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Exploratory Study of the Caregivers' Perceived Barriers to Healthy Eating in the Mississippi Delta

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EXPLORATORY STUDY OF THE CAREGIVERS' PERCEIVED BARRIERS TO HEALTHY EATING IN THE MISSISSIPPI DELTA

By

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The Mississippi Delta has been recognized for its poverty level and high rate of obesity. As an effort to combat the obesity issue while also considering the poverty issue of the population, a descriptive analysis was developed to understand what intervention might be beneficial. Focus groups were conducted to determine barriers to healthy eating behaviors for children, grades K-2. Focus groups (n=6) with parents or guardians of children from the six elementary schools in the Mississippi Delta were conducted in the Spring of 2007. The emergent themes included, perceived healthy foods, where diet information had been retrieved, and the efforts associated with meal preparation. Participants also voiced concern regarding the school policy on vending and coke machines that provide high-calorie non-nutritious foods.

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CHAPTER I

INTRODUCTION

Mississippi Delta Geography

As the Mississippi river flows across middle America, it travels south from its origin in northern Minnesota to the Gulf of Mexico. The counties located in the Mississippi River Delta make up a region that is rich in natural and human resources and unique in its heritage, history and culture. Yet the Delta region, especially the Lower Mississippi River Delta region, has been plagued by economic distress as indicated by high unemployment, low income, poor health care and out-migration (Brown, 1990). The Mississippi River Delta region includes a total of 308 counties that makes up parts of Illinois, Kentucky, Missouri, Tennessee, Arkansas, Louisiana, and Mississippi. The Mississippi Delta is located in the northwest part of the state, spanning from Desoto County down the Mississippi River to Vicksburg. The 18 counties that make up the Mississippi Delta include: Bolivar, Carroll, Coahoma, DeSoto, Holmes, Humphreys, Issaquena, Leflore, Panola, Quitman, Sharkey, Sunflower, Tallahatchie, Tate, Tunica, Warren, Washington and Yazoo. Some of the cities located in the Mississippi Delta counties include: Tunica, Greenville, Greenwood, Indianola, Leland, Clarksdale, Cleveland, Yazoo City and Vicksburg (National Park Services, 2001).

People of the Delta

As a whole, the Delta is home to approximately 566,255 people. The population is approximately 55.5% African-American (U.S. Census Bureau, 2000). The rural, agricultural area that makes up the Delta is extremely vested in its history of African-American culture and society. This includes traditions of the family unit that are extremely important. Religion is one of the influential venues in the Delta communities, and their food and music are main ways the Delta communities identify themselves (James, 2004). Since food is such a key identifier with Delta communities, it would be realistic to expect that it would be one of the last cultural factors to change, which is common with most subcultures that integrate into the mainstream of a new society (James, 2004). The majority of individuals (80%) living in this region of the Mississippi Delta that is of interest are graduating from high school, but only 25% continue on to receive a higher education (U.S. Census Bureau, 2000).

The Mississippi Delta is one of the most impoverished areas in the Southeast US. The poverty level in the MS Delta is about 29.4%, with almost 166,478 individuals registered under the poverty level. The federal poverty guidelines states that households with 4 individuals with a yearly income of $21,200 or less are considered at or under the poverty level (US Department of Health and Human Services, 2008). Mississippi ranks among the poorest states in the nation with respect to the health of the population (Morgan, 2001). Characterized by the excessive levels of poverty and predominantly African-American population; the Mississippi Delta has been referred to by some as a Third World country in the heart of America (Parfit, 1993). The three Mississippi Delta towns that were part of this study included Leland, Indianola and Greenwood. Leland is

home to approximately 5,502 individuals, 32% of whom are identified as white and 68% of whom are identified as African-American. Indianola has a population of 12,066 persons, with 26% identified as white, and 73% identified as African-American. Greenwood houses 18,425 persons, and 33% of them are white, while 67% of them are African-American. Based on participants in this study, the largest percentage of these citizens obtained a high school diploma, but did not receive a Bachelor's degree (36%). This rut continues to perpetuate the lifestyle, economics, and standards of the Delta. The mean household income for these three towns totals approximately $24,617. This is supported by the unemployment status of these three towns, which totals approximately1633 individuals, or 8% of the population (U.S. Census Bureau, 2000). During the 2005-06 school year, 30.1 million children participated in the National School Lunch Program through more than 99,500 schools across the nation. On a typical school day, 17.7 million of these 30.1 million total participants were receiving free or reduced price lunches (Food Research and Action Center, 2007).

Food in the Mississippi Delta

The Mississippi Delta is known to be some of the most fertile land in the nation and provides the state with cotton, soybeans, rice, sugar cane and feed grains. The rich land and ample natural resources in this region of the nation have limited the development of industry to protect the natural ecosystems. As a result, the people living in the Mississippi Delta have limited access to some of the most standard amenities available in other areas. There is limited access to supermarkets and grocery stores, making affordability and availability of food one of the most influencing factors of

people's diets (Turrell, 1998). Supermarkets have migrated to the suburbs, leaving low-income shoppers at the mercy of high-priced convenience stores and local grocery stores with small selections (James, 2004). The majority of fresh foods available at a local convenience store are locally grown and seasonal, as opposed to the commercial stores that can import a variety of produce all year long. In such environments where food choice is limited, consumers will tend to choose similar things each time they purchase food (Lambert et al., 2005). With the rural environment and high level of poverty, there is limited availability to adequate sources of quality foods and nutritional and medical education or access to health care. Household food insecurity status is double the national rate, and is associated with the lack of self-esteem that may be due to poverty, lack of education, or other individual characteristics (Ferndando, 1984; J Rural Health, 2004). There is also a list of social roles that shape a woman's ideas and beliefs without the food aspect, especially when that woman is the head of a poverty level single parent home. For women in rural locations, as food insecurity increases the availability of food variety decreases (Blake & Bisogni, 2003). Individuals who are more food secure are more likely to meet nutrient recommendations than are those individuals who are food insecure (Champagne et al., 2007).

Many historical and cultural factors influence the current dietary intake and food choices of African-Americans. The African-American population's food choice in the Mississippi Delta is referred to as 'Soul Food' and is significantly different from that of the rest of the United States (Champagne et al., 2004). Soul food emphasizes fried, roasted, and boiled food dishes using primarily chicken, pork, pork fat, organ meats, sweet potatoes, corn and green leafy vegetables, such as mustard and collard greens

(James, 2004). Compared with other ethnic groups, a significantly larger proportion of African-Americans reported higher consumption of items such as greens, cornbread, sweet potatoes, okra and other foods that are consistent with traditional African-American dietary patterns.

In a 2007, study conducted by Ard, et al. (2007), the cost per serving for greens and okra was higher than the median cost per serving of some of the other foods surveyed, such as carrots, applesauce and cucumbers. This implies that African-Americans may overlook potential cost concerns in order to purchase some fruit and vegetable items based on preferences, cultural significance, family traditions, and taste (Ard, 2007). While in repeatedly mentioned as a contributor to decreased healthy food consumption, this study mentioned above brings in the idea that taste and tradition may actually be a more influential factor than price. Income is noted previously as being relatively low with this population. It might be on interest to know if this population understands that they are not purchasing the most economic products or if they are not interested so much in the economics of the food, but the flavor and culture.

Although fruits and vegetables are low-energy-dense foods, preparation techniques common in African-American households, such as deep fat frying, adding high-fat meats for seasoning, and adding sugar, can result in significant changes to the energy density of the final food product. This is a lingering social identity remaining from the Civil War era. These foods are extremely high in simple carbohydrates and fat, and were used to stretch what little food was available to feed many. African-Americans tend to gather with extended families on a regular basis, and food is usually a large part of that gathering. African-Americans have noted that friends and relatives usually are not

supportive of dietary changes. There are African-Americans that are interested in learning to eat and cook utilizing healthier methods. It has also been reported that they would be more inclined to attend education programs at neighborhood churches and community centers rather than at health departments or hospitals, because of the close proximity (James, 2004). The main barriers to healthy eating for rural individuals include food availability and cost of food along with the unwillingness to improve diet or preparation methods from traditional ways (Yadrick et al., 2001).

Diet-Related Disease

Rates of hypertension, obesity and diabetes are higher in the Mississippi Delta region than those nationwide (Smith, Lensing, & Horton, 1999). The people in the Mississippi Delta, as well as other rural and minority populations, tend to view chronic illness as a condition to be accepted rather than seek an avenue for intervention (Groce & Zola, 1993). Many factors go into determining what is an appropriate response to a particular stimuli in a person's society and how it is to be dealt with. Low-income mothers often interpret nonspecific behaviors such as frequent crying as signs of hunger, and feed the child even if the child is not hungry**.** Cultural, socioeconomic, and psychological factors also may shape parents' perceptions of a healthy weight for their children (Savage, Fisher, & Birch, 2007).

Some individuals in rural areas feel that if they can get around and do daily activities, it does not matter how big they are (Putnum & Allshouse, 1999). Mississippi and specifically, the Mississippi Delta are considered one of the most obese regions in the nation. African-Americans living in rural areas are at high risk for poor health. In general,

populations in rural areas of the United States smoke more, exercise less, have less nutritious diets, and are more likely to be obese than populations living in suburban areas (Eberhardt, Ingram, & Makuc, 2001). The Mississippi Delta of the United States has a higher level of diet-related chronic diseases than their peers in the rest of the nation (Harsha & Thornton, 1997). It has also been reported that the level of health literacy among this population, particularly as it relates to the concept of energy balance, is superficial. There is a strong culture of overeating, in which there is tremendous pride (Parham & Scarinci, 2007).

Objectives

The objectives of the focus groups were to 1) determine what are the individual and personal barriers to healthy eating in the Mississippi Delta and also to 2) understand the community and external barriers to healthy eating in the Mississippi Delta. Content analysis was conducted in relation to these research questions, which led to the emergent themes of these focus groups. The analysis of reoccurring themes was used to further understand the issues involving healthy eating and how they may impact this population.

CHAPTER II

LITERATURE REVIEW

Eating Patterns

Food insecurity in a wealthy society such as the United States is a complex, multifacitated problem, and one that should be addressed by taking into account the various aspects of the society (Chambers, 2007; U.S Department of Health and Human Services, 2005). A study by James (2004) found that some women noted that certain products such as lean cuts of meat, egg substitutes, and lactose-free products were not always available at their local grocery store, forcing them to purchase what was available, which may not always have been the healthiest option. Bisogni, et al. (2005) found that some of the low-wage working women in his study conducted in New York took pride in the idea that they could take a recipe and substitute expensive ingredients for cheaper ones, even if it might compromise the nutritional value of the food item. Not allowing foods to go to waste or expire before it could be eaten were skills that were important to these participants. Since there was such limited availability, the children were not exposed to new foods, such as eggplant and kiwi, and the adults would not necessarily know how to prepare them if they did have access to them. Variety is a major

characteristic of a healthful diet, and the issue of limited variety in the diets of nominally food secure households is of potential concern.

Unlike urban children, it has been noted that for rural children adopting a healthful diet is limited by the availability of foods at home. Children in rural settings have stated that their eating patterns are not their own, instead they eat whatever their parents decide. The home is where eating patterns are determined, because the parents are the ones who have decided which foods to purchase, and how to prepare them (Monge-Rojas et al., 2005). Although children may want to adopt healthful eating habits, they could not do so without the support of the whole family (Monge-Rojas et al., 2005).

