sure that my child does not eat too many sweets (candy, ice cream, cake or pastries)	1	2	3	4	5
16. I have to be sure that my child does not eat too many high-fat foods	1	2	3	4	5
17. I have to be sure that my child does not eat too much of his/her favorite foods	1	2	3	4	5
18. I intentionally keep some foods out of my child's reach	1	2	3	4	5
19. I offer sweets (candy, ice cream, cake, pastries) to my child as a reward for good behavior	1	2	3	4	5
20. I offer my child his/her favorite foods in exchange for good behavior	1	2	3	4	5
21. If I did not guide or regulate my child's eating, he/she would eat too many junk foods	1	2	3	4	5
22. If I did not guide or regulate my child's eating, he/she would eat too much of her favorite foods	1	2	3	4	5
23. My child should always eat all of the food on his/her plate	1	2	3	4	5
24. I offer my child his/her favorite foods to show my child that I love him/her	1	2	3	4	5

25. I have to be especially careful to make sure my child eats enough	1	2	3	4	5
26. If my child says "I'm not hungry", I try to get her to eat anyway	1	2	3	4	5
27. If I did not guide or regulate my child's eating, he/she would eat much less than he/she should	1	2	3	4	5
28. I like my child to be a little plump because it is a sign of good health	1	2	3	4	5

	<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Mostly</b>	<b>Always</b>
29. How much do you keep track of the sweets (candy, ice cream cake, pies, and pastries) that your child eats?	1	2	3	4	5
30. How much do you keep track of the snack food (potato chips, Doritos, cheese puffs) that your child eats?	1	2	3	4	5
31. How much do you keep track of the high-fat foods that your child eats?	1	2	3	4	5

The following questions ask you about **your habits** regarding eating and exercise that your child sees at home. Please choose one response code number that indicates which choice most closely corresponds to your opinion.

A. The following questions ask you about dietary habits and physical activity for your child.

1. How often do you eat fruits or vegetables at home?

- ① Less than once a day
- ② 1-2 times per day
- ③ 3-4 times per day
- ④ 5 or more per day

2. How often do you eat salty snacks such as chips and crackers at home?

- ① Less than once a day
- ② 1-2 times per day
- ③ 3-4 times per day
- ④ 5 or more per day

3. How often do you exercise?

- ① Less than once a week
- ② 1-2 times per week
- ③ 3-4 times per week
- ④ 5 or more per week

4. Do you smoke?

- ① Yes
- ② No

If you smoke,

How many cigarettes per day do you usually smoke **at your home**?

*1 pack= 20 cigarettes. If less than 1 per day, enter 1*

\_\_\_\_\_ (Enter number of cigarettes)

How many cigarettes per day do you usually smoke **outside your home**?

*1 pack= 20 cigarettes. If less than 1 per day, enter 1*

\_\_\_\_\_ (Enter number of cigarettes)

5. In the **past 12 months**, how often did you drink any type of alcoholic beverage? (for example, beer, wine, wine coolers drinks, Soju, or rice alcohol)

a) At home

- ① 4 times a week or more
- ② 1-3 times per week
- ③ Every week
- ④ Once a month
- ⑤ Never

b) Outside the home

- ① 4 times a week or more
- ② 1-3 times per week
- ③ Every week
- ④ Once a month
- ⑤ Never

6. In the **past 12 months**, on those days that you drank alcoholic beverages, on the average, how many drinks did you have?

a) At home

\_\_\_\_\_ (Enter number of drinks)

b) Outside the home

\_\_\_\_\_ (Enter number of drinks)

7. In the **past 12 months**, on how many days did you have 5 or more drinks of any alcoholic beverage?

\_\_\_\_\_ (Enter number of days drank 5 or more drinks)

B. The following questions ask you about **your partner's** dietary habits and physical activity for your child.

1. How often does your partner eat fruits or vegetables at home?

- ① Less than once a day
- ② 1-2 times per day
- ③ 3-4 times per day
- ④ 5 or more per day

2. How often does your partner eat salty snacks such as chips and crackers at home?

- ① Less than once a day
- ② 1-2 times per day
- ③ 3-4 times per day
- ④ 5 or more per day

3. How often does your partner exercise?

- ① Less than once a week
- ② 1-2 times per week
- ③ 3-4 times per week
- ④ 5 or more per week

4. Does your partner smoke?

- ① Yes
- ② No

If your partner smoke,

How many cigarettes per day does your partner usually smoke **at your home**?

*1 pack= 20 cigarettes. If less than 1 per day, enter 1*

\_\_\_\_\_ (Enter number of cigarettes)

How many cigarettes per day does your partner usually smoke outside your home?

