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HOUSEHOLD FOOD SECURITY, DIETARY INTAKE, AND ANTHROPOMETRIC ASSESSMENT OF DOMINICAN CHILDREN

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HOUSEHOLD FOOD SECURITY, DIETARY INTAKE, AND ANTHROPOMETRIC ASSESSMENT OF DOMINICAN CHILDREN

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ABSTRACT

The purpose of this study was to assess nutrition and food security status of Dominican school children and their families. Anthropometric measures, diet recalls, and household food security surveys were used as tools in this assessment. This assessment may assist in prioritizing programs for the transitioning country of the Commonwealth of Dominica.

In year 1, 199 children and 197 children in year 2 from 10 primary schools in 3 regions participated in the study. Four of the schools were involved with school feeding programs while six were not involved in school feeding programs. Weight was measured on an electric scale; height was measured with a portable stadiometer; and triceps skinfold was measured with skinfold calipers. BMI was calculated from height and weigh measurements. Children's weight-for-age, height-for-age, BMI, and triceps skinfold thickness measures were compared to WHO growth standards for children.

Twenty-four hour diet recall interviews were conducted with 198 children in year 1 and 196 children in year 2 by paper-and-pencil approach using standardized probes, food models, and coding. Intakes of food energy, macronutrients, vitamins, and minerals were compared to US and WHO reference intakes. Food items also were categorized into one of the six food groups of the Caribbean and as either traditional or non-traditional.

Two hundred fifty-seven parents of children at the participating schools completed a food security questionnaire modeled after the USDA Household Food Security Survey. Questions were analyzed to determine levels of household food security as well as food security at the child level.

Statistical analysis was performed using SAS (SAS version 9.1; SAS Institute, Inc., Cary, NC). Descriptive statistics, frequencies, correlations, mixed procedures, and chi-square goodness of fit analyses were utilized. The probability of a type I error was set at 5%.

Children in the Southeast region were significantly taller and heavier than children in either the north or Carib regions. Carib children were the smallest in comparison to children in the North or Southeast regions. Carib children also had significantly lower BMI than children in the North and Southeast regions in year 2. Overall, 12% of children were below the 3rd percentile while 23% were above the 97th percentile in year 1. In year 2, over half of the children were between the 3rd and 97th percentiles. Children in the Southeast region had significantly higher intake of several nutrients, including fiber, fat, vitamin A, vitamin C, folate, calcium, phosphorus, and zinc. More than half of the children consumed less than 67% DRI for fiber, calcium, and potassium and 55% of children consumed less than the DRV for calcium and zinc.

On a weight basis, children's food came mostly from fruits, foods from animals, sweets, non-caloric beverages, mixed dishes, and staples than from other food groups. The food groups consumed by the greatest number of children in both years were staples, foods from animals, and fruits. The foods consumed by the fewest number of children were vegetables, mixed dishes, and soups, sauces, and gravies. Children consumed significantly fewer grams of non-traditional foods than traditional foods in both years. Few non-traditional and traditional foods were high in protein.

Eleven percent of respondents had high household food security, 16% had marginal household food security; 31% had low household food security; and 42% had very low household food security. More households from the Southeast region had high food

security (48%) than from the other two regions while more than half of the households in the Carib region had low to very low household food security status. Forty three percent of respondents had high or marginal food security status at the child level; 32% had low food security at the child level; and 25% had very low food security at the child level. Respondents from the north had the highest percentage of high child food security.

Nutrient intake and anthropometric data of Dominican children compared closely to children in developed countries. Children were growing appropriately for their age, eating nutrient dense foods, eating appropriately from the food groups, and consuming more traditional than non-traditional foods. Nutrients of concern were calcium and folate; intakes of these nutrients should continue to be monitored.

There were no significant correlations between the availability of school feeding programs and anthropometric measures, nutrient intake or food security status. This may reflect the lack of standardization in the school feeding programs. With further development of the school feeding programs in schools throughout Dominica, positive impacts may be seen. Given the mostly traditional and varied diet consumed by the children in this study and the overall adequacy of intake, school feeding programs could help this population maintain a healthy lifestyle.

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CHAPTER ONE

LITERATURE REVIEW

Food Security

Introduction

Approximately 200 definitions and 450 indicators of food security have been identified over time (Busch and Lacy, 1984; Campbell et al., 1988; Margen, 1989; Reutlinger and van Holst , 1986; USAID, 1992). Early definitions focused on the ways food supplies contribute to national and global production and their self-sufficiency as a strategy for nations to achieve food security. This approach is critical to a full understanding of food security, since "food gaps" – gaps in the distribution of food produced – are an important contributor to the larger macro-level variables that set the stage for food insecurity at the household and individual levels (Meade, Rosen and Shapouri, 2007).

Definitions of Food Security

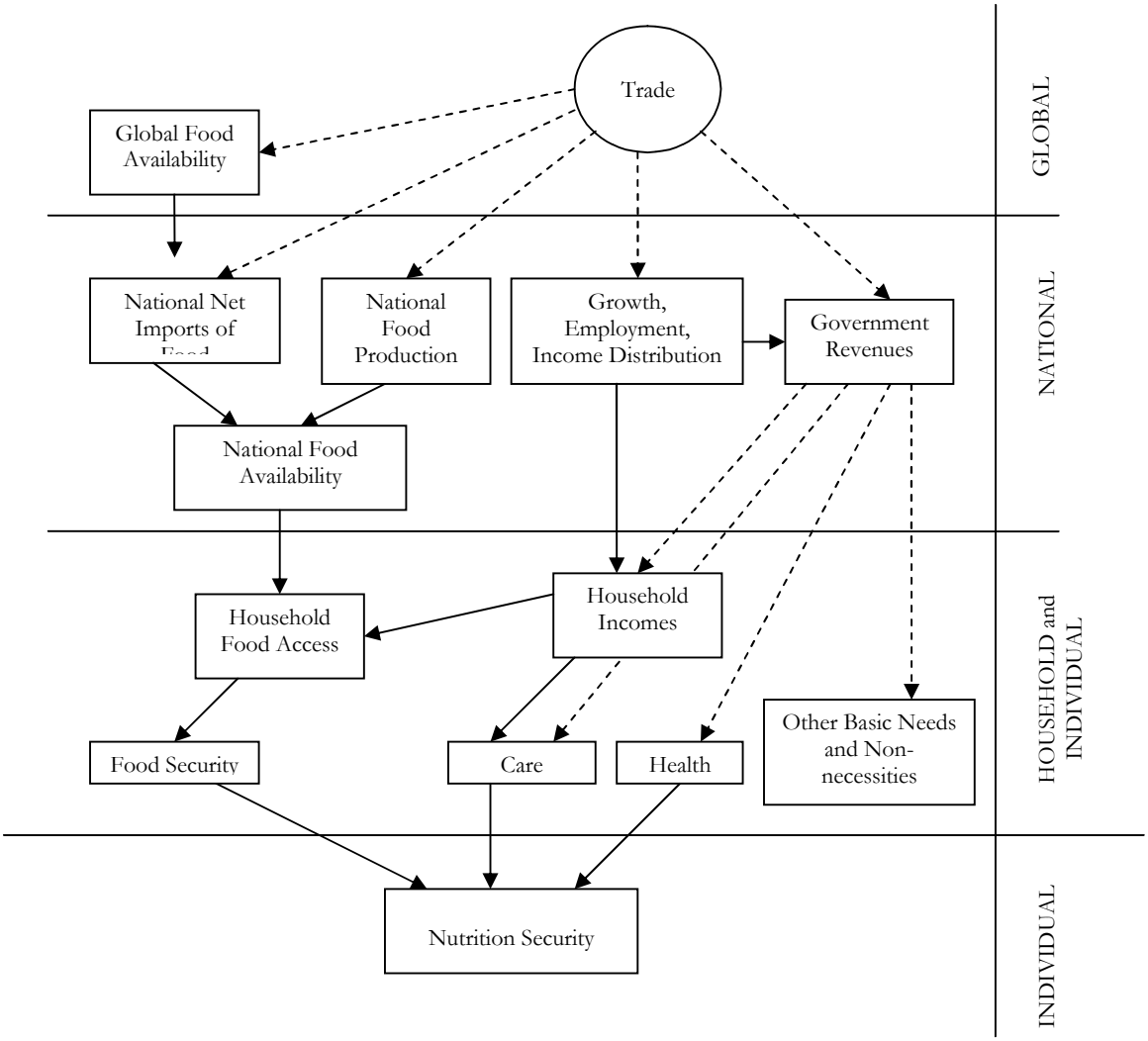
The 1974 World Food Conference defined food security as "availability at all times of adequate world supplies of basic food stuffs" (United Nations, 1975). This conference culminated with the goal of the eradication of hunger within a decade. This goal was not met. Subsequently, the Rome Declaration on World Food Security and the World Food Summit Plan of Action, articulated in 1996, provided a forum for debate on strategies for acceleration of eradication of hunger and malnutrition. This meeting laid the foundation for reaching an abstract and generic definition of food security at the individual, household, national, regional and global levels. Food security was defined as *"when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life"* (*Population and Development Review*, 1996). It was

recognized that attaining food security requires an understanding of the myriad factors and forces that either foster or preclude the attainment of this goal.

Explanatory Models of Food Security

Several models have been developed to conceptualize the complexity of food security. Figure 1.1 presents the different levels of analysis. This model clearly identifies food security as a dependent variable and as an outcome that is dependent on multi-level forces and factors that come to bear on households and individuals. The model also provides a clear "picture" of the many factors that affect food security.

Figure 1.1: Food Security at the Individual, Household, National, Regional and Global Levels



Source: Adapted from Smith (1998).

At minimum, food security requires the ready availability of nutritionally adequate and safe foods and the assured ability to acquire acceptable foods in socially acceptable ways. As such, food security entails not having to resort to emergency food supplies, scavenging, stealing, and other coping strategies (Anderson, 1990). Food systems at all levels, from households and communities to nations and groups of nations, must work to ensure

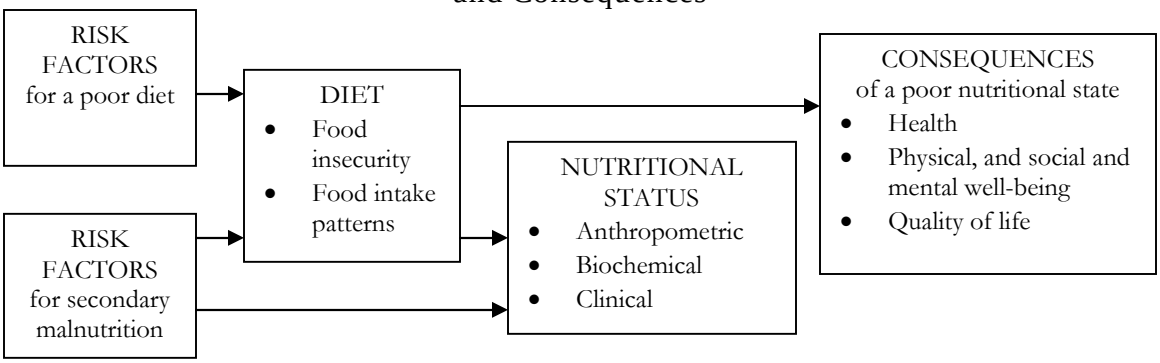
sufficient food for all through a self-reliant, socially sustainable mechanism[1]. Not only does food need to be available through production networks, food must be accessible to all people through networks created through cooperation of key partners such as NGOs, CSOs, government, and private sector- organizations including faith-based organizations (FAO, 2006a).

What it means to be Food Insecure

The American Society of Nutrition Life Sciences Research Organization identified household and individual food insecurity as components of dietary indices that can affect health and quality of life. (Figure 1.2)(Campbell, 1991; Margen et al., 1987). Food insecurity is a continuum that progresses from uncertainty and anxiety about food at the household level to hunger among children who do not have enough to eat. It is caused by circumstances (such as low or unstable wages) that lead to inadequate means of food acquisition (Hamelin et al., 1999; Radimer, 1990a; Radimer et al.,1990b; Radimer et al.,1992). Even when food is accessible and available, it must still be affordable. Therefore, conceptually, food security can be viewed as a result of adequate food availability, food access, and food utilization (Elder and Keiss, 2004.).

[1] One constructive action that has been taken on the heels of this Summit and subsequent research has been working toward to goal of having school lunch and WIC programs available worldwide (McGovern, Dole and Messer, 2005).

Figure 1.2: Campbell's Conceptual Framework for Food Insecurity, its Risk Factors, and Consequences



Source: Campbell, 1991.

At the individual level, food insecurity runs a continuum. This continuum goes from the least severe form, in which people are uncertain of being able to obtain food in socially acceptable ways, to the most severe form in which people do not eat enough due to insufficient resources to acquire that which is available and acceptable. This most severe form is associated with physical and psychological consequences (Frongillo, 1999). Earlier work by Radimer and associates revealed that food insecurity is a "managed process" wherein, rather than suddenly not having enough food, people in food insecure households generally recognize their relative risks for food insecurity. People first worry about where and how to obtain food, and then implement strategies for augmenting their food supply. Adults in food insecure households tend to compromise food quality over food quantity. Women in food insecure households tend to reduce the quantity of food they consume, trying to assure that children's food quantities and eating patterns remain undisrupted unless extremely severe circumstances are present (Coates et al., 2006). In the United States, obtaining food from a local food pantry or food bank might be an option, but a recent

survey revealed that only about 20% of the country's food insecure households take this option (Nord, Andrews and Carlsonm 2006).

The American Society of Nutrition (ASN) noted that "hunger and malnutrition are potential, although not necessary, consequences of food insecurity" (Margen, 1987). All the same, food insecurity is associated with situations such as compromised physical and mental health, depression in women, depression and risk of suicide among adolescents, poorer academic performance and social skills deficits among children in primary school, severe health problems (requiring hospitalization) among infants and toddlers, and behavioral problems and problems of overweight among pre-school children (Nord and Prell, 2007; Nord and Hopwood, 2007; Dubois et al., 2006; Jyoti, Frongillo, and Jones, 2005; Cook et al., 2004; Center on Hunger and Poverty, 2002).

Food insecurity commonly is presumed to have four components: quantity of food, quality of food; certainty of access, and acceptability of access (Frongillo, 1999). Food insecurity typically follows a general sequence as the problem worsens. Household food insecurity is experienced first, followed by compromises in the quality and quantity of food eaten by adults. Child hunger, characterized by decreases in the quantity of food eaten by children, is the last stage (Radimer, 1990a; Radimer et al.,1990b; Radimer et al.,1992).

Although hunger is related to food insecurity, it is a different phenomenon. Food insecurity is a social condition of limited access to food usually at the household level, while hunger is a physiological condition resulting from food insecurity. Thus, while a measure of food insecurity provides some information about the economic and social contexts that may lead to hunger, it cannot be used to calibrate the extent to which hunger exists.

In the U.S., hunger initially was measured by whether or not a household had enough food in it or enough cash on hand to feed all members for one full day (USDA, 2000; Nord and Carlson, 2005). However, ultimately it was concluded that "hunger" is a state experienced at the individual level, which could be highly subjective, while food security could be quantified and empirically documented. Thus, "hunger" was removed from the empirical analysis of food security, though hunger is implied in the measurement of food security (Nord et al., 2005).

The USDA measures food security using the following continuum (Nord et al., 2006):

1. High food security- household has no problems, or anxiety about, consistently accessing adequate food.
2. Marginal food security- household has problems at times, or anxiety about, accessing adequate food, but the quality, variety, and quantity of food intake is not substantially reduced.
3. Low food security- household reduces the quality, variety, and desirability of its diets, but the quantity of food intake and normal eating patterns are not substantially disrupted.
4. Very low food security- household lacks money and other resources for food that leads to disruption of eating patterns of one or more household members at times during the year. (Nord et al., 2006)

Food insecure individuals and households are typically characterized by limited resources and by a tendency to compensate by resorting to food assistance programs (if available and they are eligible to use them), skipping meals, and/or substituting nutritious

foods with less expensive alternatives (LeBlanc and McMurry, 1998). Many of these strategies, however, can compromise health and mental and physical functioning (Olson, 1999; Vozoris and Tarasuk, 2003; World Food Programme, 2006). Hungry children are compromised in their abilities to learn and to develop skills. Hungry adults cannot work adequately to sustain gainful employment

Food security is a public policy concern for developed and developing countries alike (Alaimo et al., 1998; Craig and Dowler, 1997; Davis and Tarasuk, 1994; Lang, 1999; Leather, 1996; Maxwell, 1996; McIntyre et al., 2000; Riches, 1997; Tarasuk, 2001). One of the UN Millennium Development Goals, is to halve the number of undernourished people in the world by 2015. It is estimated that approximately 17% of the total population in developing countries is undernourished compared to less than 2.5% of the total population in the developed world (2002-2004 preliminary data) (FAO, 2006b). The greatest challenge is Sub-Saharan Africa where one in three people is deprived access to sufficient food and undernourishment rates are high (FAO, 2006c).

In addition, food insecurity and hunger are considered antithetical to *The Universal Declaration of Human Rights*, first approved by member nations of the United Nations in 1948 (UN, 1998). Article 25 of this Declaration states that "*Everyone has a right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing, and medical care…….*" This emphasis on food as a right reverberates in the FAO emphasis on The Right to Food, and underscores the Millennium Development Goal focused on hunger eradication.

Approximately 11.9% of U.S. households were reported as food insecure at least some time during 2004, with 8% experiencing food insecurity without hunger and 3.9%

experiencing food insecurity with hunger. Reported rates of food insecurity in principal cities of metropolitan areas (15.4%) and nonmetropolitan areas (13.1%) exceeds the 9.0% rate in households in suburbs and other metropolitan areas outside of principal cities (Nord et al., 2005).

Effective food and agricultural policies are needed to achieve food security in all areas of the world. Investments in public infrastructure and services coupled with promotion of effective and efficient private markets, including credit and savings institutions, are essential for facilitating economic growth and alleviating poverty (Bradshaw et al., 1993; Ruel et al., 1999). Increasing agricultural sustainability to reduce food insecurity (Pretty, Morison, and Hine, 2003) also is seen as necessary for increasing food security while at the same time improving environmental quality. Therefore, it can be argued, achievement and attainment of food security is the responsibility of all members involved in the food system who are able to influence the production of and access to food (FAO, 2006a).

Food Security in the Commonwealth of Dominica

Dominica is classified as an upper-middle-income economy by the World Bank[2].The economy of the Commonwealth of Dominica has been described as traditionally small, open, and especially vulnerable to external shocks. The Commonwealth Vulnerability Index rates Dominica the sixth most vulnerable economy to external shocks and natural disasters in the world and the most vulnerable in the Caribbean (Report on the Food and Nutrition Situation in Dominica, 2005). The Dominican economy heavily relies on the performance

[2] Data available from the Country Groups file, The World Bank. http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS

of agriculture which remains a dominant contributor to GDP (18%). Currently, the GDP of Dominica is US $284 million (US Department of State, 2005).

The economic and agricultural history of Dominica has been one of monocrop boom and bust, beginning with sugar 300 years ago and continuing through coffee, limes, vanilla, and bananas (Halcrow Group Limited, 2004). Banana production declined from $81.4 million in 1992 to less than $19.7 million in 2000 due to changes in preferential market arrangements resulting from trade liberalization. Today, there are fewer than 1,200 banana producers compared with 6,000 in 1990 (Sinha, 1995; Halcrow Group Limited, 2004; Report on the Food and Nutrition Situation in Dominica, 2005). The decline in the banana sector contributed to a severe deterioration of the economy and a decline in the contribution of agriculture to GDP. However, there now are indicators that the banana industry has recovered. That recovery, along with growth in the tourism and construction industries, stabilization of oil prices and maintenance of low inflation rates, bodes well for Dominica's fiscal future (IMF, 2007).

The rural communities in Dominica are largely agrarian with a disproportionate dependence on agriculture for employment and, income. The decline in banana production has led to fewer employment opportunities for those whose livelihoods had been based on work in that commodity. The urban poor also have a high dependence on agriculture as a source of low cost food and charcoal for cooking fuel (The Dominican Food and Nutrition Council, 1996).

Dominica is not self-sufficient in food production, especially foods high in protein. Several types of animals are reared on the island; however, production is insufficient for the total population. Dominica has been increasingly dependent on international trade for

sufficient foreign currency to supply the population with food. Annual imports of meat and meat products, milk and cheese, and fish and fish products exceed $7.4 million (2% of GDP) (FAOSTAT, 1999; PAHO/WHO, 1999).

Small farmers sell their produce to clients engaged in marketing channels that serve domestic, regional, extra-regional, and agroprocessing demands. Results from a sample survey indicate that 23.4% of small farmers use only a local market as an outlet for sale of their produce. These local markets serve local consumers rather than markets or marketers operating in larger arenas of commerce (OECS/EDADU/FAO, 1999). However, given the geographic locations of the few existing market places, many communities do not have access to locally produced food on a weekly basis. Recently, in urban areas, supermarkets have become involved with the retail of fresh produce, thereby improving availability to consumers (Report on the Food and Nutrition Situation in Dominica, 2005).

Even though improvements in food supply, incomes, living conditions and standards have occurred since the 1960's, food insecurity remains a problem. As in other countries, at the household level, food insecurity is directly linked to poverty. According to the 2003 poverty assessment survey for Dominica, 29% of households (40% of the population) live in poverty and are unable to meet their basic needs and approximately 40% of the poor (25% of the population) is unemployed (International Monetary Fund, 2004).

Around 10% of households are indigent, with about 75% of those in rural areas, where it is estimated that one of every two households is poor. The remainder of the indigent households are in the main towns of Roseau and Portsmouth (Halcrow Group Limited, 2004).

The Caribs, of all identifiable ethnic groups, have the highest rates of poverty. It is estimated that 70% of the Carib population is poor and that almost half of those are indigent (Halcrow Group Limited, 2004). While the Caribs as a group are only about 10% of the population, their disproportionate representation in the poorer and poorest classes is worthy of note.

Poverty has increased in the last few years due to a continued decline in the economy accompanied by pronounced deterioration in government finances (Halcrow Group Limited, 2004). The situation in rural areas is underlined by the fact that almost a quarter of all households have fewer than five persons and 31% have no one employed. Employment opportunities in rural areas are usually limited. Individuals displaced by the banana industry have little or no choice but to accept employment in available low-paying jobs that may have irregular income or to rely on government or family for assistance (Halcrow Group Limited, 2004). On the other hand, rural households are more likely to benefit from community support and solidarity than those in urban areas (Halcrow Group Limited, 2004).

Poverty disproportionately affects children. Seventy percent of poor households in Dominica have children in residence compared to 44% of non-poor households. Poor households also tend to be larger than non-poor households and to be multi-generational. According to one report, almost half of poor households in Dominica had five or more persons in residence, while only 16% of non-poor households had a similar household size. (Halcrow Group Limited, 2004).

School Feeding Programs

"We can make no better investment in America than guaranteeing the health and well-being of our children."
–Hubert Humphrey, Senate Select Committee on Nutrition and Human Needs, 1974.

Introduction

Government plays a large role in the nutrition of children in the world. Children who are well fed are likely to be healthier and perform better in school, yet many children's diets fall short of recommended dietary standards. On the other end of the spectrum, over consumption of food, reflected by rising incidence of obesity, is now regarded as a major cause of ill health in many countries throughout the world.

Worldwide the school environment has been recognized as a natural arena to positively influence supplementation of food, eating behaviors, and food choice (Bowker et al., 1999; Briggs et al., 2003; CDC, 1996; Contento et al., 1992; Contento et al., 1995; Dwyer, 1995; Kubik et al., 2003; Lytle and Achterberg, 1995; Wechsler et al., 2000). School feeding programs are designed to reduce hunger and enhance nutrition among children who are considered to be at risk of poor outcomes. Particularly for those programs enacted by or partnered with government, school feeding programs also provide an entry point for interventions and may increase community involvement.

Worldwide, organizations and governments have implemented school feeding programs (SFPs) to improve food security in the context of food access, availability, and utilization. SFPs, in the short-term, can provide safety nets through income transfer to households if rations are increased during vulnerable periods. In the long-term, they can improve education through improved inputs and training and result in greater access to credit and agricultural management. Utilization can also be improved in the short- and long-

term by appropriate targeting of the program through including vitamin and mineral-rich foods in school meals and through provision of significant portions of the child's diet through the school meal (Hicks, 1996).

In 1946 as a response to the realization that many young men were denied acceptance to the armed forces during World War II because of physical conditions associated with poor nutrition, the federally assisted meal program in the United States, the National School Lunch Program (NSLP), was formed. This program has shifted from a service designed to benefit undernourished children to one intended to benefit *all* children.

Today, the NSLP operates in more than 99,800 public and non-profit schools and residential child care institutions, potentially reaching 92% of all students (Burghardt et al., 1993; Burghardt and Devaney, 1995). The NSLP provides nutritionally balanced, low-cost or free lunches to more than 26 million children each day and it is estimated that school-aged children receive between 19-50% of their daily food at school (Gleason and Suitor, 2001; USDA, 2004).

NSLP lunches are planned to provide 1/3 of the RDA for specific nutrients (Walker and Walker, 1991). The NSLP lunch must include five items: meat or meat alternative; vegetables, fruits and/or juices; whole-grain or enriched bread or bread alternate; and fluid milk and contain no more than 30% of calories from fat and less than 10% of calories from saturated fat (USDA, HHS, 1995). In general, the NSLP has achieved the basic dietary objectives (Akin et al., 1983a; Akin et al., 1983b; Burghardt et al., 1993; Devaney et al., 1997; Devaney et al., 1995; Devaney et al., 1993; Gleason and Suitor, 2003; Gleason and Suitor, 2001; Fraker, 1988; Hoagland, 1980; Howe and Vaden, 1980; Wellisch et al., 1983). Students participating in the NSLP had higher average lunch intakes of vitamin A, riboflavin, vitamin

B-12, calcium, phosphorus, magnesium, and zinc (Devaney et al., 1995; Gordon et al., 1995, Gleason and Suitor, 2001).

In the US, the "Food for Peace" food aid initiative helped expand school lunch programs to millions of children in nations such as Brazil, Peru, India, and South Korea (USAID, 2004). Additionally, in 1992 the World Declaration on Nutrition affirmed that "access to nutritionally adequate and safe food is a right of each individual" and nutritional well-being "must be at the center of … socio-economic development plans and strategies" (FAO and WHO, 1992). Subsequently, in 2000 the United Nations Millennium Summit ratified the Millennium Development Goals (MDGs) of 1996, which includes the global goal of universal primary education and also makes a priority to expand school feeding programs with particular attention to children in rural areas and to girls (WFP, 2006).

The World Food Summit: Five Years Later convened in 2002 to analyze the progress towards meeting goals and delegates became aware of the great need for work on a global scale. Since then, numerous PVOs; NGOs; and bilateral, international, regional, and sub-regional organizations have worked for international food security. The World Food Program (WFP) is by far the largest and most experienced organizer of school feeding programs. In 2004, the WFP and partners provided school meals to 16.6 million children in 72 countries (WFP, 2005). Projects include regional networks to expand and improve school feeding in Latin America and the Caribbean such as the newly formed Latin American School Feeding Network which launched in 2004. The WFP has facilitated SFP efforts in El Salvador and Honduras; recently, efforts have been heightened in Haiti through establishment of the National School Feeding Program.

School Feeding Programs in the Commonwealth of Dominica

Initially, the WFP funded the SFP in Dominica although the central funds of the Commonwealth of Dominica have been providing support since 1995. The number of schools participating in this program has been reduced from 22 to 7 (out of about 60 public primary schools), although education officials have indicated that at least 3 other schools would benefit from this program (Halcrow Group Limited, 2004). Schools covered in the current program include Bagatelle, Belles, Delices, Grand Bay, Penville, Salybia, and Sineku. The St Joseph and St Souvere schools also operate within the SFP but funding is provided by international donor agencies (Halcrow Group Limited, 2004).

Within the program, two hot meals and three snacks are provided each school day for children attending the school. Concern has arisen that the nutritional value of the meal has been reduced due to cost cutting measures (Halcrow Group Limited, 2004). Both teachers and the Ministry of Education have reported improved attendance at school since the schools joined the SFP program. Education Planning Unit figures indicated that attendance had increased from around 70% to 96% as a result of SFP (Halcrow Group Limited, 2004). Utilizing a standardized SFP program in Dominica would also be effective for monitoring nutritional status of the population and encouraging nutritionally appropriate food intake. By establishing policies and guidelines for a SFP, Dominica could help children succeed both academically and physically.

Nutrition Transitions

Introduction

Nutrition transitions, defined as evolving food environments, are influenced by many factors and complex interactions. Shifts in the global food supply and the relative costs of foodstuffs have led to dietary and lifestyle changes over the past three decades (Popkin, 1998; Popkin, 2003a; Popkin 2004b, Drewnowski and Popkin, 1997; Popkin et al., 2002a; Popkin, 1998). Since the Industrial Revolution, there has been a rapid increase in the number of people residing in urban settings throughout the world. Factors such as the low cost of foodstuffs including refined oils and carbohydrates, increased dependence on motorized transport, and advances in household technology including refrigerators, television and video games support a societal transition (Popkin, 1998; Lobstein, 2005; Popkin, 2005; Egger and Swinburn, 1997; Swinburn and Egger, 2004). A pronounced shift in types of employment from agriculture toward service and manufacturing also contributes to lifestyle changes that influence diet patterns. The accelerated labor markets in manufacturing and service in urban areas have led to innovations resulting in greater availability of food. However, with these employment shifts, personal physical activity has lessened (Popkin, 1998).

It has been suggested that overall dietary transition occurs in stages progressing from traditional diets to more Western dietary patterns (Popkin, 2002b; Popkin, 1998). People in modern societies seem to be converging to a diet high in saturated fats, sugar, and refined foods but low in fiber, often called the 'Western diet' (Popkin, 2002b; Popkin and Nielson, 2003a). In developed countries such as the United States, the increase in daily caloric intake is mostly due to increased consumption of energy-dense, nutrient-poor foods, such as snack

foods, fast foods, and sweeteners (Neilson et al., 2002; Jeffery and Utter, 2003). Additionally, more meals are eaten outside of the home (French et al., 2001; Nielson et al., 2002; Jeffery and Utter, 2003; Guthrie et al., 2002; Popkin, 2003b).

Although lifestyle changes are most acute in developed countries, globalization has affected lifestyle in most countries in recent years resulting in increases in chronic diseases such as cardiovascular diseases and diabetes (Chinn, 2001; de Onis, 2000; Uauy, 2001; Martorell, 1998; Popkin, 2002b). Epidemiological researchers have reported direct relationships among obesity, genetics and social factors such as urbanization, economic growth, technical change, and culture (Popkin, 2003a; Brown, 1992; Lobstein, 2005; Popkin, 2005; Egger and Swinburn, 1997; Swinburn and Egger, 2004; Popkin, 2004a; Popkin 2001; Schmidhuber and Shetty, 2005; Guilliford et al., 2001).

The prevalence of childhood obesity has increased about three-fold in most developed countries over the past 20 years with the rest of the world not far behind (Ebbeling et al., 2002; Lobstein et al., 2004). Children establish eating patterns that shape their diets throughout their lives and may contribute to risk of developing chronic diseases later in life (Kemm, 1987; Nicklas et al., 1998; Casey et al., 1992; Garn and LaVelle, 1985; Freedman et al., 1987; Guo et al., 1994).

In recognition of the need to establish weight standards for use in children, the World Health Organization (WHO) recommended using body mass index (BMI) (Wang, 2001; Kumanyika and Stettler, 2001; World Health Organization Expert Committee, 1995; World Health Organization, 1998; Must et al., 1991[1]; Must et al., 1991[2]; Power et al., 1997; Cole et al., 2000; Guillaumme, 1999). In 2007, the WHO released new international growth standards for school-aged children and adolescents (de Onis et al., 2007). The WHO

adopted the 1977 growth charts published by the US National Center for Health Statistics (NCHS) for use throughout the world and set BMI standards for a healthy weight from the 3rd percentile to the 97th percentile, for overweight between the 97th and 99th percentiles, and obesity at equal or greater than the 99th percentile (Hamill, 1977; WHO, 2006; de Onis et al., 2006). The new standards rely on Box-Cox power exponential distribution to smooth curves for younger children and to resolve the positive skewness in the NCHS reference standard that may have led to an underestimation of childhood and adolescent obesity. (Borghi et al., 2006; de Onis et al., 2007 . Butte et al., 2007; de Onis, 2004; Fu et al., 2003). The 2007 WHO standards for children aged 5-19 were tested for validity among many diverse ethnicities and were found to be appropriate for use around the world (de Onis et al., 2006, de Onis et al., 2007). BMI should be used to screen for overweight, however further assessments such as skinfold thickness measurements, evaluations of diet, physical activity, family history, and other appropriate health screenings are recommended in combination with BMI for more accurate determination of excess body fat in children (Malina and Katzmarzyk , 1999; Mei et al., 2002; CDC, 2007).

In addition to anthropometric recommendations, dietary recommendations are outlined in many countries. Both the Institute of Medicine (IOM) of the National Academies of Sciences (NAS) and World Health Organization (WHO) have made recommendations for adequate nutrient intakes of children (IOM, 1997; IOM, 1998; WHO, 2004; WHO 2007, website). The IOM has set daily energy, macro-, and micronutrient recommendations as Dietary Reference Intakes or DRIs. DRI recommendations consist of:

- Estimated Average Requirements (EAR), expected to satisfy the needs of 50% of the people in age group.
- Reference Dietary Allowance (RDA), the daily dietary intake level of a nutrient considered sufficient to meet the requirements of nearly all (97–98%) healthy individuals in each life-stage and gender group.
- Adequate Intake (AI), where no RDI has been established, but the amount established is somewhat less firmly believed to be adequate for everyone in the demographic group.
- Tolerable upper intake levels (UL), to caution against excessive intake of nutrients (like vitamin D) that can be harmful in large amounts (IOM, 1997; IOM 1998).

Additionally, acceptable macronutrient distribution ranges (AMDR) established by the IOM recommend no more than 30% of energy intake from fat and no more than 15% of energy intake from protein (IOM, 2002). Dietary Reference Values or DRVs for the United Kingdom populations are based on advice that was given by the Committee on Medical Aspects of Food and Nutrition Policy (COMA). DRVs consist of:

- Reference Nutrient Intake (RNI) an estimate of the amount that should meet the needs of most of the group (97.5%) to which they apply. They are not minimum targets.
- Estimated Average Requirements (EAR) used alike DRI.
- Lower Reference Nutrient Intakes (LRNI), the amount of a nutrient that is enough for only the small number of people who have low requirements (2.5%).The majority need more. (British Nutrition Foundation, 2004).

Researchers from South Africa and rural India reported that intakes did not always meet recommendations for energy, calcium, iron, and vitamin A, with intakes of some nutrients well below the recommendations (Labadarios et al., 2005; MacKeown et al., 2007; Agrahar-Murughar, 2005). Interestingly, in the US, African-Americans in all age groups had significantly lower intakes of calcium than non-African-American counterparts (Fulgoni et al., 2007). Intake of folate is also less than the recommendations in both developed and

developing countries and remains a concern for growing children (Elmadfa and Weichselbaum, 2005; Suitor et al., 2002).

DRIs and DRVs have long been the basis for menu planning in school nutrition programs in the US and Great Britain (Contento et al., 1992; Contento et al., 1995; Lytle and Achterberg, 1995; Bowker et al., 1999; Briggs et al., 2003). In fact, the USDA requires that school lunches provide 1/3 of the DRI for all nutrients to be eligible for reimbursement. The National School Lunch Program has influenced the intakes of children in the US; they are generally well above the recommendations for most nutrients except for calcium, iron, and vitamin A (Gleason et al., 2003; Gordon et al., 1995; Wellisch et al., 1983; Fraker, 1988; Akin et al., 1983; USDA, 1999; Glynn, 2005; Ruxton et al., 1996; Gregory, 2000; Devaney et al., 1995; Fiorito et al., 2006; Fulgoni et al., 2007; Smathers et al., 2000).

Nutrition Transitions in the Commonwealth of Dominica

The cultural heritage along with the topographical and climatic qualities that lend well to agriculture have shaped the traditional cuisine of the Caribbean. Traditional crops brought from Africa and/or European settlers were cassava, dasheen, sweet potatoes, corn, yams, beans, peppers, pumpkins, tannias with root crops, bananas, breadfruit, coffee, cocoa, mangoes, plantain, wheat, white potatoes, meat (beef, mutton), rice, saltfish (cod), pickled meat, and milk (Elwin, 1998).

Increasing availability of resources and economic opportunity has led the Caribbean region to an epidemiological transition in which incidence of malnutrition and infectious diseases has decreased and incidence of obesity and chronic diseases such as diabetes, cardiovascular disease, and cancer has increased (Omran, 1971; Sinha, 1995; CFNI, 2001). CFNI reported on the weight for height status among children 1-4 years and indicated that

17.0% of the children were wasted while 7.2% were overweight (PAHO/CFNI, 1997). A significantly higher proportion of females were wasted compared to males, while a higher proportion of males were overweight compared to females. Children from Castle Bruce had the highest prevalence of wasting (30.0%), while those from Marigot had the highest prevalence of overweight (PAHO/CFNI, 1997). Table 1.1 illustrates the anthropometric data on children recorded from various previous studies.

Table 1.1: Anthropometric Data on Children

Source/ Yr of Study	Location	Sample			Percentage of Malnutrition						
		Size Number	Sex	Age Years	Underweight %Weight/Age		Stunting %Weight/Age		Wasting % Weight/Age		Overweight %Weight/Age
					<-3SD	<-2SD	<-3SD	<-2SD	<-3SD	<-2SD	<+2SD
	National	153	M/F	1.0-4.0						17.0	7.2
	-	70	M/F	-						7.1	10.0
	-	83	F	-						25.3	4.8
	Health District:										
PAHO/CFNI	Castle Bruce	10	M/F	1.0-4.0						30.0	10.0
1997,	Roseau	67	-	-						23.6	12.5
Micronutrient	Portsmouth	30	-	-						19.4	6.5
Study, A Three	Grand Bay	22	-	-						9.0	9.1
Country Study	Marigot	24	-	-						0.0	15.4
1996					<80%	>120%					
	Clinic Data		M/F	0-0.5							
	1990		-	-	1.9	6.0					
	1991		-	-	1.7	6.4					
	1992		-	-	1.6	7.1					
CFNI, 2000	1993		-	-	1.5	8.0					
Obesity	1994		-	-	2.1	7.1					
Prevention and	1995		-	-	2.3	9.9					
Control	1996		-	-	1.0	9.3					
Strategies in the	1997		-	-	0.9	8.9					
Caribbean 1990-	1998		-	-	1.0	9.1					
2000	1999		-	-	0.9	9.7					
Notes: - No Data Available											

Under the national school health program, children are periodically examined for height and weight. A public school health nurse examines the children during the first, third and final year at school. Results of the national food consumption study were that the incidence of overweight was 30% and of obesity was 17.9% among the population aged 15 years and older (Maglorie and Prevost, 2000).