Bisogni, et al. (2005) found that the factor which had the most restraint on both men and women in upstate New York, was food purchasing practices was income. Another primary barrier was fluctuating work schedules, which inhibited their ability to cook for their families. People held a sense of pride, confidence and satisfaction when they were able to manage the food eaten by their families even under less than perfect conditions. Participants tried to get more involved in managing the family's food, which involves the process of maintaining a food supply that can meet one's physiological needs. While some of the participants felt that they had the knowledge they needed to be able to provide their family with adequate food management, they were low on financial resources to accommodate that need. Rural individuals that participated in the Bisogni et al., 2005 study indicated that it is very difficult to adopt the proposed healthful eating practices entirely, even though they recognized that healthful eating would be beneficial for their health.

Some of the reasons for transition to healthier eating habits included new health concerns, religious reasons, and a change in lifestyle responsibilities. (Bisogni et al., 2002) Retail price increases between 1982 and 1997 were lower in sugar, sweets, fats and oils compared with those of fruits and vegetables (Putnam, 1999). This type of evidence is consistent with the theory that the costs of healthy items, specifically fruits and vegetables, are a limiting factor in consumption, and lead to preferential purchasing of lower-cost, more energy-dense food items with less nutritive value (Drewnowski & Specter, 2004). Lowering the cost of these items has become an intervention target in combating obesity. As a rule, when the cost of fruits and vegetables increases, the availability of fruits and vegetables in the home decreases (Ard, 2007).

As young omnivores, children are ready to learn to eat the foods of their culture's diet. Their ability and willingness to learn and accept a wide range of foods is remarkable provided that their feeding experiences are within an unbiased environment (Savage, 2007). The parents' role in developing the eating habits of their children is extremely important. Parents are the people whom children are most likely to learn from, believe in, and trust when it comes to food (Jefferson, 2006). Formation of lifelong eating habits are thought to be influenced by food preferences that develop early in life, even possibly influenced by the choices made by the mother when the child is still in utero (Longbottom, Wrieden, & Pine, 2002).

The food choices a mother makes during her pregnancy may set the stage for an infant's later acceptance of solid foods. Many flavors in the maternal diet appear to be present in the amniotic fluid and later in the breast milk (Savage, 2007). Infants do not have to learn preferences for basic tastes; they are predisposed to pleasing flavors. Young

children readily acquire preferences for flavors associated with energy-rich foods. Even the fruits and vegetables most preferred by children tend to be those that contain the most energy, such as bananas, potatoes and corn (Savage, 2007). Natural sweetness is associated with readily available calories from carbohydrates and bitterness is correlated with toxicity. The possibility exists that human infants possess a biological control system which enables nutritional adequate food choice, at least when a variety of wholesome and natural foods are available (Dietz, 2001).

Children decide their food likes and dislikes by eating, and associating food flavors with the social contexts and the physiological consequences of consumption. There is evidence that eating behaviors evolve dramatically during the first years of life, especially the first five years, which is a rapid time of growth and development. This is when the foundation for future eating patterns develops (Savage, 2007). Most adult picky eaters attribute their choosiness to specific events in their childhood that turned them off to certain foods, and noted concern that this habit would influence their children's habits (Blake, 2003). People discriminate among foods on the basis of such sensory attributes as color, texture, flavor, shape, temperature, appearance, and aroma (Walsh et al., 2001). Children learn what, when and how much to eat on the basis of cultural and family beliefs, attitudes and practices surrounding food and eating (Savage, 2007).

People acquire a 'taste' or liking for a food as their exposure and familiarity with that food increases. Low social-economic status groups are the least likely to be aware of, or responsive to, health promotion and education messages. As children, they may have had less direct and continued exposure to the types of food being promoted in the American dietary guideline publications. This limited exposure to healthy foods may in

turn hinder the development of a preference for these foods among low social-economic status groups (Turrell, 1998).

Parent-child resemblances in food preferences have been noted as greater than that of unrelated child-adult pairs. Same sex parents and children shared even more preferences with each other. Familial resemblance in food and nutrient intakes may be important in the etiology of diseases in relation to dietary risk factors (Longbottom et al., 2002). Parental influence on food choice is played out in many ways; as providers of the foods for the family, as role models of eating that children learn to mimic, through religion and culture and by using feeding practices to encourage the development of socially appropriate eating patterns and behaviors in children (Hardy, Wadsworth, & Kuh, 2000; Longbottom et al., 2002).

Parental control of feeding practices, especially restrictive feeding practices, tends to be associated with overeating and poorer self-regulation of energy intake in preschool-age children. Parents' rewarding children for consuming healthy foods in hopes of increasing children's intake of foods, such as vegetables, will actually result in the child learning to dislike and avoid those foods. Restricting children's access to 'forbidden' foods also has a paradoxical effect on food preference and energy intake. Restricting access to palatable foods may be counterproductive in that it may promote their intake. Encouraging children to eat by focusing their attention on the amount of food on the plate promotes greater consumption and makes children less sensitive to the caloric content of the foods consumed (Savage, 2007). In young children, restricted access to certain foods appears to increase preference for those foods (Fisher & Birch, 1999). Encouraging children to eat may, ironically, decrease the intake of the food that is being encouraged

(Birch, Marlin, & Rotter, 1985). Division of responsibility between parents and children around eating may have a significant impact on children's food intake (Dietz, 2001). Preparing healthful food is perceived as being as adult task. Foods that are already prepared and ready to eat or require minimal preparation are attractive to adolescents (Monge-Rojas et al., 2005). Parents should be in charge of what children are offered and when, and children should be responsible for the decision whether or not to consume what is offered. Clinical data suggest that this rule effectively reduces conflict around eating, and may affect the consumption of fruits and vegetables or other patterns of food consumption (Dietz, 2001). Children who eat dinner with their families consumed more fruits and vegetables, fewer fried foods, and less soda than children who did not eat dinner with their families (Gillman et al., 2000).

Children learn about food through the direct experience of eating, and by observing the eating behaviors of others (Hardy et al., 2000). Children's preferences and acceptance of new foods are enhanced with repeated exposure to those foods in a non-coercive setting. New foods may need to be offered to preschool-aged children ten to sixteen times before acceptance occurs (Birch, 1979). For families under financial strain, the option of buying a food item ten to sixteen times with no promise of the child consuming it is a bit unrealistic. Even though the parents are consistently the most influential contributors to a child's development of eating habits, the way each parent influences the child is vastly different. Parents' approach to feeding their children reflects their goal for their children's eating and health status and these goals are influenced by culture and socioeconomic status (Savage, 2007).

Blake and Bisogni (2003) found there were four types of parental dietary influencing styles. These included the peacekeeper, healthy provider, struggler, and partnership parents. The peacekeeper parents did not typically force their children to eat any foods they did not want to eat. The healthy providers felt that it was their duty to provide the family with foods that would promote health and establish good healthy lifestyles in their children. The only thoughts that the struggler groups gave to food choice was whether they could afford it and making sure their children got fed. In the partnership style, all the members helped with the shopping, cooking and planning. Also noted about the partnership group, was that eating together was somewhat rare and many times whenever hungry, one would cook himself something.

The family environment, as opposed to genetic predisposition, has been suggested as a cause of similar nutrient intake patterns and food acceptance in parents and children (Feunekes et al., 1997). This finding concluded that the eating habits of the parents influenced the nutrient intake of their children. The importance of the family is apparent in the development of eating behaviors, with emphasis on the idea of what a proper meal would be (Klesges et al., 1991; Marshall, 1995). Considering, the family unit is an appropriate target for interventions aimed at establishing healthy eating behaviors (Longbottom et al., 2002). Eating is not an option, so with the choices that people make, they make a statement of who they are and what they value (Devine, 2005).

Eating Identities

In reference to identities, on average, people tend to seek identities that are viewed as desirable, and avoid identities viewed as being negative. For example, the idea

of being a picky eater is viewed as negative, while a healthy eater viewed as positive. The enactment of these identities through eating is the actual carrying out of the identity. (Bisogni et al., 2002) The use of food has long been recognized as a way a person assigns identity to herself/himself and others (Fischler, 1988). They consider what is an edible, type of foods liked and disliked, and methods of preparation (Bisogni et al., 2002). Some other perspectives that are involved include gender roles, ethnicity, socioeconomic status, food security, geographic location, and aging (Bisogni et al., 2005; Caraher et al., 1999; DeVault, 1991; Kempson et al., 2003). All these aspects combine in a child's mind to develop what is appropriate and what is acceptable for him and his place in society (Bisogni et al., 2002). The possibility exists that the concept of identity, and the self-image that people hold of themselves, may be useful in furthering the understanding of food choice (Bisogni et al., 2002).

People manage their multiple identities by assigning greater importance to some identities over others, and by enacting different identities in different situations (Markus, 1990). These identities could be more easily understood in reference to the life course theory perspective that focuses on how the life history of groups or individuals in society may explain differences in health and food choice (Wethington, 2005). There are many factors that shape the mental process that includes the negotiations among food choice values such as sensory perceptions, monetary considerations, convenience, social context and physical well-being. Although all of these topics have been assessed, the cognitive processes that a person may use in food choice depend on the person's role as an eater or a provider of foods for others (Blake & Bisogni, 2003). Life course contributors to food choices include family food upbringing, personal and family health history, and acquired

resources, including life skills; social locations for choice provided by ethnic identity, social and gender roles, and situational and historical contexts. Turning points in behavioral trajectories are marked by relatively drastic changes that often involve changes in personal identities from which people do not turn back, such as diet-related disease onset (Devine, 2005).

Theoretical Models Regarding Food Choice

Some of the research models used to analyze food choice included the food choice process, the social cognitive theory, the ecological model, the food choice capacity and the life course perspective. The food choice process model is used to determine the mental process that people go through for everyday food activities (Bisogni et al., 2005). The social cognitive theory considers the reciprocal interaction of current environment individual characteristics, and behaviors on food choices (Baranowski, Perry, & Parcel, 2002). The ecological model considers the influence of multiple environmental factors on food choices (Stokols, 1996). The idea of the food choice capacity is to broaden the idea of eating to a more conceptual way of thinking. The food choice capacity is the extent to which one feels able to and wants to 'eat properly', according to his definition of proper (Bisogni et al., 2005). The life course perspective can be used to understand how people choose and consume foods, and how changes in the food and eating environment affect those choices (Elder, 1995). The life course perspective provides insight into how social and biological pathways for nutrition and health are linked (Devine, 2005).

When trying to understand food choice, scheme theory was recommended as another way to understand how people may manage their identities and roles in eating. Scheme theory has roots in various social sciences, and it is important to understand, since most food choice is due to the effect of different levels of knowledge and perceptual processes (Markus, 1977; Olson, 1981). Food choice schemes consist of long-term ideas arranged systematically in the minds of the people in the society to give the food meaning. This will include beliefs about foods and affections related to food (Blake & Bisogni, 2003). James (2004) determined some of the long-term beliefs, attitudes, and behaviors that have been around for generations that are harder to change. These ideas include healthful eating means giving up tradition and culture; having a fatalistic attitude (have to die of something); believing that elderly people are entitled to eat whatever they choose; meat is an integral part of the meal; eating chicken with the skin; drinking whole milk, rather than skim or low-fat milk; it is acceptable for women with children to be heavier than those without children; men only go for healthcare if they are seriously ill. These thoughts are stable through most subcultures, while more short-term beliefs are evolving.

Short-term beliefs, attitudes and behaviors have only been recognized for a generation or less, and include eating fast foods; dining away from home; inability or difficulty in cooking or preparing healthy meals; or believing healthy foods do not taste good (James, 2004). These schemes are continually modified in response to new food-related experiences (Blake & Bisogni, 2003). There are also many other, more specific ideas about what foods are acceptable as the young population is subject to the standards that the older generations pass down as fact (James, 2004).

