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Food Choice and its Effects on Nutritional Status: Assessment of Children at a Rural Ohio Head Start

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Images: Tables from Kindergarten Readiness Room 7/9/2007

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Abstract:

This study focused on the role choice plays among preschoolers at a rural Ohio Head Start program. Considering the Head Start menu as an "ideal" or well-balanced diet we observed lunch at the center and recorded what and how much children served themselves. We also held focus groups to better understand their general food preferences and knowledge about good and bad food. We learned that contextual issues of food consumption were far more important than the food items themselves. Familiar savory foods presented in an appealing manner and a positive environment (e.g. chicken nuggets at the 'fun' McDonalds playground) were frequently cited. Children had a basic understanding of what constituted "good" or "bad" food, but struggled to explain their reasoning. When actively eating, children originally served themselves indiscriminately but clearly favored certain foods (especially the main dishes and ketchup) when taking seconds. In the greater scheme it is important to realize the factors that promote positive food choices in this age group so that preventative action can be taken in helping our population decrease its rates of obesity and dietary related illness.

Background:

Kids between ages of 0-5 years begin to form dietary habits that will affect them throughout their lives. This time period represents a critical learning period during which children establish food preferences and foundations for lifelong food choice habits. Without a good foundation children can develop malnutrition and increase their risk for disease later in life (Birch 1998; Ogden 1997). A 2004 study by the Center for Disease Control 17.1% of U.S children ages 2-18 were categorized as overweight, and 65% of adults are either overweight or obese (CDC, 2007). In a United Way 2004-2005 community assessment of the county in question, focus groups with families of children attending a local Head Start center reported that "obesity" was ranked as a "major issue" for 46% of the people surveyed (United Way, 2006). In addition the United Way report indicated that "not having enough money for food" and "being overweight or obese" were major issues for 24% of the people over the past 12 months. The percentage of children falling below the poverty line in the county was 19.2% just below the state average of 21.0% (United Way, 2006). Obesity is a form of malnutrition closely linked with poverty due to the lack of sufficient funds to purchase wholesome foods (Crooks 1998). Given the national and local concerns with childhood nutrition, our research was focused on child growth and development and factors affecting food choice.

Methods:

Three pre-school rooms, two with 3-4 year olds and one kindergarten readiness room (ages 4-6) were the focus of analysis. The classroom numbers varied daily but averaged between 6 - 10 children per room. Two different focus groups were conducted to ask children questions about food choices. In the Kindergarten readiness room we carried out focus group questioning with approximately 2-3 kids. With the younger children we tried a similar approach but sometimes had to talk to children one on one. Responses to questions were anonymously recorded.

Focus group 1 was conducted to inquire about food preferences. Questions included: What are some of your favorite foods and why?, What are your least favorite foods and why? Focus group 2 looked at children's perceptions of whether certain foods were "good" or "bad." We used picture note cards (pictures shown below) both to assist them with recall and to aid us in creating a standard for comparison between classrooms. During the focus group 2 sessions we showed children one food card at a time and asked whether they considered the food "good" or "bad." The items were broccoli, cake and ice cream, fish, watermelon, cheeseburger, tomatoes, chicken, apples, bread, gummy bears, macaroni and cheese, and ketchup.

To observe ideal vs. real behavior we recorded individual food choices by plate according to gender. We observed a total of 67 plates over six lunches (two lunch observations in each classroom). We observed what food children put on their plates to see whether they tried everything from each food category (beverage, main, bread, vegetable, fruit, or condiments) as well as how many servings for each. This allowed us to gauge not only food selection, but also preferences and rough estimates of consumption quantities.

Results and Discussion:

Focus Group 1-

41% of kids listed a "main" (carbohydrate or protein) type dish as their favorite food. 56% of kids could not articulate a reason "why" they liked their favorite foods, but those who did predominately cited "contextual" reasons such as texture or appearance (53%) and savory taste (19%).