The Food Guide of the Caribbean classifies foods into six food groups (staples, legumes and nuts, vegetables, fruits, foods from animals, fats and oils). (PAHO, 2006). Little

research has been conducted to assess intakes from the six food groups. In the US, researchers have reported low intakes of milk among peoples of African descent (Fulgoni et al., 2007; Jarvis and Miller, 2002) and increases in consumption of meat, poultry, fish, and meat mixtures and milk and milk products in children participating in school feeding programs (Burghardt and Devaney, 1995; Gordon et al., 1995).

CHAPTER TWO

ANTHROPOMETRIC STATUS AND NUTRIENT INTAKE OF DOMINICAN CHILDREN

Introduction

The school environment provides a natural arena to positively influence supplementation of food, eating behaviors, and food choice (Bowker et al., 1999; Briggs et al., 2003; CDC, 1996; Contento et al.1992; Contento et al., 1995; Dwyer, 1995; Kubik et al., 2003; Lytle and Achterberg, 1995; Wechsler et al., 2000). School feeding programs are designed to reduce hunger and enhance nutrition, particularly among children who are considered to be at risk of poor outcomes. School feeding programs also provide a point for intervention and, for those programs enacted by or partnered with government, may increase community involvement.

Organizations and governments have implemented school feeding programs (SFPs) throughout the world to improve food security by increasing food access, availability, and utilization. SFPs, in the short term, can provide safety nets through indirect income transfer to households during vulnerable periods. In the long term, they can improve education through improved learning and result in greater access to credit and agricultural management. Utilization can be improved in the short and long term by appropriate targeting of the program, by including vitamin and mineral-rich foods in school meals, and by providing significant portions of the child's diet (Hicks, 1996).

The anthropometrics of children are closely related to nutrition and health status and, thus, may reflect the nutritional well-being of a community. Reference values for evaluating height, weight, skinfold thickness, and Body Mass Index (BMI) for children have

been established and are widely accepted as valid indicators of growth in children (Bellizzi and Dietz., 1999; Healy et al., 1988; WHO, 1995; Frisancho, 1990; Mei et al., 2002; Malina and Katzmarzyk, 1999; Dietz and Robinson, 1998; Himes, 1995; Elberg et al., 2004, Must et al., 1991).

The United States Department of Agriculture (USDA) and World Health Organization (WHO) have set recommendations for adequate nutrient intakes of children (Smolin and Grosvenor., 2008; WHO, 2004; WHO, website, WHO, 2007). These standards have long been the basis for menu planning in school nutrition programs in the US and Great Britain; for example, the USDA requires that lunches provide 1/3 of the DRI.

School feeding programs were begun in Dominica during the 1980's using a comprehensive approach to improving nutritional status, including the construction of school kitchens and provision of infrastructure to expand SFP. Today, the Ministry of Education operates the program in seven primary schools. The goals of the SFP are to furnish 1/3 of the daily protein and energy needs through an affordable lunch, provided with parental involvement in provision of foods and preparation of meals, and to improve food security and availability to disadvantaged populations (Halcrow Group Limited, 2004). National financial constraints have led to concerns about the nutritional value of the meal and an inability to standardize the menus (Halcrow Group Limited, 2004).

Dominica is like many Caribbean countries in that there is limited availability of nationally representative nutritional data. The aims of the present study were to establish baseline nutritional data of a sample of primary schoolchildren aged 5–11 years, to determine dietary intake and to assess the contribution of school feeding programs.

Methodology

Procedures

There are approximately 164 public and private schools in 10 parishes in Dominica. A convenience sample for this study of 10 primary schools in 3 parishes (St. Andrew, St. David, and St. Patrick) was selected by the Ministry of Education based on geographical variability and availability of school feeding programs; these parishes are located in the Southeast, North and Carib Territory regions of the island. Four of the schools (Penville, Salybia, Bagatelle, Delices) participate in school feeding programs and 6 (Vielle Case, Thibaud, Sineku, Pte. Savanne, Boetica, La Plaine) do not participate. Eligibility for schools to participate in the school feeding program is based on community socioeconomic status published in the country poverty assessment as well as distance children must walk to school.

Field work approved by the Clemson University Institutional Review Board was conducted during October 2005 (year 1) and November 2006 (year 2) (Appendix A, Figure 1; Figure 2; Figure 3; Figure 4). Anthropometric measurements and 24-hour diet recalls were completed at each school within two days. Children in grades 2-5 whose parents had provided informed consent for them to participate were asked to provide written assent. Of the 198 total children from whom anthropometric data and recall data were obtained, 172 children participated in both years. Mean age in year 1 was 8.6 ± 0.1 yrs and in year 2 was 9.6 ± 0.1 yrs.

Anthropometrics

Each student was measured for height, weight, and triceps skinfold thickness by trained research staff using standardized procedures (Frisancho, 1990; Lohman et al.., 1988).

Children wore their school uniforms without shoes for height and weight measurements. Height was measured to the nearest centimeter with a portable stadiometer (Model 214, Seca Corp., Hanover, MD). Weight was measured on an electronic scale (Model 882, Seca Corp, Hanover, MD) to the nearest 0.1lb. Triplicate skinfold measurements were taken at the triceps site with Lange skinfold calipers (Cambridge Science Industries, Cambridge, MA). The mean value was used for analyses. This site was chosen for skinfold measurements because the triceps skinfold has generally been found to be the best predictor of fat in children (Deurenberg et al., 1990). BMI was calculated from height and weight measurements (weight (kg) ÷ [height (m)]^2) (Appendix A, Figure 6).

Until 2007, the World Health Organization Expert Committee on Physical Status recommends use of growth standards from the National Health and Nutrition Examination Survey (NHANES) to determine weight-for-age, height-for-age, BMI, and triceps skinfold thickness percentiles (WHO, 1995; Frisancho, 1990). New standards released from WHO are more representative of ethnicities around the world (WHO, 2007). Children were classified as underweight (≤3rd percentile), normal (3rd-97th percentile), and overweight (≥97th percentile) according to the anthropometric tables (WHO, 2007). Setting the normal limits between the 3rd percentile and the 97th percentile provides an adequate separation between low and high percentiles and allows equal percentile widths for upper and lower limits.

24-hour diet recalls

Multiple-pass protocol interviews as described by Tippett and Cypel (1997) and the NHANES MEC protocol were conducted by two trained interviewers, one Dominican and one American (Tippett and Cypel, 1997; CDC2005, website). All interviews were conducted

in English. Children were asked to recall the previous day consumption in reverse starting from the most recent snack or meal eaten (Baxter et al., 2004; Buzzard, 1998). An interviewer recorded children's recollection by paper-and-pencil approach with standardized probes, food models, and coding. The interviewer then reviewed the list with each child (Appendix A, Figure 5).

All measurement and intake data were coded for each student. Intake records were tabulated using Genesis R&D nutrient analysis software (version 6.5; ESHA Research, Salem, OR). Similar foods from the database were substituted for foods that were not contained in the database.

Intakes of food energy, macronutrients, vitamins and minerals calculated from the 24-hour recalls were summarized and compared with US Dietary Reference Intakes (Recommended Dietary Allowances or Adequate Intakes) for children ages 9-13 yrs and with WHO Reference Nutrient Intakes (Estimated Average Requirements or Dietary Reference Values) for children 7-9 yrs (IOM, 1997; IOM 1998; WHO, 2004; WHO, website). When multiple values were given in the DRV references, the lower value was used.

Nutrient density was calculated by dividing the crude nutrient intakes of vitamins and minerals by total caloric intake per 1000 calories.

Statistical analysis

Statistical analysis was performed using SAS (SAS version 9.1; SAS Institute, Inc., Cary, NC). Descriptive statistics were generated for sample demographics and means were compared using analysis of variance. Longitudinal relationships of various anthropometric dimensions of the children were examined using correlation coefficients and regression analysis.

Gender- and age-specific percentiles of BMI, weight, height, and skinfold measurements were grouped into 3 categories (<3rd percentile, 3rd–97th percentile, and ≥97th percentile). Frequencies within age groups for meeting nutrient recommendations (less than or greater than 67% DRI, less than or greater than 100% DRV, and greater than the Upper Tolerable Intakes) were calculated. Because anthropometric variables were not normally distributed, correlations between anthropometrics and nutrient intakes were calculated by using Spearman correlations, with the probability of a type I error set at 5%. All correlation and regression analyses controlled for several potential confounders, including region, school participation in school feeding program, gender, baseline age, baseline year of examination, follow-up age, and follow-up year of examination.

Chi-square goodness of fit analyses were conducted to examine the differences between the children's anthropometric measurements and NHANES reference standards. The sample was grouped according to the age cutoffs used by NHANES for ease of comparison. Fisher's exact test was used if the expected numbers in the cell were fewer than five. The probability of a type I error was set at 5%.

Results

Demographics

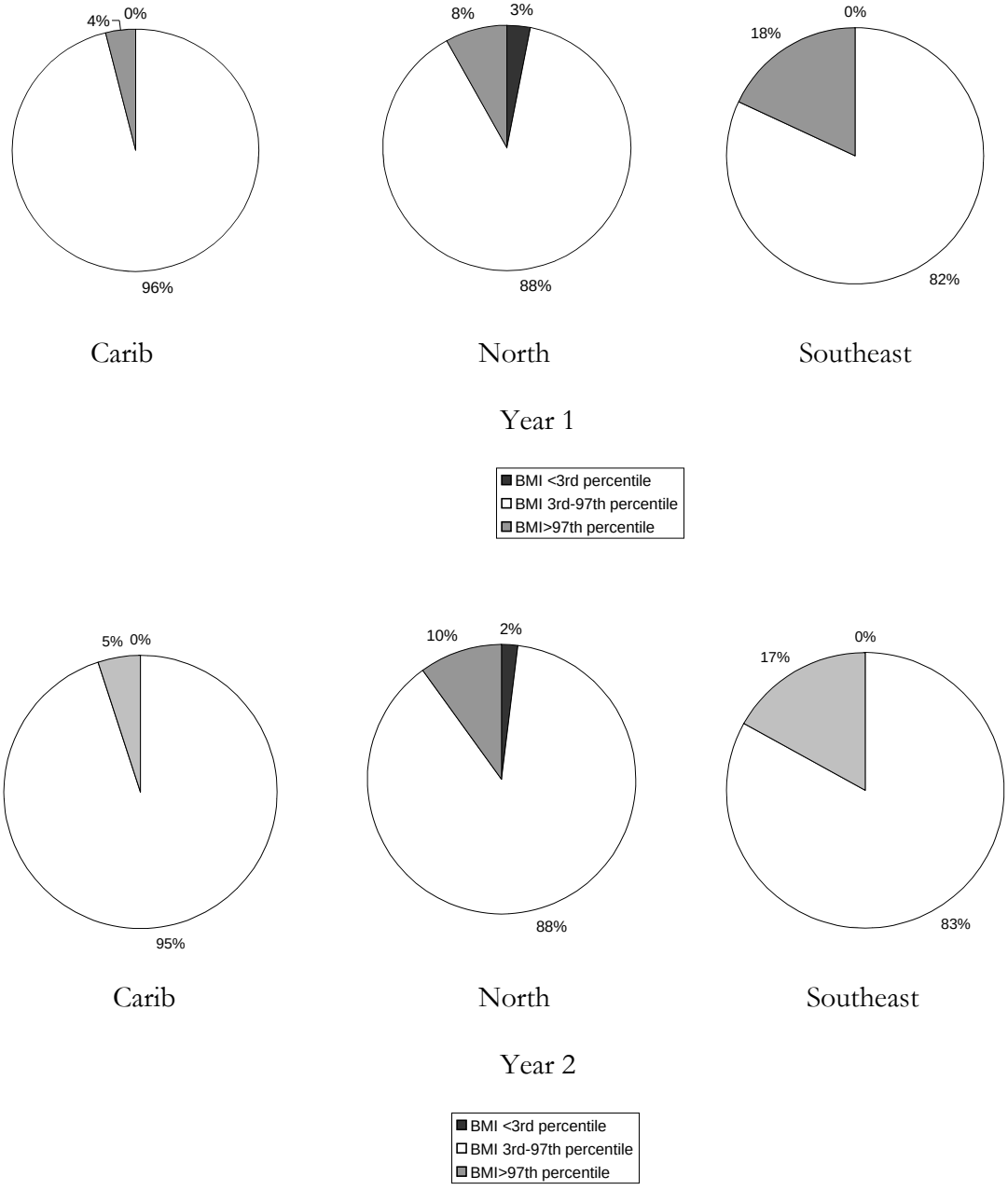
In year 1, 47% of the 199 participants were female and 53% were male; in year 2, 48% of the 197 participants were female and 52% were male. In both years, 81 children were from the southeast region and 52 children were from the Carib Territory. Sixty-five children were from the north region in year 1 while 63 children were from the north region in year 2. Forty-one percent of children attended schools with a SFP. Average age was 8.6

years in year 1 and 9.6 years in year 2. The youngest participant was 5 years while the oldest participant was 11 years (Appendix B, Table 1).

Table 2 (Appendix B) presents mean height, weight, skinfold thickness, and BMI of the children. Males had significantly ($P < 0.05$) lower skinfold thickness in both years; in year 2 their weight and BMI were also significantly ($P < 0.05$) lower than those of the females. The children in the southeast and north regions were significantly ($P < 0.05$) taller and heavier than those in the Carib region in year 1. In year 2, the children in the southeast were significantly ($P < 0.05$) taller and heavier than children in either the north or Carib region; children in the north were also significantly ($P < 0.05$) taller and heavier than children in the Carib region. The children in the southeast and north regions had significantly ($P < 0.05$) higher BMI than the children in the Carib region in year 2. There were no significant differences in anthropometric measurements among children based on availability of a SFP. BMI and triceps skinfold were positively correlated in both year 1 ($r=0.71$; $P<0.0001$) and year 2 ($r=0.67$, $P<0.0001$).

In year 1, 12% of the children were below the 3rd percentile and 23% were above the 97th percentile for BMI and 7% were below the 15th percentile and 24% were above the 85th percentile for triceps skinfold thickness. In year 2, results were similar with over half the children between the 3rd and 97th percentiles. Figure 2.1 presents the percent of children in each region who were underweight, normal, and overweight in year 1 and year 2.

Figure 2.1: BMI Distribution for Children in Dominica by Region and Year



Energy and Nutrient Intakes

Mean nutrient intakes are summarized in Table 2.1. There were significant ($P < 0.05$) regional differences in intakes of fiber, fat, vitamin A, vitamin C, folate, calcium,

phosphorus and zinc (Appendix B, Table 2; Table 3; Table 4). In year 1, children in the southeast region had significantly ($P < 0.05$) higher intakes than children in the other two regions for many of these nutrients. The only significant difference in intake between genders was that males consumed more vitamin C than females in year 1.

Overall, the mean percentage of energy consumed from protein was $13 \pm 0.3\%$ and from fat was $29 \pm 0.6\%$. Twenty three percent consumed more than 15% of energy from protein while 57% consumed between 10 and 15% of their energy from protein. Forty-five percent of the children consumed more than 30% of their energy from fat while 49% consumed between 15 and 30% of their energy from fat.

Table 2.1: Nutrient Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Nutrient	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Energy (kcal)	2115 ± 89.6*[a] (507-9666)**	21.5 ± 102.7[a] (763-8598)	2126 ± 101.6[a] (507-9666)	2604 ± 106.7[c] (717-9666)	1884 ± 132.4[a] (1016-4530)	1673 ± 121.9[b] (507-3886)	1898 ± 112.1[a] (507-6679)	2265 ± 93.1[a] (717-9666)
Protein (g)	72 ± 3.5[a] (16-294)	72 ± 4.2[a] (21-294)	72 ± 4.2[a] (16-265)	89 ± 4.4[b] (16-294)	70 ± 5.5[b] (24-250)	51 ± 5.0[a] (17- 118)	69 ± 4.6[a] (17-294)	74 ± 3.8[a] (16-265)
Fiber (g)	23 ± 1.5[a] (1-151)	24 ± 1.7[a] (4-151)	22 ± 1.7[a] (1.3-140)	31 ± 1.8[b] (2-151)	22 ± 2.2[b] (6- 56)	14 ± 2.1[a] (1-54)	21 ± 1.9[a] (1-87)	25 ± 1.6[a] (2-151)
Fat (g)	68 ± 3.8[a] (7-395)	64 ± 4.4[a] (15-339)	71 ± 4.3[a] (7-395)	83 ± 4.7[b] (7-395)	59 ± 5.8[ab] (17-148)	55 ± 5.4[a] (7-187)	58 ± 4.8[a] (7-254)	74± 4.0[a] (17-395)
Vitamin A (IU)	4329 ± 490.0[a] (196-43521)	4162 ± 544.8[a] (401-43521)	4493 ± 539.0[a] (196-40221)	6481 ± 577.1[b] (459-43521)	3448 ± 716.2[a] (1043-22387)	2268 ± 659.3[a] (196-6960)	3712 ± 596.1[a] (196-39840)	4755 ± 495.5[a] (401-43521)
Thiamin (mg)	1± 0.1[a] (0.3-7)	1 ± 0.1[a] (1-4)	1 ± 0.1[a] (0.3-7)	2 ± 0.1[a] (0.4-7)	1 ±0.1[a] (0.6-3)	1 ± 0.1[a] (0.3-3)	1 ± 0.1[a] (0.5-3)	2 ±0.1[a] (0.3-7)
Riboflavin (mg)	2± 0.1[a] (0.3-6)	1 ± 0.1[a] (0.4-5)	2 ± 0.1[a] (0.3-6)	2 ± 0.1[a] (0.4-6)	2 ± 0.1[b] (0.7-4)	1 ± 0.1[a] (0.3-3)	2 ± 0.1[a] (0.4-5)	2 ±0.1[a] (0.3-6)
Niacin (mg)	18 ± 1.0[a] (4-122)	19 ± 1.1[a] (4-122)	17 ± 1.2[a] (4-71)	22 ± 1.2[a] (5-122)	17 ± 1.5[a] (4-46)	13 ± 1.4[a] (4-38)	17 ± 1.2[a] (4-43)	19 ± 1.1[a] (4-122)
Vitamin B6 (mg)	2 ± 0.1[a] (0.1-8)	2 ± 0.1[a] (0.2-6)	1 ± 0.1[a] (0.1-8)	2 ± 0.1[b] (0-8)	1 ± 0.1[b] (0.4-4)	1 ±0.1[a] (0.2-2)	1 ± 0.1[a] (0.6-5)	2 ± 0.1[a] (0.1-8)
Vitamin B12 (mcg)	3± 0.3[a] (0.1-42)	3 ± 0.4[a] (0.2-42)	3 ± 0.4[a] (0.1-20)	5 ± 0.4[a] (0.2-42)	3 ± 0.5[a] (0.3-20)	2 ±0.5[a] (0.1-8)	4 ± 0.4[a] (0.1-42)	3 ± 0.3[a] (0.2-20)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

Table 2.1: Nutrient Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (continued)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Nutrient	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Vitamin C (mg)	313± 26.9[a] (2-2663)	374 ± 29.4[b] (6-2663)	254 ± 29.1[a] (2-1414)	429 ± 31.6[ab] (6-2663)	267 ± 39.2[a] (10-997)	202 ± 36.1[a] (2-808)	299 ± 32.6[a] (2-2663)	323 ± 27.1[a] (6-2145)
Vitamin E (mg)	7 ± 0.4[a] (0.3-39)	8 ± 0.5[a] (1-39)	7 ± 0.5[a] (0.3-39)	9 ± 0.6[a] (0.3-39)	6 ± 0.7[a] (1-16)	5 ± 0.6[a] (0.6-16)	7 ± 0.6[a] (0.6-27)	8 ± 0.5[a] (0.3-39)
Folate (mcg)	343 ± 16.2[a] (71-1886)	348 ± 19.9[a] (96-1061)	339 ± 19.7[a] (71-1886)	398 ± 21.0[a] (90-1886)	343 ± 26.1[a] (99-873)	273 ± 24.0[a] (71-884)	311 ± 21.8[a] (90-884)	366 ± 18.1[a] (71-1886)
Vitamin K (mcg)	13 ± 4.2[a] (0-686)	15 ± 4.6[a] (0-686)	12 ± 4.5[a] (0-256)	24 ± 4.9[a] (0-686)	6 ± 6.1[a] (0-69)	5 ± 5.7[a] (0.2-40)	5 ± 5.1[a] (0-69)	18 ± 4.1[a] (0-686)
Calcium (mg)	821± 35.8[a] (117-2876)	849 ± 44.1[a] (117-2876)	792 ± 43.6[a] (130-2690)	979 ± 46.8[a] (143-2876)	800 ± 58.1[a] (199-1658)	631 ± 53.5[a] (117-2017)	816 ± 48.5[a] (176-2876)	824 ± 40.3[a] (117-2748)
Iron (mg)	13 ± 0.6[a] (4-68)	12 ± 0.7[a] (4-41)	13 ± 0.7[a] (4-68)	15 ± 0.7[ab] (4-68)	12 ± 0.9[b] (4-31)	9 ± 0.8[a] (4-22)	11 ± 0.7[a] (3.77-23)	13 ± 0.6[a] (4-68)
Phosphorus (mg)	1153 ± 49.4[a] (156-4642)	1156 ± 60.1[a] (217-4642)	1151 ± 59.0[a] (156-3502)	1418 ± 62.5[b] (156-4642)	1121 ± 70.5[b] (312-3195)	835 ± 71.4[a] (217-2154)	1174 ± 66.1[a] (279-4642)	1139 ± 54.9[a] (156-3547)
Potassium (mg)	2917 ± 143.0[a] (165-13864)	2980 ± 170.0[a] (641-13864)	2857 ± 168.2[a] (165-13706)	3677 ± 177.1[b] (165-13864)	2763 ± 219.8[b] (1096-5501)	2057 ± 202.3[a] (345-4412)	2674 ± 185.8[a] (345-9259)	3086 ±154.4[a] (165-13864)
Sodium (mg)	2910 ± 242.2[a] (176-29593)	3000 ± 276.3[a] (621-29593)	2822 ± 273.4[a] (176-14575)	3982 ± 293.1[b] (344-29593)	2267 ± 363.7[a] (723-14575)	2057 ± 334.8[a] (176-6051)	3418 ± 302.1[a] (176-29593)	2559 ± 251.1[a] (588-14575)
Zinc (mg)	7 ± 0.4[a] (1-33)	7 ± 0.4[a] (2-27)	7 ± 0.4[a] (1-33)	8 ± 0.4[a] (1-27)	8 ± 0.5[b] (3-33)	5 ± 0.5[a] (2-19)	6 ± 0.4[a] (2-19)	8 ± 0.4[a] (1-33)
Caffeine (mg)	14 ± 2.1[a] (0-142)	15 ± 3.4[a] (0-137)	12 ± 2.4[a] (0-142)	17 ± 3.4[a] (0-137)	12 ± 4.1[a] (0-142)	11 ± 3.4[a] (0-137)	15 ± 3.3[a] (0-137)	13 ± 2.7[a] (0-142)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

Table 2.1: Nutrient Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (continued)

Year 2								
		Gender		Region			SFP	
Nutrient	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
	n=185	n=91	n=94	n=74	n=49	n=63	n=78	n=108
Energy (kcal)	1847 ± 48.5*[a] (160-6351)	1894 ± 101.6[a] (469-6351)	1797 ± 103.2[a] (160-3186)	1994 ± 109.6[c] (1068-3470)	1625 ± 133.7[a] (469-3246)	1848 ± 117.9[b] (160-6351)	1810 ± 111.3[a] (160-3509)	1872 ± 94.0[a] (469-6351)
Protein (g)	59 ± 2.3[a] (4-271)	62 ± 4.2[a] (18-271)	56 ± 4.2[a] (4-149)	63 ± 4.5[a] (18-149)	51± 5.5[a] (6-136)	62 ± 4.9[a] (4-271)	61 ± 4.6[a] (4-244)	58 ± 3.9[a] (18-271)
Fiber (g)	16 ± 0.8[a] (1-83)	15 ± 1.7[a] (1-61)	18 ± 1.8[a] (2-83)	16 ± 1.8[b] (5-37)	16 ± 2.3[a] (1-54)	17 ± 2.0[b] (3-83)	15 ± 1.9[a] (2-83)	17 ± 1.6[a] (1-61)
Fat (g)	62 ±2.2[a] (2-237)	67 ± 4.3[a] (13-237)	57 ± 4.4[a] (2-111)	66 ± 4.8[a] (21-149)	56 ± 5.9[a] (11-124)	62 ± 5.2[a] (2-237)	61 ± 4.8[a] (2-142)	62 ± 4.0[a] (11-237)
Vitamin A (IU)	2997 ± 227.8[a] (81-23465)	2948 ± 539.0[a] (81-23258)	3048 ± 547.8[a] (153-23465)	3247 ± 592.7[a] (153-23465)	3198 ± 723.5[a] (132-10984)	2552 ± 638.1[a] (81-23258)	2290 ± 592.2[a] (81-9917)	3502 ± 500.1[a] (132-23465)
Thiamin (mg)	1 ± 0.0[a] (0.3-4)	1 ± 0.1[a] (0.4-4)	1 ± 0.1[a] (0.3-3)	1 ± 0.1[a] (0.5-3)	1 ± 0.1[a] (0.3-2)	1 ± 0.1[a] (0.3-4)	1 ± 0.1[a] (0.3-3)	1 ± 0.1[a] (0.4-4)
Riboflavin (mg)	1 ± 0.0[a] (0.2-5)	1 ± 0.1[a] (0.3-5)	1 ± 0.1[a] (0.2-3)	1.5 ± 0.1[a] (0.4-3)	1.4 ± 0.1[a] (0.2-3)	1.4 ± 0.1[a] (0.2-5)	1 ± 0.1[a] (0.2-3)	1 ± 0.1[a] (0.3-5)
Niacin (mg)	16 ± 0.6[a] (2-75)	16 ± 1.1[a] (4-75)	16 ± 1.1[a] (3-36)	18 ± 1.2[a] (7-38)	14 ± 1.5[a] (3-32)	15± 1.3[a] (2-75)	16 ± 1.2[a] (2-38)	16 ± 1.0[a] (4-75)
Vitamin B6 (mg)	1 ± 0.1[a] (0-5)	1 ± 0.1[a] (0.1-5)	1 ± 0.1[a] (0-3)	1 ± 0.1[a] (0.3-3)	1 ± 0.1[b] (0-4)	1 ± 0.1[a] (0.1-5)	1 ± 0.1[a] (0-3)	1 ± 0.1[a] (0.3-5)
Vitamin B12 (mcg)	3 ± 0.2[a] (0-24)	3 ± 0.4[a] (0.1-24)	2 ± 0.4[a] (0-16)	3-0.4[a] (0.13-15.79)	2 ± 0.5[a] (0-8)	3 ± 0.4[a] (0-24)	3 ± 0.4[a] (0-24)	3 ± 0.3[a] (0.1-19)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

Table 2.1: Nutrient Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (continued)

Year 2								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Nutrient	n=185	n=91	n=94	n=74	n=49	n=63	n=78	n=108
Vitamin C (mg)	163 ± 12.2[a] (2-989)	153 ± 29.1[a] (2-989)	174 ± 29.6[a] (5-975)	165 ± 32.4[a] (5-782)	180 ± 39.6[a] (3-975)	149 ± 34.9[a] (2-989)	122 ± 32.4[a] (2-683)	193 ± 27.3[a] (3-989)
Vitamin E (mg)	6 ± 0.3[a] (1-34)	6 ± 0.5[a] (0.7-34)	6 ± 0.5[a] (0.9-20)	7 ± 0.6[a] (0.7-22)	5 ± 0.7[a] (0.9-16)	6 ± 0.6[a] (1-34)	6 ± 0.6[a] (1-16)	7 ± 0.5[a] (1-34)
Folate (mcg)	303 ± 11.3[a] (41-994)	302± 19.7[a] (83-994)	303 ± 20.0[a] (41-837)	358 ± 21.6[b] (127-837)	249 ± 26.4[a] (63-583)	280 ± 23.2[a] (41-994)	307 ± 21.6[a] (58-787)	299 ± 18.3[a] (41-994)
Vitamin K (mcg)	8 ± 1.6[a] (0- 254)	10 ± 4.6[a] (0-254)	6 ± 4.7[a] (0-59)	6 ± 5.1[a] (0-45)	6 ± 6.2[a] (0-69)	12 ± 5.7[a] (0-254)	6 ± 5.1[a] (0-82)	9 ± 4.2[a] (0-254)
Calcium (mg)	648 ± 25.2[a] (32-2176)	657 ± 43.6[a] (32-2176)	639 ± 44.3[a] (72-1534)	645 ± 48.1[a] (94-1618)	616 ± 58.7[a] (32-1353)	676 ± 51.8[a] (72-2176)	620 ± 48.2[a] (72-1353)	668 ± 40.7[a] (32-2176)
Iron (mg)	11 ± 0.3[a] (1-29)	11 ± 0.7[a] (3-29)	11 ± 0.7[a] (1-25)	13 ± 0.7[b] (5-29)	9 ± 0.9[a] (2-18)	10 ± 0.8[a] (1-28)	11 ± 0.7[a] (1-24)	11 ± 0.6[a] (3-29)
Phosphorus (mg)	897 ± 33.4[a] (46-3906)	917 ± 59.4[a] (221-3906)	875 ± 60.4[a] (46-2213)	950 ± 64.2[a] (268-2213)	781 ± 78.3[a] (70-1525)	924 ± 69.1[a] (46-3906)	928 ± 65.7[a] (46-2992)	874 ± 55.4[a] (221-3906)
Potassium (mg)	2358 ± 89.6[a] (110-9887)	2334 ± 168.2[a] (452- 9887)	2382 ± 170.9[a] (110-5953)	2532 ± 181.9[ab]	2400 ± 222.0[b] (110-5953)	2123 ± 195.8[a] (218-9887)	2144 ± 184.6[a] (110-5021)	2510 ± 155.9[a] (459-9887)
Sodium (mg)	1974 ± 128.7[a] (90-16879)	2076 ± 273.4[a] (90-16879)	1869 ± 277.9[a] (242- 9039)	2050 ± 301.0[a] (587-9039)	1511 ± 367.4[a] (90-3773)	2247 ± 324.0[a] (242-16879)	2121 ± 300.2[a] (242-16879)	1869 ± 253.4[a] (90-14076)
Zinc (mg)	6 ± 0.2[a] (0.5-19)	6 ± 0.4[a] (1-19)	6 ± 0.4[a] (0.5-11)	6 ± 0.4[a] (1-11)	5 ± 0.6[a] (0.5-13)	6 ± 0.5[a] (0.5-19)	6 ± 0.4[a] (0.5-15)	6 ± 0.4[a] (1-19)
Caffeine (mg)	10 ± 1.8[a] (0-142)	12 ± 2.9[a] (0-142)	9 ± 2.1[a] (0-137)	7± 1.8[a] (0-74)	13 ± 3.3[a] (0-137)	12 ± 4.0[a] (0-142)	13 ± 3.3[a] (0-142)	8 ± 1.8[a] (0-137)

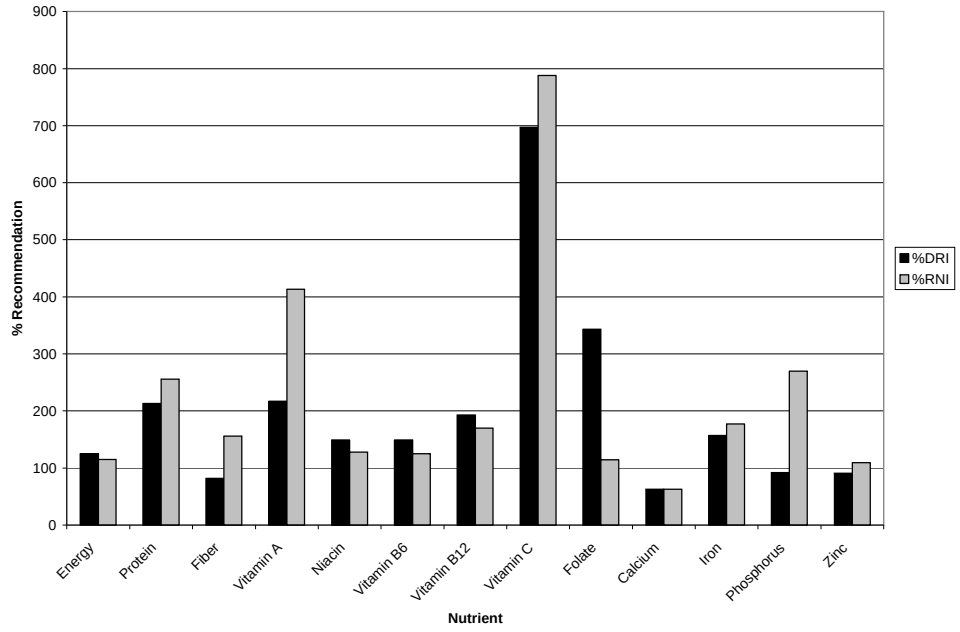
values with a different superscript are significantly different

*least square mean ± standard error

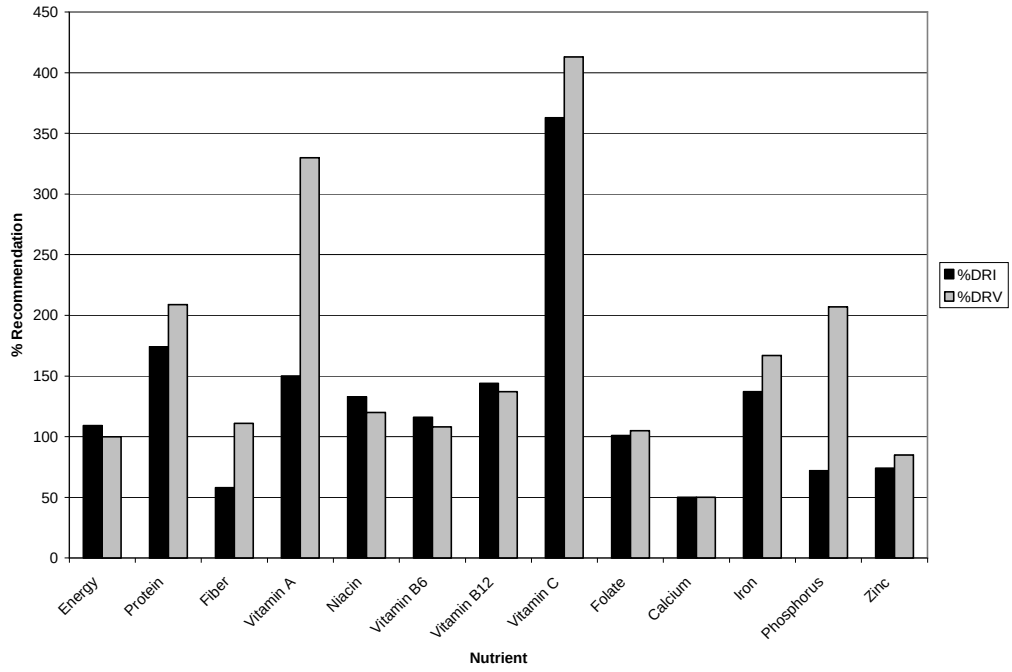
** Range

In both years, more than 60% of the children consumed less than 67% DRI for fiber, calcium, and potassium. In year 2, more than half of the children consumed less than the DRV for calcium and zinc (Fig 2.2). There were no significant differences in nutrient intake between children based on availability of a school feeding program ($P < 0.05$).

Figure 2.2: Percent of the DRI and DRV Consumed by Children in Dominica



Year 1



Year 2

Nutrient Density

Nutrient density data are summarized in Table 2.2. There were significant differences in nutrient density for fiber, fat, calcium, phosphorus, and zinc among regions and years ($P < 0.05$). In year 1, children in the Carib region consumed significantly more fiber, calcium, phosphorus, and zinc per 1000 kcal than those in the North region, and significantly more zinc per 1000 kcal than those in the Southeast region ($P < 0.05$). In year 1, females had significantly lower intake of fiber and vitamin C per 1000 kcal than males, but consumed significantly more fat per 1000 kcal ($P < 0.05$). In year 2, females consumed significantly more fiber than males ($P < 0.05$).