While studying food choices at a particular moment or place in time is helpful in giving researchers a good idea of a particular population's eating habits, it does miss out on some of the dynamic nature of people making choices, the foods from which they are choosing, and the context in which they are making those choices. This data may not uncover all the important effects of policy or system shifts on individual behavior or vice versa (Devine, 2005). The shaping relationship that identity has with eating exists over a person's life course, and is influenced by the environment in which a person lives. The identity a person holds related to eating, the stability of the identity, and the process in which the identity was involved in eating are all parts of shaping a person's life course events and experiences through which the person constructed meanings and categories for food and eating. These identities described by individuals are in reference to a normalcy standard they create based on the people in their lives to whom they compare themselves (Bisogni et al., 2002). To understand current food choices, it is also important to understand how the meanings and norms associated with food choices and with such social categories as class, race or ethnicity, and gender have changed over a person's life span or across generations (Devine, 2005). Studies have proven that individuals' past and present environments could limit or expand the range of possibilities in the development of identities related to eating (Bisogni et al., 2002). Childhood living conditions and social class have been associated with adult health and nutritional status (Lundburg, 1997). They have also shown that the social class of one's past is a strong predictor of health behaviors and health status as well as a major indicator for an individual's food systems, with implications for health, including food availability, food access, transportation and costs (Devine, 2005; Smith, 2002).

External Eating Cues

As social factors, the family unit along with internal and external cues all play a part in food choice. Some other indicators are food appearance and advertising. Color serves as a cue for flavor expectations, as well as for flavor indication and is a major factor is food choice. In a study by Christensen (1985), determined that red was the consistently favorite color of foods by children. There is a new social acceptability of the lifestyle of entertainment over interaction during meals. Individuals are dining with the TV on and not saying a word to each other. In the past, eating for children has generally been within a social context, such as the family meal. Eating alone has now become a common event for children. The importance of the family being present at meals has decreased continuously with the child's age, while the importance of watching television while eating has increased with age. It appears that the family is being replaced by the television as a 'social companion' at meals (Westenhoefer, 2002). The amount of time spent watching television may be affected by parental control, and may affect children's efforts to influence food purchases and choices by parents. In a study by Halford (2007), obese children recognized a greater number, and a greater proportion, of food television advertisements compared to non-food television advertisements. They also recognized more television food advertisements than the normal weight children (Halford et al., 2007). There has been a tremendous increase in recent decades in the availability of foods, as well as in advertising that promotes consumption, which coincides with the substantial rise in the amount of time children and adolescents spend viewing mass media (Dietz & Gortmaker, 1985). Advertising is an important factor that influences food

choices when eating outside the home, because advertising links these foods to what a person identifies as current and modern. We should expect that the environmental pressure for increased consumption of foods and promotion of inactive leisure pursuits would continue to perpetuate the cycle, and increase obesity in the future (Bandini, Schoeller, & Dietz, 1990).

Outside the home, the influence of peers on their food choices may be great, but parents may continue to have a substantial input into their children's choices of foods, at least until the age of eight (Longbottom et al., 2002). Peers exert a great deal of influence on the ability to adopt healthful eating practices because everyone is pressured into eating the same thing (Monge-Rojas et al., 2005). When boys are in a group; they make it an unspoken rule to prove masculinity or bravery by eating unhealthy foods. With girls, eating healthier is a sign of femininity (Monge-Rojas et al., 2005). Obese children are reported as being significantly more conscious of their size and weight than normal weight children, and also reported having fewer friends (Jefferson, 2006). Two major processes that modify food acceptance patterns of a child have been described. First, the mere exposure to unknown food, the repeated experience of tasting and eating it, reduces the tendency to reject the unknown food. This phenomenon has been termed neophobia. Secondly, food acceptance is modified by social influences: children learn to prefer food eaten by adults, by their peers or by fictional heroes in a story. Peer influence may be more powerful than parents' influence once they enter their early teen years (Westenhoefer, 2002).

Schools' Involvement

While the parents and the home are the main influences on a child's eating patterns, the school has emerged as an excellent option for providing exposure to and education about new foods. Improvement of the school food service might be the most effective method to influence student's diet. With the number of students who qualify for free or reduced school breakfast and lunch, and a large percentage eating both meals each day at school, these meals provide a natural opportunity to expose children to healthful eating patterns (Wang et al., 2006). Proposed healthful eating practices could be adopted as long as the nutritional quality of the foods available at the school food counter was improved, because this would not only improve the diet, it would also establish the pattern of consuming healthful food regularly (Monge-Rojas et al., 2005).

The National School Lunch Act requires that school meals "safeguard the health and well-being of the Nation's children" (United States Department of Agriculture, 2007). Participating schools must serve lunches that are consistent with the applicable recommendations of the most recent Dietary Guidelines for Americans, including: eat a variety of foods; choose a diet with plenty of grain products, vegetables and fruits; choose a diet moderate in sugars and salt; and choose a diet with 30% or less of calories from fat and less than 10% of calories from saturated fat. In addition, lunches must provide, on average over each school week, at least 1/3 of the daily Recommended Dietary Allowances for protein, iron, calcium, and vitamins A and C (U.S Department of Health and Human Services, 2005). Standards to qualify for free lunches, as determined by the USDA, include families that are receiving Food Stamps or TANF, and most foster children, regardless of family income. Reduced lunch prices are determined based on the

family income in reference to the Federal Income Chart (United States Department of Agriculture, 2007). During the 2005-2006 school year, 30.1 million children each day got their lunch through the National School Lunch Program (Food Research and Action Center, 2007).

Many school cafeterias these days offer a wide selection of foods daily. The availability of a large selection of foods mirrors the modern society, where consumer choice is highly valued (Lambert et al., 2005). Which means the school will provide what they know the students will buy, sometimes despite how healthy it is. While family involvement is very important in the development of the next generation's priorities, schools are identified as a key setting for promoting lifelong healthy eating and physical activity among young people, and for public health strategies to prevent and decrease obesity (Centers for Disease Control and Prevention, 1997). Some children have noted that they would eat more healthful foods if they were combined with other foods to improve their taste. The adoption of some healthful eating practices might be seen favorably if their peers adopted them, so that these habits are practiced in a group and they are labeled as normal foods (Monge-Rojas et al., 2005). The process of reducing food intake should focus on potential sources of excess caloric intake, such as soda, fast foods, or the calorically dense foods advertised on television. One of the most appropriate strategies for encouraging energy balance is not to purchase calorie dense foods and to increase physical activity at home and school. The unavailability of healthful food in the school environment, inadequate food choices within the family diet, and peer-group influence against the adoption of healthful eating habits were the main barriers to healthy

eating. Price, taste, time, habits, risk perception and the media were also mentioned as barriers (Monge-Rojas et al., 2005).

There is a broad range of factors within schools that impacts the students' energy balance. These factors range from the curriculum to school policy, school services, and the surrounding community (Dietz, 2001). One potential dietary intervention focus is to eliminate excess consumption of sugar-sweetened beverages, which has increased dramatically in the past decade, along with the obesity rates (Harnack, Stang, & Story, 1999). Inappropriate food choices are more prevalent in school children from low-income groups; cafeterias that allow regular access to foods such as chips promote this behavior. The increasing trend in manufacturing food products highly fortified in particular micronutrients, such as sugary cereals and snack crackers, will dramatically increase the relevance of this problem (Lambert et al., 2005). Children have ready access to these products in school, via vending machines and cafeterias, and beverage manufacturers gear marketing strategies directly to children and adolescents (Story, Hayes, & Kalina, 1996).

Dietz and Gortmaker (2001) found, to improve energy balance**,** the curriculum needed to emphasize a healthier diet and reduced television-viewing time, and replacing this inactive time with physical activity chosen by the student. Results concluded that both of these were instrumental in reducing the numbers of obese measurements. School curricula that is already in place, such as physical education and science classes can be used to emphasize a healthy lifestyle and alter a child's knowledge, attitudes and beliefs that lead to changes in either food consumption or activity levels at school and at home (Dietz, 2001).

In a study of African-American parents in Florida, some of the parents felt that the schools negated their efforts to encourage a healthy lifestyle for their children by serving fast foods and having vending machines since these are obviously not serving healthy foods to the children, but at the same time making a profit for the school (James, 2004). Excess consumption of sweetened beverages that are available in these vending machines is a potential focus for intervention since the marketing is geared directly at this vulnerable population. The consumption of these sweetened drinks and snacks has dramatically increased in the past decades, correlating with the steady increase in obesity (Harnack et al., 1999). Family support is vital, and the goal is to encourage parental involvement in the intervention, empower the families, and change the family environment to help students change unhealthy behaviors and maintain healthy eating and physical activity (Wang et al., 2006). Research supports that the involvement of the parents in school-based programs is extremely beneficial and also inline with the CDC's guidelines for effective school health promotion programs (Centers for Disease Control and Prevention, 1997).

Diet Related Disease

According to Savage, et al. (2007), for nearly all of human history, the major threats to the health of children have been food scarcity and infectious disease. Current child feeding practices which involve low cost, low nutrient, high calorie foods have changed the health and feeding relationship to food surplus, obesity, and chronic disease, which have replaced food scarcity and infectious disease as major threats to children's health (Savage et al., 2007). It is alarming to discover the number of parents of

overweight and obese children who are unable to recognize that their child is above his normal weight for his age (Jefferson, 2006). Nearly one third of mothers with overweight children do not perceive their children as being overweight (Maynard et al., 2003). The prevalence of overweight and obesity has increased two-fold since 1985. Obesity during childhood and adolescence is a particular concern, because of the growing evidence that overweight and obese children suffer the same co-morbidities as overweight adults, and suffer increased morbidity risks during childhood, even after weight loss (Timperio, 2005). Poor eating habits are a major contributor to obesity and other chronic diseases (Sergeon General, 2001).

Studies have found that 60% of overweight 5-to10-year-old children already have one associated cardiovascular disease risk factor, such as hyperlipidemia, elevated blood pressure, or hyperinsulinemia, and over 20% have two or more cardiovascular disease risk factors (Dietz, 2001). Studies have also shown that diet plays a role in the etiology of chronic degenerative conditions, such as coronary heart disease, non-insulin dependent diabetes mellitus, and some cancers (Horton, 1995; Smil, 1989; Turrell, 1998).

It is now generally accepted that diets high in fat are conducive to obesity. High-fat diets appear to undermine the normal physiological regulation of food intake and induce hyperphagia. The term “passive over-consumption” has been coined to describe this. Several attributes of fat, such as high palatability and low satiating capacity, could contribute to passive over-consumption (Gibson, 2000). Social stigmatization, physical limitations, and lack of a healthful diet are more relevant indicators of a weight problem than are certain anthropometric measurements, such as BMI, since such measurements do

not take into account body composition, only body mass (Bentley, Gavin, Black, & Teti, 1999).

Parenting factors and theories reveal that in order to change parenting practices, we need to alter parents' belief regarding current threats to their children's health (Savage et al., 2007). Parental health status and health behaviors have been associated with childhood obesity and dietary intake since the child's lifestyle and health is usually a reflection of the parents' choices for lifestyle and health (Devine, 2005). Obesity is a consequence of many factors; the development of effective interventions would require strategies that affect multiple aspects of an individual's life simultaneously (Dietz, 2001). Potential explanations for the increasing prevalence of obesity include, but are not limited to, increased intake of energy-dense foods and sugar-containing beverages, lower levels of physical activity, declining levels of strenuous activity at work, and the proximity of fast-food restaurants. The combination of increased access to low-cost convenience foods and decreased disposable income for food may lead to preferential displacement of fruits and vegetables (Ard, 2007).