*1 pack= 20 cigarettes. If less than 1 per day, enter 1*

\_\_\_\_\_ (Enter number of cigarettes)



5. In the **past 12 months**, how often did your partner drink any type of alcoholic beverage?

(for example, beer, wine, wine coolers drinks, Soju, or rice alcohol)

a) At home

- ① 4 times a week or more
- ② 1-3 times per week
- ③ Every week
- ④ Once a month
- ⑤ Never

b) Outside the home

- ① 4 times a week or more
- ② 1-3 times per week
- ③ Every week
- ④ Once a month
- ⑤ Never

6. In the **past 12 months**, on those days that your partner drank alcoholic beverages, on the average, how many drinks did your partner have?

a) At home

\_\_\_\_\_ (Enter number of drinks)

b) Outside the home

\_\_\_\_\_ (Enter number of drinks)

7. In the **past 12 months**, on how many days did your partner have 5 or more drinks of any alcoholic beverage?

\_\_\_\_\_ (Enter number of days drank 5 or more drinks)

The following questions ask you about your family functioning. **Family functioning** refers to how family members manage their daily routines and communicate with one another. Please choose one response code number that indicates which choice most closely corresponds to your opinion.

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
1. After our family tries to solve a problem, we usually discuss whether it worked or not	1	2	3	4
2. We resolve most emotional upsets that come up	1	2	3	4
3. We try to think of different ways to solve problem	1	2	3	4
4. When someone is upset the others know why	1	2	3	4
5. People come right out and say things instead of hinting at them	1	2	3	4
6. We are frank with each other	1	2	3	4
7. When we don't like what someone has done, we tell them	1	2	3	4
8. Family tasks don't get spread around enough	1	2	3	4
9. We have trouble meeting our bills	1	2	3	4
10. There's little time to explore personal interests	1	2	3	4
11. If people are asked to do something, then need reminding	1	2	3	4
12. We are generally dissatisfied with the family duties assigned to us	1	2	3	4
13. We are reluctant to show our affection for each other	1	2	3	4
14. Some of us just don't respond emotionally	1	2	3	4
15. We don't show our love for each other	1	2	3	4
16. Tenderness takes second place to other things in our family	1	2	3	4

17. You only get the interest of others when something is important to them	1	2	3	4
18. We are too self-centered	1	2	3	4
	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
19. We get involved with each other only when something interests us	1	2	3	4
20. We show interest in each other only when they can get something out of it personally	1	2	3	4
21. Our family shows interest in each other only when they can get something out of it	1	2	3	4
22. If someone is in trouble, the others become too involved	1	2	3	4
23. We don't know what to do when an emergency comes up	1	2	3	4
24. You can easily get away with breaking the rules	1	2	3	4
25. We have no clear expectations about toilet habits	1	2	3	4
26. We don't hold any rules or standards	1	2	3	4
27. If the rules are broken, we don't know what to expect	1	2	3	4
28. Planning family activities is difficult because we misunderstand each other	1	2	3	4
29. Even though we mean well, we intrude too much into each other's lives	1	2	3	4
30. We cannot talk to each other about sadness we feel	1	2	3	4
31. We avoid discussing our fears and concerns	1	2	3	4
32. We can express feelings to each other	1	2	3	4
33. We don't get along well together	1	2	3	4
34. We confide in each other	1	2	3	4

The following questions ask you about your child's routines. For each question, please select the answer that best represents your child/family.

	Almost Never	Some- times	Usually	Almost Always
1. My child eats breakfast	1	2	3	4
2. Our family eats meals together	1	2	3	4
3. Our family eats while watching TV	1	2	3	4
4. Our family eats fast food	1	2	3	4
5. Our family uses microwave or ready to eat foods	1	2	3	4
6. My child eats fruits and vegetables at meals or snacks	1	2	3	4
7. My child drinks soda pop or sugar drinks (drink with sugar added: does <b>NOT</b> include 100% juice)	1	2	3	4
8. My child drinks low fat milk at meals or snacks	1	2	3	4
9. Our family monitors eating of chips, cookies, and candy	1	2	3	4
10. Our family uses candy as a reward for good behavior	1	2	3	4
11. My child spends less than 2 hours on TV/games/computer per day	1	2	3	4
12. Our family limits the amount of TV/games/computer our child watches	1	2	3	4
13. Our family allows our child to watch TV/games/computer in their bedroom	1	2	3	4
14. Our family provides opportunities for physical activity	1	2	3	4
15. Our family encourages our child to be active every day	1	2	3	4
16. Our family finds ways to be physically active together	1	2	3	4
17. My child does physical activity during his/her free time	1	2	3	4
18. My child is enrolled in sports or activities with a coach or leader	1	2	3	4
19. Our family has a daily routine for our child's bedtime	1	2	3	4
20. My child gets at least 9 hours of sleep a night	1	2	3	4

## Childcare

The following questions ask you about your child's care situation

1. Does your child receive care from a relative (for example, grandparents or aunt) on a regular basis?

① Yes

② No

Who is the relative? (Specify \_\_\_\_\_)

How many hours per week is your child under a relative's care? \_\_\_\_\_ hours

2. Does your child receive care from private non-relative (for example, with a home day care or babysitter)?

① Yes

② No

Who is the private non-relative? (Specify \_\_\_\_\_)

How many hours per week is your child under private non-relative care? \_\_\_\_\_ hours

3. Does your child go to a preschool, daycare center, or kindergarten?

① Yes

② No

What type of organization? Please **check all that you apply**

Preschool ..... 1

Daycare center ..... 2

Kindergarten ..... 3

Other (\_\_\_\_\_) ..... 4

How many hours per week is your child in a preschool, daycare center, or kindergarten?

\_\_\_\_\_ hours

## Family Background

The following questions ask you for general information about your family background.