Table 2.2: Nutrient Density Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Protein (g)	34 ±0.9*[a] (16-112)**	34 ± 1.2[a] (16-112)	34 ± 1.2[a] (16-66)	35 ± 1.3[b] (18-112)	32 ± 1.7[b] (18-75)	31 ± 1.5[a] (16-66)	37 ± 1.4[a] (16-112)	32 ± 1.1[a] (16-75)
Fiber (g)	11 ± 0.4[a] (1-38)	12 ± 0.5[b] (3-38)	10 ± 0.5[a] (1-27)	11 ± 0.6[b] (2-38)	12 ± 0.7[b] (3-27)	9 ± 0.7[a] (1-22)	11 ± 0.6[a] (1-38)	11 ± 0.5[a] (2-27)
Fat (g)	31 ± 0.7[a] (8-52)	29 ± 0.9[a] (10-49)	32 ± 0.9[b] (8-53)	30 ± 1.0[a] (8-45)	31 ± 1.3[ab] (13-49)	32 ± 1.2[b] (13-53)	30 ± 1.1[b] (8-53)	31 ± 0.9[a] (11-49)
Vitamin A (IU)	2172 ± 268.6[a] (136-33037)	2091± 293.6[a] (205-33037)	2252 ± 290.5[a] (136-24493)	2939 ± 317.1[b] (382-33037)	1848 ± 393.6[a] (411-10229)	1446 ± 362.3[a] (136-4441)	2151 ± 322.5[a] (136-24493)	2187 ± 368.1[a] (205-33037)
Thiamin (mg)	0.7 ± 0.0[a] (0.3-1)	0.7 ± 0.0[a] (0.3-1)	0.7 ± 0.0[a] (0.3-1)	0.7 ± 0.0[a] (0.3-1)	0.7 ± 0.0[a] (0.4-1)	0.7 ± 0.0[a] (0-1)	0.7 ± 0.0[a] (0.3-1)	0.7 ± 0.0[a] (0.3-1)
Riboflavin (mg)	0.8 ± 0.0[a] (0.2-2)	0.8 ± 0.0[a] (0.3-2)	0.8 ± 0.0[a] (0.2-1)	0.7 ± 0.0[ab] (0.2-1)	1 ± 0.0[c] (0.4-2)	0.7 ± 0.0[a] (0.3-1)	0.8 ± 0.0[a] (0.3-1)	0.8 ± 0.0[a] (0.2-2)
Niacin (mg)	9 ± 0.3[a] (2-27)	9 ± 0.4[a] (4-27)	9 ± 0.4[a] (2-20)	9 ± 0.4[a] (2-27)	9 ± 0.5[a] (3-18)	8 ± 0.4[a] (4-16)	9 ± 0.4[a] (2-20)	8 ± 0.3[a] (3-27)
Vitamin B6 (mg)	0.7 ± 0.0[a] (0.1-3)	0.7 ± 0.0[a] (0.1-3)	0.7 ± 0.0[a] (0.1-2)	0.8 ± 0.0[b] (0.1-2)	0.8 ± 0.0[b] (0.2-3)	0.5 ± 0.0[a] (0.1-1)	0.7 ± 0.0[a] (0.2-2)	0.7 ± 0.0[a] (0-3)
Vitamin B12 (mcg)	2 ± 0.1[a] (0.1-16)	2 ± 0.2[a] (0-16)	2 ± 0.2[a] (0-8)	2 ± 0.2[ab] (0.1-16)	2 ± 0.2[a] (0.2-7)	1 ± 0.2[a] (0-7)	2 ± 0.2[a] (0.1-16)	1 ± 0.2[a] (0.1-7)

*least square mean ± standard error

values with a different superscript are significantly different

** Range

Table 2.2: Nutrient Density Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (continued)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Vitamin C (mg)	153 ± 11.6[a] (1-1173)	178 ± 13.0[b] (3-1173)	128 ± 12.9[a] (0.9-595)	172 ± 14.3[ab] (3-1173)	148 ± 17.8[ab] (10-616)	131 ± 16.4[a] (0.9-595)	161 ± 14.4[a] (0.9-1173)	147 ± 12.0[a] (3-616)
Vitamin E (mg)	3 ± 0.1[a] (0.3-9)	3 ± 0.2[a] (0.6-9)	3 ± 0.2[a] (0.3-7)	4 ± 0.2[a] (0.3-9)	3 ± 0.3[a] (0.7-9)	3 ± 0.2[a] (0.5-8)	3 ± 0.2[a] (0.5-9)	3 ± 0.2[a] (0.3-9)
Folate (mcg)	169 ± 5.6[a] (52-470)	174 ± 7.8[a] (67-470)	165 ± 7.5[a] (52-452)	161 ± 8.2[a] (52-448)	183± 10.2[a] (91-424)	168 ± 9.4[a] (65-470)	177 ± 8.3[a] (52-470)	164 ± 7.0[a] (65-362)
Vitamin K (mcg)	5 ± 1.1[a] (0-193)	5 ± 1.2[a] (0-193)	4 ± 1.2[a] (0-36)	7 ± 1.4[a] (0-193)	3 ± 1.7[a] (0-33)	3 ± 1.6[a] (0.1-34)	2 ± 1.4[a] (0-24)	6 ± 1.1[a] (0-193)
Calcium (mg)	407 ± 13.8[a] (94-1259)	413 ± 18.2[a] (95-1258)	400 ± 18.0[a] (94-857)	398± 19.6[bc] (94- 873)	455 ± 24.3[b] (114-1259)	377 ± 22.4[ac] (95-843)	437 ± 19.9[a] (95-843)	386 ± 16.5[a] (94-1258)
Iron (mg)	6 ± 0.1[a] (3-18)	6 ± 0.2[a] (3-11)	6 ± 0.2[a] (3-18)	6 ± 0.2[bc] (3-18)	6 ± 0.3[b] (3-11)	6 ± 0.2[ac] (3-13)	6 ± 0.2[a] (3-13)	6 ± 0.2[a] (3-18)
Phosphorus (mg)	557 ± 15.3[a] (125-1776)	561 ± 19.6[a] (125-1776)	554 ± 19.4[a] (187-1142)	569 ± 21.1[bc] (168-1776)	612 ± 26.2[b] (247-1244)	496 ± 24.1[a] (125-1121)	624 ± 21.0[a] (190-1776)	511 ± 17.4[a] (125-1244)
Potassium (mg)	1406 ± 40.3[a] (231-3040)	1445 ± 54.7[a] (517-3040)	1368 ± 54.1[a] (231-2919)	1428 ± 58.7[bc] (231-2929)	1552 ± 72.9[b] (627-3040)	1255 ± 67.1[a] (295-2440)	1443 ± 60.1[a] (295-2929)	1381 ± 50.0[a] (231-3040)
Sodium (mg)	1359 ± 88.9[a] (229-11324)	1390 ± 102.1[a] (400-11324)	1328 ± 101.0[a] (229-5343)	1551 ± 110.8[a] (301-11324)	1196 ± 137.5[a] (400-5004)	1245 ± 126.5[a] (229-5286)	1677 ± 110.0[a] (229-11324)	1138 ± 91.3[a] (300-5004)
Zinc (mg)	3 ± 0.1[a] (1-11)	3 ± 0.1[a] (1-11)	3 ± 0.1[a] (1-9)	3 ± 0.1[ab] (2-9)	4 ± 0.2[c] (2-11)	3 ± 0.2[a] (1-5)	3 ± 0.1[a] (1-6)	3 ± 0.1[a] (1-11.4)

*least square mean ± standard error

values with a different superscript are significantly different

** Range

Table 2.2: Nutrient Density Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (continued)

	Year 2							
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=96	Southeast n=74	Carib n=49	North n-63	Yes n=78	No n=108
Protein (g)	32 ± 0.8*[a] (7-109)**	33 ± 1.2[a] (12-109)	31 ± 1.3[a] (7-65)	32± 1.4[a] (12-65)	32 ± 1.7[a] (7-74)	33 ± 1.5[a] (15-109)	34 ± 1.3[a] (7-109)	31 ± 1.1[a] (11-74)
Fiber (g)	9 ± 0.3[a] (2-29)	8 ± 0.5[b] (3-24)	10 ± 0.5[a] (2-29)	8 ± 0.6[a] (3-20)	10 ± 0.7[b] (2-29)	9 ± 0.6[ab] (3-26)	9 ± 0.6[a] (2-26)	9 ± 0.5[a] (3-29)
Fat (g)	33 ± 0.7[a] (9-57)	34 ± 0.9[b] (12-57)	31 ± 1.0[a] (9-57)	33± 1.1[a] (14-49)	33 ± 1.3[a] (12-57)	32 ± 1.2[a] (9-51)	33 ± 1.0[a] (9-56)	32 ± 0.9[a] (12-57)
Vitamin A (IU)	1621 ± 112.7[a] (73-11964)	1478 ± 290.5[a] (73-11821)	1736 ± 295.2[a] (82-11964)	1674 ± 325.7[a] (82-11964)	1870 ± 397.6[a] (203-5807)	1366 ± 350.6[a] (73-4832)	1292 ± 320.4[a] (82-4832)	1856 ± 270.6[a] (73-11964)
Thiamin (mg)	0.7 ± 0.0[a] (0.2-2)	0.7 ± 0.0[a] (0.3-2)	0.7 ± 0.0[a] (0.2-2)	0.7 ± 0.0[a] (0.4-1)	0.7 ± 0.0[a] (0.4-1)	0.7 ± 0.0[a] (0.2-2)	0.8 ± 0.0[a] (0.3-2)	0.8 ± 0.0[a] (0.2-1)
Riboflavin (mg)	0.8 ± 0.0[a] (0.3- 2)	0.8 ± 0.0[a] (0.3-1)	0.8 ± 0.0[a] (0-2)	0.7 ± 0.0[a] (0.3-1)	0.9 ± 0.0[b] (0.3-2)	0.8 ± 0.0[ab] (0.3-2)	0.8 ± 0.0[a] (0.3-1)	0.8 ± 0.0[a] (0.3-2)
Niacin (mg)	9 ± 0.2[a] (3-23)	9 ± 0.4[a] (3-23)	9 ± 0.4[a] (3-18)	9 ± 0.4[a] (4-22)	9 ± 0.5[a] (3-23)	8 ± 0.4[a] (3-17)	9 ± 0.4[a] (3-17)	9 ± 0.3[a] (3-23)
Vitamin B6 (mg)	0.6 ± 0.0[a] (0-3)	0.6 ± 0.0[a] (0-3)	0.6 ± 0.0[a] (0-2)	0.6 ±0.0[b] (0.2-1)	0.8 ± 0.0[b] (0-3)	0.6± 0.0[a] (0.1-2)	0.6 ± 0.0[a] (0-1)	0.7 ± 0.0[a] (0.2-3)
Vitamin B12 (mcg)	1 ± 0.1[a] (0-12)	2 ± 0.2[a] (0.1-12)	1 ± 0.2[a] (0-7)	1 ±0.2[a] (0.1-7)	2 ± 0.2[a] (0-12)	1 ± 0.2[a] (0.1-11)	1 ±0.2[a] (0.1-11)	1 ± 0.2[a] (0-12)

*least square mean ± standard error

values with a different superscript are significantly different

** Range

Table 2.2: Nutrient Density Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (continued)

	Year 2							
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=96	Southeast n=74	Carib n=49	North n-63	Yes n=78	No n=108
Vitamin C (mg)	90 ± 6.2[a] (2-506)	83 ± 12.9[a] (2-329)	98 ± 13.1[a] (3-506)	83 ± 14.7[a] (3-412)	108± 18.0[a] (3-506)	85 ± 15.9[a] (2-329)	71 ± 14.3[a] (2-307)	103 ± 12.1[a] (3-506)
Vitamin E (mg)	3 ± 0.1[a] (0.6-10)	3 ± 0.2[a] (0.6-10)	3 ± 0.2[a] (0.6-8)	3 ± 0.2[a] (1-10)	3 ± 0.3[a] (1-8)	3 ± 0.2[a] (0.6-10)	3 ± 0.2[a] (0.6-10)	4 ± 0.2[a] (0.6-10)
Folate (mcg)	167 ± 5.1[a] (24-442)	164 ± 7.5[a] (58-436)	171 ± 7.6[a] (24-442)	183 ± 8.4[b] (81-442)	155 ± 10.3[a] (62-436)	157 ± 9.0[a] (24-360)	173 ± 8.3[a] (58-360)	163 ± 7.0[a] (24-442)
Vitamin K (mcg)	4 ± 0.5[a] (0-40)	4 ± 1.2[a] (0-40)	3 ± 1.3[a] (0-33)	3 ± 1.4[a] (0-22)	3 ± 1.7[a] (0-33)	5 ± 1.6[a] (0-40)	3 ± 1.4[a] (0-37)	4 ± 1.1[a] (0-40)
Calcium (mg)	355 ± 11.7[a] (68-874)	349 ± 18.0[a] (68-874)	362 ± 18.3[a] (74-849)	319 ± 20.1[a] (68-704)	378 ± 24.6[a] (69-831)	379 ± 21.7[a] (111-874)	346 ± 19.7[a] (68-849)	362 ± 16.7[a] (69-874)
Iron (mg)	6 ± 0.1[a] (2-23)	6 ± 0.2[a] (3-23)	6 ± 0.2[a] (2-13)	7 ± 0.2[b] (4-23)	6 ± 0.3[a] (3-10)	6 ± 0.2[a] (3-9)	6 ± 0.2[a] (2-10)	6 ± 0.2[a] (3-23)
Phosphorus (mg)	485 ± 11.9[a] (80-1343)	486 ± 19.4[a] (156-1343)	485 ± 19.7[a] (80-960)	475 ± 21.7[a] (171-960)	485 ± 26.5[a] (80-822)	498 ± 23.4[a] (156-1343)	509 ± 20.8[a] (80-1343)	469 ± 17.6[a] (156-822)
Potassium (mg)	1292 ± 36.8[a] (127-3040)	1237 ± 54.1[a] (374-3040)	1350 ± 55.0[a] (127-2972)	1266 ± 60.3[b] (374-2155)	1477 ± 73.6[c] (127-3040)	1179 ± 64.9[ab] (418-2475)	1209 ± 59.7[a] (127-2254)	1352 ± 50.4[a] (374-3040)
Sodium (mg)	1044 ± 48.4[a] (191-7575)	1046 ± 101.0[a] (191-7575)	1042 ± 102.6[a] (315-3930)	1002 ± 113.8[a] (450-3920)	924 ± 138.8[a] (191-1870)	1187 ± 122.5[a] (467-7575)	1165 ± 109.9[a] (459-7575)	958 ± 92.2[a] (191-2261)
Zinc (mg)	3 ± 0.1[a] (1-7)	3 ± 0.1[a] (0.9-7)	3 ± 0.1[a] (0.6-7)	3 ± 0.1[a] (1-6)	3± 0.2[a] (0.6-6)	3 ± 0.2[a] (1-7)	3 ± 0.1[a] (0.6-7)	3 ± 0.1[a] (0.9-6)

*least square mean ± standard error

values with a different superscript are significantly different

** Range

Discussion

Nutrient intake and anthropometric data of Dominican children compared closely to those of children in developed countries. Mean height, weight, and skinfold thickness of these children were comparable to normal reference values for black children of this age (WHO, 1995; Frisancho, 1990; Must et al., 1991). One percent of the males and of the females had BMI below the 3rd percentile. In year 1, 9% of males and 13% of females were overweight according to WHO standards. In year 2, the percentages of overweight were 10% of males and 15% of females. These rates exceed what would be predicted for the 97th percentile and are also higher than rates reported from the US and the Caribbean (Hedley et al., 2004; Ogden et al., 2002; Jackson et al., 2002). BMI has been used as an indicator of nutritional status (Bellizzi and Dietz, 1999) and skinfold measurements in conjunction with BMI have been used to assess weight status (Roche, 1981; Michielutte et al., 1984; Rivicki and Israel, 1986). The validity of using these indicators in the present study was substantiated by the highly positive correlation between BMI and skinfold thickness ($r=0.71$; $P<0.0001$ in year 1; $r=0.67$; $P<0.0001$ in year 2).

With the exception of calcium and zinc, nutrient intake of children in Dominica met the DRV recommendations. Additionally, the intakes met or exceeded the US DRI for all nutrients except fiber, calcium, phosphorus and zinc. Findings of low intakes of calcium is consistent with those of other researchers (ref). In contrast to the results in the present study, intakes of children from South Africa and rural India have been reported to be below recommendations for energy, iron, and vitamin A (Labadarios et al., 2005; MacKeown et al., 2007; Agrahar-Murughar, 2005) and in the US and Great Britain, children's intakes have been found to be less than recommended for iron and vitamin A (USDA, 1999; Glynn et al.,

2005; Ruxton, 1996; Gregory and Lowe, 2000; Devaney et al., 1995; Fiorito et al., 2006; Fulgoni et al., 2007; Smathers et al., 2000). Interestingly, African-Americans in all age groups had significantly lower intakes of calcium than non-African-American counterparts in several US national consumption surveys (Fulgoni et al., 2007). Folate intake of children is also less than the recommendations in children from both developed and developing countries, and remains a concern for growing children (Elmadfa and Weichselbaum, 2005; Suitor and Gleason, 2002). These findings agree with those of the present study where 70% of the children consumed less than the recommendation (DRI) for calcium and 55% of the children consumed less than the recommendation (RNI) for folate.

Alternately, some children were at risk for consuming more of particular nutrients than are recommended. Acceptable macronutrient distribution ranges (AMDR) established by the Institute of Medicine recommend no more than 30% of energy intake from fat (IOM, 2003). In the present study, 45% of the children consumed more than 30% of calories from fat Numerous researchers reported high intakes of fat in developing countries, which may be associated with risks for obesity and obesity-related diseases later in life (WHO, 1990; Chopra et al., 2002; Caballero, 2001; Munoz et al., 1997, De Onis and Blossner., 2000). The IOM recommends 10-15% of energy intake from protein (IOM, 2003). Twenty-three percent of children in the present study exceeded that level, while 20% of children consumed less than 10% of their energy from protein. Although this low level of protein intake is notable, none of the children were less than 60% weight-for-age, which is one of the criteria for assessing risk of protein malnutrition (Latham, 1997).

Worldwide, schools have proven effective environments to influence nutrition (Contento et al., 1992; Contento et al., 1995; Lytle and Achterberg, 1995; Bowker et al.,

1999; Briggs et al., 2003). School feeding programs can increase access, availability, and utilization of food to the undernourished, provide nutritional balance for those at risk for overweight, and provide maintenance to those within normal ranges. Children in Dominica could benefit from a standardized program similar to those in other countries (Devaney et al., 1995; Howe and Vaden, 1980; Gordon et al., 1995; Gratham-McGregor et al., 1998; Hall et al., 2006). For example, the most developed program, the US National School Lunch Program, positively influenced the intakes of vitamin A, iron, folate, and calcium (Gleason and Suitor, 2003; Gordon et al., 1995; Wellisch et al., 1983; Fraker, 1988; Akin et al., 1983). The nutrients consumed in the most limiting amounts in Dominica were fiber, calcium, potassium and folate; a standardized SFP could emphasize foods rich in those nutrients.

Wellisch et al. (1983) and Drewnowski and Darmon (2005) concluded there was positive nutritional contribution not just by the increased amount of food eaten, but also from the nutrient density of the children's intake. This study had similar results in that, when adjusting for kcal by calculating nutrient density, many of the significant differences noted were more normalized. For example, regional differences in intakes of vitamin A, vitamin C, and folate were no longer statistically significant when evaluated by nutrient density. This suggests that increased energy intake resulted in concurrent increases in nutrient intake and that children were choosing foods that made positive nutrient contributions to their diets..

Lack of anthropometric and nutritional intake data for schoolchildren in Dominica limits the comparison of regional, gender, and school feeding program results with those of other researchers. Further studies are needed in Dominica to assess the longitudinal growth patterns of the population and validate nutritional adequacy. Lifestyle characteristics could

be an important factor of nutritional wellbeing and its possible correlation should be examined more closely.

Attention to 'nutrition transitions' occurring in many developing countries because of shifts from traditional diets and lifestyles to 'Western' diets and reductions in physical activity has been cause for concern in development of disease later in life (Popkin, 2001; Popkin 2002d; Vorster 2002; Maletnlema, 2002). Additional information is needed on the food consumed by children to define Dominica's stage in the cultural transition and identifying potential risks.

Conclusions

Nutrition monitoring is an important tool for influencing policy decisions and for developing standards (Woteki, 2003; Murphy, 2003). Nutrition monitoring has not been systematically conducted in the Caribbean, including Dominica, leading to a lack of data on which to base policy and standards. Data from the present study can be used to establish baseline measurements for formulation of dietary recommendations and standards, particularly related to school feeding programs for this Caribbean population.

Selection of schools to participate in school feeding programs in Dominica is presently based on poverty assessment data and on distance children walk to school, although as interest in the program heightens, operational research is needed to make informed decisions on its expansion. By setting priorities with defined indices, these programs can become models for other islands of the region.

CHAPTER THREE

FOOD CONSUMPTION PATTERNS OF DOMINICAN CHILDREN

Introduction

The Commonwealth of Dominica is an island with a deep agricultural heritage and a population composed mostly of peoples of African descent. The cultural heritage as well as topography and climate favor agriculture and have shaped the traditional cuisine of the island. Traditional crops include cassava, dasheen, sweet potatoes, yams, corn, beans, peppers, pumpkins, and tannias with root crops ('provisions') providing the largest amount of dietary energy (Elwin, 1998).

European and African settlers introduced many food plants such as bananas, breadfruit, coffee, cocoa, dasheen, mangoes, plantain, wheat, white potatoes, meat (beef and mutton), rice, salted fish, and milk; many of these foods are still produced today in Dominican gardens (Elwin, 1998). Several types of animals are reared on the island, however, production is insufficient for the total population. Sugar was the first commercial agricultural commodity; other commodities have been coffee, limes, and bananas. Today, bananas are the major export crop (Sinha, 1995; Halcrow Group Limited, 2004). Rural communities in Dominica are largely agrarian with a disproportionate dependence on agriculture for employment, income, food, shelter, fuel and medicine, although Dominica is not self-sufficient in food production, especially foods high in protein (DFNC, 2001). Annual imports of meat and meat products, milk and cheese, and fish and fish products exceed $7.4 million (2% of GDP) (FAOSTAT, 1999; PAHO/WHO, 1999).

Increasing availability of resources and economic opportunity have led to an epidemiological transition in the Caribbean in which incidence of malnutrition and infectious

diseases have declined and obesity and chronic diseases such as diabetes, coronary heart disease, and cancer have increased (Omran, 1971; Sinha, 1995). Dietary transition linked to globalization, urbanization, greater access to processed food items, and socioeconomic changes may be connected to this epidemiological transition (Smil, 2000; Popkin, 2002d; Popkin, 1993). Transitions to Western diets typically include increased intakes of fats, sugars, and refined foods and a decrease intake of fiber (Popkin and Gordon, 2004a). Social and economic changes have been documented in Dominica, however, dietary changes have not been documented. Trotter and Lambert (1992) and Maglorie and Prevost (2000) reported qualitatively on consumption patterns of Dominicans and suggested a strong influence of traditional patterns, especially among lower income, older residents in rural areas (Maglorie and Prevost, 2000). This study investigated food practices and provided empirical food group and nutrient intake data for Dominican children based on dietary recall.

Methodology

Potential subjects were identified from ten participating schools in three regions of Dominica (La Plaine, Boetica, Delices, Pte. Savanne, and Bagatelle in the Southeast Region; Vielle Case, Penville, and Thibaud in the North region; and Salybia and Sineku in the Carib Territory). The Ministry of Education selected schools involved with school feeding programs (SFP) and matched them with schools in the same geographic region that did not have a school feeding program. Schools in this study that participate in the SFP were Bagatelle, Delices, Penville, and Salybia.

All children in grades 2-5 were considered to be eligible to participate and were asked to provide written assent and parental consent for participation in the study. The study was approved by the Clemson University Institutional Review Board (Appendix A, Figure 1;

Figure 2; Figure 3; Figure 4). Of the 187 total children from whom food recalls were obtained, 177 children participated in both years. The mean age in year 1 was 8.6± 0.1 years and in year 2 was 9.6± 0.1 years.

Diet recall interviews, conducted in English by Dominican or American interviewers, were modeled after Tippett and Cypel (1997) and NHANES MEC protocols (Tippett and Cypel, 1997; CDC, website). Tools such as bowls, cups, rulers, food models, and pictures were used to help children recall foods eaten and estimate portion sizes. Children were asked to recall the previous day consumption in reverse starting from the most recent snack or meal eaten (Baxter, 2004; Buzzard, 1998). Interviewers reviewed lists with each child to confirm their recollection.

Statistical analysis

Intake data for each child were entered into Genesis R&D nutrient analysis software (version 6.5; ESHA Research, Salem, OR) for analysis of food energy, macronutrients, vitamins and minerals. Foods not contained in the database were substituted with nutritionally similar foods from the database. Foods of similar nutrient composition were grouped for analysis.

Each food item was assigned to one of six food groups of the Caribbean (staples, legumes and nuts, foods from animals, vegetables, fruits, fats and oils) (PAHO/CFNI, 2006). Additional groups for sweets; mixed dishes; baked goods; soups, sauces and gravies; and non-caloric beverages were added for foods not contained within one of the six food groups of the Caribbean. Additionally, food items were subjectively categorized as either traditional or non-traditional based on literature and empirical knowledge of Dominican

food habits. Average weights consumed per child were calculated by dividing the total weight consumed by the total number of children who consumed the food item.

Statistical analysis was performed using SAS (SAS version 9.1; SAS Institute, Inc., Cary, NC), using 5% as the level of statistical significance. All food items were sorted by food group and by the traditional/non-traditional category. Food items were ranked both by the average weight consumed and by the number of children consuming that food. Differences in intakes between individuals at schools with and without school feeding programs, between genders, and an interaction between school feeding programs and genders was investigated through the mixed procedure with random effects of individual school and fixed effects of school feeding program and gender. Nutrient contribution for groups with significant interactions or significant main effects was further tested with the mixed procedure.

Results

Table 1 (Appendix C) presents descriptive statistics for study participants. There were fewer males than females in year 1 (94 males and 104 females) and in year 2 (94 males and 102 females). There were fewer children from schools with school feeding programs than in schools without school feeding programs in year 1 (81 in SFP and 117 in no SFP) and year 2 (81 in SFP and 115 in no SFP). Since there were no significant differences between genders or between those who attended schools with SFP and those who attended schools without SPF in either year, results are reported only for the total population.

Table 3.1 presents rankings of foods by the average weight consumed for each food group and Table 3.2 lists the most frequently consumed foods for each food group.

Table 3.1 Ranking of Foods by Average Weight (g) Consumed by Children in Dominica

	Year 1		Year 2	
Food Group	Food Item	Avg Weight (g) Consumed*	Food Item	Avg Weight (g) Consumed*
Staples	1. Cream of Wheat	1255	1. Oatmeal	277
	2. Oatmeal	390	2. Cream of Wheat	271
	3. Ramen Noodles	303	3. Corn Mush	246
	4. Corn Mush	300	4. Ramen Noodles	227
	5. Macaroni	235	5. Brown Rice	195
	6. Breadfruit	180	6. Spaghetti	188
	7. Dumplings	180	7. Arrowroot	170
	8. Spaghetti	180	8. Macaroni	153
	9. Cornmuffin	170	9. White Rice	149
	10. Popcorn	164	10. Boiled Potato	136
Average Weight (g) Consumed		356		292
Legumes and Nuts	1. Baked Beans	209		
	2. Lentils	119	1. Kidney Beans	189
	3. Kidney Beans	76	2. Baked Beans	92
	4. Pigeon Peas	46	3. Lentils	82
	5. Peanut Butter	31	4. Peanut Butter	44
	6. Mixed Nuts	9	5. Almonds	13
	7. Almonds	3	6. Cashews	10
Average Weight (g) Consumed		92		91
Foods from Animals	1. Pudding	560	1. Cocoa Tea with Milk	299
	2. Turkey Drumstick	546	2. Chocolate Milk	292
	3. Cocoa Tea with Milk	349	3. Yogurt	153
	4. Chocolate Milk	292	4. Icepop with Milk	141
	5. Milkshake	229	5. Chicken Back	140
	6. Stewed Chicken	213	6. Ice Cream	132
	7. Milk	213	7. Land Crab	128
	8. Ice Cream	211	8. Milk	120
	9. Baked Fish	186	9. Canned Luncheon Meat	113
	10. Yogurt	113	10. Salted Fish	102
Average Weight (g) Consumed		430		346
Vegetables	1. Mixed Vegetables	364		
	2. Pumpkin	161	1. Green Peas	85
	3. Spinach	114	2. Cabbage	63
	4. Carrots	101	3. Pumpkin	61
	5. Tomato	58	4. Tomato	57
	6. Cucumber	50	5. Carrots	57
	7. Lettuce	40	6. Cucumber	32
	8. Cabbage	38	7. Lettuce	28
	9. Onion	10	8. Spinach	17
Average Weight (g) Consumed		116		80

Table 3.1 Ranking of Foods by Average Weight (g) Consumed by Children in Dominica (continued)

	Year 1		Year 2	
Fruits	1. Mixed Fruit Juice	500	1. Soursop	938
	2. Pineapple Juice	441	2. Plums	528
	3. Cherry Juice	402	3. Orange Juice	355
	4. Lime Juice	399	4. Passion Fruit Juice	345
	5. Orange Juice	340	5. Grapefruit Juice	337
	6. Grapefruit Juice	327	6. Lime Juice	318
	7. Apple Juice	326	7. Tangerine Juice	314
	8. Passion Fruit Juice	319	8. Sweetsop	295
	9.Guava	282	9. Mixed Fruit Juice	250
	10. Tangerine Juice	278	10. Grapefruit	231
Average Weight (g) Consumed		549		484
Fats and Oils			1. Red Wine	59
	1. Avocado	148	2. Avocado	50
	2. Margarine	33	3. Coconut Milk	45
	3. Mayonnaise	31	4. Butter	41
	4. Coconut	24	5. Mayonnaise	35
	5. Butter	11	6. Coconut	30
	6. Cooking Oil	7	7. Cooking Oil	27
Average Weight (g) Consumed		45		47
Sweets	1. Lemonade	494	1. Mango Juice Drink	503
	2. Powdered Fruit Flavored Drink	475	2. Lemonade	433
	3. Grape Juice Drink	389	3. Fruit Soda	368
	4.Mango Juice Drink	378	4. Powdered Orange Flavored Drink	362
	5. Fruit Punch Drink	324	5. Powdered Fruit Flavored Drink	342
	6. Fruit Soda	281	6. Powdered Chocolate Milk Mix	311
	7. Cola	269	7. Grape Juice Drink	252
	8. Powdered Orange Flavored Drink	256	8. Fruit Punch Drink	243
	9. Powdered Chocolate Milk Mix	249	9. Cola	237
	10. Ginger Ale	244	10. Mixed Juice Drink	236
Average Weight (g) Consumed		418		240
Mixed Dishes	1. Pizza	385		
	2. Macaroni and Cheese	282		
	3. Spaghetti and Meatballs	240	1. Macaroni and Cheese	278
	4. Potato Salad	125	2. Pizza	126
Average Weight (g) Consumed		366		265
Baked Goods	1. Coconut Cream Pie	284	1. Chocolate Cake with Icing	258
	2. Banana Cream Pie	144	2. Sweet Roll	158
	3. Ginger Snaps	126	3. Peanut Butter Cookies	126
	4. Coconut Cake	106	4. Yellow Cake with Icing	73
	5. Yellow Cake with Icing	87	5. Coconut Cookie	60
	6. Crème filled Chocolate Snack Cake	80	6. Shortbread Cookie	60
	7. Fruit Cake Cookie	77	7. Crème Filled Chocolate Sandwich Cookies	48
	8. Cinnamon Bun	61	8. Crème Filled Sandwich Cookies	47
	9. Raisin Loaf Cake	57	9. Corn Chips	34
	10. Peanut Butter filled Sandwich Cookies	56	10. Yellow Cake without Icing	28
Average Weight (g) Consumed		78		63
Soup, Sauce, Gravy	1. Chicken Noodle Soup	482	1. Chicken Noodle Soup	482
	2. Fish Broth	474	2. Fish Broth	237
	3. Chicken Gravy	170	3. Split Pea Soup	122
	4. Beef Gravy	36	4. Lentil Soup	95
			5. Chicken Gravy	39
Average Weight (g) Consumed		121		94
Non-caloric beverages	1. Water	365	1. Water	341
	2. Tea	348	2. Tea	330
	3. Coffee	201	3. Coffee	151
Average Weight (g) Consumed		390		347

*= Average weight if consumed

Table 3.2 Ranking of Foods by Frequency of Consumption by Children in Dominica

	Year 1		Year 2	
Food Group	Food Item	Number of children consuming food item	Food Item	Number of children consuming food item
Staples	1. White Bread	147	1. Individual Bread Bun	102
	2. White Rice	93	2.White Bread	79
	3. Bakes	54	3. White Rice	77
	4. Dumplings	32	4. Dumplings	47
	5. Individual bread bun	29	5. Dasheen	38
	6. Breadfruit	26	6. Bakes	32
	7.Crackers	23	7. Corn Flakes	16
	8. Plantain	17	8. Breadfruit	15
	9. Corn Flakes	16	9. Sweet Potato	15
	10. Dasheen	14	10. Spaghetti	14
Number of children consuming Staples		187		186
Legumes and Nuts	1. Lentils	45		
	2. Peanut Butter	42	1. Lentils	60
	3. Kidney Beans	9	2. Peanut Butter	44
	4. Baked Beans	5	3. Kidney Beans	10
	5. Pigeon Peas	5	4. Baked Beans	2
	6. Mixed Nuts	1	5. Almonds	2
	7. Almonds	1	6. Cashews	1
Number of children consuming Legumes and Nuts		94		98
Foods from Animals	1. Milk	101	1. Milk	116
	2. Cocoa Tea with Milk	91	2. Cocoa Tea with Milk	77
	3. Processed Cheese	35	3. Chicken Drumstick	52
	4. Chicken Drumstick	34	4. Fried Fish	31
	5. Vienna Sausage	29	5. Stewed Chicken	26
	6. Chicken Breast	27	6. Vienna Sausage	24
	7. Fried Fish	25	7. Steamed Fish	22
	8. Salted Fish	23	8. Processed Cheese	20
	9. Chicken Wing	16	9. Fried Egg	17
	10. Hotdog	13	10. Chicken Back	15
Number of children consuming Foods from Animals		186		180
Vegetables	1.Pumpkin	11		
	2. Carrots	8	1. Cucumber	5
	3. Tomato	8	2. Cabbage	4
	4. Cucumber	8	3. Lettuce	4
	5. Spinach	4	4. Tomato	3
	6. Lettuce	4	5. Carrots	3
	7. Cabbage	2	6. Spinach	2
	8. Onions	2	7. Green Peas	1
	9. Mixed Vegetables	1	8. Pumpkin	1
Number of children who consumed Vegetables		39		13

Table 3.2 Ranking of Foods by Frequency of Consumption by Children in Dominica (continued)

	Year 1		Year 2	
Fruits	1. Guava	56	1. Banana	77
	2. Banana	55	2. Grapefruit Juice	61
	3. Lime Juice	49	3. Passion Fruit Juice	49
	4. Orange Juice	40	4. Orange	38
	5. Grapefruit Juice	29	5. Orange Juice	24
	6. Orange	25	6. Guava	24
	7. Passion Fruit Juice	17	7.Tangerine	21
	8. Cherry Juice	12	8. Lime Juice	12
	9. Cherries	9	9. Tangerine Juice	11
	10. Tangerine Juice	8	10. Cherries	8
Number of children consuming Fruits		170		167
Fats and Oils			1. Butter	60
	1. Butter	44	2. Coconut Milk	11
	2. Margarine	18	3. Avocado	8
	3. Avocado	14	4. Coconut	7
	4. Mayonnaise	6	5. Mayonnaise	4
	5. Coconut	5	6. Cooking Oil	3
	6. Cooking Oil	2	7. Red Wine	1
Number of children consumingFats and Oils		78		82
Sweets	1. Sugar	52	1. Sugar	112
	2. Powdered Fruit Flavored Drink	39	2. Icepop	33
	3. Grape Juice Drink	39	3. Powdered Fruit Flavored Drink	23
	4. Fruit Punch Drink	36	4. Hard Candy	23
	5. Hard Candy	23	5. Powdered Orange Flavored Drink	20
	6. Catsup	18	6. Gum	16
	7. Jam	17	7. Cola	12
	8. Cola	15	8. Fruit Soda	9
	9. Fruit Soda	13	9. Catsup	7
	10. Icepop	13	10. Fruit Punch Drink	6
Number of children consuming Sweets		151		155
Mixed Dishes	1. Macaroni and Cheese	14		
	2. Pizza	4		
	3. Spaghetti and Meatballs	1	1. Macaroni and Cheese	11
	4. Potato Salad	1	2. Pizza	1
Number of children consuming Mixed Dishes		16		12
Baked Goods				
	1. Crème Filled Chocolate Sandwich Cookies	39	1. Crème Filled Sandwich Cookies	53
	2. Crème Filled Sandwich Cookies	33	2. Crème Filled Chocolate Sandwich Cookies	35
	3. Corn Chips	27	3. Corn Chips	22
	4. Yellow Cake with Icing	25	4. Yellow Cake with Icing	7
	5. Coconut Cake	5	5. Chocolate Cake with Icing	2
	6. Cinnamon Bun	3	6.Peanut Butter Cookies	2
	7. Chocolate Chip Cookies	3	7. Coconut Cookies	2
	8. Coconut Cream Pie	1	8. Shortbread Cookies	2
	9. Banana Cream Pie	1	9. Sweet Roll	1
	10. Ginger Snaps	1	10. Yellow Cake without Icing	1
Number of children consuming Baked Goods		112		105
Soup, Sauce, Gravy			1. Chicken Gravy	13
	1. Beef Gravy	9	2. Lentil Soup	6
	2. Chicken Noodle Soup	1	3. Fish Broth	2
	3. Fish Broth	1	4. Chicken Noodle Soup	1
	4. Chicken Gravy	1	5. Split Pea Soup	1
Number of children who consumed Soup, Sauces, Gravy		12		23
Non-caloric Beverages	1. Tea	49	1. Tea	68
	2. Water	29	2. Water	16
	3. Coffee	10	3. Coffee	11
Number of children consuming Non-caloric Beverages		76		85

Average weight consumed for fruits, foods from animals, sweets, non-caloric beverages, mixed dishes, and staples was higher than that for other food groups. In both years, fats and oils had the lowest average weight consumed (45g, 47g). The food groups that were consumed by the greatest number of children in year 1 and year 2 were staples (n=187 186), foods from animals (n=186, 180), and fruits (n=170, 167). The foods that were consumed by the fewest number of children in year 1 and year 2 were vegetables (n=39, 13); mixed dishes (n=16, 12); and soups, sauces, and gravies (n=12, 23).

Foods categorized as non-traditional foods were those which are not used in traditional recipes and/or are highly processed foods. Table 3.3 presents the average weight consumed for traditional and non-traditional food categories. Children consumed significantly fewer grams of non-traditional foods than of traditional foods in year 1 and year 2 ($p<0.0001$), however, 5 or 7 of the 10 traditional food items with the highest average weight consumed were beverages, which have a high weight per serving. Of the foods with the highest average weight consumed, only one traditional food (turkey drumstick) and one non-traditional food (chocolate milk) were high in protein. When ranking most frequently consumed foods (Table 3.4), only two traditional foods (lentils and chicken drumstick) and two non-traditional foods (peanut butter and Vienna sausage) were high in protein. Sugar, defined as both refined sugar and sugar cane, was the sixth most frequently consumed traditional food item in year 1 and was the second most frequently consumed traditional food in year 2. Cocoa tea with milk (a beverage made from steeped cocoa), fruit punch drink, and powdered fruit flavored beverage were frequently consumed non-traditional foods both by weight and by number of children who consumed the food. Lime juice, tea,

grapefruit juice, passion fruit juice, and milk were frequently consumed traditional foods by weight and by number of children who consumed the food.