Causes of overweight are complex, and recent attention has focused on the role of the environment in chronic weight gain. The rapid increase in the prevalence of obesity worldwide over a relatively short timeframe suggests that the explanation is unlikely to be biological. The environment is increasingly being noted as an important influence on energy intake and expenditure, and is considered to be a driving force behind population-wide weight gain (Timperio, 2005). Diets containing foods which are high in saturated fats and refined sugar and salt and are low in fruits and vegetables may contribute to the development of cardiovascular diseases, certain cancers, obesity and dental caries**.** A diet

high in fruits, vegetables and nonstarchy polysaccharides has been shown to contribute to the prevention of cardiovascular disease and various cancers while adequate calcium intake may be a factor in preventing osteoporosis (Block, Patterson, & Subar, 1992; Coles & Turner, 1995; Kneke et al., 1994). Fruits and vegetables are known to help preserve health due to there large content of vitamins, minerals, and antioxidants (Longbottom et al., 2002).

It is unrealistic to expect young children to respond to education on healthy food choice related to future health issues. Education that will motivate this age group to consider a diet modification would cover topics such as how healthy eating improves grades, how it improves athletic performance, or how healthful eating may make improve skin and help maintain a healthy weight. These are more appropriate and will produce a greater response (Jefferson, 2006).

According to Westenhoefer (2002), when questioned about foods and health, more than 90% of 6-to 8-year-old children state that in order to stay healthy they should eat fruit and vegetables, and less than 40% think that fast food or lemonade are good for their health. Is has been shown that knowledge about health or the fattening effects of food does not influence food or drink preferences in 6- to 10-year-old children.

About 40% of family food dollars are now spent on food away from the home (U.S Bureau of Labor Statistics, 2003). In these contexts, children may be served particularly large portions, and consume more energy and fat than when eating at home (Bowman et al., 2004; Nielsen & Popkin, 2003). Consumer portions served by restaurants and fast-food establishments are often double the size of current recommended USDA serving sizes (Young & Nestle, 2003).

In a study done by Rolls, et.al (2000), found that children who serve themselves are more likely to consume smaller portion sizes. Three-year-old children consistently consumed the same amount of an entrée during a meal, regardless of the portion size served, whereas 5-year-olds ate the amount served to them, even when the portion size was increased. Increased energy intake seems to occur, regardless of the subjects' energy needs (Rolls, Engell, & Birch, 2000). It is understood that as children grow and play their energy need increases, although this study, and others have proved that there are other factors involved in childhood intake. Mostly it is the success of the marketing for large portions and the amount of food consumed by the adults in their lives that sway their consumption (Colapinto et al., 2007).

Between NHANES II and NHANES III, the number of children and adolescents considered overweight increased by 100% in the United States. According to NHANES III, 10%-15% of children and adolescents are overweight. Because the gene pool within the United States population did not change materially over the 15 years encompassed by the two NHANES surveys, the changes in the prevalence of overweight children can be accounted for only be environmental effects on energy balance (Troiano et al., 1995).

Dissatisfaction with body image has increased, with children as young as nine years of age expressing dissatisfaction with their body shapes, even if they are of a normal body weight. In one study, 3.7% of girls and 0.7% of boys admitted to using vomiting as a measure of weight control (Westenhoefer, 2002). While the awareness of healthy eating is somewhat high, with both parents and children understanding that fruits and vegetables are healthy, it is easier for individuals to continue preparing and consuming the same foods in the same way that they always have (Jefferson, 2006).

Government and health authorities have responded to the evidence that diet has a large role in chronic illness by developing dietary guidelines. It is recommended that people purchase foods which are comparatively high in fiber and low in fat, salt, sugar and cholesterol. Studies have found that people from low socioeconomic groups are the least likely to purchase or consume foods which are consistent with dietary guideline recommendations. This may be partly reflected in the higher rates of overweight and obesity among low socioeconomic status groups and their higher mortality and morbidity rates for diet-related diseases (Turrell, 1998).

The United States Department of Agriculture (USDA) Healthy Eating Index (HEI) is a summary measure of overall diet quality, providing a picture of type and quality of foods people eat and whether or not their diets comply with the Dietary Guidelines and the Food Guide Pyramid (Basiotis et al., 2000). This source is used as a reference by health authorities for food recommendations, for items such as fruits and vegetables, since these foods are more expensive and less available in predominantly African-American neighborhoods (James, 2004).

Qualitative Data

A major issue faced today by researchers in conducting practical research is how to ensure that their findings engage the perspectives of those involved or influenced directly by aspects of the research questions. The qualitative approach to research provides an ideal framework from which researchers can plan to explore a wide range of perspectives. This qualitative approach, specifically, focus groups, with certain groups is a well-established method of data collection. It is dependent on the contributions made by

participants in their own words. Focus group discussions mirror discussions about issues and concerns that may happen outside the research arena (Serrant-Green, 2007). Qualitative data is useful for surveying a particular population in order to determine needs and strengths in an area. The questions are presented in such a way that any answer is appropriate, and will provide useful information to enhance the study. The interviewer or questionnaire survey conducting the study must be sure to be impartial, and only probe questions in order to understand and explain the participant's answer, not to educate or further strengthen a particular side of the argument.

In a study done by Bisogni et al. (2005), participants were interviewed in a focus group setting. From this trial evolved four main themes that described the participants' ideas about their eating habits. These included standards, food management skills, circumstances, and food choice capacity. The standards were expectations that the participants held for what and how much they should eat. Most of the participants developed these from their childhood, and carried them into their adult lives. The standards section also includes the idea of comfort food and taste specificities (such as fresh vegetables or home cooking). The food management skills were the participants' skills and abilities of cooking and keeping food costs down (Bisogni et al., 2005).

Focus group discussions are particularly valuable, as they provide access to data that otherwise is not readily available. This form of research is also used to determine directions, topics, and questions for additional research. This format can be used as exploratory to discover topics and/or questions for survey research. The discussions provide a forum in which to share thoughts, while at the same time providing a source of preliminary data that will be used to generate intervention in the future (Richards &

Smith, 2006). The purpose of focus groups is not to generalize; it is to allow the participants to critique, comment, explain, and share their experiences, opinion and attitudes on the issues in question (James, 2004). It also must be understood that the participants, by and large, have limited education, and this makes their answers somewhat contradictory, since they had a bit of trouble verbally expressing exactly what they wanted to say. Focus groups are a method of formal assessment. They provide researchers with rich insights into the realities defined in a group process, particularly the dynamic effects of interaction between expressed beliefs, attitudes, opinions and feelings (Parham & Scarinci, 2007).

Conclusion

Energy balance is classically defined as the balance between energy taken in, by food and drink, and energy expended. When this is at equilibrium, weight remains the same. Energy density refers to the amount of energy or kilocalories compared to the weight of the food (Champagne et al., 2007). When a food is considered to have high energy density, the food has a higher ratio of calories per mass. Consuming less of these foods and more foods that are higher in weight and lower in calories is recommended. Low levels of physical activity, high consumption rates of calorie dense diets, or both characterize the lifestyle behaviors that are strongly linked to obesity (World Health Organization, 1998). Time spent in front of the television is sedentary and increases the child's exposure to advertisements for snacks and fast foods, further contributing to the risk of overweight. Eating in front of the television has been suggested to cause consumption without regard for hunger cues, leading to higher energy intakes (Colapinto

et al., 2007). A cause for concern in regard to parental guidance would be that some parents have admitted to bribing their children with promises of foods high in fat and calories in exchange for a desired behavior (Jefferson, 2006).

With all the previous information in mind, participants in the Delta Region are a prime target to determine validity and necessity information for intervention target population. The purpose of this study is to develop an assessment of the Mississippi Delta Region to determine the specific barriers to healthy eating and physical activity. We want to acquire an understanding of this region of the state that is accurate based on the information we receive from the individuals that currently live in the area. The only way to prepare intervention that will truly meet the needs of the population is to determine where the shortcoming is in the previous education and to meet the needs of the people.

CHAPTER III

MATERIAL AND METHODS

A qualitative method, using focus groups, was used to conduct this study during the fall of 2006 and the spring of 2007. The purpose of this study was to collect information and input from representative members in the target community to assist in refining the intervention programs in the Mississippi Delta region. This was a part of the Delta Health Alliance project, which is a collaboration of regional health agencies with many local educational institutions and health providers. This project is under the IRB standards, which was designed in a proposal by Dr. Sylvia Byrd and approved through the Mississippi State University Institutional Review Board, as appropriate for human subjects.

Participant Recruitment

Preparation meetings were conducted to establish criteria for the focus group participants, select meeting sites and times, and determine group guidelines. Recruitment of participants was done by developing a relationship with the principals at the elementary schools, kindergarten through second grade in three Delta towns, and with their help surveying parents to be involved. Two elementary schools were selected from

each town to provide a total of six elementary schools. It was important to employ the help of individuals who were acquainted with the members of the target communities to receive an accurate analysis of the people, since in rural areas with small populations, the data may seem homogeneous. Each principal was asked to select a heterogeneous group of caregivers from a variety of backgrounds, so that different race/ethnic categories, gender categories, and socio-economic class categories were represented in each focus group session.

A random sample was not needed for this study since it was not the intention of this project to apply knowledge about the target population to the larger population, but to gain understanding of the experiences of the selected participants. By conducting this study we, as researchers, wanted to gain a more rich and dynamic understanding of the lifestyles of the people that live in this region, the Mississippi Delta. With this goal in mind, it was not as important that we understand the most proportionally correct lifestyle, but acquire a general knowledge of what the target population knows and understands about the topic of interests. This sampling technique was used because caregivers' ideas about food choice barriers are more accurate than the ideas of the children at this age. The age range of the children is appropriate, because these children are very impressionable, yet old enough to have some independence in their decisions about food choice.

Data Collection

The data collection process began with the decision to collect information in a focus group setting. This was decided based on the rich amount of data that can be

retrieved from the participants in an invasive and comfortable way. Participants are allowed to speak freely, with probes from the moderator to help guide the conversation. These probes are developed to be unbiased and unpersuasive to collect strictly impartial information. Six focus groups of parents, ranging in size from 5 to 11, gathered at each of the school facilities that their child attended. The total number of individuals participating was 44. Each focus group took place at the school where the participants' children attended. The primary caregiver focus groups either took place during lunch time or after regular working hours. No principal or other school administrator was allowed to attend the sessions or interact with the members of the focus group, so that participants would feel more comfortable sharing information about the school. The intent was to provide an environment that was free from distraction and inviting with good lighting, pleasant room temperature, and no distracting smells or sounds.

A script was developed for the focus groups by constructing a list of probing questions to cover all areas of interest. (See Appendix A for Script) The topics discussed focused on healthy eating and physical activity, barriers to healthy lifestyles, and safety and general community issues. The intent behind the probing questions asked in the focus group sessions was to find an answer to the research questions. The questions were developed in such a way as to avoid influencing the way participants answered the questions, but also to provide information to the larger research question being asked. The research question is the reason for the research and why this study was done. Focus group methodology, which was used with this population, specifically allowed for an in-depth discussion of how the participants' decision-making processes and their environment impact their lifestyle. The moderator of these focus groups used Morgan's

(1988) concept of the 'self-managed group', in which the moderator gives instructions and asks questions when needed, but the group dictates the direction of the conversation. The moderator serves as a guide, instead of providing an absolute set of questions asked at every focus group (Morgan, 1988). Since our goal was not to probe the participants to answer each question in exactly the same way, it was unnecessary to ask exactly the same questions each time if the moderator felt the topic had already been addressed. When there was a lack of information on a particular topic, this simply means that the participants viewed the questions as a non-issue. When specific information is necessary to obtain from each participant there are more accurate ways to receive this information, such as the demographic information we wanted to receive from each participant that we acquired through the survey.