1. What month and year were you born? \_\_\_\_\_ (month)/\_\_\_\_\_ (year)

2. Were you born in the United States?

① Yes

② No

If you were not born in the United States, when did you move to the United States?

\_\_\_\_\_ (month)/\_\_\_\_\_ (year)

3. Please check your generation in the U.S.

① First generation: if you are not U.S. born and at least one parent is also non-U.S. born

② Second generation: if you are U.S. born but at least one parent is non-U.S. born

③ Third generation: if you and both parents are U.S. born

4. What is your present marital status?

① Married

② Not married, living with partner

③ Separated

④ Divorced

⑤ Widowed

⑥ Never married

5. What is the highest level of schooling that you have completed or the highest degree that you have received?

① Less than high school

② High School

③ Associate's degree

④ Bachelor's degree

⑤ Master's degree

⑥ Doctoral degree or higher

6. What is your employment status?

- ① Employed for wages full-time
- ② Employed for wages part-time
- ③ Self-employed
- ④ Out of work for less than 1 year
- ⑤ Out of work for more than 1 year
- ⑥ Homemaker
- ⑦ Student
- ⑧ Retired

7. In 2012, what was the total income of all members of your household? Please indicate the income earned by all members of your household and from all sources (such as wages, salaries, tips, social security benefits, interest, rent from property, and so on) before taxes.

- ① Less than \$ 20,000
- ② \$20,000 to less than \$39,999
- ③ \$40,000 to less than \$74,999
- ④ \$75,000 to less than \$99,999
- ⑤ \$100,000 or more

## Family Structure

The following questions ask you about your family structure.

1. Are you living with your spouse or partner?

① Yes

② No

2. Do you live with your child's grandparents or any other relatives?

① Yes

② No

Who do you live with? Please **check all that you apply**

① My father (maternal grandfather)

② My mother (maternal grandmother)

③ My husband/partner's father (paternal grandfather)

④ My husband/partner's mother (paternal grandmother)

⑤ Others (specify : \_\_\_\_\_)

3. How many children of the following ages live in your household?

A. Under 2years old \_\_\_\_\_

B. 2 through 5 years old \_\_\_\_\_

C. 6 through 12 years old \_\_\_\_\_

D. 13 and over \_\_\_\_\_



## APPENDIX D

### Questionnaire for Survey and Measurement (Korean)

	Disagree					Agree				
1. 한국 문화적 전통/전례에 종종 참여한다..	1	2	3	4	5	6	7	8	9	
2. 미국 문화적 전통/전례에 종종 참여한다	1	2	3	4	5	6	7	8	9	
3. 한국인과 결혼할 의사가 있다.	1	2	3	4	5	6	7	8	9	
4. 미국인과 결혼할 의사가 있다.	1	2	3	4	5	6	7	8	9	
5. 나는 한국인과의 사교활동을 즐긴다	1	2	3	4	5	6	7	8	9	
6. 나는 전형적인 미국인과의 사교활동을 즐긴다..	1	2	3	4	5	6	7	8	9	
7. 나는 전형적인 한국인과 일하는 것이 편하다.	1	2	3	4	5	6	7	8	9	
8. 나는 전형적인 미국인과 일하는 것이 편하다. .	1	2	3	4	5	6	7	8	9	
9. 나는 한국 연예/오락 (예를 들어 음악, 영화) 을 즐긴다	1	2	3	4	5	6	7	8	9	
10. 나는 미국 연예/오락 (예를 들어 음악, 영화) 을 즐긴다.	1	2	3	4	5	6	7	8	9	
11. 나는 전형적인 한국인처럼 행동하는 경우가 많다.	1	2	3	4	5	6	7	8	9	
12. 나는 전형적인 미국인처럼 행동하는 경우가 많다.	1	2	3	4	5	6	7	8	9	
13. 한국식 문화를 지키고 개발하는 것은 내게 중요한 일이다.	1	2	3	4	5	6	7	8	9	
14. 미국식 문화를 지키고 개발하는 것은 내게 중요한 일이다.	1	2	3	4	5	6	7	8	9	
15. 한국의 주된 가치관을 믿는다.	1	2	3	4	5	6	7	8	9	
16. 미국의 주된 가치관을 믿는다.	1	2	3	4	5	6	7	8	9	
17. 전형적인 한국식 농담과 유머를 즐긴다.	1	2	3	4	5	6	7	8	9	
18. 전형적인 미국식 농담과 유머를 즐긴다.	1	2	3	4	5	6	7	8	9	
19. 한국인 친구를 갖는데 관심이 있다.	1	2	3	4	5	6	7	8	9	
20. 미국인 친구를 갖는데 관심이 있다.	1	2	3	4	5	6	7	8	9	

다음의 질문들은 귀하께서 자녀들에게 어떻게 음식을 주는지에 관한 것 입니다. 귀하의 의견에 가장 적합하다고 (가깝다고) 생각되는 답변을 선택해 주십시오.