Focus Group 2-

Children had a basic idea of which foods were considered "good" or "bad" but had a very difficult time coming up with reasons for their assignations. While some children gave reasons such as the food is "good for my body" or "gives me big muscles", they were in the minority. Many kids considered "good" to apply to foods they've been told are nutritious as well as ones they like and were overall more likely to say foods fell into the "good" category.

Lunch observations-

In keeping with responses from focus group 1, 100% of kids took their serving of the "main" dish at lunch with 33% taking second helpings 72% of children used condiments when they were offered. Fruit was also very popular with 11% of kids taking three or more servings demonstrating that the kids who did eat fruit, ate a lot of it.

Based on our observations children at this age are willing to try at least one serving of anything when encouraged and their favorite foods are closely linked to their context, especially factors such as with whom they are eating and preparation (texture, appearance and temperature) and therefore their eating behavior has potential to change when food is presented mindful of these results. A recent study at a Head Start center in California found similar results when testing children's taste in branded versus unbranded identical foods. In this age group kids found the exact same foods tasted better when presented in McDonalds packaging; demonstrating, as in our project, that children at this age are very susceptible to learning links between positive environments, or context, and positive responses to food (Robinson 2007). In conjunction with our study, Allegra Fety collected data on body mass indexes (BMI). Her results, while unsurprising, highlight the problem with child nutrition in at risk socioeconomic communities such as our study group. 44% of the children measured were either overweight or at risk of becoming overweight. While we did not assess actual nutrition of the centers' food, the menu is based on USDA recommendations; our project was limited in that we could not assess what foods were consumed outside of the preschool, but based on our findings are likely fast or processed foods. However, If by training children to control their own eating early on via the transformation of messages that link bad food with good symbols and vice a versa, it may be possible to begin preventing nutrition and obesity related diseases in the later life of this high risk population.

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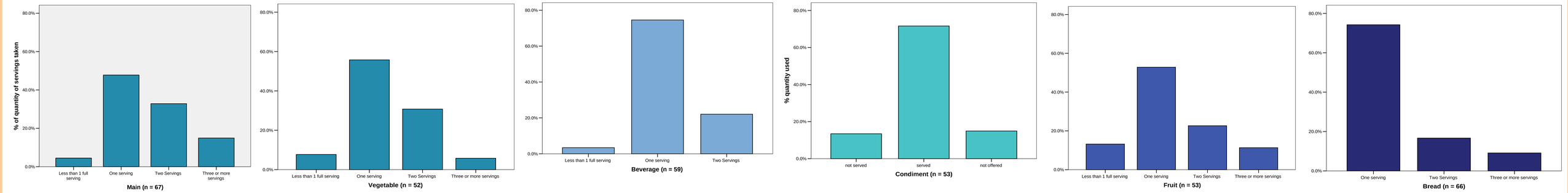
Lunchtime observations: Servings per food item



Food Type	Number of Responses
Beverage	10
Main/ Bread (Carbs and proteins)	63
Vegetable	22
Fruit	38
Dessert	18
Condiment	3
OTHER (not food, not relevant, etc.)	0
N= 154	

Focus Group 1: Breakdown of food type for "favorite Foods" and reasons given

"Why" Categories	Number of Responses
No Reason/No Response	89
Health Reasons	0
Other body-related reasons	1
Taste- "I like it" or "I dislike it"	6
Context- Food associations or environment	59
Other (illogical)	5
N = 160	

Context Breakdown	Number of Responses
Sweet	6
Savory/Spicy	11
Temperature	2
Texture/ Appearance	31
Where/ with whom/ how	9
Smell	0
N= 59	

Focus Group 2: Note card pictures and number of kids who assigned each food as either "good" or "bad"

Good- 21
Bad- 6

Good- 20
Bad- 7

Good-17
Bad- 11

Good- 26
Bad- 2

Good- 21
Bad-7

Good- 16
Bad- 11

Good- 26
Bad-0

Good-27
Bad-0

Good-25
Bad-2

Good- 23
Bad- 4

Good- 23
Bad- 3

Good- 24
Bad- 1