Table 3.3: Ranking of Non-traditional and Traditional Foods by Average Weight (g) Consumed by Children in Dominica

	Year 1		Year 2	
Food Category	Food Item	Avg Weight (g) Consumed*	Food Item	Avg Weight (g) Consumed*
Non- Traditional	1. Pudding	560	1. Cocoa Tea with Milk	742
	2. Grape Juice Drink	500	2. Mango Juice Drink	503
	3. Lemonade	494	3. Powdered Orange Flavored Drink	482
	4. Powdered Fruit Flavored Drink	475	4. Powdered Fruit Flavored Drink	463
	5. Pizza	385	5. Lemonade	432
	6. Mango Juice Drink	378	6. Fruit Soda	368
	7. Cocoa Tea with Milk	349	7. Macaroni and Cheese	339
	8. Fruit Punch Drink	324	8. Powdered Chocolate Milk Mix	311
	9. Ramen Noodles	303	9. Clear Soda	311
	10. Chocolate Milk	292	10. Chocolate Milk	292
Average Weight (g) Consumed		672		511
Traditional	1. Cream of Wheat Cereal	1255	1. Soursop	938
	2. Turkey Drumstick	546	2. Tea	773
	3. Mixed Fruit Juice	500	3. Grapefruit Juice	734
	4. Chicken Noodle Soup	482	4. Passion Fruit Juice	705
	5. Fish Broth	474	5. Orange Juice	568
	6. Pineapple Juice	441	6. Water	545
	7. Cherry Juice	402	7. Plums	528
	8. Lime Juice	399	8. Chicken Noodle Soup	482
	9. Oatmeal	390	9. Lime Juice	476
	10. Grape Juice Drink	386	10. Milk	421
Average Weight (g) Consumed		1281		1049

*= Average weight if consumed

Table 3.4: Ranking of Non-traditional and Traditional Foods by Frequency of Consumption by Children in Dominica

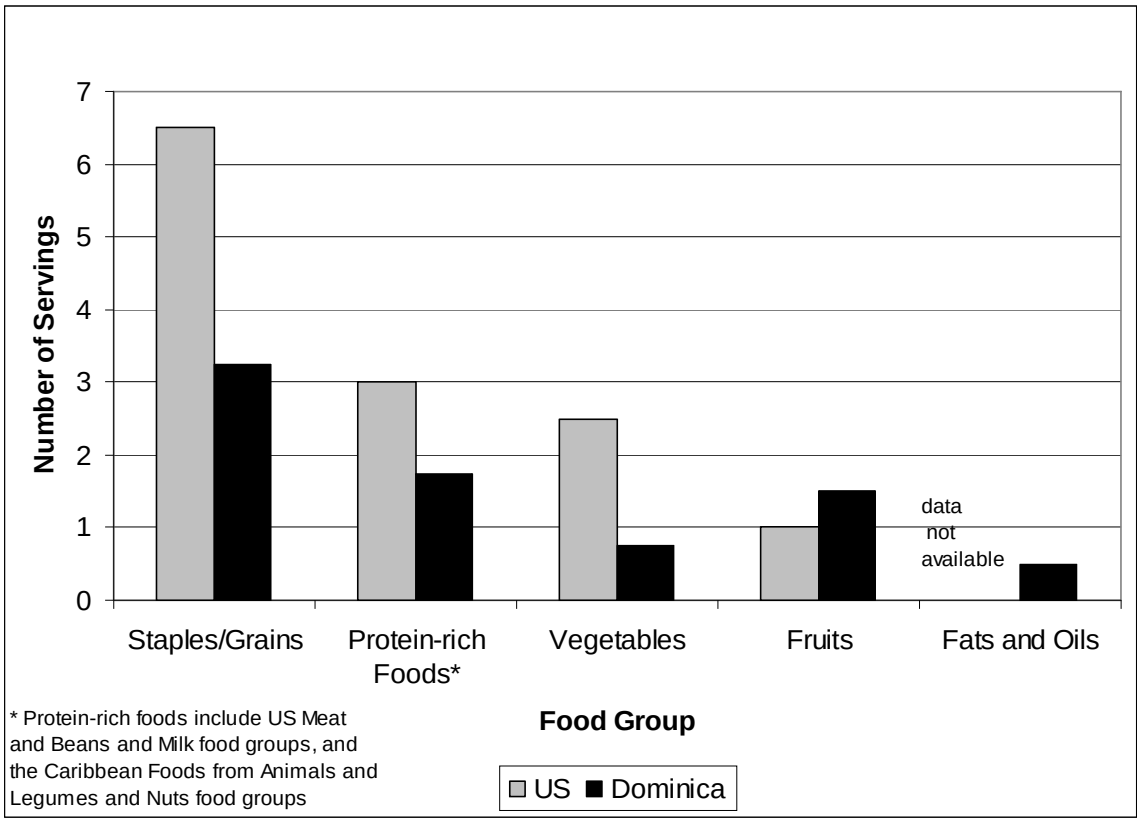
	Year 1		Year 2	
Food Category	Food Item	Number of children consuming food item	Food Item	Number of children consuming food item
Non-Traditional	1. White Bread	147	1. Individual Bread Bun	102
	2. Cocoa Tea with Milk	91	2. White Bread	79
	3. Peanut Butter	42	3. Cocoa Tea with Milk	77
	4. Powdered Fruit Flavored Drink	39	4. Crème Filled Sandwich Cookies	53
	5. Crème Filled Chocolate Sandwich Cookies	39	5. Peanut Butter	44
	6. Fruit Punch Drink	36	6. Crème Filled Chocolate Sandwich Cookies	35
	7. Processed Cheese	35	7. Icepop	33
	8. Crème Filled Sandwich Cookies	33	8. Vienna Sausage	24
	9.Individual Bread Bun	29	9. Powdered Fruit Flavored Drink	23
	10. Vienna Sausage	29	10. Hard Candy	23
Number of children consuming Non-Traditional Foods		187		186
Traditional	1. Milk	101	1. Milk	116
	2. White Rice	92	2. Sugar	112
	3. Guava	56	3. White Rice	77
	4. Banana	55	4. Banana	77
	5. Bakes	54	5. Tea	68
	6. Sugar	52	6. Grapefruit Juice	61
	7. Lime Juice	49	7. Lentils	60
	8. Tea	49	8. Butter	60
	9. Lentils	45	9. Chicken Drumstick	52
	10. Butter	44	10. Passion Fruit Juice	49
Number of children consumingTraditional Foods		187		186

Discussion

This research describes intake and dietary patterns of children in Dominica and is the first to investigate the dietary profiles of Dominican children. Food items within groups were ranked by average weight consumed and by the number of children who consumed the food. The order of foods within the rankings differed between the two methods. For instance, in the staples group in year 2, spaghetti ranked sixth by average weight consumed and tenth by number of children consuming. It must be noted that, in a few cases, a small number of children consumed the food items but they consumed them in large quantities. Overall, the foods consumed the largest amounts in year 1 were cream of wheat, pudding, turkey drumsticks, mixed fruit juice, and lemonade , and in year 2 were, soursop, plums, mango juice, chicken noodle soup, and lemonade. The foods most frequently consumed in year 1 were white bread, milk, white rice, cocoa tea with milk, and guava, and in year 2 were milk, sugar, individual bread bun, white bread, white rice, cocoa tea with milk, and bananas.

In each of the years, children consumed an average of 3-3 ½ servings of staples, ½ servings of legumes and nuts, 1-1 ½ servings of foods from animals, ½ -1 serving of vegetables, 2 servings of fruit, and ½ serving of fats and oils. Compared to children in the U.S., children in Dominica are consuming fewer servings of staples and ½ serving more of fruits (Gleason and Suitor, 2001; Cook and Friday, 2005). Dominican children consumed 1 ¾ fewer servings of vegetables than U.S. children, however, neither population consumed the recommended 3 servings (Gleason and Suitor, 2001; Cook and Friday, 2005). In Dominica the fruits and vegetables with the highest weight consumed were nutrient dense and contributed to the favorable overall nutrient intake of this population. In contrast, the most frequently consumed vegetable among U.S. children is the less nutrient dense white potato, with about half the consumption being fried potatoes (Enns et al., 2002).

Figure 3.1: US and Dominican Children's Food Group Intake



The "food groups of the Caribbean" system arranges legumes and nuts as one group and all foods from animals, including dairy, as a separate group. In order to allow comparisons with the US MyPyramid, the Caribbean legumes and nuts and foods from animals groups and the US meat, poultry, fish, nuts and beans and dairy groups were combined. Dominican children consumed 1 ¾ servings from this combined group, which compared less than 1 ¼ servings by US children (Gleason and Suitor, 2001; Cook and Friday, 2005). Milk was among the top ten foods from animals by average weight consumed in each year, although the average weight was less than 1 cup/day in each of the years. Overall intake of milk in the U.S. has significantly decreased in the past 20 years (Enns et al., 2002) and consumption by peoples of African descent has been reported to be below the

average for other U.S. children (Fulgoni et al., 2007; Jarvis and Miller, 2002). In the children in the present study, 3.5 % of the total weight of protein foods consumed was contributed by legumes and nuts, while, in the US legumes and nuts represented 2% of the average weight consumed from the protein group (Enns et al., 2002). Dominican children consumed an appropriate number of servings of protein rich foods, although few food items from animal sources were among the most frequently consumed foods in either year of the study. Only 6-9% of children in Dominica consumed mixed dishes, although the dishes reported (pizza, macaroni and cheese, and spaghetti and meatballs) were good protein sources. These foods were largely premade, which may reflect the relative lack of refrigeration available and the need for canned, shelf stable foods.

There were no significant differences in consumption of protein foods based on participation in SFP in the present study, which is in contrast to reports of increased consumption of meat, poultry, fish, and meat mixtures and of milk and milk products for children who participate in the US National School Lunch Program (Burghardt et al., 1995; Gordon et al., 1995). However, it should be noted that the SFP in Dominica is in an early stage of development and is establishing standards for meal patterns and service.

Refined staples, such as white rice, white bread, individual bread bun, dumplings, and bakes (fried dough commonly filled with cheese, salted fish, or meat) represented a large component of the diet. These findings are similar to US data that grain servings are mostly from refined products and that the consumption of white bread and rice has continually risen (Putnam et al., 2002). Several researchers have reported a connection between price and the increase in consumption of refined carbohydrates, which are generally more widely

available and less expensive than whole grain products (Drewnowski, 2005; Smith and Baghurst, 1992; Putnam et al., 2002; Worsley et al., 2003).

Dominicans traditionally have grown fruits and prepared many fruit dishes from guava, passion fruit, mango, banana, etc. Even though fruit was consumed frequently by the children, the potential trend toward replacing some of them with less nutrient dense foods should be monitored. The fruits that were consumed most frequently include freshly made fruit juices from nutrient dense traditional fruits, however, some of the frequently consumed products include powdered juice drinks.

Changes in the food supply and lifestyle can effectively change the food and eating environment as an economy shifts from a preindustrial agrarian economy toward industrialization (Popkin, 1998; French et al., 2001; Schluter and Lee, 1999). For example, development has influenced indigenous peoples such as the Pima Indians and Alaskan Natives to shift from adherence from traditional subsistence diets to a more Western diet. Regional foods have often been replaced by Westernized foods, which may not be as nutrient dense as traditional foods (Smith et al., 1996; Bersamin et al., 2006). Currently children in Dominica are consuming more traditional than non-traditional foods, although as local agricultural production declines and food imports increase in the Caribbean, Dominica may be at the cusp of a nutrition transition.

Conclusions

Consumption of a variety of foods and a diet based on traditional foods may be a major contributor to maintaining the health integrity of Dominican children. Diets high in fat, sugar, and salt and low in plant foods have been associated with an increased incidence

of chronic diseases (Sinha, 1995; Steffen et al., 2003; Zemel and Miller, 2004; Dietary Guidelines 2005; Schelze et al., 2004, Potischman et al., 2002).

These data provide empirical information on consumption patterns of children and can assist in development of dietary guidelines and policies for the developing SFP. Just as the US National School Lunch Program influences the diets of children in America, Dominica can develop a SFP to provide dishes and food items acceptable to Dominican children while maintaining the integrity of traditional foods and nutritional quality.

CHAPTER FOUR

FOOD SECURITY OF FAMILIES WITH SCHOOL-AGED CHILDREN IN DOMINICA

Introduction

The 1996 World Food Summit, convened by the United Nations Food and Agriculture Organization, adopted two key documents: The Rome Declaration on World Food Security and the World Food Summit Plan of Action. These documents were informed by the largely failed goals that were articulated in the World Food Conference of 1974. The 1996 Summit reaffirmed the basic human rights to food and freedom from hunger and the represented nations' responsibilities to achieve food security (*Population and Development Review*, 1996). A plan of action was articulated, with the ultimate goal of eradicating hunger by 2015 and an intermediate goal of halving the number of hungry people by 2006. Ten years after the 1996 World Food Summit, there are fewer undernourished people in various parts of the world and, in specific countries, progress has been made in identifying strategies and tactics that positively impact food security.

Food security refers to the access of "all people, at all times, to enough food for an active, healthy life" (FAO, 1996), As noted in FAO's *The State of Food and Agriculture 1996,* there are three key ideas underlying this definition: 'the adequacy of food availability (effective supply); the adequacy of food access (effective demand); and the reliability of both. Food insecurity can, therefore, be a failure of availability, access, reliability or some combination of these factors (FAO, 1996).

Food insecurity is related to limited or uncertain access to, availability of, and/or ability to acquire food in socially acceptable ways (Anderson, 1990). Frongillo (1999)

described food insecurity as having four components: quantity of food, quality of food, certainty of access to food, and acceptability of food. Food insecurity may occur when families have limited resources, depend on food assistance programs, skip meals, and/or substitute nutritious foods with less expensive alternatives (LeBlanc and McMurry, 1998, Hamelin et al., 1999; Radimer, 1990a; Radimer et al., 1990b; Radimer et al., 1992). Food insecurity also is a function of macro-level factors beyond the control of individuals and families. People may be deprived of access to sufficient foods by other circumstances such as political situations, natural disasters, or very high population increases (FAO, 2006). Nations also might be compromised when striving for sustained food security due to their reliance on imported foods, uncertainties in their agricultural sectors, or myriad factors constraining national efforts to reduce poverty. At the micro-levels, food insecurity runs a continuum from uncertainty and anxiety about food at the household level to hunger among children when they do not have enough to eat (Coates et al., 2006).

Food security is recognized as a public policy concern in both developed and developing countries, including the Caribbean (Alaimo et al., 1998; Craig and Dowler, 1997; Davis and Tarasuk, 1994; Lang, 1999; Leather, 1996; Maxwell, 1996; McIntyre et al., 2000; Riches, 1997; Tarasuk, 2001). The economy of the Caribbean island nation of Dominica has been described as traditionally small, open, and especially vulnerable to external shocks. The Dominican economy heavily relies on the performance of agriculture which remains a dominant contributor to GDP (18%). Currently, the GDP of the Commonwealth of Dominica is US $284 million (US Department of State, 2005).

Based on the 2003 Country Poverty Assessment survey for Dominica, 29% of households (39% of the population) live in poverty and approximately 40% of those (25%

of the population) are unemployed (International Monetary Fund, 2004). Poverty among the indigenous Carib population is much higher; 70% of the Carib population is poor and almost half are indigent. (Halcrow Group Limited, 2004; IMF, 2007). Poverty has increased since the mid-1990s due to economic decline accompanied by deterioration in government finances (Halcrow Group Limited, 2004)[3].

Food insecurity cannot be measured by any single indicator. Instead, it must be determined by obtaining information on specific living conditions, experiences, and behaviors (USDA, 2000). The USDA has developed a standard questionnaire to classify the food security status of adults and children (Carlson et al., 1999; Bickel et al., 2000). The 18-item food security measure is referred to as the Household Food Security Survey (HFSS) and has 10 questions which concern adults and 8 questions which concern provision of food for children in the household (Bickel et al., 2000; Nord and Bickel, 2002). The validity and reliability of the 18-item HFSS has been tested repeatedly in the US (Radimer, 1990b; Briefel and Woteki, 1992; Kendall et al., 1995; Hamilton et al., 1997; Carlson et al., 1999; Frongillo, 1999). Nord, Andrews and Carlson (2006) reviewed the many tests of this instrument and noted that it was recently assessed by a panel of the Committee on National Statistics of the National Academies of Sciences which recommended that the USDA continue to use this instrument, but at the same time make a clear distinction between food insecurity (a household-level economic and social condition of limited or uncertain access to adequate food) and hunger (an individual-level physiological condition that may result from food

[3]It should be noted that there are no time series data on poverty in Dominica, given the two non comparable approaches taken in the mid-1990s and the 2000s (International Monetary Fund, 2006). At the same time, economic downturns in the mid-1990s did have deleterious effects on government finances, thus no doubt also on the finances of the people of the island as well.

insecurity). The other recommendation was to dispense with categories such as "food insecurity with hunger" and with "very low food security" Wolfe and Frongillo (2000) observed that the comparability of the instrument is likely to hold in 'many other countries"[4]. This instrument has been tested in the Caribbean and has been shown to be valid (Wolfe and Frongillo, 2000; Gulliford et al., 2004; Gulliford et al., 2006)[5]. It also was seen as an appropriate instrument to use because the focus of this study was on household food security *per se*, and not on food gaps, levels of malnourishment, chronic undernourishment, food energy deficiencies, household food expenditures, and so on[6]. As such, the instrument could yield measures of "inadequate access" (see, Webb et al., 2006) and could yield information, practical in nature, that can be used to make decisions and set policies. Thus, using this instrument was both efficient and sufficient for the purposes of this study.

The present study is based on a survey conducted in the Commonwealth of Dominica, West Indies. The purposes of the study were to measure and evaluate the prevalence of food insecurity at the household and child levels and to explore the relationships between food security and variables such as income, employment status,

[4] The body of empirical work that is growing increasingly shows that modifications of the HFSS, typically still including the main domains captured by this scale, are proving valid and useful in other countries (see, e.g., Hackett et al, 2007; Coates et al, 2006; Melgar-Quinonenz et al., 2006).

[5] At this time, a considerable amount of work is being done to identify which instruments (i.e., the USDA's Household Food Security Survey Measure, used in this study, or modifications of it such as the Household Food Insecurity Access Scale - HFIAS- used in poorer developing countries) and which approaches (survey or intensive household inventory studies) best suit individual countries or regions of the world (see, e.g. Smith, 1998; Smith et al., 2006; Webb et al., 2006; Coates et al., 2006). What is clear is that while macro-level analyses of food availability and food gaps are important, household-level studies are powerful tools that can provide policy makers and officials with the kinds of information needed to assess where resources are most needed in efforts to reduce food insecurity at that level.

[6] FAO measures undernourishment rather than food security. Although these measures are related, they are not directly comparable. For example, in this current Dominican study, 42% of households surveyed had very low food security, while FAO reports 8% of the population is undernourished (FAO, 2007).

marital status, gender, number of persons living within the household, and availability of and/or access to food (storage, preparation, water sources, etc.).

Methodology

Three hundred adults from three regions (Southeast, Carib Territory, and North) in Dominica were invited to participate in the study in the spring of 2007. The adults were contacted by sending an informational letter describing the study and survey home with children in grades 2-5 at 10 schools selected by the Ministry of Education (Appendix A, Figure 7). These schools were in La Plaine, Boetica, Delices, Pte. Savanne, Bagatelle,Vielle Case, Penville, Thibaud, Salybia, and Sineku. The schools selected were considered to be representative of the socio-economic and ethnic characteristics of the country. Schools that offered school feeding programs (SFP) were matched with schools in the same geographic region that did not have a school feeding program. Schools in this study that participate in the SFP were Bagatelle, Delices, Penville, and Salybia. The study was approved by the Clemson University Institutional Review Board (Appendix A, Figure 1; Figure 2; Figure 3; Figure 4).

Statistical analysis

Parents of children at the participating schools were asked to complete the survey in self-completion format. The questionnaire included demographic questions and the 18 USDA HFSS items with the wording described by Bickel et al.(2006). Each item in the survey was coded and input into Microsoft Office ® Excel 2003. Items modeled after the USDA HFSS were reduced to the categories of affirmative or negative as described by Bickel et al. (2000).

Food security at the household level was calculated by summing all coded response items in the 18-item HFSS. A subset of eight questions was used to calculate food security at the child level. Revised 2006 labels to describe ranges of food security were used (Nord et al., 2006). Food security at the household and child level were estimated as Spearman correlations between each item and demographic data using SAS (SAS version 9.1; SAS Institute, Inc., Cary, NC), with the confidence interval set at 95%. Items without answers or answered as 'don't know' or 'no response' were omitted from these analyses. For ordinal questions with multiple responses, the higher ordinal answer was chosen. If the question was not ordinal the first response was chosen. Correlation coefficients for each item using analysis of variance were calculated in order to assess the correlation of item responses within households.

Results

Of the 300 surveys sent, 257 were returned and were usable. The return rate for this study was 85.7%.

Eighty two percent (n=175) of the respondents were female. The greatest number of participants were either currently married (37%) or never married (30%). Most had only primary school education (61%). One-third (34%) of the respondents were unemployed. Average household size was 5.5 individuals. Of those who were employed, the most frequently reported occupation was laborer/domestic. More than half the sample earned less than US $375 per month and fewer than 1% earned more than US $3,750 per month (Appendix D, Table 1).

Most respondents got their drinking water from a standpipe (38%), followed by their own tap inside their house (30%), or their own tap outside their house (19%). Most

respondents used gas "stoves" for cooking (70%) and had a refrigerator to store food (65%) (Appendix D, Table 1).

A household food security score of 0 was considered highly food secure, 1-2 was marginally food secure, 3-7 was low food secure, and 8-18 was very low food secure. The mean food security at the household level was 6.9± 5.4. Eleven percent of respondents had high household food security; 16% had marginal household food security; 31% had low household food security; and 42% had very low household food security (Appendix D, Table 2). There was a significant positive correlation ($p<0.05$) between food security score of the household and income, occupation, number of individuals in a household, level of education, type of cooking fuel used, source of water, and availability of refrigeration (Appendix D, Table 13).

There was no correlation between availability of school feeding programs and food security score within a household. There were significant differences ($p<0.0001$) in household food security between regions (Figure 4.1, and Appendix D, Table 12). Disproportionately more households from the Southeast region had high food security (n=14; 48%) than did households in the Carib and North regions. Respondents from the North region had the lowest incidence of very low household food security (n=20, 26%) while the Carib region had highest incidence of very low food security (n=38; 49%) (Figure 4.2).

Figure 4.1: Overall and Regional Household Food Security

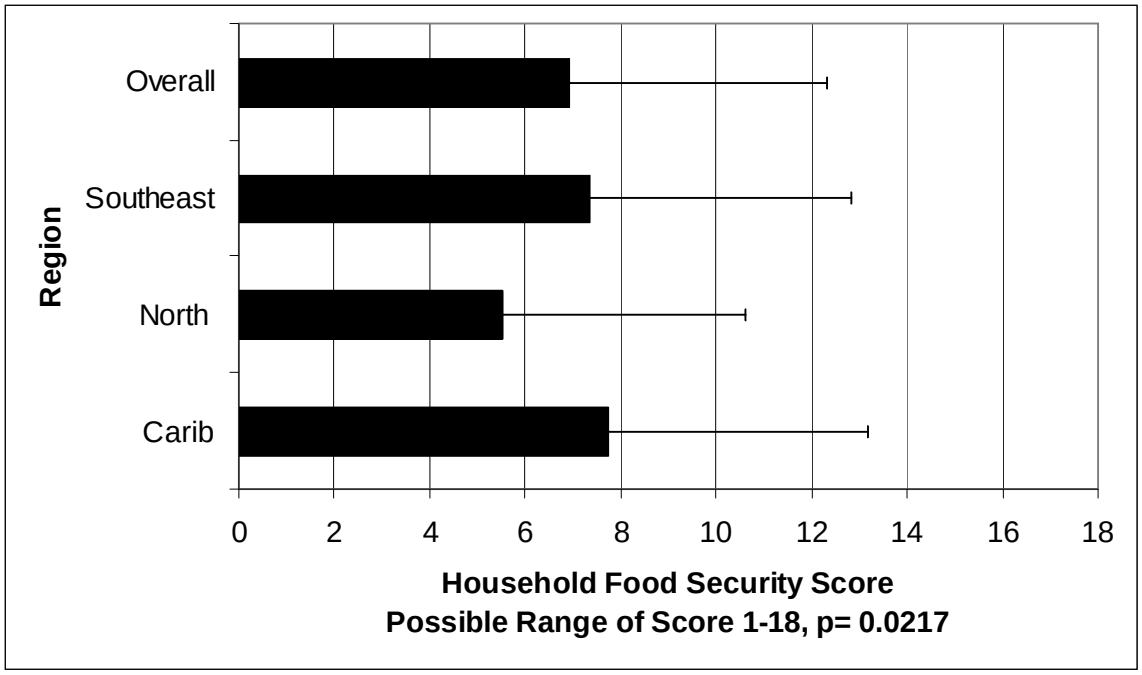
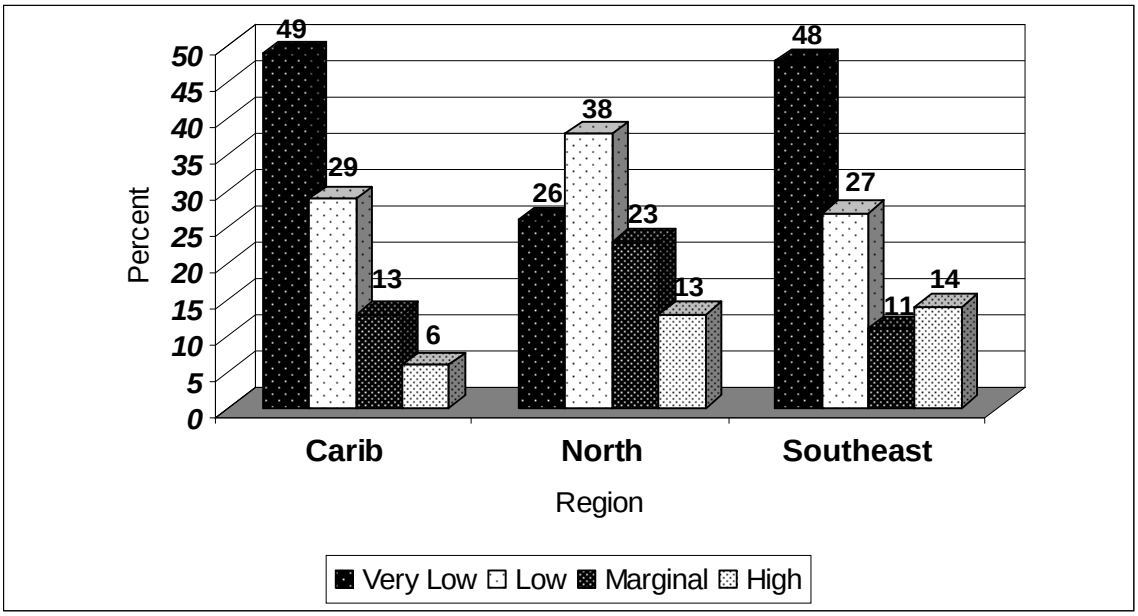


Figure 4.2: Household Food Security by Region



Seventy five percent of adults worried if food would run out before they had money to buy more. However, 72% did not go hungry and not eat because there wasn't enough money for food, 78% did not lose weight because they did not have enough food to eat, and 84% did not stop eating for a day because there was not enough money for food. Seventy four percent of children did not skip meals; 79% of children did not go hungry; and 86% of children did not go without food for a day because of lack of money for food. The responses to other questions on the HFSS were fairly equally distributed.

A child food security score of 0-1 is considered highly food secure, 2-4 is considered low food secure, and 5-8 is considered very low food secure (Nord et al., 2006). Mean food security at the child level was 2.8 ± 2.6. Forty-three percent of respondents had high; 32% had low food security status at the child level; and 25% had very low food security at the child level (Appendix D, Table 4). There was a significant positive correlation ($p<0.05$) between food security at the child level and parental income, occupation, level of education, and marital status, as well as with type of cooking fuel used, source of water, and availability of a refrigerator. There was no significant correlation between respondents whose children participated in school feeding programs and child food security score (Appendix D, Table 12).

There were significant differences in child food security between regions (Figure 4.3; Appendix D, Table 12). Fifty-nine percent (n=46) of respondents from the North region had high child food security scores. Alternately, 27% (n=28) of respondents from the Southeast region and 34% (n=26) of those from the Carib region had very low child food security scores (Figure 4.4; Appendix D, Table 4).

Figure 4.3: Overall and Regional Food Security at the Child Level

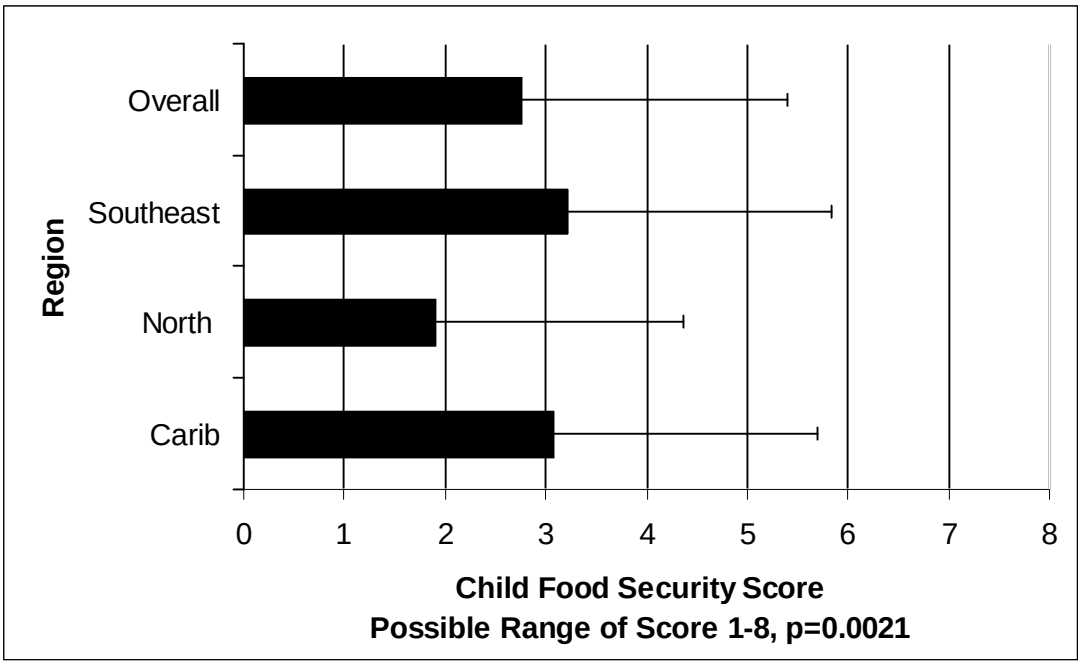
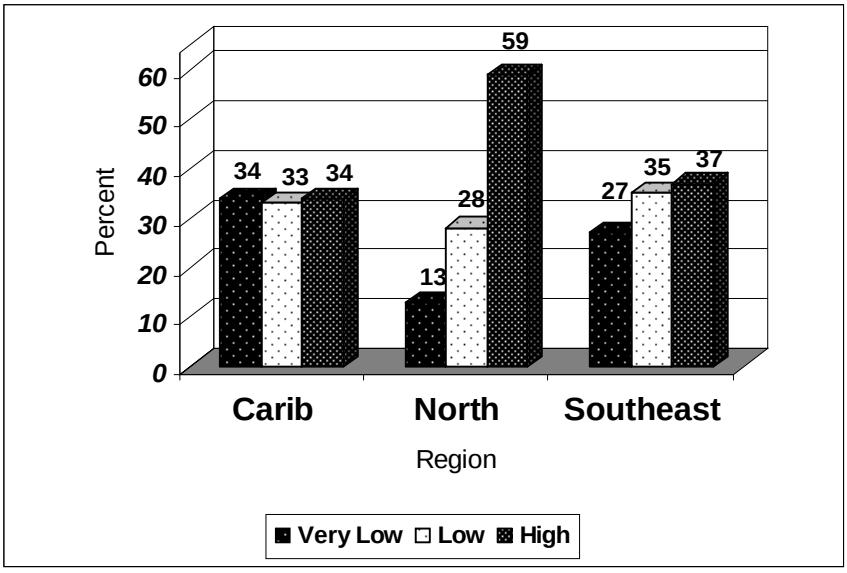


Figure 4.4: Child Food Security Level by Region



Discussion

As best can be ascertained, the present study is the first to report household food security in Dominica. In the US, food security status is determined by the number of food-insecure conditions and behaviors reported on the 18-item HFSS. Food secure households are those with high or marginal food security scores, while food insecure households are those with low or very low food security scores (Nord et al., 2006). Using this categorization, only 27% of the households surveyed in Dominica were food secure; this is considerably lower than the US rate of 89%.

Forty-three percent of the households were food secure at the child level which is also much lower than the US rate of 84% (Nord et al., 2006). The finding that more households were food secure at the child level than at the household level suggests that children are being protected for food insecurity in some way. Other researchers have reported that parents sometimes compromise their food resources in order to provide for their children (Campbell and Desjardins, 1989; Tarasuk and Maclean, 1990; Radimer et al., 1992; Dowler and Calvert, 1995; Travers, 1996; McIntyre et al., 2003).

Most research has been directed at the nutritional status of children and the provision of meals in school as a means to improve nutritional and educational outcomes and food security. The lack of a significant correlation between either household or child food security score and availability of school feeding programs suggests that availability of school feeding programs did not indicate that a household will be food secure. In this sample group, there were also no significant differences in nutrient intake between children based on the availability of a school feeding program.

Many researchers have reported a connection between poverty and food security (Campbell and Desjardins, 1989; Hamilton et al., 1997; Rose and Oliveira, 1997; Frongillo, 1999; Rose, 1999; Tarasuk, 2001; Nord et al., 2005; Casey et al., 2006). Respondents living in the most impoverished regions of Dominica also had the highest incidence of food insecurity (Halcrow Group Limited, 2003). There was no significant correlation between reported income and food security in this study, however 19% of respondents did not report income, which is not uncommon on self-reported surveys (Carter and Whiting, 1998). Coates et al. (2006) emphasized the need to move from using income as a direct indicator of food security to using validated, appropriate surveys transformed into a scale.

In the US, families headed by single women are more likely to have low food security (Alaimo et al., 1998). In this study, gender and marital status of the respondents was not significantly correlated with household food security status. However, marital status of the respondent was significantly correlated with child food security score. Respondents reported gender of the person completing the survey, but not gender of the head of the household. Thus, whether gender of the household head is related to food security or food insecurity cannot be addressed in the present study.

More households in the North region had high to marginal household food security. This region includes Portsmouth, Dominica's second largest town, and was the only region studied which had an urban area. These findings parallel previous research connecting food security to proximity of urban areas (Olson, 2004). Food outlets and restaurants are more often found in urban areas of Dominica, and resources such as employment and income are more available.

Understanding the relationships between household food security and dietary intake behaviors is particularly important. Other researchers have documented an association between food insecurity and both poor nutrient intake (Rose and Oliveira, 1997; Rose, 1999; Casey et al., 2001; Dixon et al., 2001) and an increased incidence of overweight and obesity (Olson, 1999; Che and Chen, 2001; Sarlio-Lahteenkorva and Lahelma, 2001; Townsend et al., 2001; Vozoris and Tarasuk, 2003; Adams et al., 2003; Kaiser et al., 2004; Laraia et al., 2004; Harrison et al., 2005; Casey et al., 2006; Wilde and Peterman, 2006; Martin and Ferris, 2007). However, this association has not been established in Dominica or in the Caribbean region. Future research may investigate a direct connection between the nutritional status of the population and food security status.

Conclusions

In conclusion, the Household Food Security Survey can be used as a measure to quantitatively investigate components of food availability and access to improve understanding the influences on food security at the child and household level in Dominica. Overall, there was a high incidence of food insecurity at both the household and child level. Respondents in the Carib region had the highest rates of food insecurity at both the household and the child levels followed by the Southeast region. Respondents in the North region had the highest level of food security.

This study can help with planning and targeting decisions for development programs. It also can be used as a baseline against which to calibrate success in reducing food insecurity through repeated studies. Conducted country-wide, studies such as this one are powerful tools for targeting where to allocate resources and programs. At the same time, the Dominica study can be used to stimulate parallel studies in other CARICOM countries,

while at the same time giving the nations of the region information with which to evaluate their progress within their region.

As with any study, this study has its limitations. Time and money prohibited engaging a nationwide survey. Some of the findings might have been more elucidating if other information, such as whether a household had a vegetable garden or engaged in food swap and barter systems with kin and neighbors, would have helped create a clearer understanding of the relationship between, for instance, household income and food security. However, this study is the first one to focus on household level food security in Dominica, and further refinement of methods would be expected.

CHAPTER FIVE

CONCLUSIONS

Food insecurity cannot be captured by any single indicator. Instead, it must be determined by obtaining information on specific living conditions, experiences, and behaviors (USDA, 2000). The present study assessed food security in Dominica first through assessment of anthropometric measures and 24-hour dietary recalls of children and through responses to household food security surveys by their parents. Comparison of body weight, height, skinfold thickness and 24-hr recall data of primary schoolchildren and parental household food security surveys among regions revealed differences in the regions and more precisely identified regions of inadequacy to pinpoint areas of need of intervention.

Food security survey responses from the parents provided information on the relationship between food security and variables such as income, employment, number of persons living within the household, and availability and/or access of food (storage, preparation, water sources, etc.). Overall 42% of households had very low food security, 31% had low food security, 16% had marginal food security, and only 11% had high food security.

The children surveyed had appropriate food consumption through growth patterns, nutrient intake, and choice of food both from food groups and traditional food items. Based on this information, children in Dominica are consuming a diet composed of traditional foods however, slightly less than one-third of the most frequently consumed non-traditional foods were low nutrient density foods. One of the characteristics of a nutrition

transition is a change to low nutrient dense foods, therefore future research is needed to determine if this is a trend and the potential impact.

Children's eating patterns are greatly influenced by environment (Lytle, 2000; Nicklas, 1998). School feeding programs in Dominica are an opportune avenue to increase access, availability, and utilization of food to the undernourished, provide nutritional balance for those at risk for overweight, and provide maintenance to those within normal ranges (Devaney et al., 1995; Howe et al., 1980; Gordon et al., 1995; Gratham et al., 1998; Hall, 2006). Popkin (1998) argued that negative consequences of nutrition transitions can be prevented by understanding the patterns and changes that occur. Nutrition monitoring, then, is an important tool for developing standards. Nutrition education and dietary guidelines could aid children in setting parameters and understanding of how nutrition plays a role in health.

These data provided a level of precision needed to make recommendations about where governmental resources and programs would most likely provide the greatest gain to the neediest. The Carib region was identified as having the lowest food security status as well as the most insufficient nutritional status and, therefore, may benefit most from interventions. Government and non-governmental organizations can be instrumental in influencing food security through sound policy and programs.

Given the large number of poor households with children, opportunities exist to improve food security at the primary school level through initiatives such as implementation of school gardens and school feeding programs, as well as development of producer-consumer networks. School gardens could provide training in agriculture; utilization of local food products; and possible employment for community residents. Nutrients of concern,

such as calcium and folate, could be addressed through supplementing and/or growing products in schools and the food products could also be used in school feeding programs. Likewise, school feeding programs could provide community employment through kitchen labor. Producer-consumer networks could be developed through these types of training. Products from school gardens could also be distributed through other outlets and provide a source of currency for that community. At the same time, it might be advisable to ensure consistency and continuity of school feeding programs.

We anticipate that the findings of this study may be timely. The CARICOM (Caribbean Community) has been taking great strides to accept and address all factors related to food security in the Caribbean region. It is publicly recognized that strides are being made but that much more must be done. The current study offers Dominica, a member of CARICOM, a fair assessment of the food security situations for children and families in most of the regions of the country. A future study could include the entire country and could connect nutritional status with food security measures in a longitudinal timeframe. In addition, a future study could explore other factors, such as having home gardens, having small livestock, or engaging in a kin- or community-based sharing system that offsets access to, and availability, affordability, and accessibility of foods and foodstuffs usually purchased outside the home for home use.