	전혀 책임안진다	거의 책임안진다	책임 질때도 있고 안질때도 있다	자주 책임진다	항상 책임진다
1. 자녀가 집에 있을 때, 귀하께서는 자녀의 식사를 얼마나 자주 책임지십니까?	1	2	3	4	5
2. 귀하께서는 자녀의 식사량을 정해주시는 책임을 얼마나 자주 지십니까?	1	2	3	4	5
3. 귀하께서는 자녀가 올바른 음식을 먹었는지에 대해 얼마나 자주 책임지십니까?	1	2	3	4	5

귀하의 체중은 어떠했습니까?	심한 저체중	저체중	보통	과체중	심한 과체중
4. 귀하의 어린 시절 (5살에서 10살)	1	2	3	4	5
5. 귀하의 청소년기	1	2	3	4	5
6. 귀하의 20대	1	2	3	4	5
7. 현재	1	2	3	4	5

자녀의 체중은 어떠했습니까?	심한 저체중	저체중	보통	과체중	심한 과체중
8. 생후 일년	1	2	3	4	5
9. 걸음마기 (Toddler)	1	2	3	4	5
10. 미취학 아동기	1	2	3	4	5

11. 유치원기에서 초등학교 2학년 (만약 적용되지 않으면, 여백으로 남겨 두십시오.)	1	2	3	4	5
--	---	---	---	---	---

	전혀 신경 쓰이지 않는다	거의 신경 쓰이지 않는다	신경 쓰이는 편이다	꽤 신경 쓰인다	매우 신경 쓰인다
12. 귀하가 옆에 안 계실 때 자녀가 너무 많이 먹는 것에 대해 얼마나 신경이 쓰이십니까?	1	2	3	4	5
13. 자녀가 적당한 체중유지를 위해 다이어트하는 것에 대해 얼마나 신경이 쓰이십니까?	1	2	3	4	5
14. 자녀가 비만이 되는 것에 대해 얼마나 신경이 쓰이십니까?	1	2	3	4	5
	동의하지 않는다	동의하지 않는 편이다	중립이다	동의하는 편이다	동의한다
15. 나는 자녀가 단 음식을 너무 많이 먹지 않도록 확실히 한다. (사탕, 아이스크림, 케이크, 빵 과자류)	1	2	3	4	5
16. 나는 자녀가 고지방 음식을 너무 많이 먹지 않도록 확실히 한다.	1	2	3	4	5
17. 나는 자녀가 좋아하는 음식을 지나치게 많이 먹지 않도록 한다	1	2	3	4	5
18. 나는 자녀가 닿을 수 없는 곳에 일부 음식들을 둔다.	1	2	3	4	5
19. 자녀에게 단 음식(사탕, 아이스크림, 케이크, 빵 과자류)을 자녀가 잘 한 행동에 대한 상으로 준다	1	2	3	4	5

	동의하지 않는다	동의하지 않는 편이다	중립이다	동의하는 편이다	동의한다
20. 자녀의 잘 한 행동에 대한 대가로 자녀가 좋아하는 음식을 준다	1	2	3	4	5
21. 만약 내가 자녀의 식습관을 감독하지 않는다면, 자녀는 불량 식품을 너무 많이 먹을 것이다	1	2	3	4	5
22. 만약 내가 자녀의 식습관을 감독하지 않는다면, 자녀는 자신이 좋아하는 음식을 너무 많이 먹을 것이다.	1	2	3	4	5
23. 자녀는 그릇에 담긴 음식은 항상 다 먹어야 한다	1	2	3	4	5
24. 내가 자녀를 사랑하고 있다는 것을 보여 주기 위해 자녀에게 자녀가 좋아하는 음식을 준다	1	2	3	4	5
25. 나는 자녀가 충분히 먹는지에 대해 특별히 신경을 써야 한다	1	2	3	4	5
26. 만약 자녀가 “배고프다”고 하면, 나는 어찌하던 간에 자녀가 먹을 수 있게 한다	1	2	3	4	5
27. 만약 내가 내 자녀의 식습관을 감독하지 않는다면, 자녀는 적당량 보다 훨씬 적게 먹을 것이다.	1	2	3	4	5
28. 포동포동하게 살찌는 것은 건강하다는 의미이기 때문에 나는 내 자녀가 살짝 포동포동한 것이 좋다.	1	2	3	4	5

	전혀 아니다	거의 아니다	때때로	대체로 한다	항상 한다
29. 귀하께서는 자녀가 단 음식(사탕, 아이스크림, 케이크, 파이, 빵 과자류)을 얼마나 먹는지 파악하고 계십니까?	1	2	3	4	5
30. 귀하께서는 자녀가 간식(감자칩, 도리토스, 치즈 퍼프)을 얼마나 먹는지 파악하고 계십니까?	1	2	3	4	5
31. 귀하께서는 자녀가 고지방 음식을 얼마나 먹는지 파악하고 계십니까?	1	2	3	4	5

다음의 질문은 집에서 귀하의 자녀에게 보여지는 **귀하의** 식습관과 신체활동에 관한 내용입니다.  
 귀하의 의견에 가장 적합한 (가까운) 답변을 선택하여 표시하십시오.

A. 다음 문항들은 귀하의 식습관과 신체활동에 대한 것입니다.

1. 귀하께서는 집에서 과일이나 채소를 얼마나 자주 드십니까?