Dr. Nicole Rader, a sociologist, was contracted by the project Principal Investigators to moderate the focus group sessions. The focus group sessions lasted approximately 90 minutes each. They were moderated by Dr. Rader, who was responsible for leading the group, instructing the group, and asking questions to the group. A co-moderator also attended each session. It was the co-moderator who was responsible for taking notes and looking after the equipment. During the session, the co-moderator took notes regarding the dynamics of the group, the conditions of the facility, and anything that might distract or discourage the participants from participating completely.

Each focus group was audio-recorded, following the signing of an informed consent form by each participant. At the end of each focus group, all participants completed a brief demographic survey. The results of these surveys can be found in Table

1. After the survey was complete and returned to the moderator, each participant received a $10 gift card to Wal-Mart for their participation. Also, after each group session was completed, the moderator and co-moderator recorded field notes regarding the site, the group dynamics, the apparent themes, and any problems that occurred during the group.

Data Analysis

Later, after the sessions were completed, the co-moderator, in this case the graduate assistant, transcribed the audio sessions verbatim. The transcriptions and field notes were consulted for data analysis. Analysis was conducted manually due to the nature of the data. In analysis of qualitative data, the same though may be expressed in many different words and adjectives that would not be detected by a computerized analysis program and would not be beneficial in this case. Therefore, data was analyzed using both a latent and a manifest coding technique (Strauss & Corbin, 1998). Each transcript was manifestly analyzed, going line by line, and highlighting any quotes or passages pertaining to the research questions for this paper. More specifically, picking out specific statements that directly answered the research question, but that may not have used exactly the same words, but provided the same answer. Then, each transcript was analyzed more latently, and paragraphs and/or the language of the entire document were used to answer the research questions. Subjectively the document as a whole was considered and analyzed to determine how the statements applied to the research question.

Research Questions

The research questions for this study were to 1) understand the individual and personal barriers to eating healthy in the Mississippi Delta and to 2) understand the community and external barriers to healthy eating in the Mississippi Delta, according the caregivers of children in grades K-2. These topics are relevant to determine what intervention method would be most beneficial for this region. The obvious cases of impaired health that is so common among people that live is area of the state is lacking in some area, and this study is designed to determine exactly what that is to be able to better meet that need.

CHAPTER IV

RESULTS

Socio-demographic information was collected at each focus group using a survey for those who participated in the study. A total of 44 parents or guardians participated (Table 1). Eighty-four percent of the participants were females, 14% were males, and there were 2% that did not answer the question. Forty-one percent of the parents or guardians were between 30 and 39 years of age. Thirty percent were between the ages of 40 and 49. Eleven percent of the guardians were both between the ages of 20 and 29 and 50 and 59 years of age. Five percent were noted at 60+ and another 2% did not answer this question. Eighty percent of the participants were African-American; 14% were white. Five percent were Hispanic and 1% reported to be Asian. Thirty-six percent of the total participants attended some college, but did not complete a degree. Twenty-seven percent received a high school diploma. Sixteen percent received a college diploma. Twelve percent did not finish high school. Five percent had received a master's degree. Two percent of the participants had either received a degree beyond a master's or did not answer the question. Half (50%) of the participants were married. Another 30% stated that had never been married. Nine percent had been widowed. Seven percent were

Table 1 Focus Group Demographics

	# (%)
Total	44 (100%)
Gender	
Male	6(14%)
Female	37(84%)
No Answer	1(2%)
Age	
20-29	5(11%)
30-39	18(41%)
40-49	13(30%)
50-59	5(11%)
60 +	2(5%)
No answer	1(2%)
Ethnicity	
Black	35(80%)
Hispanic	1(2%)
White	6(14%)
Asian	2(5%)
Other	0(0%)
Education	
Less than HS	5(11%)
HS Diploma	12(27%)
Some College	16(36%)
College Degree	7(16%)
Master's Degree	2(5%)
Beyond Master's	1(2%)
Other	1(2%)
Marital Status	
Married	22(50%)
Never Been Married	13(30%)
Separated	1(2%)
Divorced	3(7%)
Widow	4(9%)
Other	1(2%)

Table 1 Focus Group Demographics Continued

Number of Children	
1	12(27%)
2	17(39%)
3	7(16%)
4	2(5%)
5	0(0%)
6	0(0%)
7	1(2%)
No Answer	5(11%)
Occupation	
Full Time	19(43%)
Part Time	8(18%)
Self Employed	1(2%)
Unemployed	15(34%)
No Answer	1(2%)
Lunch	
Purchase	6(14%)
Free/Reduced	33(75%)
Bring	1(2%)
No Answer	4(9%)
Number of Meals Eaten Weekly as a Family	
1 or less	4(9%)
2 to 4	20(46%)
5 or greater	19(43%
No Answer	1(2%)
Average Number of Fruit/Vegetable Servings per Day	
2 or less	23(52%)
3 to 5	9(21%)
6 and greater	3(6%)
No Answer	7(16%)

divorced. Two percent were either separated or did not answer this question. Thirty-nine percent of the participants had 2 children; 27% only had 1 child. Sixteen percent had three children. Eleven percent of the participants did not answer this question. Five percent reported having 4 children and 2% of the participants stated having 7 children. Forty-three percent of the participants were employed full-time, and 34% were unemployed. Eighteen percent reported to working part time. Two percent of the participants reported either being self-employed or not responding to this question.

Although household income questions were not directly asked of the participants, the information given in the survey in reference to lunch participation can be used to determine a range based on the federal poverty level. Seventy-five percent of children whose caregiver participated were reported to be eligible to receive either free or reduced-cost lunch, which means that their family is 130 percent of the poverty level for free lunches and 185 percent or less of the federal poverty level for reduced lunches. The Federal poverty level for a family of four is $20,650. Families that would be eligible for a reduced lunch could have a maximum income of no more than $38,203 a year and families that qualify for free lunches can make no more than $26,845 per year (Food Research and Action Center, 2007).

The last part of the survey was to get an idea of the families' feeding setting and their daily intake of food. Most participants reported consuming approximately four meals a week as a family. Participants indicated relatively low daily consumption of fruits and vegetables with most participants noting that their child only consumes one or two fruits or vegetables per day.

The information that was being sought after in these focus groups sessions developed our research questions which were to understand 1) the individual and personal barriers to eating healthy in the Mississippi Delta and 2) to understand the community and external barriers to eating healthy in the Mississippi Delta. Receiving and analyzing this information will provide a clear picture of needed intervention in this region of the state. Some of the data collected is provided in Table 2, which will provide validation of the themes that support the research questions. For an idea to be considered a theme, it must be mentioned in all six focus groups by at least one person. Other reoccurring thoughts are also noted as relevant issues, but are not consistent enough to be considered a major theme.

Theme One

The first research question focused on what are some of the individual and personal barriers to eating healthy in the Mississippi Delta, according to the caregivers of the children living in this region. There was a wide variety of ideas, but the general consensus within all groups, developing the first emergent theme (Table 2), is that it is extremely important to have the support of the family when employing changes in eating habits. The parents mentioned they were busy with their daily lives and preparing meals at home would not be successful if they did not have the support of the children and other family members in the house.

Latasha spoke of an influential person in her life:

Table 2 Emerging Themes

Theme 1: Participants believe family support was extremely important in consuming healthy foods on a consistent basis.
Latasha: "My mother-in-law [is a very influential person] because she is a very healthy eater [and] she does a lot of baking so she [has] inspired me to eat a little bit healthier."
Jacqueline: "My oldest daughter and my mom help me to [make] healthy [food] choices."
Anthony: "My mother tries to [encourage me to eat healthy] and my wife also sometimes tries to keep me on the right path [as far as food choice is concerned."
Theme 2: Most participants expressed that time and convenience was the main reasons it was hard to eat healthy.
Speaker 7: Time, if you had more time. Most people eat fast food and unhealthy food [be]cause you don't have time to prepare a healthy meal.
Anthony: The thing that would help me make changes in [my] child's eating habits would be maybe a slower pace of life, just convenience that [is] really where I see the largest hindrance and my children even, because we're always in a hurry and have to get things quick now. I guess it's just a change in life style a slower pace so … we can prepare foods the way they should be prepared.
Quintella: Overall, it's just that time and convenience even when I go to [my] parent's houses, [it is easier] to go to the store and get a box dinner or something. Especially if you're working full time you can get a lot accomplished while you are not having to watch [food cook] and doing other things [to prepare a meal]. It's ready just prepare for them so, time and convenience overall.

Table 2 Emergent Themes Continued

Theme 3: Participants are receiving external eating cues from mass media forms that influence their eating choices.

Joe: "One of the eating patterns my son has is he'll try to eat in front of the television. [The] commercials, you know [are] showing kids different types of foods advertis[ed] in stores. [Most] of the time we take them to the grocery store with us and that's who the marketers are actually targeting so the kids will say; 'Can I get this' and 'Can I get that' and we don't take time to actually read nutrition labels."

Cynthia: "I see boys want[ing] to look more [masculine] and girls you know are going to just nibble to watch [their] figure."

Anthony: "Some businesses and grocery stores [could add some nutritional information to their] ads ... about ... [health information] directing an ad towards the youth rather than towards the adults, because the youth are really the main shoppers when you go to grocery stores. When you have the kids with you they're choosing, they're making more selection than you are so they can have a corner of an ad that's dedicated for nutrition and geared towards the kids."

Theme 4: The participants noted that the schools are not helpful when it comes to encouraging healthy eating.

Janette: If they want us to really help [the children] why sell snacks in the school system? [Be]cause I've been working [in the cafeteria] for 13 years and the children have so many bag[s] of chips on their trays, and the food that we prepare for them goes straight in the garbage. They trade [food and] you can't stop them.

Evangela: The school can do away with all of the snack machines. Put healthier, nutritious [items] in the snack machines. [Remove the sugar-sweetened drinks] and put more healthy drinks in.

Dwayne: I think the issue at hand when you talk about nutrition [in] the schools; the districts have to make a concerted effort. The pop machines [are] in the hallway [and] the candy, so if you don't want the kids to eat it don't put it in the schools. It's an economic situation with the dividends to the schools [and] the districts are getting from these products.

Only first names are being used to protect the confidentiality of the participants.

> "My mother-in-law [is a very influential person] because she is a very healthy eater [and] she does a lot of baking so she [has] inspired me to eat a little bit healthier."

Participants mentioned that their children often asked for fast food. When given a choice, fast food is what they want, and in some cases demanded. It is easier for the parents to allow them to have what they want in order to keep them happy. Parents realized what foods are good for themselves and for their children, but were either too busy or tired to cook, and would rather have a pizza delivered instead.

Robert exemplified this thought by stating:

> "Well, it's [all about] time and convenience, and it depends on how hard I work[ed that day]. If I've had a very hard day it's going to be McDonald's or something… quick or [a pre-]prepared meal."

Linda further exemplified this point by stating:

> "[My daughters'] favorite thing is pizza. I say what [do you] want for supper? Pizza. I said, that's not [nutritious]. I consider it junk food, but I let them have it anyways."