We hope that this study will provide a clear nutritional knowledge base to build on for the country to expand school feeding and improve the lives of Dominicans. Through sound development programs, Dominica can be a leader in the CARICOM region and serve as a pioneer for others.

APPENDICES

Appendix A

Figure 1: Informational Letter A

CLEMSON
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September 21, 2005

FILE COPY

Dr. Mary Elizabeth Kunkel
Food Science and Human Nutrition
224 Poole Agriculture Building
Clemson University
Clemson, SC 29634

SUBJECT: Human Subjects Proposal # **50079** entitled **"The Correlation Between Food Security Issues and Nutritional Status in Dominica"**

Dear Dr. Kunkel:

The Institutional Review Board (IRB) of Clemson University reviewed the above-mentioned study using expedited review procedures. Final approval of this study been granted for a period of one year from **September 21, 2005 to September 20, 2006.** A continuing review is set for July 2006. Enclosed is a handout that outlines your responsibilities in the conduct of human subjects.

A stamped copy of your consent form has been included.

If the study will continue beyond the expiration date, you must submit the appropriate information to the IRB to obtain re-approval in a timely fashion. This includes activities related to data analysis. Federal regulations do not allow any grace period beyond the expiration date. If the IRB has not reviewed and re-approved the study by the expiration date, the research must stop, unless the IRB finds that it is in the best interests of individual participants to continue the research interventions or interactions.

Please remember that no revisions to this approved research proposal can be initiated without prior approval from the IRB. Any unanticipated problems, including risk to subjects, complications, and / or any adverse events must be reported to the Office of Research Compliance (ORC) immediately. Please notify the ORC if your study is completed or terminated before the end of the approval period. The IRB number and title must be referenced in all communications regarding the study.

The Clemson University IRB is committed to complying with federal regulations and institutional policies. You may contact the ORC at 656-0636 if you have any questions.

Sincerely,

Joel Greenstein, Ph.D.
Chairperson
Institutional Review Board

Enclosures

OFFICE OF RESEARCH COMPLIANCE
223A Brackett Hall Box 345704 Clemson, SC 29634-5704 FAX 864.656.4475 www.clemson.edu/research
Institutional Review Board: 864.656.6460 Institutional Biosafety Committee: 864.656.0118 Animal Research Committee: 864.656.4538

Figure 2: Informational Letter B

CLEMSON
UNIVERSITY

February 23, 2007

Dr. Beth Kunkel
Food Science and Human Nutrition
214 Poole Agriculture Center
Clemson University
Clemson, SC 29634

SUBJECT: Human Subjects Proposal **#IRB2007-056 entitled "Food Security in Dominica".**

Dear Dr. Kunkel:

The Chair of the Clemson University Institutional Review Board (IRB) validated the proposal identified above using Exempt review procedures and a determination was made on **February 23, 2007** that the proposed activities involving human participants qualify as Exempt from continuing review under **Category 2** based on the Federal Regulations. You may begin this study.

Please remember that no change in this research proposal can be initiated without prior review by the IRB. Any unanticipated problems involving risks to subjects, complications, and/or any adverse events must be reported to the IRB immediately. The Principal Investigator is also responsible for maintaining all applicable protocol records (regardless of media type) for at least three (3) years after completion of the study (i.e., copy of validated protocol, raw data, amendments, correspondence, and other pertinent documents). You are requested to notify the Office of Research Compliance (ORC) if your study is completed or terminated.

Attached are documents developed by Clemson University regarding the responsibilities of Principal Investigators and Research Team Members. Please be sure these are distributed to all appropriate parties.

Good Luck with your study and please feel free to contact us if you have any questions. Please use the IRB number and title in all communications regarding this study.

Sincerely,

Tracy Arwood, M.S.
Director, Research Compliance

OFFICE OF RESEARCH COMPLIANCE
223 Brackett Hall Box 345704 Clemson, SC 29634-5704 864.656.1525 FAX 864.656.4475 www.clemson.edu/research
Institutional Animal Care and Use Committee: 864.656.4538 Institutional Biosafety Committee: 864.656.0118 Institutional Review Board: 864.656.6460

Figure 3: Parental Permission Form

FILE COPY

Parental Permission Form for Participation of a Child in a Research Study
Clemson University

The Correlation Between Food Security Issues and Nutritional Status in Dominica

Description of the research and your child's participation

Your child has been invited to participate in a research study conducted by Dr. Mary Elizabeth Kunkel and Elizabeth Wall-Bassett from Clemson University in South Carolina in the USA. The purpose of this research is to assess access and availability of food products and their relationship to anthropometric data in children.

Your child's participation will involve voluntary participation in survey and anthropometric data collection. During the fall of 2005 and 2006, height, weight, and body fat data will be recorded from your child. These data will again be recorded during the spring of 2006 and 2007. Also in the fall of 2005 and 2006, your child will be asked to describe the foods he/she has eaten in the last 24 hours.

The amount of time required for your child's participation will be approximately 45-minute per data collection session. There will be four data collection sessions. The study will begin during September of 2005 and end in May of 2007.

Risks and discomforts

Possible risks associated with this research may include minor bruising and/or your child may feel uncomfortable sharing information about food intake, and having his/her height, weight, and body fat measured. We will, however, take as many precautions as possible to avoid discomfort and will be recording data in a confidential and closed arrangement.

Potential benefits

This research may be of benefit to you by helping you understand the nutritional status of your child. You may be able to use this information in meal planning with your child. This research may also help us to understand food security issues facing all of Dominica, and could help improve the state of food security for the future. The study will provide awareness and relevant information about food security issues in the country of Dominica which in turn can help monitor the effects of food availability and/or access on the well-being of the total population.

Protection of confidentiality

We will do everything we can to protect your child's privacy. Your child's name will be removed from all records, questionnaires, etc., and code numbers will be used instead to track individual data. Your child's identity will not be revealed in any publication that might result from this study.

This form is valid only if the Clemson University IRB stamp of approval is shown here:

CLEMSON UNIVERSITY
IRB CONSENT FORM
APPROVED 9/21/05
EXPIRES 9/20/06

Revised: June 2005
Page 1 of 2

Figure 3: Parental Permission Form (continued)

FILE COPY

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

Voluntary participation

Participation in this research study is voluntary. You may refuse to allow your child to participate or withdraw your child form the study at any time. Your child will also be allowed to withdraw at any time. Your child will not be penalized in any way should you decide not to allow your child to participate or withdraw your child from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact Dr. Mary Elizabeth Kunkel at Clemson University at 864.656.5690 or locally at 767.449.3026. If you have any questions or concerns about your child's rights as a research participant, please contact the Clemson University Institutional Review Board at 864.656.6460.

Consent

I have read this parental permission form and have been given the opportunity to ask questions. I give my permission for my child to participate in this study.

Parent's signature: _____ Date: _____

Child's Name: _____

A copy of this parental permission form should be given to you.

This form is valid only if the Clemson University IRB stamp of approval is shown here:

CLEMSON UNIVERSITY
IRB CONSENT FORM
APPROVED 9/21/05
EXPIRES 9/20/06

Revised: June 2005
Page 2 of 2

Figure 4: Student Assent Script

FILE COPY

SCRIPT For STUDENT ASSENT TO PARTICIPATE IN A RESEARCH STUDY

The Correlation Between Food Security Issues and Nutritional Status in Dominica

You are being invited to participate in a research study. Below you will find answers to some of the questions that you may have.

What is it for?

- Dr. Mary Elizabeth Kunkel and Elizabeth Wall-Bassett from America would like to look at what kinds of foods children of Dominica eat and also where they get their food. Dr. Kunkel and Elizabeth would like to see how these food choices affect how children grow and how they affect their health.

Why me?

- You have been selected to participate in this research as a child living in Dominica. We would like to specifically look at your school and where you live in Dominica to contribute data to the whole study.
- Participation will not have a negative impact on you in the study.

What Will I Have to Do?

- Starting this fall (2005) we will record your weight and height and we will ask you to hold onto a machine to determine how much muscle and fat you have. We will also hold onto some of your skin on your arm and we will then put a little pressure to measure your arm. We will do this again next spring (2006), next fall (2006), and the next spring (2007). We would also like to ask you to tell us about what you ate during the last couple of days when we meet in the fall (2005 & 2006).
- You may feel a little bruising when we apply pressure to you arm when we measure it. You may also not feel very comfortable having your height or weight measured, or talking about what you recently ate. We do want you to feel good about yourself and sharing this information, so we will be recording your height and weight without the rest of the class around and it will be strictly

Date: (Indicate date prepared)

CLEMSON UNIVERSITY IRB CONSENT FORM APPROVED 9/21/05 EXPIRES 9/20/06

Child's Initials _____

Page 1 of 2

Figure 4: Student Assent Script (continued)

FILE COPY

private. We also will be talking about what you ate where no one else can hear and will not share your information with anyone.

Did My Parents Say It Was Okay?

- Your parents have been told about the study and they have signed a consent form for you to participate.

Who Will Be Helped By This Research?

- We hope that this research will help you and your parents to plan good meals for you to make you healthy. This study will also help people understand what people in Dominica eat and where they get their food.

What If I Want to Stop? Will I Get In Trouble?

- Participation in the study is voluntary. You do not have to participate if you do not want to. You can also choose to stop participating during the study if you want.
- This research will not be used to positively or negatively impact your grades, participation in programs, etc.

By signing below, I am saying that I have read this form and have asked any questions that I may have. All of my questions have been answered so that I understand what I am being asked to do. By signing, I am saying that I am willing and would like to participate in this study. I also have received a copy of this form to keep.

_____ _____

Signature of Child/Student Date

Date: (Indicate date prepared)

CLEMSON UNIVERSITY
IRB CONSENT FORM
APPROVED 9/21/05
EXPIRES 9/20/06

Child's Initials ____

Page 2 of 2

Figure 5: 24-hour Recall Collection Form

List of foods eaten	Portion/Amount (pictures, food models, and measuring spoons/cups will be used for assistance)

Figure 6: Anthropometric Collection Form

Survey Code #:	Ht	Wt	Skinfold1	Skinfold2	Skinfold3	Skinfold Avg.
_____						

Survey Code #:	Ht	Wt	Skinfold1	Skinfold2	Skinfold3	Skinfold Avg.
_____						

Survey Code #:	Ht	Wt	Skinfold1	Skinfold2	Skinfold3	Skinfold Avg.
_____						

Survey Code #:	Ht	Wt	Skinfold1	Skinfold2	Skinfold3	Skinfold Avg.
_____						

Survey Code #:	Ht	Wt	Skinfold1	Skinfold2	Skinfold3	Skinfold Avg.
_____						

Figure 7: Household Food Security Survey and Informational Letter

Dear potential research study participant,

You are invited to take part in a research study to help with understanding issues about food access and availability in Dominica. Results of this study will help us improve food access for people like you and your neighbors. You and 300 other people who have children in public schools in Dominica were chosen to participate in this voluntary study. We are asking you to fill out this survey and return it to your child's school principal in the attached envelope. The survey will take about 20 to 30 minutes to complete.

You may choose not to answer any question that you don't wish to answer. You may also choose not to complete the survey if you do not want to. To make sure your answers are confidential, please do not put your name on the survey or the envelope. Your decision to complete the survey or not will not affect your future relationship with Clemson University or your child's school.

If you have any questions about this study, please contact Dr. Elizabeth Kunkel at Clemson University (phone number:*864-656-5690*; or locally: *767-449-3026*). If you have any questions about your rights as a research participant, please contact the Clemson University Institutional Review Board at *864-656-6460*. Thank you for your help with this research project.

Sincerely,

Elizabeth Kunkel, PhD, RD

Region:

□ Vielle Case □ Thibaud
□ Pennville □ Sineku/Batacca
□ Salybia □ La Plaine
□Delices □ Boetica
□ Bagatelle □ Pte. Savanne

Gender:

□ Male □ Female

Marital Status:

□ Now married
□ Living Together
□ Widowed
□ Divorced
□ Separated
□ Never Married

Highest level of education:

□ Primary/Elementary
□ Secondary/ High
□ Technical/ Vocational
□ Tertiary
□ Don't know
□ No response

Number of people living in your household?

□ 1 person □ 2 people
□ 3 people □ 4 people
□ 5 people □ 6 people
□ 7 people □ 8 or more people

Occupation:

□ Professional/ Semi-professional/ Administrative/Managerial
□ Skilled/ Technical/ Trained
□ Clerical Service
e.g. bartender, gas station attendant
□ Farmer
□ Laborer/ Domestic
□ Retired/ Pensioner/Student/ Housewife
□ Unemployed

Average MONTHLY income for your household:

□ None
□ less than EC $1,000
□ EC $1,000 – EC $2,400
□ EC $2,401 – EC $5,500
□ EC $5,501 – EC $10,000
□ more than EC $10,000
□ Don't know

Figure 7: Household Food Security Survey and Informational Letter (continued)

1. Where do you get your drinking water from?
   - □ Own tap, inside the house
   - □ Own tap, outside the house
   - □ Stand pipe
   - □ Water tank
   - □ River or lake
   - □ Spring
   - □ Buy Water

2. Which of the following do you normally use for cooking?
   - □ Wood fire □ Coal pot/coals
   - □ Gas stove □ Electric stove

3. Does your household use a refrigerator to store food?
   - □ Yes □ No □ Don't know

The next three questions are statements that people have made about their food situation. Indicate whether each statement was often true, sometimes true or never true for you or your household in the last 12 months.

4. "I worried whether our food would run out before I got money to buy more?
   - □ Often true □ Sometimes true
   - □ Never true □ Don't Know

5. "The food that I bought just didn't last, and we didn't have money to get more."
   - □ Often true □ Sometimes true
   - □ Never true □ Don't Know

6. "I couldn't afford to eat balanced meals."
   - □ Often true □ Sometimes true
   - □ Never true □ Don't Know

7. In the last 12 months, did you ever cut the size of your meals or skip a meal because there was not enough money to buy food?
   - □ Yes □ No □ Don't know

   If yes, how often did this happen?
   - □ Almost every month
   - □ Some months but not every month
   - □ Only 1 or 2 months
   - □ Don't know

8. In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money to buy food?
   - □ Yes □ No □ Don't know

9. In the last 12 months, were you ever hungry but didn't eat because there wasn't enough money for food?
   - □ Yes □ No □ Don't know

10. In the last 12 months, did you lose weight because you did not have enough food to eat?
   - □ Yes □ No □ Don't know

11. In the last 12 months, did you or other adults in your household ever not eat for a whole day because there wasn't enough money for food?
   - □ Yes □ No □ Don't know

   If yes, how often did this happen?
   - □ Almost every month
   - □ Some months but not every month
   - □ Only 1 or 2 months
   - □ Don't know

The next seven questions are about children living in the household who are younger than 18 years old. Indicate whether each statement was often true, sometimes true, or never true for your child/ children living in your household in the last 12 months.

12. "We relied on only a few kinds of low-cost food to feed the children because we were running out of money to buy food."
   - □ Often True □ Sometimes true
   - □ Never true □ Don't know

13. "We couldn't feed the children a balanced meal because we couldn't afford that."
   - □ Often True □ Sometimes true
   - □ Never true □ Don't know

14. The children were not eating enough because we just couldn't afford enough food."
   - □ Often True □ Sometimes true
   - □ Never true □ Don't know

15. In the last 12 months, did you ever cut the size of any of the children's meals because there wasn't enough money?
   - □ Yes □ No □ Don't know

16. In the last 12 months, did any of the children ever skip meals because there wasn't enough money for food?
   - □ Yes □ No □ Don't know

   If yes, how often did this happen?
   - □ Almost every month
   - □ Some months but not every month
   - □ Only 1 or 2 months
   - □ Don't know

17. In the last 12 months, were the children ever hungry but you just couldn't afford more food?
   - □ Yes □ No □ Don't know

18. In the last 12 months, did any of the children ever not eat for a whole day because there wasn't enough money for food?
   - □ Yes □ No □ Don't know

Appendix B

Table 1: Sample Population Age Distribution for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP)

	Year 1								Year 2							
		Gender		Region			SFP*			Gender		Region			SFP	
Age (yr)	Overall Total n= 189	Males n=91	Females n=98	Southeast n=80	Carib n=49	North n=60	Yes n=77	No n=112	Overall Total n= 188	Males n=92	Females n=96	Southeast n=76	Carib n=49	North n=63	Yes n=79	No n=109
5	4	2	2	1	3	0	4	0	0	0	0	0	0	0	0	0
6	2	1	1	1	0	1	1	1	4	2	2	1	3	0	4	0
7	27	13	14	5	9	13	17	10	3	1	2	2	0	1	1	2
8	46	22	24	22	11	13	20	26	25	13	12	5	8	12	17	8
9	72	29	43	37	14	21	24	48	44	23	21	18	11	15	22	22
10	31	20	11	13	7	11	9	22	75	29	46	37	15	23	24	51
11	7	4	3	1	5	1	2	5	30	20	10	12	7	11	9	21
12	0	0	0	0	0	0	0	0	7	4	3	1	5	1	2	5
Mean age	8.6	8.7	8.5	8.7	8.6	8.5	8.2	8.8	9.6	9.7	9.5	9.7	9.6	9.5	9.2	9.8

Table 2: Anthropometric Measurements for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP)

	Year 1								Year 2							
	Overall	Gender		Region			SFP*			Gender		Region			SFP*	
	Total	Males	Females	Southeast	Carib	North	Yes	No	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n= 198	n=94	n=104	n=81	n=52	n=65	n=81	n=117	n= 196	n=94	n=102	n=81	n=52	n=63	n=81	n=115
Height (in)	53 ± 0.3*[a] (42-72)**	53 ± 0.3[a] (45-60)	54 ± 0.4[a] (42-72)	54 ± 0.4[b] (47-62)	51 ±- 0.5[a] (42-61)	54 ± 0.5[b] (47-72)	53 ± 0.5[a] (42-72)	54 ± 0.3[a] (47-61)	55 ± 0.3[a] (37-65)	55 ± 0.3[a] (48-63)	56 ± 0.5[a] (37-65)	57 ±- 0.4[c] (49-64)	54 ±- 0.5[a] (45-62)	55 ± 0.6[b] (37-65)	55 ± 0.5[a] (45-65)	56 ± 0.4[a] (36-64)
Weight (lbs)	70 ± 1.3[a] (41-139)	67 ± 1.6[a] (42-120)	72 ± 2.0[a] (41-139)	75 ± 2.3[b] (44-139)	62 ±- 1.9[a] (41-98)	69 ± 2.0[b] (44-122)	68 ± 2.1[a] (41-139)	71 ± 1.7[a] (44-139)	78 ± 1.6[a] (7-167)	74 ± 1.8[a] (47-129)	82 ± 2.6[b] (7-167)	86 ± 2.4[c] (7-167)	68 ± 2.9[a] (46 -106)	78 ± 2.3[b] (47-143)	77 ± 2.7[a] (7-167)	79 ± 2.0[a] (47-151)
Tricep Skinfold (mm)	11 ± 0.4[a] (4-29)	10 ± 0.5[a] (4-25)	13 ± 0.5[b] (4-29)	12 ± 0.7[ab] (4-29)	10 ± 0.5[a] (5 -21)	12 ± 0.6[b] (4-25)	12 ± 0.6[a] (4-29)	11 ± 0.4[a] (4-25)	14 ± 0.5[a] (5-35)	13 ± 0.6[a] (5-34)	16 ± 0.6[b] (5-35)	16 ± 0.8[b] (5-35)	12 ± 0.6[a] (5-25)	15 ± 0.7[b] (5-29)	15 ± 0.7[a] (5-32)	14 ± 0.6[a] (5-35)
BMI***	17 ± 0.2[a] (7-29)	17 ± 0.3[a] (14-27)	17 ± 0.3[a] (7-29)	18 ± 0.4[b] (13-29)	16 ± 0.2[a] (14-21)	17 ± 0.4[a] (7-25)	17 ± 0.3[a] (7-26)	17 ± 0.3[a] (14-29)	18 ± 0.3[a] (2-39)	17 ± 0.3[a] (14-27)	18 ± 0.5[b] (2-39)	18 ± 0.5[b] (2-30)	16 ± 0.3[a] (14-22)	18 ± 0.6[b] (13-39)	17 ± 0.4[a] (2-28)	18 ± 0.4[a] (13-39)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

*** BMI= Body Mass Index

Table 3: Nutrient Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (Arithmetic Mean)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Nutrient	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Energy (kcal)	2115 ± 89.6*[a] (507-9666)**	2089 ± 116.9[a] (763-8598)	2140 ± 135.2[a] (507-9666)	2604 ± 182.0[c] (717-9666)	1884 ± 98.4[a] (1016-4530)	1673 ± 87.3[b] (507-3886)	1898 ± 102.5[a] (507-6679)	2265 ± 132.5[a] (717-9666)
Protein (g)	72 ± 3.5[a] (16-294)	72 ± 5.0[a] (21-294)	72 ± 4.9[a] (16-265)	89 ± 6.4[b] (16-294)	70 ± 6.3[b] (24-250)	51 ± 3.4[a] (17- 118)	69 ± 4.8[a] (17-294)	74 ±-4.9[a] (16-265)
Fiber (g)	23 ± 1.5[a] (1-151)	24 ± 2.1[a] (4-151)	22 ± 2.2[a] (1.3-140)	31 ± 3.2[b] (2-151)	22 ± 1.7[b] (6- 56)	14 ± 1.3[a] (1-54)	21 ± 1.7[a] (1-87)	25 ±2.3[a] (2-151)
Fat (g)	68 ± 3.8[a] (7-395)	64 ± 4.9[a] (15-339)	71 ± 5.6[a] (7-395)	83 ± 7.7[b] (7-395)	59 ± 4.1[ab] (17-148)	55 ± 4.3[a] (7-187)	58 ± 4.5[a] (7-254)	74± 5.5[a] (17-395)
Vitamin A (IU)	4329 ± 490.0[a] (196-43521)	4170 ± 704.0[a] (401-43521)	4478 ± 685.5[a] (196-40221)	6481 ± 1077.2[b] (459-43521)	3448 ± 522.7[a] (1043-22387)	2268 ± 212.7[a] (196-6960)	3712 ± 615.7[a] (196-39840)	4755 ± 710.4[a] (401-43521)
Thiamin (mg)	1± 0.1[a] (0.3-7)	1 ± 0.1[a] (1-4)	1 ± 0.1[a] (0.3-7)	2 ± 0.1[a] (0.4-7)	1 ±0.1[a] (0.6-3)	1 ± 0.1[a] (0.3-3)	1 ± 0.1[a] (0.5-3)	2 ±0.1[a] (0.3-7)
Riboflavin (mg)	2± 0.1[a] (0.3-6)	2 ± 0.1[a] (0.4-5)	2 ± 0.1[a] (0.3-6)	2 ± 0.1[a] (0.4-6)	2 ± 0.1[b] (0.7-4)	1 ± 0.1[a] (0.3-3)	2 ± 0.1[a] (0.4-5)	2 ±0.1[a] (0.3-6)
Niacin (mg)	18 ± 1.0[a] (4-122)	19 ± 1.5[a] (4-122)	17 ± 1.2[a] (4-71)	22 ±2.0[a] (5-122)	17 ± 1.1[a] (4-46)	13 ± 0.9[a] (4-38)	17 ± 1.0[a] (4-43)	19 ± 1.4[a] (4-122)
Vitamin B6 (mg)	2 ± 0.1[a] (0.1-8)	2 ± 0.1[a] (0.2-6)	1 ± 0.1[a] (0.1-8)	2 ± 0.2[b] (0-8)	1 ± 0.1[b] (0.4-4)	1 ±0.1[a] (0.2-2)	1 ± 0.1[a] (0.6-5)	2 ± 0.1[a] (0.1-8)
Vitamin B12 (mcg)	3± 0.3[a] (0.1-42)	4 ± 0.5[a] (0.2-42)	3 ± 0.4[a] (0.1-20)	5 ± 0.7[a] (0.2-42)	3 ± 0.4[a] (0.3-20)	2 ±0.2[a] (0.1-8)	5 ± 0.7[a] (0.1-42)	3 ± 0.3[a] (0.2-20)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 3: Nutrient Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (Arithmetic Mean)
(continued)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Vitamin C (mg)	313± 26.9[a] (2-2663)	368 ± 46.7[b] (6-2663)	263 ± 27.4[a] (2-1414)	429 ± 55.0[ab] (6-2663)	267 ± 38.1[a] (10-997)	202 ± 24.4[a] (2-808)	299 ± 44.1[a] (2-2663)	323 ± 33.9[a] (6-2145)
Vitamin E (mg)	7 ± 0.4[a] (0.3-39)	7 ± 0.6[a] (1-39)	7 ± 0.6[a] (0.3-39)	9 ± 0.8[a] (0.3-39)	6 ± 0.5[a] (1-16)	5 ± 0.5[a] (0.6-16)	7 ± 0.5[a] (0.6-27)	8 ± 0.6[a] (0.3-39)
Folate (mcg)	343 ± 16.2[a] (71-1886)	344 ± 19.2[a] (96-1061)	342 ± 25.7[a] (71-1886)	398 ± 30.8[a] (90-1886)	343 ± 25[a] (99-873)	273 ± 19.8[a] (71-884)	311 ±19.0[a] (90-884)	366 ± 23.8[a] (71-1886)
Vitamin K (mcg)	13 ± 4.2[a] (0-686)	15 ± 8.0[a] (0-686)	12 ± 3.3[a] (0-256)	24 ± 10.0[a] (0-686)	6 ± 1.7[a] (0-69)	5 ± 1.1[a] (0.2-40)	5 ± 1.2[a] (0-69)	18 ± 6.9[a] (0-686)
Calcium (mg)	821± 35.8[a] (117-2876)	849 ± 55.0[a] (117-2876)	794 ± 46.6[a] (130-2690)	979 ± 65.5[a] (143-2876)	800 ± 45.3[a] (199-1658)	631 ± 53.7[a] (117-2017)	816 ± 55.5[a] (176-2876)	824 ± 47.1[a] (117-2748)
Iron (mg)	13 ± 0.6[a] (4-68)	12 ± 0.6[a] (4-41)	13 ± 0.9[a] (4-68)	15 ± 1.1[ab] (4-68)	12 ± 0.8[b] (4-31)	9 ± 0.6[a] (4-22)	11 ± 0.6[a] (3.77-23)	14 ± 0.9[a] (4-68)
Phosphorus (mg)	1153 ± 49.4[a] (156-4642)	1153 ± 72.3[a] (217-4642)	1154 ± 68.0[a] (156-3502)	1418 ± 91.2[b] (156-4642)	1121 ± 70.6[b] (312-3195)	835 ± 58.7[a] (217-2154)	1174 ± 78.9[a] (279-4642)	1139 ± 63.6[a] (156-3547)
Potassium (mg)	2917 ± 143.0[a] (165-13864)	2958 ± 199.6[a] (641-13864)	2880 ± 205.2[a] (165-13706)	3677 ± 294.0[b] (165-13864)	2763 ± 126.9[b] (1096-5501)	2057 ± 142.1[a] (345-4412)	2674 ± 178.7[a] (345-9259)	3086 ±207.0[a] (165-13864)
Sodium (mg)	2910 ± 242.2[a] (176-29593)	2997 ± 408.0[a] (621-29593)	2829 ± 273.6[a] (176-14575)	3982 ± 520[b] (344-29593)	2267 ± 281.4[a] (723-14575)	2057 ± 159.5[a] (176-6051)	3418 ± 501.7[a] (176-29593)	2559 ± 214.2[a] (588-14575)
Zinc (mg)	7 ± 0.4[a] (1-33)	7 ± 0.5[a] (2-27)	7 ± 0.5[a] (1-33)	8 ± 0.5[a] (1-27)	8 ± 0.9[b] (3-33)	5 ± 0.4[a] (2-19)	6 ± 0.3[a] (2-19)	8 ± 0.5[a] (1-33)
Caffeine (mg)	14 ± 2.1[a] (0-142)	15 ± 3.4[a] (0-137)	12 ± 2.4[a] (0-142)	17 ± 3.4[a] (0-137)	12 ± 4.1[a] (0-142)	11 ± 3.4[a] (0-137)	15 ± 3.3[a] (0-137)	13 ± 2.7[a] (0-142)

values with a different superscript are significantly different
*arithmatic mean ± standard error
** Range

Table 3: Nutrient Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (Arithmetic Mean)
(continued)

Year 2								
		Gender		Region			SFP	
Nutrient	Overall Total n=185	Males n=91	Females n=94	Southeast n=74	Carib n=49	North n=63	Yes n=78	No n=108
Energy (kcal)	1847 ± 48.5*[a] (160-6351)	1902 ± 81.8[a] (469-6351)	1792 ± 53.3[a] (160-3186)	1994 ± 52.9[c] (1068-3470)	1625 ± 81.4[a] (469-3246)	1848 ± 108.3[b] (160-6351)	1810 ± 70.4[a] (160-3509)	1872 ± 66.4[a] (469-6351)
Protein (g)	59 ± 2.3[a] (4-271)	63 ± 3.9[a] (18-271)	56 ± 2.2[a] (4-149)	63 ± 2.5[a] (18-149)	51 ± 3.1[a] (6-136)	62 ± 5.3[a] (4-271)	61 ± 3.6[a] (4-244)	58 ± 2.8[a] (18-271)
Fiber (g)	16 ± 0.8[a] (1-83)	15 ± 0.9[a] (1-61)	18 ± 1.2[a] (2-83)	16 ± 0.8[b] (5-37)	16 ± 1.4[a] (1-54)	17 ± 1.7[b] (3-83)	15 ± 1.1[a] (2-83)	17 ± 1.0[a] (1-61)
Fat (g)	62 ±2.2[a] (2-237)	67 ± 3.8[a] (13-237)	57 ± 2.3[a] (2-111)	66 ± 2.9[a] (21-149)	56 ± 4.2[a] (11-124)	62 ± 4.6[a] (2-237)	61 ± 3.2[a] (2-142)	62 ± 3.1[a] (11-237)
Vitamin A (IU)	2997 ± 227.8[a] (81-23465)	3005 ± 351.6[a] (81-23258)	2990 ± 293.7[a] (153-23465)	3247 ± 385.8[a] (153-23465)	3198 ± 382.4[a] (132-10984)	2552 ± 398.7[a] (81-23258)	2290 ± 201.6[a] (81-9917)	3502 ± 355.7[a] (132-23465)
Thiamin (mg)	1 ± 0.0[a] (0.3-4)	1 ± 0.1[a] (0.4-4)	1 ± 0.0[a] (0.3-3)	1 ± 0.1[a] (0.5-3)	1 ± 0.1[a] (0.3-2)	1 ± 0.1[a] (0.3-4)	1 ± 0.1[a] (0.3-3)	1 ± 0.1[a] (0.4-4)
Riboflavin (mg)	1 ± 0.0[a] (0.2-5)	1 ± 0.1[a] (0.3-5)	1 ± 0.1[a] (0.2-3)	1 ± 0.1[a] (0.4-3)	1 ± 0.1[a] (0.2-3)	1 ± 0.1[a] (0.2-5)	1 ± 0.1[a] (0.2-3)	1 ± 0.1[a] (0.3-5)
Niacin (mg)	16 ± 0.6[a] (2-75)	16 ± 1.0[a] (4-75)	16 ± 0.7[a] (2-36)	18 ± 0.8[a] (7-38)	14 ± 0.9[a] (3-32)	15 ± 1.3[a] (2-75)	16 ± 0.8[a] (2-38)	16 ± 0.9[a] (4-75)
Vitamin B6 (mg)	1 ± 0.1[a] (0-5)	1 ± 0.1[a] (0.1-5)	1 ± 0.1[a] (0-3)	1 ± 0.1[a] (0.3-3)	1 ± 0.1[b] (0-4)	1 ± 0.1[a] (0.1-5)	1 ± 0.1[a] (0-3)	1 ± 0.1[a] (0.3-5)
Vitamin B12 (mcg)	3 ± 0.2[a] (0-24)	3 ± 0.3[a] (0.1-24)	2 ± 0.2[a] (0-16)	2.69-0.26[a] (0.13-15.79)	2 ± 0.3[a] (0-8)	3 ± 0.5[a] (0-24)	3 ± 0.4[a] (0-24)	3 ± 0.2[a] (0.1-19)

values with a different superscript are significantly different
*arithmatic mean ± standard error
** Range

Table 3: Nutrient Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (Arithmetic Mean) (continued)

Year 2								
		Gender		Region			SFP	
Nutrient	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
	n=185	n=91	n=94	n=74	n=49	n=63	n=78	n=108
Vitamin C (mg)	163 ± 12.2[a] (2-989)	155 ± 15.4[a] (2-989)	172 ± 19[a] (5-975)	165 ± 15.7[a] (5-782)	180 ± 29.5[a] (3-975)	149 ± 20.6[a] (2-989)	122 ± 13.0[a] (2-683)	193 ± 18.1[a] (3-989)
Vitamin E (mg)	6 ± 0.3[a] (1-34)	6 ± 0.5[a] (0.7-34)	6 ± 0.4[a] (0.9-20)	7 ± 0.5[a] (0.7-22)	5 ± 0.5[a] (0.9-16)	6 ± 0.6[a] (1-34)	6 ± 0.4[a] (1-16)	7 ± 0.5[a] (1-34)
Folate (mcg)	303 ± 11.3[a] (41-994)	304 ± 16.7[a] (83-994)	302 ± 15.4[a] (41-837)	358 ± 16.0[b] (127-837)	249 ± 17.8[a] (63-583)	280 ± 21.8[a] (41-994)	307 ± 17.8[a] (58-787)	299 ± 14.7[a] (41-994)
Vitamin K (mcg)	8 ± 1.6[a] (0- 254)	10 ± 3.2[a] (0-254)	6 ± 0.9[a] (0-59)	6 ± 0.9[a] (0-45)	6 ± 1.6[a] (0-69)	12 ± 4.7[a] (0-254)	6 ± 1.5[a] (0-82)	9 ± 2.5[a] (0-254)
Calcium (mg)	648 ± 25.2[a] (32-2176)	662 ± 39.6[a] (32-2176)	634 ± 31.7[a] (72-1534)	645 ± 39.3[a] (94-1618)	616 ± 41.8[a] (32-1353)	676 ± 49.0[a] (72-2176)	620 ± 36.7[a] (72-1353)	668 ± 34.5[a] (32-2176)
Iron (mg)	11 ± 0.3[a] (1-29)	11 ± 0.5[a] (3-29)	11 ± 0.4[a] (1-25)	13 ± 0.5[b] (5-29)	9 ± 0.5[a] (2-18)	10 ± 0.6[a] (1-28)	11 ± 0.5[a] (1-24)	11 ± 0.5[a] (3-29)
Phosphorus (mg)	897 ± 33.4[a] (46-3906)	924 ± 56.2[a] (221-3906)	870 ± 36.9[a] (46-2213)	950 ± 43.6[a] (268-2213)	781 ± 48.3[a] (70-1525)	924 ± 74.2[a] (46-3906)	928 ± 53.2[a] (46-2992)	874 ± 42.8[a] (221-3906)
Potassium (mg)	2358 ± 89.6[a] (110-9887)	2359 ± 142.7[a] (452- 9887)	2356 ± 110.4[a] (110-5953)	2532 ± 122.4[ab]	2400 ± 185.4[b] (110-5953)	2123 ± 166.2[a] (218-9887)	2144 ± 108.4[a] (110-5021)	2510 ± 131.1[a] (459-9887)
Sodium (mg)	1974 ± 128.7[a] (90-16879)	2105 ± 232.1[a] (90-16879)	1848 ± 117.1[a] (242- 9039)	2050 ± 143.7[a] (587-9039)	1511 ± 104.9[a] (90-3773)	2247 ± 35.6[a] (242-16879)	2121 ± 240.8[a] (242-16879)	1869 ± 138.6[a] (90-14076)
Zinc (mg)	6 ± 0.2[a] (0.5-19)	6 ± 0.3[a] (1-19)	6 ± 0.2[a] (0.5-11)	6 ± 0.3[a] (1-11)	5 ± 0.3[a] (0.5-13)	6 ± 0.4[a] (0.5-19)	6 ± 0.3[a] (0.5-15)	6 ± 0.3[a] (1-19)
Caffeine (mg)	10 ± 1.8[a] (0-142)	12 ± 2.9[a] (0-142)	9 ± 2.1[a] (0-137)	7± 1.8[a] (0-74)	13 ± 3.3[a] (0-137)	12 ± 4.0[a] (0-142)	13 ± 3.3[a] (0-142)	8 ± 1.8[a] (0-137)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 4: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Intake (Arithmetic Mean)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Energy	125 ± 5.4*[a] (32-604)**	116 ± 6.5[a] (42-478)	133 ± 8.4[a] (32-604)	154 ± 11.0[a] (45-604)	111 ± 6.0[a] (56-283)	99 ± 5.2[a] (32-243)	112 ± 5.9[a] (32-371)	134 ± 8.1[a] (42-604)
Protein	213 ± 10.3[a] (46-864)	213 ± 14.7[a] (62-864)	212 ± 14.6[a] (46-780)	263 ± 18.8[b] (46-864)	207 ± 18.4[b] (71-735)	151 ± 10.0[a] (51-347)	204 ± 14.2[a] (51-864)	218 ± 14.5[a] (46-781)
Fiber	82 ± 5.4[a] (5-538)	77 ± 6.9[a] (13-488)	86 ± 8.4[a] (5-538)	109 ± 11.3[b] (7-538)	76 ± 5.7[b] (19-190)	51 ± 4.7[a] (5-209)	72 ± 5.8[a] (5-280)	88 ± 8.3[a] (7-538)
Vitamin A	217 ± 24.5[a] (10-2178)	209 ± 35.2[a] (20-2178)	224 ± 34.2[a] (10-2013)	324 ± 53.9[b] (23-2178)	173 ± 26.2[a] (52-1120)	114 ± 10.6[a] (10-348)	186 ± 30.8[a] (10-1994)	238 ± 35.5 (20-2178)
Thiamin	159 ± 6.3[a] (32- 724)	162 ± 8.1[a] (60-470)	157 ± 9.5[a] (32-724)	189 ± 11.8[a] (48-724)	147 ± 8.5[a] (63-364)	130 ± 8.5[a] (32-341)	147 ± 7.7[a] (60-341)	167 ± 9.1[a] (32-724)
Riboflavin	179 ± 6.6[a] (34-648)	180 ± 9.6[a] (43-592)	177 ± 9.2[a] (34- 648)	201 ± 12.2[a] (39-648)	190 ± 8.7[b] (74-384)	140 ± 9.5[a] (34-369)	167 ± 9.4[a] (43-543)	187 ± 9.1[a] (34-648)
Niacin	150 ± 7.9[a] (30-1020)	154 ± 12.8[a] (37-1020)	146 ± 9.6[a] (30-590)	186 ± 16.2[a] (46-1020)	138 ± 9.3[a] (30-380)	112 ± 7.9[a] (37-313)	142 ± 8.6[a] (37-361)	155 ± 12.0[a] (30- 1020)
Vitamin B6	149 ± 8.5[a] (7-788)	150 ± 11.1[a] (20-583)	149 ± 12.8[a] (7-788)	198 ± 16.7[b] (7-788)	144 ± 10.8[b] (41-370)	90 ± 7.3[a] (20-241)	133 ± 9.9[a] (20-475)	161 ± 12.6[a] (7-788)
Vitamin B12	193 ± 17.3[a] (6-2332)	195 ± 27.9[a] (8-2332)	192 ± 21.1[a] (6-1084)	261 ± 36.6[a] (11-2332)	176 ± 22.9[a] (16-1084)	120 ± 13.0[a] (6-446)	227 ± 36.8[a] (6-2332)	170 ± 143[a] (8-1084)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 4: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Intake (Arithmetic Mean) (continued)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Vitamin C	697 ± 59.7[a] (4-5918)	817 ± 103.8[b] (13-5918)	584 ± 61.0[a] (4-3143)	953 ± 121.2[ab] (13-5918)	593 ± 84.8[a] (23-2215)	449 ± 54.2[a] (4-1795)	664 ± 97.9[a] (4-5918)	719 ± 75.3[a] (13-4768)
Vitamin E	65 ± 3.8[a] (2-356)	68 ± 5.8[a] (9-356)	62 ± 5.1[a] (2-353)	83 ± 7.6[a] (2-356)	59 ± 4.5[a] (12-143)	46 ± 4.3[a] (5-145)	59 ± 4.7[a] (5-243)	69 ± 5.6[a] (2-356)
Folate	114 ± 5.4[a] (24-629)	115 ± 6.4[a] (32-354)	114 ± 8.6[a] (24-629)	133 ± 10.3[a] (30-629)	114 ± 8.5[a] (33-291)	91 ± 6.6[a] (24-295)	104 ± 6.3[a] (30-295)	122 ± 7.9[a] (24- 629)
Vitamin K	22 ± 7.0[a] (0-1144)	25 ± 13.4[a] (0-1144)	19 ± 5.5[a] (0-427)	40 ± 16.6[a] (0-1144)	9 ± 2.8[a] (0-114)	9 ± 1.8[a] (0.3-66)	9 ± 2.0[a] (0-114)	31 ± 11.4[a] (0-1144)
Calcium	64 ± 2.8[a] (9-221)	66 ± 4.2[a] (9-221)	61 ± 3.6[a] (10-207)	75 ± 5.0[a] (11-221)	62 ± 3.5[a] (15-128)	49 ± 4.2[a] (9-155)	63 ± 4.2[a] (14-221)	63 ± 3.6[a] (9-211)
Iron	157 ± 7.2[a] (45-852)	154 ± 7.9[a] (55-506)	159 ± 11.9[a] (45-852)	189 ± 14.2[b] (47-852)	152 ± 10.2[b] (45-385)	118 ± 7.0[a] (55-280)	139 ± 7.0[a] (47-286)	168 ± 11.0[a] (45-852)
Phosphorus	92 ± 4.0[a] (12-371)	92 ± 5.8[a] (17-371)	92 ± 5.4[a] (13-280)	113 ± 7.3[b] (12-371)	90 ± 5.7[b] (25-256)	67 ± 4.7[a] (21-172)	94 ± 6.3[a] (22-371)	96 ± 5.5[a] (16-284)
Potassium	65 ± 3.2[a] (4-308)	66 ± 4.4[a] (14-308)	64 ± 4.6[a] (4-305)	82 ± 6.5[b] (4-308)	61 ± 2.8[b] (24-122)	46 ± 3.2[a] (8-98)	59 ± 4.0[a] (7.7-206)	69 ± 4.6[a] (4-308)
Sodium	194 ± 16.1[a] (12-1973)	200 ± 27.2[a] (41-1973)	189 ± 18.2[a] (12-972)	265 ± 34.7[b] (23-1973)	151 ± 18.8[a] (48-972)	137 ± 10.6[a] (12-403)	228 ± 33.4[a] (12-1973)	171 ± 14.3[a] (39-972)
Zinc	91 ± 4.5[a] (15-409)	89 ± 5.9[a] (20-338)	93 ± 6.6[a] (15-409)	102 ± 6.7[a] (15-336)	104 ± 10.6[b] (40-409)	66 ± 5.1[a] (20-233)	80 ± 4.4[a] (20-233)	98 ± 6.8[a] (15-409)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 4: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Intake (Arithmetic Mean) (continued)