- ① 하루에 한 번 미만
- ② 하루에 1-2 회
- ③ 하루에 3-4 회
- ④ 하루에 5 회 이상

2. 귀하께서는 집에서 칩이나 크래커와 같이 짠 간식들을 얼마나 자주 드십니까?

- ① 하루에 한 번 미만
- ② 하루에 1-2 회
- ③ 하루에 3-4 회
- ④ 하루에 5 회 이상

3. 귀하께서는 얼마나 자주 운동하십니까?

- ① 일주일에 한 번 미만
- ② 일주일에 1-2 회
- ③ 일주일에 3-4 회
- ④ 일주일에 5 회 이상

4. 흡연하십니까?

- ① 예
- ② 아니오

만약 흡연 하신다면 귀하께서는 **집에서** 하루에 몇 개비의 담배를 피십니까?

1 팩 = 20 개피. 만약 하루에 1 개피 이하면 1 로 표시

\_\_\_\_\_ (개피 수 표시)

귀하께서는 **집 이외의 장소에서** 하루에 몇 개피의 담배를 피십니까?

1 팩 = 20 개피. 만약 하루에 1 개피 이하면 1 로 표시

\_\_\_\_\_ (개피 수 표시)

5. **지난 12 개월 동안** 귀하께서는 술을 얼마나 자주 드셨습니까? (예를 들어 맥주, 와인, 소주, 막걸리, 정종)

a)집에서

- ① 일주일에 4 회 이상
- ② 일주일에 1-3 회
- ③ 일주일에 한 번
- ④ 한달에 한 번
- ⑤ 전혀 마시지 않음

b)집 이외의 장소에서

- ① 일주일에 4 회 이상
- ② 일주일에 1-3 회
- ③ 일주일에 한 번
- ④ 한달에 한 번
- ⑤ 전혀 마시지 않음

6. **지난 12 개월동안** 귀하께서 술을 마셨을 때 평균적으로 1 회에 몇 잔정도 마셨습니까?

a)집에서

\_\_\_\_\_ (술잔 수 기입)

b)집 이외의 장소에서

\_\_\_\_\_ (술잔 수 기입)

7. **지난 12 개월 동안** 한번에 술을 5 잔 이상 마신 날이 며칠입니까?

\_\_\_\_\_ (술을 5 잔 이상 마신 일수 기입)

B. 다음의 질문은 집에서 자녀에게 보여지는 귀하 파트너의 식습관과 신체활동에 관한 내용입니다.

1. 귀하의 파트너께서는 집에서 과일이나 채소를 얼마나 자주 드십니까?

- ① 하루에 한 번 미만
- ② 하루에 1-2 회
- ③ 하루에 3-4 회
- ④ 하루에 5 회 이상

2. 귀하의 파트너께서는 집에서 칩이나 크래커와 같이 짠 간식들을 얼마나 자주 드십니까?

- ① 하루에 한 번 미만
- ② 하루에 1-2 회
- ③ 하루에 3-4 회
- ④ 하루에 5 회 이상

3. 귀하의 파트너께서는 얼마나 자주 운동하십니까?

- ① 일주일에 한 번 미만
- ② 일주일에 1-2 회
- ③ 일주일에 3-4 회
- ④ 일주일에 5 회 이상

4. 귀하의 파트너께서는 흡연하십니까?

- ① 예
- ② 아니오

만약 흡연 하신다면 귀하의 파트너께서는 집에서 하루에 몇 개비의 담배를 피십니까?

1 팩 = 20 개피. 만약 하루에 1 개피 이하면 1 로 표시

\_\_\_\_\_ (개피 수 표시)

귀하의 파트너께서는 집 이외의 장소에서 하루에 몇 개피의 담배를 피십니까?

1 팩 = 20 개피. 만약 하루에 1 개피 이하면 1 로 표시

\_\_\_\_\_ (개피 수 표시)



5. **지난 12 개월 동안** 귀하의 파트너께서는 술을 얼마나 자주 드셨습니까? (예를 들어 맥주, 와인, 소주, 막걸리, 정종)

a)집에서

- ① 일주일에 4 회 이상
- ② 일주일에 1-3 회
- ③ 일주일에 한 번
- ④ 한달에 한 번
- ⑤ 전혀 마시지 않음

b)집 이외의 장소에서

- ① 일주일에 4 회 이상
- ② 일주일에 1-3 회
- ③ 일주일에 한 번
- ④ 한달에 한 번
- ⑤ 전혀 마시지 않음

6. **지난 12 개월 동안** 귀하의 파트너께서 술을 마셨을 때 평균적으로 1 회에 몇 잔정도 마셨습니까?

a)집에서

\_\_\_\_\_ (술잔 수 기입)

b)집 이외의 장소에서

\_\_\_\_\_ (술잔 수 기입)

7. **지난 12 개월 동안** 귀하의 파트너께서 한번에 술을 5 잔 이상 마신 날이 며칠입니까?

\_\_\_\_\_ (술을 5 잔 이상 마신 일수 기입)

다음은 귀하의 **가족기능**에 관한 질문입니다. 가족기능은 가족들이 함께 일상생활을 해 나가고 서로 의사소통을 하는것을 의미합니다. 귀하의 의견에 가장 적합하다고 생각하는 답변을 선택하시오.