These thoughts were consistent throughout the parents' focus groups. Other participants agreed that having schedules would help them with providing better meals at home, but admitted that they were not likely to stick to them. They noted that supportive family members would be likely to influence them to continue providing the foods they knew were best. When their families were not supporting them, it was much easier to give in to the quick and easy foods that were so available. There were various other consistent ideas in reference to this research question, but this is the main barrier. Other ideas would be considered empowering and motivating, not barriers, and these topics will be discussed at length later in this thesis.

Theme Two

Ideas developed by the second research question of what the community and external barriers are for these participants in reference to healthy eating are that time and convenience were valued over quality of food. The reasons stated by most participants for not consuming the foods that they know to be healthy included the time involved in preparation and cooking and a desire for convenience when it came to food preparation. These thoughts developed into the second emergent theme. The participants noted that it was easier to pick something up or buy pre-prepared boxed meals than it was to cook from scratch.

Molly affirmed that time and convenience was the reason for providing meals with less nutrient density by stating:

"When you are pushed for time, it is just the easy way out [to pick up food]."

This point was confirmed by Anthony when he stated:

> "The thing that would help me make changes in children's eating habits would be maybe a slower pace of life [and] just convenience. That [is] really where I see the largest hindrance."

The participants that we worked with portrayed genuine intention to provide their family with balanced meals that corresponds with the nationally set guidelines for nutritional intake. They feel that the environment that they live in encourages a lifestyle that discourages this and it is sometimes hard to overcome.

Theme Three

The second research question examines additional influences the community and external barriers present to the Mississippi Delta that prevents healthy eating habits. The

influence the media has on food choice developed into the third emergent theme. The marketing industry has done an excellent job of promoting certain foods that encourage consumption that in turn increases profit. Children that are a vulnerable market have responded well to this tactic.

Joe discusses this issue in reference to her son:

> "One of the eating patterns my son has is he'll try to eat in front of the television. [The] commercials, you know [are] showing kids different types of foods advertis[ed] in stores. [Most] of the time we take them to the grocery store with us and that's who the marketers are actually targeting so the kids will say; 'Can I get this' and 'Can I get that' and we don't take time to actually read nutrition labels."

While this is still a current issue, the general public is beginning to catch on and marketing is now being directed toward more nutritious products. This brings a whole new set of misconceptions and misinterpretations, since the advertising is still developed to encourage revenue instead of optimal health.

Another barrier that is derived from the media's influence is the perceived ideal body type that has been created, and young children are buying into. The celebrity high-profiles have placed such large value on body perfection and this is being seen in the actions of children that are this young.

This idea is confirmed by Cynthia:

> "I see boys want[ing] to look more [masculine] and girls you know are going to just nibble to watch [their] figure."

While the parents noted that media's influence is so powerful, none of them commended or condoned this action, just merely noted it as fact. It might be important to understand if this influences the feeding patterns the parents provide or if this is simply an observation.

Theme Four

Also derived from the second research question in reference to how the community and external barriers inhibit healthy lifestyles, the participants found the schools were somewhat at fault. This concept developed into the fourth and final emergent theme of this paper. The parents questioned the motives behind the schools that provide high calorie-dense foods and offered little in the way of nutrition to the students. These foods were offered to the children for additional cost at the end of the lunch line each day. These foods were also noted as not being very nutritious, since they were things that the children would buy instead of more nutritious foods, which they might not buy when given a choice between the two.

Janette had some concerns about this issue, stating,

> "Why [are there snacks for sell] in the school system? [Be]cause I've been working [in the school cafeteria] for 13 years and the children have so many bag[s] of chips on their trays and the food that we prepare for them goes straight in the garbage. They trade [food]. You can't stop [them]."

Evangela also had concerns about the schools selling non-nutritious snacks, saying,

> "School[s] [should either] do away with all of the snacks [or offer] more nutritious [items]. [Remove the sugar-sweetened] drinks and [provide] more healthy drinks."

A few parents mentioned that if they, as parents, cut off the money supply that was being used to purchase the unhealthy snacks, it would fix the problem. Unfortunately, it is unrealistic that all parents would agree to this. Also, a few parents noted that even though they did not give their children money to purchase these foods, their children's' friends would buy the snacks for them.

Lori spoke about her experience with this:

> "[My daughter] is slick; she's going to get her some [snacks]. She's going to get her [a snack], somebody [is] going to come through [and buy it] for her. I don't know what to do, I can't be with her twenty-four/seven. I've got to work."

While the parents are the most influential people in a child's life, these children are spending the majority of their waking days in the school building. The parents did have some concerns about the school's placement of the snacks in the schools lunchroom. The parents admitted that they would feel more encouraged and would be more likely to cooperate with the requirements of basic nutrition standards if the children were taught these basic nutrition standards in the school, and if the schools actually portrayed these good choices in the foods that were available in the cafeteria.

Conclusion of Results

For the most part, these parents in the Mississippi Delta had the most concern when related to family support and acceptance of the diet change. Noted by the participants was that without this it would be impossible to implement drastic change in their eating habits and the habits of their family members. Also noted was the influence that the threat of diet-related disease had on their food choice. Understanding the direct way food influences our health is understood, not in every way, but in such a way that they have placed importance on improving their diets. Lastly, when considering individual and personal barriers, time and convenience were stated as a determining factor. Most of the parents for the most part had a good idea of what was considered healthy, but disregard this information at some times to meet the demands of their busy lives and provide something that was quick and easy.

With all these concepts mentioned, the main theme throughout the focus groups was that the lack of time, the desire for convenience, and the absence of adequate scheduling as the greatest barrier to healthy eating. In these families, which for the majority were at or below the poverty level, adults were working long hour jobs to meet basic needs. The quality of food provided was not as important to them as the fact that there was food on the table.

The overall impression from the parents in this study was that healthy eating was very important to both themselves and their children. Some of the parents were more aggressive with their implementation of these ideas than others. Although they stated the correct answers when asked, they were still lacking the implementation of these goals. Some of the parents preferred not to deal with the struggle of forcing healthy foods on their children if there were no current and urgent problems, and wanted to get through the day with little resistance from their children.

CHAPTER V

DISCUSSION

Using the data received from the six focus groups comprised of caregivers of children in the Mississippi Delta, two research questions were addressed. The first question to be answered was: What are the individual and personal barriers to eating healthy in the Mississippi Delta region? Secondly, I questioned the participants by asking: What are the community and external barriers to healthy eating in the Mississippi Delta?

Interpretation of Findings

When analyzing the information collected from the parents in regard to healthy eating, it was obvious that parents valued healthy eating, but there was difficulty in transitioning to a healthy diet. This could have been due to the disconnect between the foods eaten and the future health implications, the accessibility of the foods that were the most healthy, the lack of support from their family and community, or that there was not sufficient time to prepare the meals that they knew to be best. In these focus groups scripts, food availability was never directly addressed. Although, it was never asked directly, availability was never mentioned as a problem or concern. Even though

availability was not mentioned by participants, it is unknown whether the participants did or did not seek healthful products during normal grocery shopping; therefore, unable to know whether healthful foods were available or not.

Family support was mentioned at least once in each focus group as a very large contributor to food choice. Family involvement could be either perceived as positive or negative, as well as providing a general knowledge about food and the families beliefs and traditions in relation to eating. One common reference was to family members who encouraged them to purchase healthy foods to preserve health. When questioning the participants about their experiences with eating and diet habits, diet-related disease was a recurring topic. Participants noted that one thing that was very encouraging to them to prepare healthy foods was their health and the future health of their children. This population understands the connection between healthy or unhealthy diet habits and diet-related disease onset. The prevalence of adult disease in their children's lives is a very real issue and these caregivers understand that for the most part and are concerned. While this is an important issue, the parents interviewed did not face these health issues growing up and integrating more nutritious foods in a balanced way is a learning experience for them. These parents held a sense of pride in protecting their children for the future, so that they would not have to deal with the diet-related health issues that either they or their parents were experiencing. However, there was also mention of family members, mostly children, who encouraged them to purchase and serve unhealthy food choices. Several parents expressed a desire to serve their children healthy foods so that they would not have to worry about health issues in the future, as the parents, or other family members, were experiencing. With the knowledge expressed about the understanding of the

importance of healthy eating, but the participants admitting to unhealthy eating habits, I looked to the research question to find the answer to this gap between knowledge and implementation. The most probable finding is that the parents' time for food preparation was the deciding factor. This was mentioned the most consistently as the reason that the children were not eating what the parents knew they should be eating.

In efforts to draw the most accurate picture of the feeding habits in this regions, it was important to look not only were these participants consuming healthy meals, but what they considered healthy. One of the probing questions used during the focus group sessions demonstrated some of the parents' confusion regarding healthful eating. When asked what healthy eating means to these participants, the most common answer was 'fruits, vegetables and exercise'. Since exercise is not something that can be eaten, it is of interest that these participants mentioned it in answer to this question. In 2005, when the new myPyramid was released, it was changed to include a stronger emphasis on physical activity. The two different entities of healthy eating and physical activity have now become merged and are assumed to be a conjoint pair. The participants' references to these emphases indicate that our education efforts are being recognized. With this in mind, it would seem logical to turn future energy not to increasing the amount of education, but to new ways of reaching this and other such populations in such a way that the material is more applicable to them. Since the people are receiving the education and still may not be adhering to it, it might mean that it seems irrelevant to them or is so far removed from their lifestyle that they cannot relate.

With all this information in consideration, the main barriers noted by the participants are external. The people feel they have the knowledge and determination but

are discouraged by too many factors outside of themselves. One recommendation would be to increase the marketing campaigns to support healthy eating. The media, as noted in this paper, is a very powerful and influential factor in the American life. Advertisement agencies can convince a population to believe and explore almost anything if presented in an attractive and modern way. It would have to be supported by a life insurance company or some large corporate business that would see the benefits of improving healthy before diet-related disease develops and produce large medical bills. Eating healthy is not a money making business and the marketing it would require would not be an advantageous choice since the immediate result would not be a profit gain, but the long term prevention of large monetary payouts.

Research Validation

After analyzing the focus groups transcripts, the information found in the literature review research was, for the most part endorsed. The people of the Mississippi Delta are very proud of their heritage and the culture they come from. The food they eat is part of that, as previously mentioned; however, there were positive attitudes toward the ideas of change. The majority of the individuals that participated in this study were open to the idea of change, but believed they had some personal and community barriers in their life that inhibited the change. The desire to change included cooking method and preparation as well as food type. While these people know how to prepare foods in a less calorie-dense manor, their preference for taste is greater. Education on using herbs and spices for flavor would be very beneficial to this population.

Family was found to be confirmed as a huge influence. African-Americans tend to gather together on a regular basis to eat, and it is expected that traditional foods will be served. Through the discussion with the participants, it was evident that this influence could be either positive or negative. Many of the individuals at the focus groups sessions mentioned members of their families that encouraged and supported their efforts to provide health food options. With the support of influential institutions in the community, such as the church or school, the participants, as well as the research, stated that the transition to less calorie-dense foods would be easier and much more likely to become a lifestyle.

Mention of preventing diet-related disease was extremely important to the participants, as this is a very real problem in so many of their own lives. The Mississippi Delta is recognized for their high levels of obesity, hypertension, and diabetes. The participants of this study, as well as many other individuals that live in this area want to protect their children from acquiring the same fate they have brought upon themselves. It is very evident that the people understand the consequences of healthy eating. For so long the connection between diet and disease was not understood. The education that is being developed and currently available is obviously reaching the people. It is being presented in such a way that they not only retain it, but believe it as truth enough to change their lifestyle to protect their children.