Year 2								
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=94	Southeast n=73	Carib n=49	North n=63	Yes n=77	No n=108
Energy	109 ± 2.8*[a] (10-353)**	106 ± 4.5[a] (26-353)	112 ± 3.3[a] (10-199)	117 ± 3.2[a] (66-193)	96 ± 4.8[a] (26-180)	109 ± 6.2[a] (10- 353)	108 ± 4.2[a] (10-199)	110 ± 3.8[a] (26-353)
Protein	174 ± 6.6[a] (12-798)	184 ± 11.6[a] (53-798)	165 ± 6.6[a] (12-438)	185 ± 7.4[a] (53-438)	149 ± 9.3[a] (18-400)	181 ± 15.7[a] (12-798)	180 ± 10.7[a] (12-717)	170 ± 8.5[a] (52-798)
Fiber	58 ± 2.8[a] (4-317)	48 ± 2.9[a] (4-198)	68 ± 4.6[a] (7-317)	57 ± 3.0[a] (15-144)	58 ± 5.3[b] (4-207)	61 ± 6.4[a] (12-317)	56 ± 4.4[a] (7-317)	60 ± 3.7[a] (4-207)
Vitamin A	150 ± 11.4[a] (4-1174)	150 ± 17.6[a] (4-1164)	150 ± 14.7[a] (8-1174)	163 ± 19.3[a] (8-1174)	160 ± 19.1[a] (7-550)	128 ± 20.0[a] (4-1164)	115 ± 10.1[a] (4-496)	175 ± 17.8[a] (7-1174)
Thiamin	144 ± 4.5[a] (33-436)	149 ± 7.1[a] (40-436)	140 ± 5.5[a] (33-281)	162 ± 6.7[a] (58-339)	122 ± 6.6[a] (34-259)	141 ± 8.7[a] (33-436)	146 ± 7.0[a] (33-339)	143 ± 5.9[a] (40-436)
Riboflavin	158 ± 5.4[a] (17-609)	160 ± 8.8[a] (34-609)	157 ± 6.3[a] (17- 366)	161 ± 7.0[a] (49-303)	155 ± 10.1[a] (24-366)	158 ± 11.1[a] (17-609)	150 ± 7.5[a] (17-353)	164 ± 7.5[a] (34-609)
Niacin	133 ± 5.0[a] (15-626)	135 ± 8.3[a] (37-626)	130 ± 5.7[a] (15-298)	149 ± 6.3[a] (55-318)	118 ± 7.9[a] (21-266)	126 ± 10.9[a] (15-626)	131 ± 6.6[a] (15-328)	134 ± 7.2[a] (37-626)
Vitamin B6	116 ± 5.5[a] (3-480)	119 ± 9.0[a] (8-480)	114 ± 6.4[a] (3-321)	115 ± 6.4[b] (32-277)	131 ± 12.8[b] (3-370)	106 ± 10.2[a] (8-480)	107 ± 7.2[a] (3-328)	123 ± 7.8[a] (32-480)
Vitamin B12	144 ± 11.2[a] (2-1308)	159 ± 18.8[a] (7-1308)	128 ± 12.3[a] (2-877)	150 ± 14.5[a] (7-877)	126 ± 14.4[a] (3-433)	151 ± 26.1[a] (2-1308)	146 ± 20.1[a] (2-1308)	142 ± 12.3[a] (3-1028)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 4: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Intake (Arithmetic Mean) (continued)

Year 2								
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=94	Southeast n=73	Carib n=49	North n=63	Yes n=77	No n=108
Vitamin C	363 ± 27.0[a] (4-2199)	344 ± 34.3[a] (4- 2199)	382 ± 41.6[a] (12-2168)	366 ± 34.9[a] (12-1738)	400 ± 65.6[a] (6-2168)	332 ± 45.8[a] (4- 2199)	270 ± 28.9[a] (4-1518)	430 ± 40.3[a] (6-2787)
Vitamin E	57 ± 2.9[a] (7-311)	59 ± 4.7[a] (7-311)	56 ± 3.5[a] (8-185)	63 ± 4.6[a] (7-199)	49 ± 4.6[a] (8-149)	57 ± 5.7[a] (8-311)	51 ± 3.4[a] (7-149)	62 ± 4.3[a] (8-312)
Folate	101 ± 3.8[a] (14-331)	101 ± 5.6[a] (28- 331)	101 ± 5.1[a] (14-279)	119 ± 5.4[b] (42-279)	83 ± 5.9[a] (21-194)	93 ± 7.3[a] (14-331)	102 ± 5.9[a] (19-262)	100 ± 4.9[a] (14-331)
Vitamin K	13 ± 2.7[a] (0-424)	17 ± 5.3[a] (0-424)	9 ± 1.5[a] (0-98)	9 ± 1.5[a] (0-76)	10 ± 2.6[a] (0-115)	20 ± 7.8[a] (0-424)	10 ± 2.4[a] (0-137)	15 ± 4.2[a] (0-424)
Calcium	50 ± 1.9[a] (2-167)	51 ± 3.0[a] (2-167)	49 ± 2.4[a] (6-118)	50 ± 3.0[a] (7- 125)	47 ± 3.2[a] (2-104)	52 ± 3.8[a] (6-167)	48 ± 2.8[a] (6-104)	51 ± 2.7[a] (2-167)
Iron	137 ± 4.2[a] (18-361)	139 ± 6.6[a] (44-361)	135 ± 5.2[a] (18-318)	159 ± 6.8[b] (67-361)	116 ± 6.2[a] (27-230)	128 ± 7.1[a] (18-355)	136 ± 5.9[a] (18-300)	138 ± 5.8[a] (44-361)
Phosphorus	72 ± 2.7[a] (4- 312)	74 ± 4.5[a] (18-312)	70 ± 2.9[a] (4-177)	76 ± 3.5[a] (21-177)	62 ± 3.9[a] (6-122)	74 ± 5[a] (4-312)	74 ± 4.3[a] (4-239)	70 ± 3.4[a] (18-312)
Potassium	52 ± 2.0[a] (2-220)	52 ± 3.3[a] (10-220)	52 ± 2.5[a] (2-132)	56 ± 2.7[ab] (11-128)	53 ± 4.1[b] (2-132)	74 ± 5.9[a] (4-220)	48 ± 2.4[a] (2-112)	56 ± 2.9[a] (10-220)
Sodium	132 ± 8.6[a] (6-1125)	140 ± 15.5[a] (6-1125)	123 ± 7.8[a] (16-603)	137 ± 9.6[a] (39-603)	101 ± 7.0[a] (6-252)	47 ± 3.7[a] (5-1125)	141 ± 16.1[a] (16-1125)	125 ± 9.2[a] (6-938)
Zinc	74 ± 2.5[a] (6-240)	75 ± 4.0[a] (13-240)	73 ± 2.9[a] (6-137)	78 ± 3.3[a] (17-138)	66 ± 4.2[a] (7-156)	75 ± 5.1[a] (6-240)	74 ± 3.7[a] (6-184)	74 ± 3.3[a] (17-240)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 5: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Intake (Least Square Mean)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Energy	125 ± 5.4*[a] (32-604)**	116 ± 6.1[a] (42-478)	133 ± 6.0[a] (32-604)	154 ± 6.4[a] (45-604)	111 ± 7.9[a] (56-283)	99 ± 7.3[a] (32-243)	112 ± 6.7[a] (32-371)	134 ± 5.6[a] (42-604)
Protein	213 ± 10.3[a] (46-864)	213 ± 12.4[a] (62-864)	212 ± 12.2[a] (46-780)	263 ± 12.9[b] (46-864)	207 ± 16.1[b] (71-735)	151 ± 14.8[a] (51-347)	204 ± 13.6[a] (51-864)	218 ± 11.3[a] (46-781)
Fiber	82 ± 5.4[a] (5-538)	79 ± 6.1[a] (13-488)	85 ± 6.1[a] (5-538)	109 ± 6.5[b] (7-538)	76 ± 8.1[b] (19-190)	51 ± 7.4[a] (5-209)	72 ± 6.8[a] (5-280)	88 ± 5.6[a] (7-538)
Vitamin A	217 ± 24.5[a] (10-2178)	208 ± 27.3[a] (20-2178)	225 ± 27.0[a] (10-2013)	324 ± 28.9[b] (23-2178)	173 ± 35.8[a] (52-1120)	114 ± 33.0[a] (10-348)	186 ± 29.8[a] (10-1994)	238 ± 24.8[a] (20-2178)
Thiamin	159 ± 6.3[a] (32- 724)	162 ± 7.8[a] (60-470)	155 ± 7.7[a] (32-724)	189 ± 8.2[a] (48-724)	147 ± 10.1[a] (63-364)	130 ± 9.3[a] (32-341)	147 ± 8.5[a] (60-341)	167 ± 7.1[a] (32-724)
Riboflavin	179 ± 6.6[a] (34-648)	181 ± 8.6[a] (43-592)	177 ± 8.5[a] (34- 648)	201 ± 9.2[a] (39-648)	190 ± 11.4[b] (74-384)	140 ± 10.5[a] (34-369)	167 ± 9.4[a] (43-543)	187 ± 7.8[a] (34-648)
Niacin	150 ± 7.9[a] (30-1020)	155 ± 9.4[a] (37-1020)	145 ± 9.3[a] (30-590)	186 ± 10.0[a] (46-1020)	138 ± 12.4[a] (30-380)	112 ± 11.4[a] (37-313)	142 ± 10.4[a] (37-361)	155 ± 8.6[a] (30- 1020)
Vitamin B6	149 ± 8.5[a] (7-788)	151 ± 10.2[a] (20-583)	148 ± 10.1[a] (7-788)	198 ± 10.5[b] (7-788)	144 ± 13.0[b] (41-370)	90 ± 12.0[a] (20-241)	133 ± 11.2[a] (20-475)	161 ± 9.3[a] (7-788)
Vitamin B12	193 ± 17.3[a] (6-2332)	194 ± 20.7[a] (8-2332)	193 ± 20.5[a] (6-1084)	261 ± 22.2[a] (11-2332)	176 ± 27.6[a] (16-1084)	120 ± 25.4[a] (6-446)	227 ± 22.7[a] (6-2332)	170 ± 18.9[a] (8-1084)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

Table 5: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Intake (Least Square Mean) (continued)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Vitamin C	697 ± 59.7[a] (4-5918)	832 ± 65.3[b] (13-5918)	564 ± 64.6[a] (4-3143)	953 ± 70.1[ab] (13-5918)	593 ± 87.0[a] (23-2215)	449 ± 80.1[a] (4-1795)	664 ± 72.4[a] (4-5918)	719 ± 60.2[a] (13-4768)
Vitamin E	65 ± 3.8[a] (2-356)	69 ± 4.8[a] (9-356)	61 ± 4.8[a] (2-353)	83 ± 7.6[a] (2-356)	59 ± 6.4[a] (12-143)	46 ± 5.9[a] (5-145)	59 ± 5.3[a] (5-243)	69 ± 4.4[a] (2-356)
Folate	114 ± 5.4[a] (24-629)	116 ± 6.6[a] (32-354)	113 ± 6.6[a] (24-629)	133 ± 7.0[a] (30-629)	114 ± 8.7[a] (33-291)	91 ± 8.0[a] (24-295)	104 ± 7.3[a] (30-295)	122 ± 6.0[a] (24- 629)
Vitamin K	22 ± 7.0[a] (0-1144)	24 ± 7.6[a] (0-1144)	19 ± 7.5[a] (0-427)	40 ± 8.2[a] (0-1144)	9 ± 10.1[a] (0-114)	9 ± 9.5[a] (0.3-66)	9 ± 8.4[a] (0-114)	31 ± 6.8[a] (0-1144)
Calcium	64 ± 2.8[a] (9-221)	65 ± 3.4[a] (9-221)	61 ± 3.4[a] (10-207)	75 ± 3.6[a] (11-221)	62 ± 4.5[a] (15-128)	49 ± 4.1[a] (9-155)	63 ± 3.7[a] (14-221)	63 ± 3.1[a] (9-211)
Iron	157 ± 7.2[a] (45-852)	155 ± 8.4[a] (55-506)	158 ± 8.3[a] (45-852)	189 ± 8.7[b] (47-852)	152 ± 10.8[b] (45-385)	118 ± 10.0[a] (55-280)	139 ± 9.1[a] (47-286)	168 ± 7.6[a] (45-852)
Phosphorus	92 ± 4.0[a] (12-371)	92 ± 4.8[a] (17-371)	92 ± 4.8[a] (13-280)	113 ± 5.0[b] (12-371)	90 ± 6.2[b] (25-256)	67 ± 5.7[a] (21-172)	94 ± 5.3[a] (22-371)	91 ± 4.4[a] (16-284)
Potassium	65 ± 3.2[a] (4-308)	66 ± 3.8[a] (14-308)	63 ± 3.7[a] (4-305)	82 ± 3.9[b] (4-308)	61 ± 4.9[b] (24-122)	46 ± 4.5[a] (8-98)	59 ± 4.0[a] (7.7-206)	69 ± 3.4[a] (4-308)
Sodium	194 ± 16.1[a] (12-1973)	200 ± 18.4[a] (41-1973)	188 ± 18.2[a] (12-972)	265 ± 19.5[b] (23-1973)	151 ± 24.2[a] (48-972)	137 ± 22.3[a] (12-403)	228 ± 20.1[a] (12-1973)	171 ± 16.7[a] (39-972)
Zinc	91 ± 4.5[a] (15-409)	89 ± 5.1[a] (20-338)	92 ± 5.1[a] (15-409)	102 ± 5.4[a] (15-336)	104 ± 6.7[b] (40-409)	66 ± 6.2[a] (20-233)	80 ± 5.6[a] (20-233)	98 ± 4.7[a] (15-409)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

Table 5: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Intake (Least Square Mean) (continued)

Year 2								
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=94	Southeast n=73	Carib n=49	North n=63	Yes n=77	No n=108
Energy	109 ± 2.8*[a] (10-353)**	105 ± 6.0[a] (26-353)	112 ± 6.1[a] (10-199)	117 ± 6.5[a] (66-193)	96 ± 8.0[a] (26-180)	109 ± 7.0[a] (10- 353)	108 ± 6.6[a] (10-199)	110 ± 5.6[a] (26-353)
Protein	174 ± 6.6[a] (12-798)	183 ± 12.2[a] (53-798)	166 ± 12.4[a] (12-438)	185 ± 13.3[a] (53-438)	149 ± 16.2[a] (18-400)	181 ± 14.3[a] (12-798)	180 ± 13.5[a] (12-717)	170 ± 11.4[a] (52-798)
Fiber	58 ± 2.8[a] (4-317)	48 ± 6.1[a] (4-198)	69 ± 6.2[a] (7-317)	57 ± 6.7[a] (15-144)	58 ± 8.1[b] (4-207)	60 ± 7.1[a] (12-317)	56 ± 6.7[a] (7-317)	60 ± 5.7[a] (4-207)
Vitamin A	150 ± 11.4[a] (4-1174)	148 ± 27.0[a] (4-1164)	1503± 27.4[a] (8-1174)	163 ± 29.7[a] (8-1174)	160 ± 36.2[a] (7-550)	128 ± 31.9[a] (4-1164)	115 ± 29.6[a] (4-496)	175 ± 25.0[a] (7-1174)
Thiamin	144 ± 4.5[a] (33-436)	148 ± 7.7[a] (40-436)	141 ± 7.8[a] (33-281)	162 ± 8.4[a] (58-339)	122 ± 10.2[a] (34-259)	141 ± 9.0[a] (33-436)	146 ± 8.5[a] (33-339)	143 ± 7.1[a] (40-436)
Riboflavin	158 ± 5.4[a] (17-609)	158 ± 8.5[a] (34-609)	158 ± 8.6[a] (17- 366)	161 ± 9.4[a] (49-303)	155 ± 11.5[a] (24-366)	158 ± 10.1[a] (17-609)	150 ± 9.3[a] (17-353)	164 ± 7.9[a] (34-609)
Niacin	133 ± 5.0[a] (15-626)	134 ± 9.3[a] (37-626)	131 ± 9.5[a] (15-298)	149 ± 10.2[a] (55-318)	118 ± 12.5[a] (21-266)	126 ± 11.0[a] (15-626)	131 ± 10.3[a] (15-328)	134 ± 8.7[a] (37-626)
Vitamin B6	116 ± 5.5[a] (3-480)	117 ± 10.1[a] (8-480)	116± 10.3[a] (3-321)	115 ± 10.8[b] (32-277)	131 ± 13.2[b] (3-370)	106 ± 11.6[a] (8-480)	107 ± 11.1[a] (3-328)	123 ± 9.4[a] (32-480)
Vitamin B12	144 ± 11.2[a] (2-1308)	156 ± 20.5[a] (7-1308)	131 ± 20.9[a] (2-877)	150 ± 22.8[a] (7-877)	126 ± 27.8[a] (3-433)	151 ± 24.5[a] (2-1308)	146 ± 22.6[a] (2-1308)	142 ± 19.1[a] (3-1028)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

Table 5: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Intake (Least Square Mean) (continued)

Year 2								
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=94	Southeast n=73	Carib n=49	North n=63	Yes n=77	No n=108
Vitamin C	363 ± 27.0[a] (4-2199)	340 ± 64.6[a] (4- 2199)	387 ± 65.7[a] (12-2168)	366 ± 72.0[a] (12-1738)	400 ± 87.9[a] (6-2168)	332 ± 77.5[a] (4- 2199)	270 ± 72.0[a] (4-1518)	430 ± 60.8[a] (6-2787)
Vitamin E	57 ± 2.9[a] (7-311)	58 ± 4.8[a] (7-311)	56 ± 4.9[a] (8-185)	63 ± 5.3[a] (7-199)	49 ± 6.4[a] (8-149)	57 ± 5.7[a] (8-311)	51 ± 5.3[a] (7-149)	62 ± 4.4[a] (8-312)
Folate	101 ± 3.8[a] (14-331)	101 ± 6.6[a] (28- 331)	101 ± 6.7[a] (14-279)	119 ± 7.2[b] (42-279)	83 ± 8.8[a] (21-194)	93 ± 7.7[a] (14-331)	102 ± 7.2[a] (19-262)	100 ± 6.1[a] (14-331)
Vitamin K	13 ± 2.7[a] (0-424)	17 ± 7.6[a] (0-424)	9 ± 7.8[a] (0-98)	9 ± 8.5[a] (0-76)	10 ± 10.4[a] (0-115)	20 ± 9.5[a] (0-424)	10 ± 8.6[a] (0-137)	15 ± 7.0[a] (0-424)
Calcium	50 ± 1.9[a] (2-167)	51 ± 3.4[a] (2-167)	49 ± 3.4[a] (6-118)	50 ± 3.7[a] (7- 125)	47 ± 4.5[a] (2-104)	52 ± 4.0[a] (6-167)	48 ± 3.7[a] (6-104)	51 ± 3.1[a] (2-167)
Iron	137 ± 4.2[a] (18-361)	138 ± 8.3[a] (44-361)	135 ± 8.4[a] (18-318)	159 ± 9.0[b] (67-361)	116 ± 10.9[a] (27-230)	128 ± 9.6[a] (18-355)	136 ± 9.1[a] (18-300)	138 ± 7.7[a] (44-361)
Phosphorus	72 ± 2.7[a] (4- 312)	73 ± 4.8[a] (18-312)	70 ± 4.8[a] (4-177)	76 ± 5.1[a] (21-177)	62 ± 6.3[a] (6-122)	74 ± 5.5[a] (4-312)	74 ± 5.3[a] (4-239)	70 ± 4.4[a] (18-312)
Potassium	52 ± 2.0[a] (2-220)	52 ± 3.7[a] (10-220)	53 ± 3.8[a] (2-132)	56 ± 4.0[ab] (11-128)	53 ± 4.9[b] (2-132)	47 ± 4.4[a] (4-220)	48 ± 4.1[a] (2-112)	56 ± 3.5[a] (10-220)
Sodium	132 ± 8.6[a] (6-1125)	138 ± 18.2[a] (6-1125)	125 ± 18.5[a] (16-603)	137 ± 20.1[a] (39-603)	101 ± 24.5[a] (6-252)	150 ± 21.6[a] (5-1125)	141 ± 20.0[a] (16-1125)	125 ± 16.9[a] (6-938)
Zinc	74 ± 2.5[a] (6-240)	75 ± 5.1[a] (13-240)	73 ± 5.2[a] (6-137)	78 ± 5.6[a] (17-138)	66 ± 6.8[a] (7-156)	75 ± 6.0[a] (6-240)	74 ± 5.6[a] (6-184)	74 ± 4.7[a] (17-240)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

Table 6: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Value (Arithmetic Mean)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Energy	115 ± 5.0*[a] (29-555)**	106 ± 6.0[a] (39-436)	123 ± 7.7[a] (29-618)	142 ± 10.2[a] (41-555)	102 ± 5.5[a] (52-260)	91 ± 4.8[a] (29-223)	103 ± 5.4[a] (29-339)	123 ± 7.5[a] (39-555)
Protein	256 ± 12.5[a] (56-1038)	256 ± 17.9[a] (74-1038)	255 ± 17.5[a] (56-1079)	318 ± 22.9[bc] (56-1038)	249 ± 22.1[c] (86-883)	182 ± 12.1[ab] (61-417)	245 ± 17.0[a] (61-1038)	263 ± 17.6[a] (56-938)
Fiber	156 ± 10.3[a] (9-1000)	152 ± 13.6[a] (25-958)	160 ± 15.6[a] (9-1000)	209 ± 21.7[ab] (12-1000)	146 ± 11.0[b] (38-353)	97 ± 8.9[a] (9-388)	138 ± 11.2[a] (9-549)	169 ± 15.7[a] (12-1000)
Fat	94 ± 5.4[a] (10-584)	83 ± 6.5[a] (19-442)	105 ± 8.3[b] (10-729)	116 ± 11.1[ac] (10-584)	82 ± 5.9[c] (25-219)	77 ± 6.1[bc] (10-277)	81 ± 6.2[a] (10-331)	104 ± 7.9[a] (22-584)
Vitamin A	413 ± 58.5[a] (18-8416)	318 ± 48.2[a] (24-2610)	501 ± 103.5[a] (18-2413)	623 ± 130.0[a] (39-8416)	221 ± 31.6[a] (63-1343)	300 ± 55.8[a] (18-1787)	291 ± 45.2[a] (18-2390)	497 ± 93.3[a] (24-8416)
Thiamin	134 ± 6.6[a] (0.1-470)	162 ± 8.2[a] (60-470)	122 ± 9.1[a] (0.1-762)	155 ± 11.9[a] (0.2-470)	143 ± 9.4[a] (0.3-364)	99 ± 10.3[a] (0.1-341)	132 ± 9.2[a] (0.2-341)	135 ± 9.3[a] (0.1-470)
Riboflavin	134 ± 6.6[a] (0.1- 470)	180 ± 9.6[a] (43-470)	122 ± 9.1[a] (0.1-762)	155 ± 11.9[b] (0.2-470)	143 ± 9.4[c] (0.3-364)	99 ± 10.3[a] (0.1-341)	132 ± 9.2[a] (0.2-543)	135 ± 9.3[a] (0.1- 470)
Niacin	128 ± 8.1[a] (2.1-1020)	154 ± 12.8[a] (37-1020)	115 ± 9.1[a] (2-642)	155 ± 16.3[b] (2-1020)	135 ± 9.8[b] (3-380)	87 ± 9.1[a] (2-313)	130 ± 9.5[a] (2.5-361)	127 ± 12.0[a] (2-1020)
Vitamin B6	125 ± 7.7[a] (0.1-583)	150 ± 11.1[a] (20-583)	111 ± 9.9[a] (0-835)	157 ± 14.7[b] (0-583)	141 ± 11.4[b] (0.1-370)	69 ± 8.0[a] (0.1-241)	122 ± 10.7[a] (0.1-475)	161 ± 12.6[a] (7-788)
Vitamin B12	170 ± 17.7[a] (0.1-2332)	195 ± 27.9[a] (8-2332)	160 ± 21.9[a] (0.1-1084)	229 ± 37.5[ab] (0.1-2332)	172 ± 22.3[a] (0.4-1084)	91 ± 14.0[a] (6-446)	207 ± 37.3[a] (0.4-2332)	144 ± 14.8[a] (0.1-1084)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 6: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Value (Arithmetic Mean) (continued)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Vitamin C	788 ± 75.9[a] (1.1- 7608)	994 ± 136.0[a] (2-7609)	595 ± 68.5[a] (1-4041)	1043 ± 155.3[ab] (1-	753 ± 110.1[a] (8-2848)	485 ± 70.5[a] (1-2308)	787 ± 126.1[a] (1-7608)	789 ± 94.8[a] (1.2-6130)
Vitamin E	89 ± 6.1[a] (0.2-559)	100 ± 9.6[a] (0.8-559)	79 ± 7.6 [a] (0.2-554)	111 ± 12.0[ab] (0.2-559)	90 ± 7.4[a] (1-224)	60 ± 7.1[a] (0.5-227)	85 ± 7.8[a] (0.5-383)	92 ± 8.9[a] (0.2-559)
Folate	117 ± 5.6[a] (25-676)	116 ± 6.5[a] (32-354)	116 ± 9.0[a] (25-634)	136 ± 11[a] (30-676)	115 ± 8.4[a] (33-291)	92 ± 6.7[a] (25-295)	104 ± 6.3[a] (30-295)	125 ± 8.4[a] (25-676)
Vitamin K	129 ± 58.0[a] (0-9248)	67 ± 28.0[a] (0-1961)	187 ± 108.1[a] (0-732)	258 ± 139[a] (0-9248)	20 ± 5.4[a] (0-196)	56 ± 25.4[a] (0.6-1434)	25 ± 5.7[a] (0-263)	197 ± 95.6[a] (0-9248)
Calcium	63 ± 2.8[a] (9-221)	65 ± 4.2[a] (9-221)	62 ± 3.6[a] (10-210)	75 ± 5.0[a] (11-2221)	62 ± 3.5[a] (15-128)	49 ± 4.1[b] (9-155)	63 ± 4.3[a] (14-221)	63 ± 3.6[a] (9-211)
Iron	177 ± 9.9[a] (1.0-1136)	191 ± 12.4[a] (1.2-674)	224 ± 16.4[a] (60-1136)	207 ± 19.1[b] (1-1136)	196 ± 14.7[b] (2-513)	121 ± 11.8[a] (1-374)	170 ± 11.2[a] (1-382)	181 ± 14.9[a] (1-1136)
Phosphorus	270 ± 14.4[a] (43-1550)	251 ± 16.0[a] (43-928)	239 ± 13.8[a] (41-739)	339 ± 28.4[a] (43-1550)	230 ± 13.9[a] (62-639)	213 ± 19.6[a] (52-747)	259 ± 17.7[a] (56-928)	278 ± 21.1[a] (43-1551)
Potassium	428 ± 70.8[a] (26-8911)	285 ± 46.2[a] (33-2467)	152 ± 10.7[b] (14-723)	611 ± 154.3[ab] (43-8911)	182 ± 27.7[a] (56-1197)	398 ± 86.7[b] (26-2752)	274 ± 52.7[a] (26-2467)	535 ± 113.2[a] (12-8911)
Sodium	580 ± 50.6[a] (29-4932)	556 ± 73.0[a] (103-4932)	595 ± 60.3[a] (29-3139)	797 ± 107.6[a] (57-4932)	395 ± 48.5[b] (120-2429)	452 ± 46.7[a] (29-1505)	620 ± 88.4[a] (29-4932)	553 ± 60.2[a] (98-4790)
Zinc	109 ± 6.5[a] (0.6-584)	117 ± 9.3[a] (1-483)	156 ± 11.8[a] (31-584)	116 ± 8.9[a] (0.6-412)	144 ± 15.6[b] (2-584)	70 ± 8.1[a] (1-333)	103 ± 7.3[a] (2-333)	114 ± 9.7[a] (0.6-584)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 6: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Value (Arithmetic Mean) (continued)

Year 2								
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=94	Southeast n=73	Carib n=49	North n=63	Yes n=78	No n=108
Energy	100 ± 2.6*[a] (9-322)**	97 ± 4.2[a] (24-322)	103 ± 3.1[a] (9-183)	107 ± 2.9[a] (61-176)	88 ± 4.4[a] (24-165)	100 ± 5.6[a] (9-322)	99 ± 3.8[a] (9-183)	100 ± 3.5[a] (24-322)
Protein	209 ± 8.0[a] (15-959)	221 ± 63.6[a] (64-959)	198 ± 7.9[a] (15-526)	223 ± 8.9[a] (64-526)	179 ± 11.1[a] (21-481)	218 ± 18.9[a] (15-959)	216 ± 12.9[a] (15-862)	204 ± 10.2[a] (63-959)
Fiber	111 ± 5.3[a] (8-590)	95 ± 5.8[a] (8-388)	127 ± 8.6[a] (12-590)	108 ± 5.6[b] (29-267)	110 ± 10.0[a] (8-385)	115 ± 12.0[ab] (22-590)	105 ± 8.1[a] (12-590)	115 ± 7.0[a] (8-388)
Fat	86 ± 3.0[a] (3-309)	87 ± 5.0[a] (17-309)	84 ± 3.4[a] (3-164)	91 ± 3.8[a] (27-195)	77 ± 5.9[a] (16-164)	85 ± 6.1[a] (3-309)	86 ± 4.3[a] (3-185)	85 ±4.1[a] (16-309)
Vitamin A	330 ± 56.2[a] (5-8684)	382 ± 108.6[a] (5-8684)	280 ± 34.8[a] (9-1517)	317 ± 45.5[a] (9-2080)	311 ± 84.3[a] (8-3977)	360 ± 143.1[a] (5-8684)	240 ± 41.5[a] (5-2524)	395 ± 91.4[a] (8-8684)
Thiamin	130 ± 5.3[a] (0.2-377)	131 ± 7.8[a] (0.2-377)	129 ± 7.3[a] (0.3-286)	155 ± 9.5[a] (0.2-377)	110 ± 8.2[a] (0.2-259)	116 ± 8.0[a] (0.3-264)	123 ± 8.4[a] (0.2-339)	135 ± 6.9[a] (0.2-377)
Riboflavin	130 ± 5.3[a] (0.2-377)	131 ± 7.8[a] (0.2-377)	129 ± 7.3[a] (0.3-286)	155 ± 9.5[a] (0.2-377)	110 ± 8.2[a] (0.2-259)	116± 8.0[a] (0.3-264)	123 ± 8.4[a] (0.2-339)	135 ± 6.9[a] (0.2-377)
Niacin	120 ± 5.0[a] (2-318)	118 ± 7.2[a] (2-317)	123 ± 6.9[a] (3-298)	141 ± 8.2[ab] (5-318)	111 ± 9.1[a] (2-266)	103 ± 8.0[a] (3-318)	113 ± 7.9[a] (2-318)	125 ± 6.4[a] (1.7-318)
Vitamin B6	108 ± 6.0[a] (0.1-428)	106 ± 8.8[a] (0.1-370)	110 ± 8.0[a] (0.2-428)	116 ± 9.0[ab] (32-428)	123 ± 13.7[b] (0.1-370)	87 ± 8.7[a] (0.2-328)	93 ± 8.1[a] (0.1-328)	118 ± 8.3[a] (0.1-428)
Vitamin B12	136 ± 12.4[a] (0.2-1308)	147 ± 20.1[a] (0.2-1308)	126 ± 14.8[a] (0.4-877)	149 ± 14.5[a] (7-1028)	111 ± 15.0[a] (0.4-433)	120 ± 22.4[a] (0.4-1308)	127 ± 21.4[a] (0.2-1308)	143 ± 14.9[a] (0.4-1028)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 6: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Value (Arithmetic Mean) (continued)