	전혀 그렇지 않다	그렇지 않다	그렇다	매우 그렇다
1. 집안 문제를 해결하려고 애쓴 후에 그것이 잘 되었는지 아닌지에 대해 얘기하곤 한다.	1	2	3	4
2. (나쁜) 감정 문제가 나타나면 거의 풀고 지나간다.	1	2	3	4
3. 문제를 해결하려고 할 때 여러가지 방법을 생각해본다.	1	2	3	4
4. 누군가가 기분이 나쁘면 왜 그런지를 안다.	1	2	3	4
5. 빗대어 말하기 보다는 직접 솔직하게 얘기한다	1	2	3	4
6. 서로에게 솔직하다	1	2	3	4
7. 누가 해놓은 일이 마음에 들지 않으면 그 사람에게 말한다.	1	2	3	4
8. 집에서 할 일이 충분히 나뉘어져 있지 않다.	1	2	3	4
9. 각자의 역할을 다하지 못한다.	1	2	3	4
10. 식구들의 개인적인 관심사를 알아볼 시간이 별로 없다.	1	2	3	4
11. 어떤 일을 부탁하고 나서 나중에 다시 일러줘야 한다.	1	2	3	4
12. 가족으로서 각자가 해야 할 일에 대해 불만을 가지고 있다.	1	2	3	4
13. 서로에 대한 애정표현을 하지 않으려고 한다.	1	2	3	4
14. 감정적으로 반응하지 않는 식구들이 있다.	1	2	3	4
15. 서로에 대한 사랑을 표현하지 않는다.	1	2	3	4
16. 다정다감한 편은 아니다.	1	2	3	4
17. 자신에게 중요한 일일 때만 서로에게 관심을 가진다.	1	2	3	4

18. 지나치게 자기 중심적이다.	1	2	3	4
19. 우리에게 관계 있는 일에만 서로 관여하게 된다.	1	2	3	4
20. 개인적으로 얻는 것이 있다고 생각할 때 서로에게 관심을 보인다.	1	2	3	4
21. 어떤 이득이 있을 때에만 서로에게 관심을 보인다.	1	2	3	4
22. 비록 좋다고 하는 것이지만 서로의 생활에 너무 많이 개입한다.	1	2	3	4
23. 갑자기 큰 일을 맞게되면 어떻게 할 바를 모른다.	1	2	3	4
24. 규칙을 어겨도 그냥 지나간다.	1	2	3	4
25. 화장실을 사용하는 방식이 정해져 있지 않다.	1	2	3	4
26. 어떤 규칙이나 기준을 고집하지 않는다.	1	2	3	4
27. 집에서 지켜야 할 약속들을 어기면 어떻게 되는건지 잘 모른다.	1	2	3	4
28. 서로를 잘 이해하지 못하기 때문에 우리가 해야 할 일을 계획하지 못한다.	1	2	3	4
29. 위기가 닥치면 서로에게 도와달라고 부탁할 수가 있다.	1	2	3	4
30. 슬픈 일이 있어도 서로에게 그런 얘기를 하지 않는다.	1	2	3	4
31. 우리가 두려워하는 일이나 걱정에 대해 얘기하기를 꺼린다.	1	2	3	4
32. 서로에게 감정 표현 할 수가 있다.	1	2	3	4
33. 함께 있으면 잘 지내지를 못한다.	1	2	3	4
34. 서로를 믿는다.	1	2	3	4

다음은 귀하 자녀의 일상생활에 관한 질문입니다. 각각의 질문에 대해 귀하의 자녀와 가족을 가장 잘 나타나는 대답을 선택하십시오.

	항상 그렇지	가끔 그렇다	보통 그렇다	항상 그렇다
1. 우리 아이는 아침을 먹는다	1	2	3	4
2. 우리 가족은 함께 식사한다	1	2	3	4
3. 우리 가족은 TV 를 보면서 식사를 한다	1	2	3	4
4. 우리 가족은 패스트푸드를 먹는다	1	2	3	4
5. 우리 가족은 컵라면 냉동식품과 같은 인스턴트 음식을 먹는다	1	2	3	4
6. 우리 아이는 채소와 과일을 먹는다	1	2	3	4
7. 우리 아이는 탄산음료나 과당음료 (100% 과일쥬스는 제외) 를 마신다	1	2	3	4
8. 우리 아이는 저지방 우유 (무지방 혹은 1% 우유) 를 마신다	1	2	3	4
9. 우리 가족은 과자와 사탕을 먹는 것을 감독한다	1	2	3	4
10. 우리 가족은 잘 한 행동에 대한 대가로 아이에게 사탕을 준다	1	2	3	4
11. 우리 아이는 TV/게임/컴퓨터를 하는 시간이 하루 2 시간 미만이다	1	2	3	4
12. 우리 가족은 아이가 TV/게임/컴퓨터를 하는 시간을 제한한다	1	2	3	4
13. 우리 가족은 아이가 자기 침실에서 TV/게임/컴퓨터를 볼 수 있도록 허락한다	1	2	3	4
14. 우리 가족은 신체활동을 할 기회를 아이에게 제공한다	1	2	3	4
15. 우리 가족은 아이가 매일 신체활동을 하도록 격려한다	1	2	3	4
16. 우리 가족은 함께 신체활동을 할 방법을 찾는다	1	2	3	4
17. 우리 아이는 자유 시간에 신체활동을 한다	1	2	3	4
18. 우리 아이는 지도자가 있는 신체활동에 등록되어있다	1	2	3	4
19. 우리 가족은 아이가 잠자리에 들 때 일상적으로 하는 활동이 있다	1	2	3	4
20. 우리 아이는 밤에 적어도 9 시간 동안 잔다	1	2	3	4

### 육아상황

다음은 귀하 미취학 자녀의 육아상황에 대한 질문입니다.