Study Limitations

This part of the research done in the Mississippi Delta was based upon focus groups sessions in three Delta towns. This study was well thought through and left little

room for error and limitation. One factor that may have developed into a limitation could be the dynamics of the focus group sessions. The majority of the participants in the groups were somewhat low-education level African-American male and females, and the moderator for each group was a well-educated Caucasian female. Although, we did employ two local African-American ladies to help with the rapport of the sessions and this may have negated this limitation. The dynamics between the participants could pose a potential limitation due to different backgrounds and experiences. This issue can not always be controlled since we are, in fact dealing with people.

Further Research

It is encouraging to learn that the education that has been developed is reaching the people, and that these methods of education are appropriate for retention. However, even though the information is being retained, without the implementation of this knowledge, it does no good. The findings from this research lead to recommendations for further research, which would include determining quick and easy ways to prepare foods in a healthy way. Another goal would be the development of food preparation products that can be worked into people's daily lives that would encourage consumption of whole foods and healthy preparation methods. Developing recipes that incorporate the most nutrient-dense forms of each food group into meals with a taste that is well-accepted among Americans at or near the poverty level would be an excellent way to meet the needs of this population.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The data collected from the participants in the Mississippi Delta study has provided great insight into the lifestyle and potential barriers for individuals in the area of healthful eating and compliance with national nutritional recommendations. Genuine concern was voiced for the focus group participant's health and the health of their children's generation. The participants appeared to have adequate knowledge of healthful eating and for the most part provided the correct answers when asked about this subject. There was no mention of not having adequate resources or accessibility to healthy foods. This could be due to the participant's desire to protect their pride, lack of knowledge that they may be food insecure, or the focus group questions failed to adequately address the issue. The participants in this study mentioned many reasons for selecting the foods they chose, but the most consistent and influential reason for choosing less-healthful foods was a lack of time and the desire for convenience. In order to provide intervention to this population that will promote health in a functional way will need to include the development of education and products that meet the lifestyle and appetites of the people. Participants seemed interested in complying with nutrition standards, but with this change, as any new routine, they felt they could not do it without support. The people in

this community continue to rely heavily on family, neighbors, church, and the schools as providers of educational ideas and lifestyle changes.

REFERENCES

Ard, J. D. (2007). The Impact of Cost on the Availability of Fruits and Vegetables in the Homes of Schoolchildren in Birmingham, Alabama. *American Journal of Public Health*, 367-372.

Bandini, L., Schoeller, D., & Dietz, W. (1990). Energy Expenditure in obese and nonobese adolescents. *Pediatrics Res., 27*, 198-203.

Baranowski, T., Perry, C., & Parcel, G. (2002). *How individuals, enviornments, and health behavior interact: social cognitive theory*. San Francisco: Jossey-Bass.

Basiotis, P., Carlson, A., Gerrior, S., Juan, W., & Lino, M. (2000). The Healthy Eating Index. *http://www.usda.gov/cnpp/Pubs/HEI/HEI99-00report.pdf*. Retrieved November 17, 2007

Bentley, M., Gavin, L., Black, M., & Teti, L. (1999). Infant feeding practices of low-income, african-american, adolescent mothers: an ecological, multigenerational perspective. *Social Science and Medicine, 49*(8), 1085-1100.

Birch, L. (1979). Preschool Children's Prefrences and Consumption Patterns. *Jounral of Nutrition Education, 11*, 189-192.

Birch, L., Marlin, D., & Rotter, J. (1985). Eating as the 'means' activity in a contingency: effects on young children's food preference. *Child Development, 55*, 431-439.

Bisogni, C., Connors, M., Devine, C., & Sobal, J. (2002). Who We Are and How We Eat: A Qualitative Study of Identities in Food Choice. *Journal of Nutrtition Education and Behavior*, 128 – 139.

Bisogni, C., Jastran, M., Shen, L., & Devine, C. (2005). A Biographical Study of Food Choice Capacity: Standards, Circumstances, and Food Management Skills. *Journal of Nutrition Education and Behavior*, 284-291.

Blake, C., & Bisogni, C. (2003). Personal and Family Food Choice Schemas of Rural Women in Upstate New York. *Journal of Nutrition Education and Behavior*, 282-293.

Block, G., Patterson, B., & Subar, A. (1992). Fruit, Vegetables and cancer prevention: a review of the epidemiological evidence. *Nutrition Cancer, 18*, 1-29.

Bowman, S., Gortmaker, S., Ebbeling, C., Pereira, M., & Ludwig, D. (2004). Effects of Fast-Food Consumption on Energy Intake and Diet Quality among Children in a National Household Survey. *Pediatrics, 113*, 112-118.

Brown, D. (1990). *The Delta Initiatives: Realizing the Dream...Fulfilling the Potential.* Memphis, TN: Lower Mississippi Delta Development Commission.

Caraher, M., Dixon, P., Lang, T., & Carr-Hill, R. (1999). The state of cooking in England: the relationship of cooking skills of food choice. *British Food Journal, 101*, 590-609.

Centers for Disease Control and Prevention. (1997). Guidelines for school and community programs to promote lifelong physical activity among young people. *46*, 1-36.

Chambers, R. (2007). An Exploratory Study of Local Food Affordability and Factors Related to Household Food Security and Food Purchasing Decisions. *Internet Journal of Health*

Champagne, C., Bogle, M., McGee, B., Yadrick, K., Allen, H., Kramer, T., et al. (2004). Lower Mississippi Delta Nutrition Intervention Research Initiative. Dietary intake in the lower Mississippi Delta region. *Jounral of the American Deitetic Association, 104*, 199-207.

Champagne, C., Casey, P., Connell, C., Stuff, J., Gossett, J., Harsha, D., et al. (2007). Poverty and food intake in rural america: diet quality is lower in food insecure adults in the mississippi delta. *Jounral of the American Deitetic Association, 107*(11), 1886-1894.

Colapinto, C., Fitzgerald, A., Taper, J., & Veugelers, P. (2007). Children's Preference for Large Portions: Prevalence, Determinants and Consequences. *Journal of the American Dietetic Association*, 1183-1190.

Coles, A., & Turner, S. (1995). Diet and health in school age children. health education athority.

DeVault, M. (1991). *Feeding the Family*. Chicago: University of Chicago Press.

Devine, C. (2005). A Life Course Perspective: Understanding Food Choices in Time, Social Location and History. *Journal of Nutrition Education and Behavior*, 121-128.

Dietz, W., & Gortmaker, S. (1985). Do we fatter our children at the TV set? Obesity and television viewing in children and adolescents. *Pediatrics, 75*, 807-812.

Dietz, W., Gortmaker, S. . (2001). Preventing Obesity in Children. *Annual Review of Public Health*, 337-353.

Drewnowski, A., & Specter, S. (2004). Poverty and obesity: the role of energy density and energy costs. *American Journal of Clinical Nutrition, 79*, 6-16.

Eberhardt, M., Ingram, D., & Makuc, D. (2001). Health: United States, 2001. In National Center for Health Statistics (Ed.), *Urban and rural health chartbook*. Hyattsville.

Elder, G. (1995). *The life course paradigm: social change and individual development*. Washington, DC: American Psychological Association.

Ferndando, S. (1984). Racism as a cause of depression. *Internation Journal of Social Psychiatry, 30*, 41-49.

Feunekes, G., Stafleu, A., de Graaf, C., & van Staveren, W. (1997). Family resemblance in fat intake in the Netherlands. *European Journal of Clinical Nutrition, 51*, 793-799.

Fischler, C. (1988). Food, self and identity. *Social Science Information, 27*, 275-292.

Fisher, J., & Birch, L. (1999). Restricting access to palatable food affects children's behavioral response, food selection and intake. *American Journal of Clinical Nutrition, 69*, 1264-1272.

Food Research and Action Center. (2007). Federal Food Programs. *www.frac.org* Retrieved March 10, 2008

Gibson, S. (2000). Associations between energy density and macronutrient composition in the diets of pre-school children: sugars vs. starch. *International Journal of Obesity*, 633-638.

Gillman, M., Rifas-Sherman, S., Frazier, A., Rockett, H., & Camargo, C. (2000). Family dinner and diet quality among older children and adolescents. *Archives of Family Medicine*(9), 235-240.

Groce, N., & Zola, I. (1993). Multicultrualism, chronic illness, and diability. *Pediatrics, 91*, 1048-1055.

Halford, J., Boyland, E., Hughes, G., & Oliveira, L. (2007). Beyond-Brand Effect of Television (TV) Food Advertisements/Commercials on Caloric Intake and Food Choice of 5-7-year-old Children. *Science Direct*, 263-267.

Hardy, R., Wadsworth, M., & Kuh, D. (2000). The Influence of Childhood Weight and Socioeconomic Status on Change in Adult Body Mass Index in a British National Birth Cohort. *Internation Journal of Obesity, 24*, 725-734.

Harnack, L., Stang, J., & Story, M. (1999). Soft drink consumption among US children and adolescents: nutrition consequences. *Journal of the American Dietetic Association, 99*(4), 436-441.

Harsha, D., & Thornton, A. (1997). *Health Status of Adults*. Rockville, MD: Westat.

Horton, E. (1995). NIDDM- the devastating disease. *Diabetes research and clinical practice supplement, 28*, 3-11.

J Rural Health. (2004). The Lower Mississippi Delta Nutrition Intervention Research Consortium. *Journal of Rural Health, 20*, 173-180.

James, D. (2004). Factors Influencing Food Choices, Dietary Intake, and Nutrition-Related Attitudes among African Americans: Application of a Culturally Sensitive Model. *Ethnicity and Health*, 349-367.

Jefferson, A. (2006). Breaking down barriers- examining health promoting behavior in the family. Kellog's family health study 2005. *Nutrition Bulletin, 30*, 60-64.

Kempson, K., Keenan, D., Sadani, P., & Adler, A. (2003). Maintaining food sufficiency: copying strategies identified by limited-resource individuals vs nutrition educators. *Jounral of Nutrition Education and Behavior, 35*, 179-188.

Klesges, R., Stein, R., Eck, L., & Klesges, L. (1991). Parental Influence on food selection in young children and its relationships to childhood obesity. *American Journal of Clinical Nutrition, 53*, 859-864.

Kneke, P., Reunanen, A., Jarvinen, R., Seppanen, R., Heliovaara, M., & Aromaa, A. (1994). Antioxident vitamin intake and coronary mortality in a longitudinal mortality study. *American Journal of Epidemiology, 139*, 1180-1189.

Lambert, N., Plumb, J., Looise, B., Johnson, I., Harvey, I., Wheeler, C., et al. (2005). Using Smart Card Technology to Monitor the Eating Habits of Children in a School Cafeteria: 2. The Nutrient Contents of all Meals Chosen by a Group of 8- to 11-year-old boys over 78 days. *The Journal of Human Nutrition and Dietetics*, 255-265.

Longbottom, P., Wrieden, W., & Pine, C. (2002). Is There a Relationship Between the Food Intakes of Scottish 51/2-81/2-Year-Olds and Those of Their Mothers. *The Journal of Human Nutrition and Dietetics*, 271-279.

Lundburg, O. (1997). Childhood conditions, sense of coherence, social class and adult ill health: exploring their theoretical and emperical relations. *Social Science Medecine, 44*, 821-831.

Markus, H. (1977). Self-schemas and processing information about the self. *Jounral of Personal and Social Psychology, 35*, 63-78.

Markus, H. (1990). Unresolved issues of self-representation. *Cognitive Therapy and Research, 14*, 241-253.

Marshall, D. (1995). Eatin at home: meals and food choice: Glasgow.

Maynard, L., Galuska, D., Blanck, H., & Serdula, M. (2003). maternal perceptions of weight status of children. *Pediatrics, 111*, 1226-1231.