Year 2								
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=94	Southeast n=73	Carib n=49	North n=63	Yes n=78	No n=108
Vitamin C	413 ± 32.7[a] (0.8-2787)	367 ± 34.7[a] (2-1569)	457 ± 54.6[a] (0.8-2787)	429 ± 45.7[a] (0.8-2234)	465 ± 84.2[a] (2-2787)	353 ± 46.0[a] (6-1694)	307 ± 38.4[a] (0.8-1952)	488 ± 47.6[a] (2-2787)
Vitamin E	81 ± 4.3[a] (0.6-312)	80 ± 6.3[a] (0.6-312)	81 ± 6.0[a] (2-304)	93 ± 7.8[a] (0.6-312)	71 ± 7.7[a] (2-233)	74 ± 6.5[a] (2-243)	70 ± 5.9[a] (0.6-233)	88 ± 6.1[az] (2-312)
Folate	105 ± 4.3[a] (14-356)	105 ± 6.2[a] (28-356)	105 ± 6.0[a] (14-312)	129 ± 6.9[b] (42-316)	84 ± 5.9[a] (21-194)	95 ± 7.6[a] (14-356)	104 ± 6.0[a] (19-282)	106 ± 6.0[a] (14-356)
Vitamin K	85 ± 52.6[a] (0-9179)	143 ± 106.8[a] (0-9179)	30 ± 5.4[a] (0-239)	27 ± 5.4[a] (0-239)	23 ± 6.2[a] (0-197)	209 ± 160.9[a] (0-9179)	43 ± 12.5[a] (0-643)	114-87.3[a] (0-9179)
Calcium	50 ± 2.0[a] (3-167)	51 ± 3.0[a] (2-167)	49 ± 2.4[a] (6-118)	50 ± 3.0[a] (7-124)	48 ± 3.2[a] (2-104)	52 ± 3.8[a] (6-167)	48 ± 2.8[a] (6-104)	51 ± 2.7[a] (2-167)
Iron	167 ± 7.5[a] (1-808)	165 ± 10.2[a] (1-500)	170 ± 11.0[a] (1.6-808)	208 ± 14.7[b] (2-808)	140 ± 10.4[a] (1-306)	141 ± 9.1[a] (2-294)	153 ± 9.8[a] (2-306)	177 ± 10.6[a] (1-808)
Phosphorus	207 ± 11.6[a] (9-1729)	218 ± 21.1[a] (44-1729)	196 ± 10.2[a] (9-531)	215 ± 13.3[a] (54-787)	172 ± 11.3[a] (14-408)	224 ± 29.0[a] (9-1729)	219 ± 15.6[a] (9-787)	198 ± 16.5[a] (44-1729)
Potassium	276 ± 45.0[a] (6-6428)	321 ± 83[a] (23-6428)	233 ± 36.3[a] (6-1666)	261 ± 49.2[a] (26-2228)	228 ± 50.4[a] (6-1971)	332 ± 112.9[a] (11-6428)	283 ± 53.2[a] (6-2443)	272 ± 67.2[a] (24-6428)
Sodium	383 ± 33.6[a] (15-5083)	422 ± 63.4[a] (15-5082)	346 ± 24.5[a] (40-1507)	375 ± 27.9[a] (121-1507)	287 ± 25.7[a] (15-916)	467 ± 90.3[a] (40-5083)	415 ± 45.7[a] (40-2813)	361 ± 47.5[a] (15-5083)
Zinc	85 ± 4.4[a] (0.5-276)	84 ± 6.6[a] (0.7-263)	87 ± 6.0[a] (0.5-276)	80 ± 8.0[a] (0.5-276)	85 ± 7.0[a] (2-223)	92 ± 7.3[a] (2-263)	66 ± 7.2[a] (0.5-263)	95.8 ± 5.2[a] (2-276)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 7: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Value (Least Square Mean)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Energy	115 ± 5.0*[a] (29-555)**	107 ± 5.6[a] (39-436)	123 ± 5.5[a] (29-618)	141 ± 5.8[a] (41-555)	102 ± 7.3[a] (52-260)	91 ± 6.7[a] (29-223)	103 ± 6.1[a] (29-339)	123 ± 5.1[a] (39-555)
Protein	256 ± 12.5[a] (56-1038)	255 ± 14.9[a] (74-1038)	255 ± 14.7[a] (56-1079)	316 ± 15.5[bc] (56-1038)	249 ± 19.3[c] (86-883)	182 ± 17.8[ab] (61-417)	245 ± 16.3[a] (61-1038)	263 ± 13.6[a] (56-938)
Fiber	156 ± 10.3[a] (9-1000)	154 ± 11.7[a] (25-958)	157 ± 11.5[a] (9-1000)	207 ± 12.3[ab] (12-1000)	146 ± 15.2[b] (38-353)	97 ± 14.0[a] (9-388)	138 ± 12.8[a] (9-549)	169 ± 10.7[a] (12-1000)
Fat	94 ± 5.4[a] (10-584)	84 ± 6.1[a] (19-442)	105 ± 6.1[b] (10-729)	116 ± 6.6[ac] (10-584)	82 ± 8.2[c] (25-219)	77 ± 7.5[bc] (10-277)	81 ± 6.7[a] (10-331)	1043± 5.6[a] (22-584)
Vitamin A	413 ± 58.5[a] (18-8416)	316 ± 81.4[a] (24-2610)	507 ± 80.5[a] (18-2413)	623 ± 88.4[a] (39-8416)	221 ± 109.7[a] (63-1343)	300 ± 101.0[a] (18-1787)	291 ± 89.3[a] (18-2390)	497 ± 74.3[a] (24-8416)
Thiamin	134 ± 6.6[a] (0.1-470)	148 ± 8.5[a] (60-470)	120 ± 8.4[a] (0.1-762)	155 ± 9.1[a] (0.2-470)	143 ± 11.2[a] (0.3-364)	99 ± 10.3[a] (0.1-341)	132 ± 9.5[a] (0.2-341)	135 ± 7.8[a] (0.1-470)
Riboflavin	134 ± 6.6[a] (0.1- 470)	167 ± 9.8[a] (43-470)	139 ± 9.7[a] (0.1-762)	170 ± 10.4[b] (0.2-470)	184 ± 12.9[c] (0.3-364)	105 ± 11.9[a] (0.1-341)	152 ±10.8[a] (0.2-543)	154 ± 9.0[a] (0.1- 470)
Niacin	128 ± 8.1[a] (2.1-1020)	143 ± 9.5[a] (37-1020)	113 ± 9.4[a] (2-642)	155 ± 10.1[b] (2-1020)	135 ± 12.6[b] (3-380)	87 ± 11.6[a] (2-313)	130 ± 10.5[a] (2.5-361)	127 ± 8.7[a] (2-1020)
Vitamin B6	125 ± 7.7[a] (0.1-583)	141 ± 9.8[a] (20-583)	109 ± 9.7[a] (0-835)	157 ± 10.3[b] (0-583)	141 ± 12.7[b] (0.1-370)	69 ± 11.7[a] (0.1-241)	122 ± 10.8[a] (0.1-475)	127 ± 9.0[a] (7-788)
Vitamin B12	170 ± 17.7[a] (0.1-2332)	180 ± 21.8[a] (8-2332)	160 ± 21.5[a] (0.1-1084)	229 ± 23.3[ab] (0.1-2332)	172 ± 28.9[a] (0.4-1084)	91 ± 26.6[a] (6-446)	207 ± 23.8[a] (0.4-2332)	144 ± 19.8[a] (0.1-1084)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

Table 7: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Value (Least Square Mean) (continued)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Vitamin C	788 ± 75.9[a] (1.1- 7608)	1015 ± 81.6[a] (2-7609)	566 ± 80.7[a] (1-4041)	1043 ± 89.2[ab] (1-7609)	753 ± 110.7[a] (8-2848)	485 ± 101.9[a] (1-2308)	787 ± 91.4[a] (1-7608)	789 ± 76.0[a] (1.2-6130)
Vitamin E	89 ± 6.1[a] (0.2-559)	102 ± 7.5[a] (0.8-559)	77 ± 7.4[a] (0.2-554)	111 ± 8.1[ab] (0.2-559)	90 ± 10.0[a] (1-224)	60 ± 9.2[a] (0.5-227)	85 ± 8.3[a] (0.5-383)	92 ± 6.9[a] (0.2-559)
Folate	117 ± 5.6[a] (25-676)	118 ± 7.1[a] (32-354)	115 ± 7.0[a] (25-634)	136 ± 7.5[a] (30-676)	115 ± 9.3[a] (33-291)	92 ± 8.6[a] (25-295)	104 ± 7.8[a] (30-295)	125 ± 6.5[a] (25-676)
Vitamin K	129 ± 58.0[a] (0-9248)	66 ± 78.5[a] (0-1961)	190 ± 76.8[a] (0-732)	258 ± 85.3[a] (0-9248)	20 ± 104.5[a] (0-196)	56 ± 96.9[a] (0.6-1434)	25 ± 87.3[a] (0-263)	197 ± 70.6[a] (0-9248)
Calcium	63 ± 2.8[a] (9-221)	206 ± 44.8[a] (9-221)	311 ± 48.9[a] (10-210)	143 ± 60.7[a] (11-2221)	299 ± 55.8[a] (15-128)	49 ± 4.1[b] (9-155)	209 ± 49.4[a] (14-221)	299 ± 41.0[a] (9-211)
Iron	177 ± 9.9[a] (1-1136)	193 ± 12.5[a] (1-674)	207 ± 13.1[a] (60-1136)	196 ± 16.3[b] (1-1136)	121 ± 15.0[b] (2-513)	121 ± 11.8[a] (1-374)	170 ± 13.7[a] (1-382)	181 ± 11.4[a] (1-1136)
Phosphorus	270 ± 14.4[a] (43-1550)	251 ± 18.6[a] (43-928)	339 ± 19.8[a] (41-739)	230 ± 24.6[a] (43-1550)	213 ± 22.6[a] (62-639)	213 ± 19.6[a] (52-747)	259 ± 20.5[a] (56-928)	278 ± 17.0[a] (43-1551)
Potassium	428 ± 70.8[a] (26-8911)	283 ± 83.8[a] (33-2467)	611 ± 91.5[b] (14-723)	182 ± 113.6[ab] (43-8911)	398 ± 104.5[a] (56-1197)	398 ± 86.7[b] (26-2752)	274 ± 92.4[a] (26-2467)	535 ± 76.8[a] (12-8911)
Sodium	580 ± 50.6[a] (29-4932)	556 ± 61.0[a] (103-4932)	604 ± 60.6[a] (29-3139)	797 ± 65.0[a] (57-4932)	395 ± 80.6[b] (120-2429)	452 ± 74.8[a] (29-1505)	620 ± 67.5[a] (29-4932)	553 ±55.7[a] (98-4790)
Zinc	109 ± 6.5[a] (0.6-584)	119 ± 7.9[a] (1-483)	116 ± 8.3[a] (31-584)	144 ± 10.3[a] (0.6-412)	70.4± 9.5[b] (2-584)	70 ± 8.1[a] (1-333)	103 ± 8.6[a] (2-333)	114 ± 7.1[a] (0.6-584)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

Table 7: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Value (Least Square Mean) (continued)

Year 2								
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=94	Southeast n=73	Carib n=49	North n=63	Yes n=78	No n=108
Energy	100 ± 2.6*[a] (9-322)**	96 ± 5.5[a] (24-322)	103 ± 5.6[a] (9-183)	107 ± 6.0[a] (61-176)	88 ± 7.3[a] (24-165)	100 ± 6.5[a] (9-322)	99 ± 6.1[a] (9-183)	100 ± 5.1[a] (24-322)
Protein	209 ± 8.0[a] (15-959)	220 ± 14.7[a] (64-959)	199 ± 14.9[a] (15-526)	223 ± 16.0[a] (64-526)	179 ± 19.5[a] (21-481)	218 ± 17.2[a] (15-959)	216 ± 16.2[a] (15-862)	204 ± 13.7[a] (63-959)
Fiber	111 ± 5.3[a] (8-590)	95 ± 11.5[a] (8-388)	127 ± 11.7[a] (12-590)	108 ± 12.6[b] (29-267)	110 ± 15.4[a] (8-385)	115 ± 13.6[ab] (22-590)	105 ± 12.7[a] (12-590)	115 ± 10.8[a] (8-388)
Fat	86 ± 3.0[a] (3-309)	87 ± 6.1[a] (17-309)	84 ± 6.2[a] (3-164)	91 ± 6.8[a] (27-195)	78 ± 8.3[a] (16-164)	85 ± 7.3[a] (3-309)	86 ± 6.7[a] (3-185)	85 ± 5.7[a] (16-309)
Vitamin A	330 ± 56.2[a] (5-8684)	372 ± 80.5[a] (5-8684)	287 ± 81.8[a] (9-1517)	317 ± 90.8[a] (9-2080)	311 ± 110.8[a] (8-3977)	360 ± 97.7[a] (5-8684)	240 ± 88.8[a] (5-2524)	395 ± 74.9[a] (8-8684)
Thiamin	130 ± 5.3[a] (0.2-377)	130 ± 8.5[a] (0.2-377)	130 ± 8.5[a] (0.3-286)	155 ± 9.3[a] (0.2-377)	110 ± 11.3[a] (0.2-259)	116 ± 10.0[a] (0.3-264)	123 ± 9.4[a] (0.2-339)	135 ± 7.9[a] (0.2-377)
Riboflavin	130 ± 5.3[a] (0.2-377)	138 ± 9.7[a] (0.2-377)	147 ± 9.9[a] (0.3-286)	158 ± 10.7[a] (0.2-377)	141 ± 13.0[a] (0.2-259)	125 ± 11.5[a] (0.3- 264)	124 ± 10.7[a] (0.2-339)	155 ± 9.0[a] (0.2-377)
Niacin	120 ± 5.0[a] (2-318)	117 ± 9.4[a] (2-317)	123 ± 9.5[a] (3-298)	141 ± 10.4[ab] (5-318)	111 ± 12.7[a] (2-266)	103 ± 11.2[a] (3-318)	113 ± 10.4[a] (2-318)	125 ± 8.8[a] (1.7-318)
Vitamin B6	108 ± 6.0[a] (0.1-428)	105 ± 9.7[a] (0.1-370)	110 ± 9.8[a] (0.2-428)	116 ± 10.5[ab] (32-428)	123 ± 12.9[b] (0.1-370)	87 ± 11.3[a] (0.2-328)	93 ± 10.7[a] (0.1-328)	118 ± 9.0[a] (0.1-428)
Vitamin B12	136 ± 12.4[a] (0.2-1308)	145 ± 21.5[a] (0.2-1308)	128 ± 21.9[a] (0.4-877)	168 ± 23.9[a] (7-1028)	111 ± 29.2[a] (0.4-433)	120 ± 25.8[a] (0.4-1308)	127 ± 23.7[a] (0.2-1308)	143 ± 20.0[a] (0.4-1028)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

Table 7: Nutrient Intake of Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) Expressed as a Percentage of the Dietary Reference Value (Least Square Mean) (continued)

Year 2								
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=94	Southeast n=73	Carib n=49	North n=63	Yes n=78	No n=108
Vitamin C	413 ± 32.7[a] (0.8-2787)	365 ± 80.7[a] (2-1569)	462 ± 82.1[a] (0.8-2787)	429 ± 91.7[a] (0.8-2234)	465 ± 111.9[a] (2-2787)	353 ± 98.7[a] (6-1694)	307 ± 90.8[a] (0.8-1952)	488 ± 76.7[a] (2-2787)
Vitamin E	81 ± 4.3[a] (0.6-312)	80 ± 7.4[a] (0.6-312)	81 ± 7.5[a] (2-304)	93 ± 8.3[a] (0.6-312)	71 ± 10.1[a] (2-233)	74 ± 8.9[a] (2-243)	69 ± 8.2[a] (0.6-233)	88 ± 6.9[a] (2-312)
Folate	105 ± 4.3[a] (14-356)	104 ± 7.1[a] (28-356)	106 ± 7.2[a] (14-312)	129 ± 7.7[b] (42-316)	84 ± 9.4[a] (21-194)	95 ± 8.3[a] (14-356)	104 ± 7.8[a] (19-282)	106 ± 6.5[a] (14-356)
Vitamin K	85 ± 52.6[a] (0-9179)	139 ± 78.5[a] (0-9179)	30 ± 79.9[a] (0-239)	27 ± 87.7[a] (0-239)	23 ± 107.8[a] (0-197)	209 ± 97.9[a] (0-9179)	43 ± 88.5[a] (0-643)	114 ± 72.3[a] (0-9179)
Calcium	50 ± 2.0[a] (3-167)	213.5 ± 3.0[a] (2-167)	190 ± 45.1[a] (6-118)	170 ± 50.2[a] (7-124)	170 ± 61.3[a] (2-104)	264 ± 54.0[a] (6-167)	232 ± 49.1[a] (6-104)	181 ± 41.4[a] (2-167)
Iron	167 ± 7.5[a] (1-808)	166 ± 12.3[a] (1-500)	170 ± 12.5[a] (1.6-808)	208 ± 13.5[b] (2-808)	140 ± 16.4[a] (1-306)	141 ± 14.5[a] (2-294)	153 ± 13.7[a] (2-306)	177 ± 11.5[a] (1-808)
Phosphorus	207 ± 11.6[a] (9-1729)	216 ± 18.4[a] (44-1729)	197 ± 18.7[a] (9-531)	215 ± 20.3[a] (54-787)	172 ± 24.8[a] (14-408)	224 ± 21.9[a] (9-1729)	219 ± 20.4[a] (9-787)	198 ± 17.2[a] (44-1729)
Potassium	276 ± 45.0[a] (6-6428)	313 ± 82.9[a] (23-6428)	238 ± 84.3[a] (6-1666)	261 ± 94.0[a] (26-2228)	228 ± 114.7[a] (6-1971)	332 ± 101.2[a] (11-6428)	283 ± 91.8[a] (6-2443)	272 ± 77.5[a] (24-6428)
Sodium	383 ± 33.6[a] (15-5083)	415 ± 60.3[a] (15-5082)	351 ± 61.3[a] (40-1507)	375 ± 66.7[a] (121-1507)	287 ± 81.4[a] (15-916)	467 ± 71.8[a] (40-5083)	415 ± 66.6[a] (40-2813)	361 ± 56.3[a] (15-5083)
Zinc	85 ± 4.4[a] (0.5-276)	84 ± 7.8[a] (0.7-263)	86 ± 7.9[a] (0.5-276)	80 ± 8.5[a] (0.5-276)	85 ± 10.4[a] (2-223)	92 ± 9.2[a] (2-263)	66 ± 8.5[a] (0.5-263)	99 ± 7.2[a] (2-276)

values with a different superscript are significantly different

*least square mean ± standard error

** Range

Table 8: Nutrient Density Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (Arithmetic Mean)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Protein (g)	34 ±0.9*[a] (16-112)**	35 ± 1.6[a] (16-112)	34 ± 1.1[a] (16-66)	36 ± 1.6[b] (18-112)	37 ± 1.9[b] (18-75)	31 ± 1.3[a] (16-66)	37 ± 1.6[a] (16-112)	33 ± 1.1[a] (16-75)
Fiber (g)	11 ± 0.4[a] (1-38)	12 ± 0.7[b] (3-38)	10 ± 0.5[a] (1-27)	11 ± 0.7[b] (2-38)	12 ± 0.9[b] (3-27)	9 ± 0.6[a] (1-22)	11 ± 0.8[a] (1-38)	10 ± 0.5[a] (2-27)
Fat (g)	31 ± 0.7[a] (8-52)	29 ± 0.9[a] (10-49)	32 ± 0.9[b] (8-53)	30 ± 1.0[a] (8-45)	30 ± 1.1[ab] (13-49)	32 ± 1.3[b] (13-53)	30 ± 1.1[b] (8-53)	31 ± 0.8[a] (11-49)
Vitamin A (IU)	2172 ± 268.6[a] (136-33037)	2102 ± 423.8[a] (205-33037)	2238 ± 338.3[a] (136-24493)	2939 ± 615.9[b] (382-33037)	1848 ± 223.7[a] (411-10229)	1446 ± 131.7[a] (136-4441)	2151 ± 389.6[a] (136-24493)	2187 ± 368.1[a] (205-33037)
Thiamin (mg)	0.7 ± 0.0[a] (0.3-1)	0.7 ± 0.0[a] (0.3-1)	0.7 ± 0.0[a] (0.3-1)	0.7 ± 0.0[a] (0.3-1)	0.7 ± 0.0[a] (0.4-1)	0.7 ± 0.0[a] (0-1)	0.7 ± 0.0[a] (0.3-1)	0.7 ± 0.0[a] (0.3-1)
Riboflavin (mg)	0.8 ± 0.0[a] (0.2-2)	0.8 ± 0.0[a] (0.3-2)	0.8 ± 0.0[a] (0.2-1)	0.7 ± 0.0[ab] (0.2-1)	1 ± 0.0[c] (0.4-2)	0.7 ± 0.0[a] (0.3-1)	0.8 ± 0.0[a] (0.3-1)	0.8 ± 0.0[a] (0.2-2)
Niacin (mg)	9 ± 0.3[a] (2-27)	9 ± 0.4[a] (4-27)	9 ± 0.3[a] (2-20)	9 ± 0.5[a] (2-27)	9 ± 0.4[a] (3-18)	8 ± 0.4[a] (4-16)	9 ± 0.5[a] (2-20)	8 ± 0.3[a] (3-27)
Vitamin B6 (mg)	0.7 ± 0.0[a] (0.1-3)	0.7 ± 0.0[a] (0.1-3)	0.7 ± 0.0[a] (0.1-2)	0.8 ± 0.0[b] (0.1-2)	1 ± 0.1[b] (0.2-3)	0.5 ± 0.0[a] (0.1-1)	0.7 ± 0.0[a] (0.2-2)	0.7 ± 0.0[a] (0-3)
Vitamin B12 (mcg)	2 ± 0.1[a] (0.1-16)	2 ± 0.2[a] (0-16)	2 ± 0.1[a] (0-8)	2 ± 0.3[ab] (0.1-16)	2 ± 0.2[a] (0.2-7)	1 ± 0.2[a] (0-7)	2 ± 0.3[a] (0.1-16)	1 ± 0.1[a] (0.1-7)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 8: Nutrient Density Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (Arithmetic Mean) (continued)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Variable	n=186	n=90	n=96	n=77	n=50	n=59	n=76	n=110
Vitamin C (mg)	153 ± 11.6[a] (1-1173)	175 ± 19.4[b] (3-1173)	132 ± 12.7[a] (0.9-595)	172 ± 20.8[ab] (3-1173)	148 ± 21.3[ab] (10-616)	131 ± 15.8[a] (0.9-595)	161 ± 20.4[a] (0.9-1173)	147 ± 13.5[a] (3-616)
Vitamin E (mg)	3 ± 0.1[a] (0.3-9)	3 ± 0.2[a] (0.6-9)	3 ± 0.2[a] (0.3-7)	4 ± 0.2[a] (0.3-9)	3 ± 0.2[a] (0.7-9)	3 ± 0.2[a] (0.5-8)	3 ± 0.2[a] (0.5-9)	3 ± 0.2[a] (0.3-9)
Folate (mcg)	169 ± 5.6[a] (52-470)	174 ± 8.3[a] (67-470)	165 ± 7.5[a] (52-452)	161 ± 8.5[a] (52-448)	183± 10.5[a] (91-424)	168 ± 10.3[a] (65-470)	177 ±10.4[a] (52-470)	164 ± 6.0[a] (65-362)
Vitamin K (mcg)	5 ± 1.1[a] (0-193)	5 ± 2.2[a] (0-193)	4 ± 0.8[a] (0-36)	7 ± 2.6[a] (0-193)	3 ± 0.8[a] (0-33)	3 ± 0.7[a] (0.1-34)	2 ± 0.4[a] (0-24)	6 ± 1.8[a] (0-193)
Calcium (mg)	407 ± 13.8[a] (94-1259)	415 ± 20.4[a] (95-1258)	399 ± 18.7[a] (94-857)	398± 19.6[bc] (94- 873)	455 ± 29.2[b] (114-1259)	377 ± 24.1[ac] (95-843)	437 ± 21.5[a] (95-843)	386 ± 17.7[a] (94-1258)
Iron (mg)	6 ± 0.1[a] (3-18)	6 ± 0.2[a] (3-11)	6 ± 0.2[a] (3-18)	6 ± 0.2[bc] (3-18)	6 ± 0.3[b] (3-11)	6 ± 0.2[ac] (3-13)	6 ± 0.2[a] (3-13)	6 ± 0.2[a] (3-18)
Phosphorus (mg)	557 ± 15.3[a] (125-1776)	563 ± 24.2[a] (125-1776)	552 ± 19.2[a] (187-1142)	569 ± 25.8[bc] (168-1776)	612 ± 28.7[b] (247-1244)	496 ± 22.9[a] (125-1121)	624 ± 26.5[a] (190-1776)	511 ± 17.1[a] (125-1244)
Potassium (mg)	1406 ± 40.3[a] (231-3040)	1439 ± 59.3[a] (517-3040)	1376 ± 54.9[a] (231-2919)	1428 ± 66.4[bc] (231-2929)	1552 ± 70.0[b] (627-3040)	1255 ± 67.6[a] (295-2440)	1443 ± 63.9[a] (295-2929)	1381 ± 52.0[a] (231-3040)
Sodium (mg)	1359 ± 88.9[a] (229-11324)	1399 ± 153.8[a] (400-11324)	1321 ± 95.0[a] (229-5343)	1551 ± 190.7[a] (301-11324)	1196 ± 99.8[a] (400-5004)	1245 ± 93.9[a] (229-5286)	1677 ± 192.8[a] (229-11324)	1138 ± 62.7[a] (300-5004)
Zinc (mg)	3 ± 0.1[a] (1-11)	3 ± 0.2[a] (1-11)	3 ± 0.1[a] (1-9)	3 ± 0.1[ab] (2-9)	4 ± 0.3[c] (2-11)	3 ± 0.1[a] (1-5)	3 ± 0.1[a] (1-6)	3 ± 0.2[a] (1-11.4)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 8: Nutrient Density Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (Arithmetic Mean) (continued)

	Year 2							
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=96	Southeast n=74	Carib n=49	North n-63	Yes n=78	No n=108
Protein (g)	32 ± 0.8*[a] (7-109)**	33 ± 1.3[a] (12-109)	31 ± 0.9[a] (7-65)	32± 1.0[a] (12-65)	32 ± 1.6[a] (7-74)	33 ± 1.6[a] (15-109)	34 ± 1.4[a] (7-109)	31 ± 0.9[a] (11-74)
Fiber (g)	9 ± 0.3[a] (2-29)	8 ± 0.4[b] (3-24)	10 ± 0.5[a] (2-29)	8 ± 0.4[a] (3-20)	10 ± 0.7[b] (2-29)	9 ± 0.6[ab] (3-26)	9 ± 0.4[a] (2-26)	9 ± 0.4[a] (3-29)
Fat (g)	33 ± 0.7[a] (9-57)	34 ± 1.0[b] (12-57)	31 ± 1.1[a] (9-57)	33± 1.0[a] (14-49)	33 ± 1.7[a] (12-57)	33 ± 1.1[a] (9-51)	33 ± 1.0[a] (9-56)	33 ± 1.0[a] (12-57)
Vitamin A (IU)	1621 ± 112.7[a] (73-11964)	1503 ± 160.0[a] (73-11821)	1736 ± 158.7[a] (82-11964)	1674 ± 223.0[a] (82-11964)	1870 ± 196.9[a] (203-5807)	1337 ± 136.2[a] (73-4832)	1292 ± 104.3[a] (82-4832)	1856 ± 175.0[a] (73-11964)
Thiamin (mg)	0.7 ± 0.0[a] (0.2-2)	0.7 ± 0.0[a] (0.3-2)	0.7 ± 0.0[a] (0.2-2)	0.7 ± 0.0[a] (0.4-1)	0.7 ± 0.0[a] (0.4-1)	0.7 ± 0.0[a] (0.2-2)	0.8 ± 0.0[a] (0.3-2)	0.7 ± 0.0[a] (0.2-1)
Riboflavin (mg)	0.8 ± 0.0[a] (0.3- 2)	0.8 ± 0.0[a] (0.3-1)	0.8 ± 0.0[a] (0-2)	0.7 ± 0.0[a] (0.3-1)	0.8 ± 0.0[b] (0.3-2)	0.8 ± 0.0[ab] (0.3-2)	0.7 ± 0.0[a] (0.3-1)	0.8 ± 0.0[a] (0.3-2)
Niacin (mg)	9 ± 0.2[a] (3-23)	9 ± 0.4[a] (3-23)	9 ± 0.3[a] (3-18)	9 ± 0.3[a] (4-22)	9 ± 0.5[a] (3-23)	8 ± 0.4[a] (3-17)	9 ± 0.3[a] (3-17)	9 ± 0.3[a] (3-23)
Vitamin B6 (mg)	0.6 ± 0.0[a] (0-3)	0.6 ± 0.0[a] (0-3)	1 ± 0.0[a] (0-2)	0.6 ±0.0[b] (0.2-1)	0.8 ± 0.1[b] (0-3)	0.6± 0.0[a] (0.1-2)	0.6 ± 0.0[a] (0-1)	0.7 ± 0.0[a] (0.2-3)
Vitamin B12 (mcg)	1 ± 0.1[a] (0-12)	2 ± 0.2[a] (0.1-12)	1 ± 0.1[a] (0-7)	1 ±0.1[a] (0.1-7)	2 ± 0.3[a] (0-12)	1 ± 0.2[a] (0.1-11)	1 ±0.2[a] (0.1-11)	1 ± 0.1[a] (0-12)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 8: Nutrient Density Intake for Children in Dominica by Year, Gender, Region, and Availability of a School Feeding Program (SFP) (Arithmetic Mean) (continued)

Year 2								
		Gender		Region			SFP	
Variable	Overall Total n=185	Males n=91	Females n=96	Southeast n=74	Carib n=49	North n-63	Yes n=78	No n=108
Vitamin C (mg)	90 ± 6.2[a] (2-506)	83 ± 7.8[a] (2-329)	97 ± 9.6[a] (3-506)	83 ± 7.8[a] (3-412)	108± 15.7[a] (3-506)	85 ± 9.9[a] (2-329)	71 ± 7.4[a] (2-307)	103 ± 9.0[a] (3-506)
Vitamin E (mg)	3 ± 0.1[a] (0.6-10)	3 ± 0.2[a] (0.6-10)	3 ± 0.2[a] (0.6-8)	3 ± 0.2[a] (1-10)	3 ± 0.2[a] (1-8)	3 ± 0.2[a] (0.6-10)	3 ± 0.2[a] (0.6-10)	4 ± 0.2[a] (0.6-10)
Folate (mcg)	167 ± 5.1[a] (24-442)	164 ± 6.9[a] (58-436)	171 ± 7.4[a] (24-442)	183 ± 8.2[b] (81-442)	155 ± 9.3[a] (62-436)	157 ± 8.6[a] (24-360)	173 ± 7.9[a] (58-360)	163 ± 6.7[a] (24-442)
Vitamin K (mcg)	4 ± 0.5[a] (0-40)	4 ± 0.8[a] (0-40)	3 ± 0.6[a] (0-33)	3 ± 0.4[a] (0-22)	3 ± 0.8[a] (0-33)	5 ± 1.2[a] (0-40)	3 ± 0.7[a] (0-37)	4 ± 0.6[a] (0-40)
Calcium (mg)	355 ± 11.7[a] (68-874)	350 ± 17.0[a] (68-874)	360 ± 16.0[a] (74-849)	319 ± 17.1[a] (68-704)	378 ± 20.9[a] (69-831)	379 ± 22.1[a] (111-874)	346 ± 17.3[a] (68-849)	362 ± 15.7[a] (69-874)
Iron (mg)	6 ± 0.1[a] (2-23)	6 ± 0.2[a] (3-23)	6 ± 0.2[a] (2-13)	6 ± 0.3[b] (4-23)	6 ± 0.2[a] (3-10)	6 ± 0.2[a] (3-9)	6 ± 0.2[a] (2-10)	6 ± 0.2[a] (3-23)
Phosphorus (mg)	485 ± 11.9[a] (80-1343)	488 ± 18.9[a] (156-1343)	483 ± 14.8[a] (80-960)	475 ± 17.5[a] (171-960)	485 ± 20.6[a] (80-822)	498 ± 24.0[a] (156-1343)	509 ± 21.2[a] (80-1343)	469 ± 13.7[a] (156-822)
Potassium (mg)	1292 ± 36.8[a] (127-3040)	1246 ± 51.5[a] (374-3040)	1338 ± 52.3[a] (127-2972)	1266 ± 48.8[b] (374-2155)	1477 ± 90.2[c] (127-3040)	1179 ± 55.1[ab] (418-2475)	1209 ± 47.8[a] (127-2254)	1352 ± 52.4[a] (374-3040)
Sodium (mg)	1044 ± 48.4[a] (191-7575)	1057 ± 80.4[a] (191-7575)	1032 ± 55.3[a] (315-3930)	1002 ± 56.1[a] (450-3920)	924 ± 44.3[a] (191-1870)	1187 ± 120.1[a] (467-7575)	1165 ± 106.4[a] (459-7575)	958 ± 31.[a] (191-2261)
Zinc (mg)	3 ± 0.1[a] (1-7)	3 ± 0.1[a] (0.9-7)	3 ± 0.1[a] (0.6-7)	3 ± 0.1[a] (1-6)	3± 0.1[a] (0.6-6)	3 ± 0.2[a] (1-7)	3 ± 0.1[a] (0.6-7)	3 ± 0.1[a] (0.9-6)

values with a different superscript are significantly different

*arithmatic mean ± standard error

** Range

Table 9: Regression Analysis for Anthropometric Data by Region

Variable	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
BMI (year 1)	63.474	1428.338	31.737	7.679	186	2	4.133	0.018
BMI (year 2)	128.674	2516.206	64.337	13.601	185	2	4.730	0.010
Height (year 1)	263.728	2451.348	131.864	13.17[illegible]	186	2	10.005	0.000
Height (year 2)	321.857	2882.910	160.929	15.583	185	2	10.327	0.000
Tricep Skinfold (year 2)	471.249	6559.899	235.625	35.652	184	2	6.609	0.002
Tricep Skinfold (year 1)	120.995	4818.928	60.498	25.908	186	2	2.335	0.100
Weight (year 1)	5448.352	55472.635	2724.176	298.240	186	2	9.134	0.000
Weight (year 2)	9902.046	78184.336	4951.023	422.618	185	2	11.715	0.000

Table 10: Regression Analysis for Anthropometric Data by Availability of a School Feeding Program (SFP)

Variable	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
BMI (year 1)	0.075	1491.736	0.075	7.977	187	1	0.009	0.923
BMI (year 2)	5.829	2639.051	5.829	14.188	186	1	0.411	0.522
Height (year 1)	25.797	2689.279	25.797	14.381	187	1	1.794	0.182
Height (year 2)	2.706	3202.062	2.706	17.215	186	1	0.157	0.692
Tricep Skinfold (year 2)	1.826	7029.322	1.826	37.996	185	1	0.048	0.827
Tricep Skinfold (year 1)	45.800	4894.123	45.800	26.172	187	1	1.750	0.187
Weight (year 1)	228.175	60692.812	228.175	324.560	187	1	0.703	0.403
Weight (year 2)	68.493	88017.889	68.493	473.214	186	1	0.145	0.704

Table 11: Regression Analysis for Anthropometric Data by Gender

Variable	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
BMI (year 1)	8.692	1483.120	8.692	7.931	187	1	1.096	0.297
BMI (year 2)	73.369	2571.511	73.369	13.825	186	1	5.307	0.022
Height (year 1)	54.588	2660.488	54.588	14.227	187	1	3.837	0.052
Height (year 2)	46.005	3158.763	46.005	16.983	186	1	2.709	0.101
Tricep Skinfold (year 2)	501.856	6529.292	501.856	35.293	185	1	14.220	0.000
Tricep Skinfold (year 1)	312.791	4627.132	312.791	24.744	187	1	12.641	0.000
Weight (year 1)	1093.093	59827.895	1093.093	319.935	187	1	3.417	0.066
Weight (year 2)	3058.674	85027.708	3058.674	457.138	186	1	6.691	0.010

Table 12: Regression Analysis for Nutrient Intake by Year and Gender

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Vitamin A (IU)	Gender	4305292.243	10021192100.824	4305292.243	27305700.547	367	1	0.158	0.692
Vitamin A (IU)	PERIOD	163780345.001	10021192100.824	163780345.001	27305700.547	367	1	5.998	0.015
Vitamin A (IU)	Gender*PERIOD	1236882.156	10021192100.824	1236882.156	27305700.547	367	1	0.045	0.832
Vitamin A (%DRI)	Gender	10784.789	25103161.472	10784.789	68400.985	367	1	0.158	0.692
Vitamin A (%DRI)	PERIOD	410270.994	25103161.472	410270.994	68400.985	367	1	5.998	0.015
Vitamin A (%DRI)	Gender*PERIOD	3098.399	25103161.472	3098.399	68400.985	367	1	0.045	0.832
Vitamin A (%DRV)	Gender	259691.538	223566388.809	259691.538	609172.722	367	1	0.426	0.514
Vitamin A (%DRV)	PERIOD	625460.046	223566388.809	625460.046	609172.722	367	1	1.027	0.312
Vitamin A (%DRV)	Gender*PERIOD	1768703.536	223566388.809	1768703.536	609172.722	367	1	2.903	0.089
Vitamin A density	Gender	4705671.901	2910543604.960	4705671.901	7930636.526	367	1	0.593	0.442
Vitamin A density	PERIOD	27828358.609	2910543604.960	27828358.609	7930636.526	367	1	3.509	0.062
Vitamin A density	Gender*PERIOD	391984.378	2910543604.960	391984.378	7930636.526	367	1	0.049	0.824
Thiamin (mg)	Gender	0.424	165.067	0.424	0.450	367	1	0.943	0.332
Thiamin (mg)	PERIOD	1.628	165.067	1.628	0.450	367	1	3.620	0.058
Thiamin (mg)	Gender*PERIOD	0.003	165.067	0.003	0.450	367	1	0.007	0.934
Vitamin B12 (mcg)	Gender	5.158	4709.287	5.158	12.832	367	1	0.402	0.526
Vitamin B12 (mcg)	PERIOD	74.935	4709.287	74.935	12.832	367	1	5.840	0.016
Vitamin B12 (mcg)	Gender*PERIOD	4.807	4709.287	4.807	12.832	367	1	0.375	0.541
Vitamin B12 (%DRI)	Gender	15920.519	14534836.427	15920.519	39604.459	367	1	0.402	0.526
Vitamin B12 (%DRI)	PERIOD	231281.372	14534836.427	231281.372	39604.459	367	1	5.840	0.016
Vitamin B12 (%DRI)	Gender*PERIOD	14835.337	14534836.427	14835.337	39604.459	367	1	0.375	0.541
Vitamin B12 (%DRV)	Gender	30441.435	15987250.251	30441.435	43561.990	367	1	0.699	0.404
Vitamin B12 (%DRV)	PERIOD	105368.605	15987250.251	105368.605	43561.990	367	1	2.419	0.121
Vitamin B12 (%DRV)	Gender*PERIOD	199.751	15987250.251	199.751	43561.990	367	1	0.005	0.946
Vitamin B12 density	Gender	2.077	944.472	2.077	2.573	367	1	0.807	0.370
Vitamin B12 density	PERIOD	4.868	944.472	4.868	2.573	367	1	1.892	0.170
Vitamin B12 density	Gender*PERIOD	1.858	944.472	1.858	2.573	367	1	0.722	0.396

Table 12: Regression Analysis for Nutrient Intake by Year and Gender (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Thiamin (%DRI)	Gender	5234.182	2037868.943	5234.182	5552.776	367	1	0.943	0.332
Thiamin (%DRI)	PERIOD	20102.103	2037868.943	20102.103	5552.776	367	1	3.620	0.058
Thiamin (%DRI)	Gender*PERIOD	37.922	2037868.943	37.922	5552.776	367	1	0.007	0.934
Thiamin (%DRV)	Gender	18184.155	2423988.282	18184.155	6641.064	365	1	2.738	0.099
Thiamin (%DRV)	PERIOD	1741.338	2423988.282	1741.338	6641.064	365	1	0.262	0.609
Thiamin (%DRV)	Gender*PERIOD	17987.724	2423988.282	17987.724	6641.064	365	1	2.709	0.101
Thiamin density	Gender	0.027	18.387	0.027	0.050	367	1	0.538	0.464
Thiamin density	PERIOD	0.045	18.387	0.045	0.050	367	1	0.893	0.345
Thiamin density	Gender*PERIOD	0.035	18.387	0.035	0.050	367	1	0.705	0.402
Riboflavin (mg)	Gender	0.032	201.906	0.032	0.550	367	1	0.058	0.810
Riboflavin (mg)	PERIOD	3.208	201.906	3.208	0.550	367	1	5.831	0.016
Riboflavin (mg)	Gender*PERIOD	0.024	201.906	0.024	0.550	367	1	0.044	0.833
Riboflavin (%DRI)	Gender	393.495	2492669.921	393.495	6792.016	367	1	0.058	0.810
Riboflavin (%DRI)	PERIOD	39600.929	2492669.921	39600.929	6792.016	367	1	5.831	0.016
Riboflavin (%DRI)	Gender*PERIOD	300.763	2492669.921	300.763	6792.016	367	1	0.044	0.833
Riboflavin (%DRV)	Gender	8642.233	3247946.310	8642.233	8849.990	367	1	0.977	0.324
Riboflavin (%DRV)	PERIOD	10833.865	3247946.310	10833.865	8849.990	367	1	1.224	0.269
Riboflavin (%DRV)	Gender*PERIOD	30837.002	3247946.310	30837.002	8849.990	367	1	3.484	0.063
Riboflavin density	Gender	0.050	24.125	0.050	0.066	367	1	0.768	0.381
Riboflavin density	PERIOD	0.057	24.125	0.057	0.066	367	1	0.867	0.352
Riboflavin density	Gender*PERIOD	0.081	24.125	0.081	0.066	367	1	1.227	0.269