1. 귀하의 미취학 자녀는 정기적으로 친척의 돌봄을 받고 있습니까? (예를 들어 조부모나 이모)

① 예

② 아니오

친척은 누구입니까? (자세히 \_\_\_\_\_)

일주일에 몇시간 정도 귀하의 자녀를 친척이 돌보니까? \_\_\_\_ 시간

2. 귀하의 미취학 자녀는 친척이 아닌 사람의 돌봄을 받고 있습니까? (예를 들어 보모나 일반 가정집에서)

① 예

② 아니오

친척이 아닌 돌보는 사람은 누구입니까? (자세히 \_\_\_\_\_)

일주일에 몇시간 정도 귀하의 미취학 자녀를 친척이 아닌 사람이 돌보니까? \_\_\_\_ 시간

3. 귀하의 미취학 자녀는 유치원이나 어린이집에 다니고 있습니까?

① 예

② 아니오

어떤 종류의 기관에 다니고 있습니까? **해당하는 곳 모두 표시하십시오**

① Preschool

② Daycare center

③ Kindergarten

④ 기타 (자세히 \_\_\_\_\_)

일주일에 몇시간 정도 유치원이나 어린이집에 갑니까? \_\_\_\_ 시간

### 가족배경 설문지

다음은 귀하와 귀하 가족의 일반적인 사항에 대한 질문입니다.

1. 귀하께서는 몇 년 몇월에 태어났습니까? \_\_\_\_\_ (월)/\_\_\_\_\_ (년도)

2. 귀하께서는 미국에서 태어나셨습니까?

① 예

② 아니오

만약 미국에서 태어나지 않았다면, 몇 년도에 미국으로 이민을 왔습니까?

\_\_\_\_\_ (월)/\_\_\_\_\_ (년도)

3. 귀하의 미국 내에서의 이민세대를 표시해 주십시오:

① 1 세대: 귀하와, 적어도 부모님 중 한 분이 미국에서 태어나지 않음

② 2 세대: 귀하가 미국에서 태어나고, 적어도 부모님 중 한 분이 미국에서 태어나지 않음

③ 3 세대: 귀하와 부모님 모두 미국에서 태어남

4. 귀하의 현재 결혼상태는 무엇입니까?

① 기혼

② 결혼하지 않고 파트너와 함께 거주

③ 별거

④ 이혼

⑤ 사별

⑥ 미혼

5. 최종학력이 어떻게 되십니까?

① 고등학교 이하

② 고등학교 졸업

③ 2 년제 대학 졸업

④ 4 년제 대학 졸업

⑤ 석사학위

⑥ 박사학위

6. 현재 직업 상태는 어떻게 되십니까?

- ① 전일제 고용
- ② 파트타임 고용
- ③ 자영업
- ④ 1 년미만 휴직상태
- ⑤ 1 년이상 휴직상태
- ⑥ 주부
- ⑦ 학생
- ⑧ 은퇴

7. **2012 년에**, 귀하 가족의 총 수입은 얼마 였습니까? 모든 가족 구성원의 모든 종류의 세전 소득을 포함하십시오(임금, 팁, 사회보장연금, 이자, 임대료, 기타)

- ① \$ 20,000 미만
- ② \$20,000 에서 \$39,999 미만
- ③ \$40,000 에서 \$74,999 미만
- ④ \$75,000 에서 \$99,999 미만
- ⑤ \$100,000 이상

## 가족구조

다음은 귀하의 가족구조에 관한 질문입니다.

1. 귀하께서는 남편이나 파트너와 함께 살고 계십니까?

- ① 예
- ② 아니오

2. 귀하께서는 귀하 자녀의 조부모나 친척과 함께 살고 계십니까?

- ① 예
- ② 아니오

누구와 함께 살고 계십니까? 해당하는 곳 모두 표시하십시오

- ① 친정 아버지 (자녀의 외할아버지)
- ② 친정 어머니 (자녀의 외할머니)
- ③ 시아버지 (자녀의 친할아버지)
- ④. 시어머니 (자녀의 친할머니)
- ⑤ 다른 친척 (자세히:\_\_\_\_\_)

3. 귀하의 가정에 아래 나이에 해당하는 자녀가 몇 명 있습니까?