Monge-Rojas, R., Garita, C., Sanchez, M., & Munoz, L. (2005). Barriers to and Motivators fro Healthful Eating as Perceived by Rural and Urban Costa Rican Adolescents. *The Journal of Nutrition Education and Behavior*, 33-40.

Morgan, D. (1988). *Focus Group as Qualitative Research*. Newbury Park, CA: Sage.

Morgan, K. (2001). *Health Care State Rankings, 2001*. Lawrence, KS: Morgan Quitno.

National Park Services. (2001). The Natural Enviornment: The Delta and It's Resources. Retrieved November 17, 2007

Nielsen, S., & Popkin, B. (2003). Patterns and trends in food portion sizes. *Jounral of the American Medical Association, 289*(4), 450-453.

Olson, J. (1981). *The importance of cognitive processes and exisiting knowledge structures for understanding food acceptance*. Zurich, Switzerland: Foster Publishing Ltd.

Parfit, M. (1993). And what words shall describe the Mississippi, great father of rivers. *Smithsonian*, 36.

Parham, G., & Scarinci, I. (2007). Preventing Chronic Disease - public health research, practice, and policy. *Centers for Disease Control and Prevention, 4*(4), 1-10.

Putnum, J., & Allshouse, J. (1999). Food consumption, prices and expenditures. *food adn rural and economic division. economic research services*

Richards, R., & Smith, C. (2006). Shelter Enviornment and Placement in Community Affects Lifestyle Factors among Homeless Families in Minnesota. *American Journal of Health Promotion, 21*, 36-44.

Rolls, B., Engell, D., & Birch, L. (2000). Serving Portion size influences 5-year-old but not 3-year-old children's food intakes. *Journal of the American Dietetic Association, 100*, 232-234.

Savage, J., Fisher, J., & Birch, L. (2007). Parental Influence on Eating Behavior: Conception to Adolescence. *Journal of Law, Medicine and Ethics, 35*(1), 22-34.

Sergeon General. (2001). The Sergeon General's Call to Action to Prevent and Decrease Overweigh and Obesity.

Serrant-Green, L. (2007). the challenges and opportunities offered by focus groups. *Nurse Researcher, 14*(2), 3.

Smil, V. (1989). Coronary Heart Disease, diet and western mortality. *Population and Develpmental Review, 15*, 399-424.

Smith, G. (2002). Life-course socioeconomic and behavioral influences on cariovascular disease mortality: the collaborative study. *American Journal of Public Health, 92*, 1295-1298.

Smith, J., Lensing, S., & Horton, J. (1999). Prevalence of self-reported nutrition-related health problems in the Lower Mississippi Detla. *American Journal of Public Health, 89*, 1418-1421.

Stokols, B. (1996). Translating social ecological theory into guidelines for health promotion. *American Journal of Health Promotion, 10*, 282-298.

Story, M., Hayes, M., & Kalina, B. (1996). Availability of foods in high schools: is there cause for concern? *Jounral of the American Deitetic Association, 96*, 123-126.

Strauss, A., & Corbin, J. (1998). *Basics of Qualitative Research: Techniques and Procedures for Developing Ground Theory*: Sage.

Timperio, A. (2005). Perceptions of local neighborhood environments and their relationship to childhood overweight and obesity. *Internation Journal of Obesity*, 170-175.

Troiano, R., Flegal, K., Kuczmarski, R., Campbell, S., & Johnson, C. (1995). Overweight prevalence and trends for children and adolescents. *Archives of Pediatrics and adolescent medicine, 149*, 1085-1091.

Turrell, G. (1998). Socioeconomic Differences in Food Preference and their Influence on Healthy Food Purchasing Choices *Journal of Human Nutrition and Dietetics*, 135-149.

U.S Bureau of Labor Statistics. (2003). Consumer Expenditures in 2003 In Composition of Consumer Unit: Average Annual Expenditures and Characteristics Consumer Expenditure Survey (Ed.).

U.S Department of Health and Human Services. (2005). Dietary Guidelines for Americans. Retrieved December 10, 2007

U.S. Census Bureau. (2000). American Fact Finder. Retrieved November 17, 2007

United States Department of Agriculture. (2007). Free and Reduced Price School Meals Application Materials *Food and Nutrition Services* Retrieved December 10, 2007

US Department of Health and Human Services. (2008). Federal Poverty Guidelines. Retrieved March 25, 2008

Walsh, L., Toma, R., Tuveson, R., & Sondhi, L. (2001). Color Preference and Food Choice Among Children. *The Journal of Psychology*, 645-653.

Wang, Y., Tussing, L., Odoms-Young, A., Braunschweig, C., Flay, B., Hedeker, D., et al. (2006). Obesity prevention in low socioeconomic status urban African-American adolescents: Study design and preliminary findings of the HEALTHY-KIDS study. *European Journal of Clinical Nutrition, 60*, 92-103.

Westenhoefer, J. (2002). Establishing Dietary Habits During Childhood for Long-Term Weight Control. *Annals of Nutrition and Metabolism*, 18-23.

Wethington, E. (2005). An overview of the life course perspective: implications for health and nutrition. *Journal of Nutrition Education and Behavior, 37*, 114-119.

World Health Organization. (1998). Obesity: preventing and managing the global epidemic.

Yadrick, K., Horton, J., Stuff, J., McGee, B., Bogle, M., Davis, L., et al. (2001). Perceptions of Community Nutrition and Health Needs in the Lower Mississippi Delta: A Key Informant Approach. *Journal of Nutrition Education and Behavior, 33*(5), 266-277.

Young, L., & Nestle, M. (2003). Expanding protion sizes in the US marketplace: implications for nutrition counseling. *Jounal of the American Dietetic Association, 103*(2), 231-234.

APPENDIX A

FOCUS GROUP SCRIPT

Survey for Focus Group Participants
Focus Group of Parents

Please circle (or fill in) the answer that best fits you.

Your Gender: Male Female

Your age: 20-29 30-39 40-49 50-59 60+ years

Your race:
Non-Hispanic black
Non-Hispanic white
Hispanic
Asian/Pacific Islander
Other (please specify: _____)

Your education:
Less than high school
High school diploma
Some college
Bachelors Degree
Masters Degree
Beyond Masters Degree
Other (please specify:_____)

Your marital status:
Married
Divorced
Separated
Widowed/Widower
Never been married

Your annual income: _____

Number of children living in your household:____

What is your current occupational status?
Work full-time
Work part-time
Not currently employed

What does your child eat for lunch on school days?
Brings lunch from home
Purchases school lunch
Receives free/reduced lunch

How many days of the week do you eat **at least one** meal as a family?

1 2 3 4 5 6 7

On average, how many servings* of fruits and vegetables do you consume each day? _____
*(*Examples of servings: one medium piece of fruit, ½ cup cooked vegetables, 1 cup salad greens, 6 ounces juice)*

How many days of the week are you physically active for at least 30 minutes?

1 2 3 4 5 6 7

APPENDIX B

MODERATOR GUIDE

Moderator Guide
Focus Groups with Parents of Young Children
Improving the Health in the Mississippi Delta through a Coordinated School Health Program, Community Needs Assessment

Overall objective of conducting focus groups: To assess community needs in terms of healthy eating and physical activity.

Background and Introductions

Welcome and thank you for agreeing to be a part of this group. You have been invited to be a part of this focus group to share your insight about your community. A focus group is a meeting where a group of people gives opinions about a particular topic. Please feel free to share openly; there are no right or wrong answers, only opinions. You should listen and respond to each other, and to me as the moderator. In some cases, points of view may differ, but you should feel free to share your point of view even if it differs from what others have said. Everyone in the group does not have to agree.

Today we will be talking about eating habits and physical activity of children in the school setting and in the community. We need your input and help to learn about the needs of the community. The information you provide will be used to guide community programs to help people have healthy eating and physical activity habits.

We would like to record the discussion so that it will help us remember what you said later to write a summary. If you are not comfortable with the use of a recorder, you are free to withdraw from the group. In addition to the recorder, _____(co-moderator) will take notes. The notes and tape recording ensure that we can refer to all of the comments.

Your participation is voluntary. If at any time anyone feels uncomfortable or does not wish to continue, please let me know.

Before beginning, we will discuss some ground rules. Please speak up one at a time, otherwise it will be hard to distinguish the comments on tape. Please say your first name each time before speaking, but know that names will not be attached to any comments in the report. Finally, we would ask that you please turn off all cell phones and pagers during this time or if that is not possible, please use the vibrate or silent mode on your device. We would ask that you do not text message during the focus group as this may be distracting to others in the group.

When I ask each question, I will give you some time to write down a few things that pop into your mind. Then we will discuss the question together. You will keep your notes; we will not collect them.
The session should last no longer than 90 minutes.

Let's begin by introducing ourselves. Share something about yourself, like whether you are married and have children (ages) or an interesting hobby.

Part I: Eating Habits
We will start today with some discussion about eating habits.

1. **When I say "eating right" or "eating healthy," what comes to mind for you?**

2. **Where have you heard about nutrition in the past? What did you hear? What did you think about those messages?**
   Note to moderator: Look for information sources they consider trustworthy. Where do they prefer to get nutrition information?

3. **Are there things about your children's eating habits you would like to change? What keeps you from making changes?**
   Note to moderator: Probe for internal barriers (feelings, beliefs, personal traits) and external barriers (influence of family and friends, finances, community, time, etc.).

4. **Is there anyone or anything currently in your life that helps you make healthy choices?**

5. **What are some things that could help you make changes in your children's eating habits?**
   Note to moderator: Look for the positive. What is already happening that could be reinforced? Again probe for internal (feelings, beliefs, personal traits) and external factors (influence of family and friends, finances, community, time, etc.).

   Probe: how could the community help you make these changes? (look for family, schools, grocery stores, workplace, church)

Part II: Physical Activity
Now we are going to talk about physical activity habits. When we talk about "physical activity," we mean both lifestyle activities, such as walking, heavy cleaning, gardening, etc. and also "exercise" (such as going to the gym or weight room) and sports activities.

4. **When you hear the term "physical activity," what comes to mind? Do you think your children get enough physical activity? Why/why not?**
   Note to moderator: Do participants prefer the word "exercise" or "physical activity?" Do they have positive or negative associations with these words?

5. **What physical activities and/or recreational activities do your children enjoy? What is it about these activities that your children find enjoyable?**

6. **What physical activity issues do you think are most pressing for your children?**

Probe: What makes it hard to be more physically active? What are some things that KEEP your children from getting more physical activity?

Note to moderator: Probe for internal barriers (feelings, beliefs, personal traits) and external barriers (influence of family and friends, finances, community, lack of opportunity, safety concerns, time, etc.).

7. **What impact does your neighborhood or community have on your children's physical activity?**
   Probe: Do they make it more easy or hard?

8. **Is there anyone/anything you can think of that helps your children get more physical activity?**

9. **What are some things that could help your children be more physically active?**
   Note to moderator: Look for the positive. What is already happening that could be reinforced? Again probe for internal (feelings, beliefs, personal traits) and external factors (influence of family and friends, finances, community, time, etc.).

   Probe: how could the community help you make these changes? (look for family, schools, grocery stores, workplace, church)

Part III: School Safety

We are also interested in knowing about how safe parents feel their children are at school.

10. **What concerns (if any) do you have about your children's safety while at school? How do you handle concern about your child's school safety?**
    Note to moderator: Look for concern about violence and bullying.

Lastly, we would like you to help us think about positive things in the Delta.

11. **What positive things can you tell me about the Mississippi Delta?**