- A. 2 살 미만                      \_\_\_\_\_
- B. 2-5 살                              \_\_\_\_\_
- C. 6-12 살                              \_\_\_\_\_
- D. 13 살 이상                              \_\_\_\_\_



## CURRICULUM VITAE

**So Hyun Park**

### EDUCATION

2014	PhD., Nursing, University of Illinois at Chicago, Illinois
2010	MSN., Nursing, Yonsei University, Seoul, Korea
2004	BSN., Nursing, Yonsei University, Seoul, Korea

### ACADEMIC AND PROFESSIONAL EXPERIENCE

2014	Research Associate	University of Illinois at Chicago College of Nursing
2012-2013	Teaching Assistant	University of Illinois at Chicago College of Nursing
2011-2013	Research Assistant	University of Illinois at Chicago College of Nursing
2010	Clinical Instructor	Sungshin Women's University College of Nursing
2008-2010	Teaching Assistant	Yonsei University College of Nursing
	Research Assistant	Yonsei University College of Nursing
	Clinical Instructor	Yonsei University College of Nursing
2004-2008	Registered Nurse	Yonsei University Health System

### AWARDS AND HONORS

July 2013	Global Korean Nursing Foundation Research Scholarship
April 2013	Virginia M. Ohlson Scholarship University of Illinois at Chicago College of Nursing
March 2013	Seth and Denise Rosen Memorial Research Award University of Illinois at Chicago College of Nursing
Nov. 2012	Chancellor's Graduate Research Fellowship University of Illinois at Chicago Graduate College
Oct. 2012	Korean Nurses Association of Chicago Scholarship
April 2012	Academy of International Leadership Development Scholarship University of Illinois at Chicago College of Nursing
Aug. 2010	Global Korean Nursing Foundation PhD Fellowship
2008-2009	Academic Scholarship, Yonsei University
Fall 2002	Academic Scholarship, Yonsei University

### PUBLICATIONS

Kim, M. J., Park, C. G., **Park, S. H.**, Khan, S., & Ketefian, S. (2014). Quality of Nursing Doctoral Education and Scholarly Performance in U.S. Schools of Nursing: Strategic Areas for Improvement. *J Prof Nurs*.

Lee, C. Y., Lee, H. K., Jeon, K. M., Hong, Y. M., & **Park, S. H.** (2011). Self-Management Program for Obesity Control Among Middle-Aged Women in Korea: A Pilot Study. *Jpn J Nurs Sci*, 8(1), 66-75. doi:10.1111/j.1742-7924.2010.00160.x

Kim, G. S., Kim, E. G., Lee, C. Y., Yoo, M. A., **Park, S. H.**, & Kim, J. E. (2009). Obesity Related Factors in Middle-Aged Women: Comparison of Body Mass Index and/or Waist Circumference as Measures of Obesity. *Journal of Korean Academy of Public Health Nursing*, 23(2), 273-284.

Lee, C. Y., Lee, G. Y., Jeon, K. M., **Park, S. H.**, Hong, Y. M., & Lee, H. K. (2009). Factors Influencing Stress Coping Behaviors of Elementary Students in Korea. *Korean Society for Health Education and Promotion*, 26(5), 1-13.

## PRESENTATIONS

**Park, S. H.**, & Norr, K. F. (July 2013). Family Effects on Obesity in Korean-American Preschool-age Children. Honor Society of Nursing, Sigma Theta Tau International 24<sup>th</sup> International Nursing Research Congress. Prague, Czech Republic. (Poster presentation).

**Park, S. H.**, Park, C. G., & Norr, K. F. (March 2013). Racial Differences in the Effect of Caregiver Type on Early Childhood Obesity. Midwest Nursing Research Society 37<sup>th</sup> Annual Research Conference. Chicago, IL. (Poster presentation).

**Park, S. H.**, & Na, H. J. (October 2012). Relationship Among Weight Perception, Depression, and Suicide Ideation among U.S. High School Students. Chicago International Nursing Conference. Chicago, IL. (Poster presentation).

Yona, S., **Park, S. H.**, Chimango, J. L., Chimwaza, A. F., Kaponda, C. P., Norr, K. F., & Norr, J. L. (October 2011). Factors Predicting HIV-Related Knowledge Among Urban Health Workers in Malawi. American Public Health Association 139<sup>th</sup> Annual Meeting and Exposition. Washington, DC. (Poster presentation).

**Park, S. H.** (December 2009). Comparison of Hypertension Knowledge and Health Service Quality Among Hypertension Patients Using Public Health Post and Hospitals. Korean Academy of Community Health Nursing, Fall Conference. Daegu, Korea. (Poster presentation).

**Park, S. H.**, Lee, C. Y., & Lee, H. K. (August 2009). Comparisons of Obesity Control Interventions for Middle-Aged Women in Korea. The 4<sup>th</sup> International Conference on Community Health Nursing Research. Adelaide, Australia. (Oral presentation).

Kim, G. S., Kim, B. J., & **Park, S. H.** (May 2009). Evaluation of Urinary Incontinence Prevalence and Program Demand in Middle-Aged Women. Korean Society of Public Health Nursing, Fall Congress, Seoul, Korea. (Poster presentation).

## PROFESSIONAL MEMBERSHIPS

2012 - Present	Sigma Theta Tau International, Alpha Lambda Chapter (U.S.A.)
2012 - Present	Midwest Nursing Research Society
2012 - Present	Asian American/Pacific Islander Nurses Association
2011 - Present	American Public Health Association
2009 - Present	Sigma Theta Tau International, Lambda Alpha Chapter-at-Large (Korea)