Table 12: Regression Analysis for Nutrient Intake by Year and Gender (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Niacin (mg)	Gender	57.531	43302.450	57.531	117.990	367	1	0.488	0.485
Niacin (mg)	PERIOD	393.759	43302.450	393.759	117.990	367	1	3.337	0.069
Niacin (mg)	Gender*PERIOD	22.054	43302.450	22.054	117.990	367	1	0.187	0.666
Niacin (%DRI)	Gender	3995.200	3007114.608	3995.200	8193.773	367	1	0.488	0.485
Niacin (%DRI)	PERIOD	27344.359	3007114.608	27344.359	8193.773	367	1	3.337	0.069
Niacin (%DRI)	Gender*PERIOD	1531.552	3007114.608	1531.552	8193.773	367	1	0.187	0.666
Niacin (%DRV)	Gender	13422.064	3044707.383	13422.064	8296.205	367	1	1.618	0.204
Niacin (%DRV)	PERIOD	6242.115	3044707.383	6242.115	8296.205	367	1	0.752	0.386
Niacin (%DRV)	Gender*PERIOD	30751.490	3044707.383	30751.490	8296.205	367	1	3.707	0.055
Niacin density	Gender	0.031	4287.150	0.031	11.682	367	1	0.003	0.959
Niacin density	PERIOD	0.535	4287.150	0.535	11.682	367	1	0.046	0.831
Niacin density	Gender*PERIOD	10.481	4287.150	10.481	11.682	367	1	0.897	0.344
Vitamin B6 (mg)	Gender	0.047	351.899	0.047	0.959	367	1	0.049	0.825
Vitamin B6 (mg)	PERIOD	10.138	351.899	10.138	0.959	367	1	10.573	0.001
Vitamin B6 (mg)	Gender*PERIOD	0.005	351.899	0.005	0.959	367	1	0.005	0.941
Vitamin B6 (%DRI)	Gender	467.291	3518989.533	467.291	9588.527	367	1	0.049	0.825
Vitamin B6 (%DRI)	PERIOD	101376.698	3518989.533	101376.698	9588.527	367	1	10.573	0.001
Vitamin B6 (%DRI)	Gender*PERIOD	52.595	3518989.533	52.595	9588.527	367	1	0.005	0.941
Vitamin B6 (%DRV)	Gender	15542.912	3224756.455	15542.912	8786.802	367	1	1.769	0.184
Vitamin B6 (%DRV)	PERIOD	27429.420	3224756.455	27429.420	8786.802	367	1	3.122	0.078
Vitamin B6 (%DRV)	Gender*PERIOD	33209.839	3224756.455	33209.839	8786.802	367	1	3.780	0.053
Vitamin B6 density	Gender	0.022	46.879	0.022	0.128	367	1	0.172	0.678
Vitamin B6 density	PERIOD	0.401	46.879	0.401	0.128	367	1	3.141	0.077
Vitamin B6 density	Gender*PERIOD	0.082	46.879	0.082	0.128	367	1	0.643	0.423

Table 12: Regression Analysis for Nutrient Intake by Year and Gender (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Vitamin C (mg)	Gender	230201.478	29195903.056	230201.478	79552.869	367	1	2.894	0.090
Vitamin C (mg)	PERIOD	2098387.330	29195903.056	2098387.330	79552.869	367	1	26.377	0.000
Vitamin C (mg)	Gender*PERIOD	466624.283	29195903.056	466624.283	79552.869	367	1	5.866	0.016
Calcium density	Gender	0.243	11124165.020	0.243	30311.076	367	1	0.000	0.998
Calcium density	PERIOD	244618.231	11124165.020	244618.231	30311.076	367	1	8.070	0.005
Calcium density	Gender*PERIOD	16011.432	11124165.020	16011.432	30311.076	367	1	0.528	0.468
Vitamin C density	Gender	28284.613	5731108.387	28284.613	15616.099	367	1	1.811	0.179
Vitamin C density	PERIOD	364339.354	5731108.387	364339.354	15616.099	367	1	23.331	0.000
Vitamin C density	Gender*PERIOD	96310.623	5731108.387	96310.623	15616.099	367	1	6.167	0.013
Calcium (mg)	Gender	132500.199	65625260.096	132500.199	178815.423	367	1	0.741	0.390
Calcium (mg)	PERIOD	2778211.999	65625260.096	2778211.999	178815.423	367	1	15.537	0.000
Calcium (mg)	Gender*PERIOD	35319.801	65625260.096	35319.801	178815.423	367	1	0.198	0.657
Calcium (%DRI)	Gender	784.025	388315.148	784.025	1058.079	367	1	0.741	0.390
Calcium (%DRI)	PERIOD	16439.124	388315.148	16439.124	1058.079	367	1	15.537	0.000
Calcium (%DRI)	Gender*PERIOD	208.993	388315.148	208.993	1058.079	367	1	0.198	0.657
Calcium (%DRV)	Gender	172425.346	67905293.856	172425.346	185028.049	367	1	0.932	0.335
Calcium (%DRV)	PERIOD	328908.477	67905293.856	328908.477	185028.049	367	1	1.778	0.183
Calcium (%DRV)	Gender*PERIOD	411097.984	67905293.856	411097.984	185028.049	367	1	2.222	0.137
Vitamin C (%DRI)	Gender	1136797.423	144177299.043	1136797.423	392853.676	367	1	2.894	0.090
Vitamin C (%DRI)	PERIOD	10362406.569	144177299.043	10362406.569	392853.676	367	1	26.377	0.000
Vitamin C (%DRI)	Gender*PERIOD	2304317.448	144177299.043	2304317.448	392853.676	367	1	5.866	0.016
Vitamin C (%DRV)	Gender	2882392.626	224869981.085	2882392.626	612724.744	367	1	4.704	0.031
Vitamin C (%DRV)	PERIOD	13189218.674	224869981.085	13189218.674	612724.744	367	1	21.526	0.000
Vitamin C (%DRV)	Gender*PERIOD	6924163.478	224869981.085	6924163.478	612724.744	367	1	11.301	0.001

Table 12: Regression Analysis for Nutrient Intake by Year and Gender (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Vitamin E (mg)	Gender	25.954	9541.745	25.954	25.999	367	1	0.998	0.318
Vitamin E (mg)	PERIOD	66.713	9541.745	66.713	25.999	367	1	2.566	0.110
Vitamin E (mg)	Gender*PERIOD	8.038	9541.745	8.038	25.999	367	1	0.309	0.579
Vitamin E density	Gender	1.662	1150.903	1.662	3.136	367	1	0.530	0.467
Vitamin E density	PERIOD	0.824	1150.903	0.824	3.136	367	1	0.263	0.608
Vitamin E density	Gender*PERIOD	3.542	1150.903	3.542	3.136	367	1	1.130	0.289
Vitamin E (%DRI)	Gender	2144.954	788573.970	2144.954	2148.703	367	1	0.998	0.318
Vitamin E (%DRI)	PERIOD	5513.496	788573.970	5513.496	2148.703	367	1	2.566	0.110
Vitamin E (%DRI)	Gender*PERIOD	664.304	788573.970	664.304	2148.703	367	1	0.309	0.579
Vitamin E (%DRV)	Gender	13953.188	1899026.195	13953.188	5174.458	367	1	2.697	0.101
Vitamin E (%DRV)	PERIOD	7320.737	1899026.195	7320.737	5174.458	367	1	1.415	0.235
Vitamin E (%DRV)	Gender*PERIOD	16226.617	1899026.195	16226.617	5174.458	367	1	3.136	0.077
Fat (%DRV)	Gender	7879.059	1267296.172	7879.059	3453.123	367	1	2.282	0.132
Fat (%DRV)	PERIOD	6991.510	1267296.172	6991.510	3453.123	367	1	2.025	0.156
Fat (%DRV)	Gender*PERIOD	13574.602	1267296.172	13574.602	3453.123	367	1	3.931	0.048
Fat density	Gender	0.051	30425.912	0.051	82.904	367	1	0.001	0.980
Fat density	PERIOD	358.884	30425.912	358.884	82.904	367	1	4.329	0.038
Fat density	Gender*PERIOD	641.500	30425.912	641.500	82.904	367	1	7.738	0.006
Iron density	Gender	0.054	1292.965	0.054	3.523	367	1	0.015	0.902
Iron density	PERIOD	0.563	1292.965	0.563	3.523	367	1	0.160	0.690
Iron density	Gender*PERIOD	1.921	1292.965	1.921	3.523	367	1	0.545	0.461
Fiber (%DRV)	Gender	29136.494	4587357.711	29136.494	12499.612	367	1	2.331	0.128
Fiber (%DRV)	PERIOD	184506.633	4587357.711	184506.633	12499.612	367	1	14.761	0.000
Fiber (%DRV)	Gender*PERIOD	19962.104	4587357.711	19962.104	12499.612	367	1	1.597	0.207
Fiber density	Gender	0.034	9412.845	0.034	25.648	367	1	0.001	0.971
Fiber density	PERIOD	308.516	9412.845	308.516	25.648	367	1	12.029	0.001
Fiber density	Gender*PERIOD	286.894	9412.845	286.894	25.648	367	1	11.186	0.001

Table 12: Regression Analysis for Nutrient Intake by Year and Gender (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Folate (mcg)	Gender	1969.829	13338054.387	1969.829	36343.472	367	1	0.054	0.816
Folate (mcg)	PERIOD	153671.803	13338054.387	153671.803	36343.472	367	1	4.228	0.040
Folate (mcg)	Gender*PERIOD	2299.163	13338054.387	2299.163	36343.472	367	1	0.063	0.802
Folate density	Gender	56.387	1932799.245	56.387	5266.483	367	1	0.011	0.918
Folate density	PERIOD	376.109	1932799.245	376.109	5266.483	367	1	0.071	0.789
Folate density	Gender*PERIOD	6276.188	1932799.245	6276.188	5266.483	367	1	1.192	0.276
Iron (mg)	Gender	0.004	15181.774	0.004	41.367	367	1	0.000	0.992
Iron (mg)	PERIOD	227.345	15181.774	227.345	41.367	367	1	5.496	0.020
Iron (mg)	Gender*PERIOD	3.510	15181.774	3.510	41.367	367	1	0.085	0.771
Iron (%DRI)	Gender	0.636	2372152.114	0.636	6463.630	367	1	0.000	0.992
Iron (%DRI)	PERIOD	35522.660	2372152.114	35522.660	6463.630	367	1	5.496	0.020
Iron (%DRI)	Gender*PERIOD	548.461	2372152.114	548.461	6463.630	367	1	0.085	0.771
Iron (%DRV--high)	Gender	1403.790	545874.254	1403.790	1487.396	367	1	0.944	0.332
Iron (%DRV--high)	PERIOD	1256.298	545874.254	1256.298	1487.396	367	1	0.845	0.359
Iron (%DRV--high)	Gender*PERIOD	2868.852	545874.254	2868.852	1487.396	367	1	1.929	0.166
Iron (%DRV--low)	Gender	16492.551	5254168.965	16492.551	14316.537	367	1	1.152	0.284
Iron (%DRV--low)	PERIOD	8750.353	5254168.965	8750.353	14316.537	367	1	0.611	0.435
Iron (%DRV--low)	Gender*PERIOD	32972.575	5254168.965	32972.575	14316.537	367	1	2.303	0.130
Folate (%DRI)	Gender	218.870	1482006.043	218.870	4038.164	367	1	0.054	0.816
Folate (%DRI)	PERIOD	17074.645	1482006.043	17074.645	4038.164	367	1	4.228	0.040
Folate (%DRI)	Gender*PERIOD	255.463	1482006.043	255.463	4038.164	367	1	0.063	0.802
Energy (%DRV)	Gender	11691.611	1054122.318	11691.611	2872.268	367	1	4.071	0.044
Energy (%DRV)	PERIOD	20244.642	1054122.318	20244.642	2872.268	367	1	7.048	0.008
Energy (%DRV)	Gender*PERIOD	1543.943	1054122.318	1543.943	2872.268	367	1	0.538	0.464
Energy Density	Gender	0.134	356.010	0.134	0.970	367	1	0.139	0.710
Energy Density	PERIOD	6.730	356.010	6.730	0.970	367	1	6.937	0.009
Energy Density	Gender*PERIOD	0.320	356.010	0.320	0.970	367	1	0.329	0.566

Table 12: Regression Analysis for Nutrient Intake by Year and Gender (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Sodium density	Gender	99403.891	351659924.566	99403.891	958201.429	367	1	0.104	0.748
Sodium density	PERIOD	9205167.532	351659924.566	9205167.532	958201.429	367	1	9.607	0.002
Sodium density	Gender*PERIOD	76128.682	351659924.566	76128.682	958201.429	367	1	0.079	0.778
Sodium (mg)	Gender	3436601.829	2578471151.989	3436601.829	7025806.954	367	1	0.489	0.485
Sodium (mg)	PERIOD	81685569.109	2578471151.989	81685569.109	7025806.954	367	1	11.627	0.001
Sodium (mg)	Gender*PERIOD	18709.282	2578471151.989	18709.282	7025806.954	367	1	0.003	0.959
Sodium (%DRI)	Gender	15273.786	11459871.787	15273.786	31225.809	367	1	0.489	0.485
Sodium (%DRI)	PERIOD	363046.974	11459871.787	363046.974	31225.809	367	1	11.627	0.001
Sodium (%DRI)	Gender*PERIOD	83.152	11459871.787	83.152	31225.809	367	1	0.003	0.959
Sodium (%DRV--high)	Gender	2860618.986	1334690618.938	2860618.986	3646695.680	366	1	0.784	0.376
Sodium (%DRV--high)	PERIOD	10106209.608	1334690618.938	10106209.608	3646695.680	366	1	2.771	0.097
Sodium (%DRV--high)	Gender*PERIOD	13646477.820	1334690618.938	13646477.820	3646695.680	366	1	3.742	0.054
Sodium (%DRV--low)	Gender	5849.472	125156615.332	5849.472	341957.965	366	1	0.017	0.896
Sodium (%DRV--low)	PERIOD	3590478.501	125156615.332	3590478.501	341957.965	366	1	10.500	0.001
Sodium (%DRV--low)	Gender*PERIOD	291851.322	125156615.332	291851.322	341957.965	366	1	0.853	0.356
Phosphorus (mg)	Gender	51138.642	121900233.003	51138.642	332153.223	367	1	0.154	0.695
Phosphorus (mg)	PERIOD	6133267.935	121900233.003	6133267.935	332153.223	367	1	18.465	0.000
Phosphorus (mg)	Gender*PERIOD	33517.476	121900233.003	33517.476	332153.223	367	1	0.101	0.751
Potassium density	Gender	31207.094	101019015.543	31207.094	275256.173	367	1	0.113	0.737
Potassium density	PERIOD	1194143.793	101019015.543	1194143.793	275256.173	367	1	4.338	0.038
Potassium density	Gender*PERIOD	842488.966	101019015.543	842488.966	275256.173	367	1	3.061	0.081
Protein (%DRV)	Gender	10066.936	7445671.248	10066.936	20287.933	367	1	0.496	0.482
Protein (%DRV)	PERIOD	197563.078	7445671.248	197563.078	20287.933	367	1	9.738	0.002
Protein (%DRV)	Gender*PERIOD	9982.110	7445671.248	9982.110	20287.933	367	1	0.492	0.483
Protein density	Gender	107.162	52214.857	107.162	142.275	367	1	0.753	0.386
Protein density	PERIOD	402.034	52214.857	402.034	142.275	367	1	2.826	0.094
Protein density	Gender*PERIOD	27.064	52214.857	27.064	142.275	367	1	0.190	0.663

Table 12: Regression Analysis for Nutrient Intake by Year and Gender (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Phosphorus density	Gender	1313.234	12929859.627	1313.234	35231.225	367	1	0.037	0.847
Phosphorus density	PERIOD	480898.312	12929859.627	480898.312	35231.225	367	1	13.650	0.000
Phosphorus density	Gender*PERIOD	769.795	12929859.627	769.795	35231.225	367	1	0.022	0.883
Phosphorus (%DRI)	Gender	327.287	780161.491	327.287	2125.781	367	1	0.154	0.695
Phosphorus (%DRI)	PERIOD	39252.915	780161.491	39252.915	2125.781	367	1	18.465	0.000
Phosphorus (%DRI)	Gender*PERIOD	214.512	780161.491	214.512	2125.781	367	1	0.101	0.751
Phosphorus (%DRV)	Gender	7580.056	11668013.008	7580.056	31792.951	367	1	0.238	0.626
Phosphorus (%DRV)	PERIOD	368539.936	11668013.008	368539.936	31792.951	367	1	11.592	0.001
Phosphorus (%DRV)	Gender*PERIOD	69404.845	11668013.008	69404.845	31792.951	367	1	2.183	0.140
Vitamin K density	Gender	44.290	48827.267	44.290	138.321	353	1	0.320	0.572
Vitamin K density	PERIOD	83.787	48827.267	83.787	138.321	353	1	0.606	0.437
Vitamin K density	Gender*PERIOD	1.156	48827.267	1.156	138.321	353	1	0.008	0.927
Vitamin K (mcg)	Gender	1239.036	659537.823	1239.036	1868.379	353	1	0.663	0.416
Vitamin K (mcg)	PERIOD	2610.322	659537.823	2610.322	1868.379	353	1	1.397	0.238
Vitamin K (mcg)	Gender*PERIOD	40.727	659537.823	40.727	1868.379	353	1	0.022	0.883
Vitamin K (%DRI)	Gender	3441.767	1832049.507	3441.767	5189.942	353	1	0.663	0.416
Vitamin K (%DRI)	PERIOD	7250.894	1832049.507	7250.894	5189.942	353	1	1.397	0.238
Vitamin K (%DRI)	Gender*PERIOD	113.131	1832049.507	113.131	5189.942	353	1	0.022	0.883
Vitamin K (%DRV--high)	Gender	46752.679	471643274.120	46752.679	1336099.927	353	1	0.035	0.852
Vitamin K (%DRV--high)	PERIOD	280698.715	471643274.120	280698.715	1336099.927	353	1	0.210	0.647
Vitamin K (%DRV--high)	Gender*PERIOD	3237288.553	471643274.120	3237288.553	1336099.927	353	1	2.423	0.120
Vitamin K (%DRV--low)	Gender	4686.907	193836429.652	4686.907	549111.699	353	1	0.009	0.926
Vitamin K (%DRV--low)	PERIOD	169108.510	193836429.652	169108.510	549111.699	353	1	0.308	0.579
Vitamin K (%DRV--low)	Gender*PERIOD	1212941.508	193836429.652	1212941.508	549111.699	353	1	2.209	0.138
Zinc density	Gender	0.120	576.631	0.120	1.571	367	1	0.077	0.782
Zinc density	PERIOD	5.328	576.631	5.328	1.571	367	1	3.391	0.066
Zinc density	Gender*PERIOD	0.472	576.631	0.472	1.571	367	1	0.300	0.584

Table 12: Regression Analysis for Nutrient Intake by Year and Gender (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Zinc (mg)	Gender	0.225	5682.555	0.225	15.484	367	1	0.015	0.904
Zinc (mg)	PERIOD	168.985	5682.555	168.985	15.484	367	1	10.914	0.001
Zinc (mg)	Gender*PERIOD	3.001	5682.555	3.001	15.484	367	1	0.194	0.660
Zinc (%DRI)	Gender	35.108	887899.247	35.108	2419.344	367	1	0.015	0.904
Zinc (%DRI)	PERIOD	26403.882	887899.247	26403.882	2419.344	367	1	10.914	0.001
Zinc (%DRI)	Gender*PERIOD	468.931	887899.247	468.931	2419.344	367	1	0.194	0.660
Zinc (%DRV)	Gender	6185.453	2086093.236	6185.453	5684.178	367	1	1.088	0.298
Zinc (%DRV)	PERIOD	54276.568	2086093.236	54276.568	5684.178	367	1	9.549	0.002
Zinc (%DRV)	Gender*PERIOD	10479.979	2086093.236	10479.979	5684.178	367	1	1.844	0.175
Fat (g)	Gender	168.369	650778.170	168.369	1773.238	367	1	0.095	0.758
Fat (g)	PERIOD	3040.828	650778.170	3040.828	1773.238	367	1	1.715	0.191
Fat (g)	Gender*PERIOD	6454.701	650778.170	6454.701	1773.238	367	1	3.640	0.057
Fat (%DRI)	Gender	39861.153	8050571.131	39861.153	21936.161	367	1	1.817	0.178
Fat (%DRI)	PERIOD	16740.137	8050571.131	16740.137	21936.161	367	1	0.763	0.383
Fat (%DRI)	Gender*PERIOD	22792.369	8050571.131	22792.369	21936.161	367	1	1.039	0.309
Fiber (g)	Gender	5.251	99408.245	5.251	270.867	367	1	0.019	0.889
Fiber (g)	PERIOD	4260.616	99408.245	4260.616	270.867	367	1	15.730	0.000
Fiber (g)	Gender*PERIOD	620.891	99408.245	620.891	270.867	367	1	2.292	0.131
Fiber (%DRI)	Gender	15992.716	1276651.960	15992.716	3478.616	367	1	4.597	0.033
Fiber (%DRI)	PERIOD	49763.179	1276651.960	49763.179	3478.616	367	1	14.305	0.000
Fiber (%DRI)	Gender*PERIOD	4605.301	1276651.960	4605.301	3478.616	367	1	1.324	0.251
Fiber (%DRV)	Gender	39.851	1717406.267	39.851	4679.581	367	1	0.009	0.927
Fiber (%DRV)	PERIOD	12113.799	1717406.267	12113.799	4679.581	367	1	2.589	0.108
Fiber (%DRV)	Gender*PERIOD	535.396	1717406.267	535.396	4679.581	367	1	0.114	0.735

Table 12: Regression Analysis for Nutrient Intake by Year and Gender (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Energy (kcal)	Gender	134428.372	356010069.474	134428.372	970054.685	367	1	0.139	0.710
Energy (kcal)	PERIOD	6729744.118	356010069.474	6729744.118	970054.685	367	1	6.937	0.009
Energy (kcal)	Gender*PERIOD	319518.377	356010069.474	319518.377	970054.685	367	1	0.329	0.566
Energy (%DRI)	Gender	12276.926	1253210.436	12276.926	3414.742	367	1	3.595	0.059
Energy (%DRI)	PERIOD	24053.248	1253210.436	24053.248	3414.742	367	1	7.044	0.008
Energy (%DRI)	Gender*PERIOD	1795.519	1253210.436	1795.519	3414.742	367	1	0.526	0.469
Potassium (mg)	Gender	133888.416	975826572.981	133888.416	2658927.992	367	1	0.050	0.823
Potassium (mg)	PERIOD	29106474.633	975826572.981	29106474.633	2658927.992	367	1	10.947	0.001
Potassium (mg)	Gender*PERIOD	677606.993	975826572.981	677606.993	2658927.992	367	1	0.255	0.614
Potassium (%DRI)	Gender	66.118	481889.666	66.118	1313.051	367	1	0.050	0.823
Potassium (%DRI)	PERIOD	14373.568	481889.666	14373.568	1313.051	367	1	10.947	0.001
Potassium (%DRI)	Gender*PERIOD	334.621	481889.666	334.621	1313.051	367	1	0.255	0.614
Potassium (%DRV--high)	Gender	9772330.858	1976191035.728	9772330.858	5384716.719	367	1	1.815	0.179
Potassium (%DRV--high)	PERIOD	13353124.405	1976191035.728	13353124.405	5384716.719	367	1	2.480	0.116
Potassium (%DRV--high)	Gender*PERIOD	28643428.808	1976191035.728	28643428.808	5384716.719	367	1	5.319	0.022
Potassium (%DRV--low)	Gender	1044437.236	237236490.198	1044437.236	646420.954	367	1	1.616	0.204
Potassium (%DRV--low)	PERIOD	2113180.641	237236490.198	2113180.641	646420.954	367	1	3.269	0.071
Potassium (%DRV--low)	Gender*PERIOD	3029218.616	237236490.198	3029218.616	646420.954	367	1	4.686	0.031
Protein (g)	Gender	806.251	596316.365	806.251	1624.840	367	1	0.496	0.482
Protein (g)	PERIOD	15822.629	596316.365	15822.629	1624.840	367	1	9.738	0.002
Protein (g)	Gender*PERIOD	799.457	596316.365	799.457	1624.840	367	1	0.492	0.483
Protein (%DRI)	Gender	6974.488	5158446.061	6974.488	14055.711	367	1	0.496	0.482
Protein (%DRI)	PERIOD	136873.956	5158446.061	136873.956	14055.711	367	1	9.738	0.002
Protein (%DRI)	Gender*PERIOD	6915.720	5158446.061	6915.720	14055.711	367	1	0.492	0.483

Table 13: Regression Analysis for Nutrient Intake by Year and Availability of a School Feeding Program (SFP)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Vitamin A (IU)	SFP	114272092.862	9911832234.174	114272092.862	27007717.259	367	1	4.231	0.040
Vitamin A (IU)	PERIOD	160886139.286	9911832234.174	160886139.286	27007717.259	367	1	5.957	0.015
Vitamin A (IU)	SFP*PERIOD	641796.031	9911832234.174	641796.031	27007717.259	367	1	0.024	0.878
Vitamin A (%DRI)	SFP	286252.451	24829214.185	286252.451	67654.535	367	1	4.231	0.040
Vitamin A (%DRI)	PERIOD	403020.987	24829214.185	403020.987	67654.535	367	1	5.957	0.015
Vitamin A (%DRI)	SFP*PERIOD	1607.704	24829214.185	1607.704	67654.535	367	1	0.024	0.878
Vitamin A (%DRV)	SFP	2928194.255	222609185.656	2928194.255	606564.539	367	1	4.828	0.029
Vitamin A (%DRV)	PERIOD	526343.805	222609185.656	526343.805	606564.539	367	1	0.868	0.352
Vitamin A (%DRV)	SFP*PERIOD	61221.131	222609185.656	61221.131	606564.539	367	1	0.101	0.751
Vitamin A density	SFP	8116009.205	2901238436.893	8116009.205	7905281.844	367	1	1.027	0.312
Vitamin A density	PERIOD	31829513.782	2901238436.893	31829513.782	7905281.844	367	1	4.026	0.046
Vitamin A density	SFP*PERIOD	6278520.165	2901238436.893	6278520.165	7905281.844	367	1	0.794	0.373
Thiamin (mg)	SFP	0.594	163.974	0.594	0.447	367	1	1.330	0.249
Thiamin (mg)	PERIOD	1.152	163.974	1.152	0.447	367	1	2.579	0.109
Thiamin (mg)	SFP*PERIOD	0.926	163.974	0.926	0.447	367	1	2.072	0.151
Vitamin B12 (mcg)	SFP	27.133	4671.288	27.133	12.728	367	1	2.132	0.145
Vitamin B12 (mcg)	PERIOD	86.972	4671.288	86.972	12.728	367	1	6.833	0.009
Vitamin B12 (mcg)	SFP*PERIOD	20.806	4671.288	20.806	12.728	367	1	1.635	0.202
Vitamin B12 (%DRI)	SFP	83744.531	14417556.256	83744.531	39284.894	367	1	2.132	0.145
Vitamin B12 (%DRI)	PERIOD	268431.582	14417556.256	268431.582	39284.894	367	1	6.833	0.009
Vitamin B12 (%DRI)	SFP*PERIOD	64214.961	14417556.256	64214.961	39284.894	367	1	1.635	0.202
Vitamin B12 (%DRV)	SFP	50466.833	15826382.504	50466.833	43123.658	367	1	1.170	0.280
Vitamin B12 (%DRV)	PERIOD	148097.465	15826382.504	148097.465	43123.658	367	1	3.434	0.065
Vitamin B12 (%DRV)	SFP*PERIOD	141065.593	15826382.504	141065.593	43123.658	367	1	3.271	0.071
Vitamin B12 density	SFP	9.269	929.371	9.269	2.532	367	1	3.660	0.057
Vitamin B12 density	PERIOD	7.398	929.371	7.398	2.532	367	1	2.922	0.088
Vitamin B12 density	SFP*PERIOD	9.758	929.371	9.758	2.532	367	1	3.853	0.050

Table 13: Regression Analysis for Nutrient Intake by Year and School Feeding Program (SFP) (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Thiamin (%DRI)	SFP	7338.620	2024375.326	7338.620	5516.009	367	1	1.330	0.249
Thiamin (%DRI)	PERIOD	14225.996	2024375.326	14225.996	5516.009	367	1	2.579	0.109
Thiamin (%DRI)	SFP*PERIOD	11430.651	2024375.326	11430.651	5516.009	367	1	2.072	0.151
Thiamin (%DRV)	SFP	4926.931	2453116.683	4926.931	6720.868	365	1	0.733	0.392
Thiamin (%DRV)	PERIOD	2198.753	2453116.683	2198.753	6720.868	365	1	0.327	0.568
Thiamin (%DRV)	SFP*PERIOD	2211.161	2453116.683	2211.161	6720.868	365	1	0.329	0.567
Thiamin density	SFP	0.229	18.220	0.229	0.050	367	1	4.605	0.033
Thiamin density	PERIOD	0.045	18.220	0.045	0.050	367	1	0.913	0.340
Thiamin density	SFP*PERIOD	0.001	18.220	0.001	0.050	367	1	0.028	0.867
Riboflavin (mg)	SFP	2.096	199.811	2.096	0.544	367	1	3.849	0.051
Riboflavin (mg)	PERIOD	2.921	199.811	2.921	0.544	367	1	5.364	0.021
Riboflavin (mg)	SFP*PERIOD	0.056	199.811	0.056	0.544	367	1	0.103	0.748
Riboflavin (%DRI)	SFP	25871.624	2466802.617	25871.624	6721.533	367	1	3.849	0.051
Riboflavin (%DRI)	PERIOD	36056.076	2466802.617	36056.076	6721.533	367	1	5.364	0.021
Riboflavin (%DRI)	SFP*PERIOD	692.331	2466802.617	692.331	6721.533	367	1	0.103	0.748
Riboflavin (%DRV)	SFP	24455.535	3244615.148	24455.535	8840.913	367	1	2.766	0.097
Riboflavin (%DRV)	PERIOD	15455.692	3244615.148	15455.692	8840.913	367	1	1.748	0.187
Riboflavin (%DRV)	SFP*PERIOD	18443.159	3244615.148	18443.159	8840.913	367	1	2.086	0.149
Riboflavin density	SFP	0.002	24.103	0.002	0.066	367	1	0.033	0.856
Riboflavin density	PERIOD	0.094	24.103	0.094	0.066	367	1	1.431	0.232
Riboflavin density	SFP*PERIOD	0.151	24.103	0.151	0.066	367	1	2.303	0.130

Table 13: Regression Analysis for Nutrient Intake by Year and School Feeding Program (SFP) (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Niacin (mg)	SFP	90.488	43261.687	90.488	117.879	367	1	0.768	0.382
Niacin (mg)	PERIOD	339.176	43261.687	339.176	117.879	367	1	2.877	0.091
Niacin (mg)	SFP*PERIOD	30.064	43261.687	30.064	117.879	367	1	0.255	0.614
Niacin (%DRI)	SFP	6283.862	3004283.852	6283.862	8186.060	367	1	0.768	0.382
Niacin (%DRI)	PERIOD	23553.880	3004283.852	23553.880	8186.060	367	1	2.877	0.091
Niacin (%DRI)	SFP*PERIOD	2087.799	3004283.852	2087.799	8186.060	367	1	0.255	0.614
Niacin (%DRV)	SFP	1929.336	3082397.347	1929.336	8398.903	367	1	0.230	0.632
Niacin (%DRV)	PERIOD	7806.909	3082397.347	7806.909	8398.903	367	1	0.930	0.336
Niacin (%DRV)	SFP*PERIOD	4666.769	3082397.347	4666.769	8398.903	367	1	0.556	0.456
Niacin density	SFP	40.377	4219.943	40.377	11.498	367	1	3.512	0.062
Niacin density	PERIOD	0.168	4219.943	0.168	11.498	367	1	0.015	0.904
Niacin density	SFP*PERIOD	37.343	4219.943	37.343	11.498	367	1	3.248	0.072
Vitamin B6 (mg)	SFP	4.302	347.280	4.302	0.946	367	1	4.546	0.034
Vitamin B6 (mg)	PERIOD	9.060	347.280	9.060	0.946	367	1	9.574	0.002
Vitamin B6 (mg)	SFP*PERIOD	0.370	347.280	0.370	0.946	367	1	0.391	0.532
Vitamin B6 (%DRI)	SFP	43017.246	3472797.763	43017.246	9462.664	367	1	4.546	0.034
Vitamin B6 (%DRI)	PERIOD	90598.518	3472797.763	90598.518	9462.664	367	1	9.574	0.002
Vitamin B6 (%DRI)	SFP*PERIOD	3696.717	3472797.763	3696.717	9462.664	367	1	0.391	0.532
Vitamin B6 (%DRV)	SFP	20663.578	3243900.122	20663.578	8838.965	367	1	2.338	0.127
Vitamin B6 (%DRV)	PERIOD	31503.412	3243900.122	31503.412	8838.965	367	1	3.564	0.060
Vitamin B6 (%DRV)	SFP*PERIOD	9070.149	3243900.122	9070.149	8838.965	367	1	1.026	0.312
Vitamin B6 density	SFP	0.123	46.749	0.123	0.127	367	1	0.964	0.327
Vitamin B6 density	PERIOD	0.460	46.749	0.460	0.127	367	1	3.613	0.058
Vitamin B6 density	SFP*PERIOD	0.112	46.749	0.112	0.127	367	1	0.880	0.349

Table 13: Regression Analysis for Nutrient Intake by Year and School Feeding Program (SFP) (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Vitamin C (mg)	SFP	207281.786	29637100.750	207281.786	80755.043	367	1	2.567	0.110
Vitamin C (mg)	PERIOD	2124323.920	29637100.750	2124323.920	80755.043	367	1	26.306	0.000
Vitamin C (mg)	SFP*PERIOD	50155.162	29637100.750	50155.162	80755.043	367	1	0.621	0.431
Calcium density	SFP	26237.825	11012052.400	26237.825	30005.592	367	1	0.874	0.350
Calcium density	PERIOD	296435.044	11012052.400	296435.044	30005.592	367	1	9.879	0.002
Calcium density	SFP*PERIOD	101892.823	11012052.400	101892.823	30005.592	367	1	3.396	0.066
Vitamin C density	SFP	7133.730	5800996.745	7133.730	15806.531	367	1	0.451	0.502
Vitamin C density	PERIOD	397647.824	5800996.745	397647.824	15806.531	367	1	25.157	0.000
Vitamin C density	SFP*PERIOD	47861.059	5800996.745	47861.059	15806.531	367	1	3.028	0.083
Calcium (mg)	SFP	69929.261	65686733.831	69929.261	178982.926	367	1	0.391	0.532
Calcium (mg)	PERIOD	2783521.915	65686733.831	2783521.915	178982.926	367	1	15.552	0.000
Calcium (mg)	SFP*PERIOD	36791.389	65686733.831	36791.389	178982.926	367	1	0.206	0.651
Calcium (%DRI)	SFP	413.783	388678.898	413.783	1059.071	367	1	0.391	0.532
Calcium (%DRI)	PERIOD	16470.544	388678.898	16470.544	1059.071	367	1	15.552	0.000
Calcium (%DRI)	SFP*PERIOD	217.701	388678.898	217.701	1059.071	367	1	0.206	0.651
Calcium (%DRV)	SFP	33850.294	68008994.489	33850.294	185310.612	367	1	0.183	0.669
Calcium (%DRV)	PERIOD	202389.360	68008994.489	202389.360	185310.612	367	1	1.092	0.297
Calcium (%DRV)	SFP*PERIOD	447465.384	68008994.489	447465.384	185310.612	367	1	2.415	0.121
Vitamin C (%DRI)	SFP	1023613.757	146356053.088	1023613.757	398790.335	367	1	2.567	0.110
Vitamin C (%DRI)	PERIOD	10490488.493	146356053.088	10490488.493	398790.335	367	1	26.306	0.000
Vitamin C (%DRI)	SFP*PERIOD	247679.814	146356053.088	247679.814	398790.335	367	1	0.621	0.431
Vitamin C (%DRV)	SFP	756802.589	233224713.563	756802.589	635489.683	367	1	1.191	0.276
Vitamin C (%DRV)	PERIOD	13707040.611	233224713.563	13707040.611	635489.683	367	1	21.569	0.000
Vitamin C (%DRV)	SFP*PERIOD	719754.132	233224713.563	719754.132	635489.683	367	1	1.133	0.288

Table 13: Regression Analysis for Nutrient Intake by Year and School Feeding Program (SFP) (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Vitamin E (mg)	SFP	125.200	9449.805	125.200	25.749	367	1	4.862	0.028
Vitamin E (mg)	PERIOD	64.876	9449.805	64.876	25.749	367	1	2.520	0.113
Vitamin E (mg)	SFP*PERIOD	0.811	9449.805	0.811	25.749	367	1	0.031	0.859
Vitamin E density	SFP	3.152	1147.490	3.152	3.127	367	1	1.008	0.316
Vitamin E density	PERIOD	0.260	1147.490	0.260	3.127	367	1	0.083	0.773
Vitamin E density	SFP*PERIOD	5.478	1147.490	5.478	3.127	367	1	1.752	0.186
Vitamin E (%DRI)	SFP	10347.147	780975.617	10347.147	2127.999	367	1	4.862	0.028
Vitamin E (%DRI)	PERIOD	5361.649	780975.617	5361.649	2127.999	367	1	2.520	0.113
Vitamin E (%DRI)	SFP*PERIOD	67.002	780975.617	67.002	2127.999	367	1	0.031	0.859
Vitamin E (%DRV)	SFP	13978.912	1912133.500	13978.912	5210.173	367	1	2.683	0.102
Vitamin E (%DRV)	PERIOD	8462.325	1912133.500	8462.325	5210.173	367	1	1.624	0.203
Vitamin E (%DRV)	SFP*PERIOD	3176.395	1912133.500	3176.395	5210.173	367	1	0.610	0.435
Fat (%DRV)	SFP	10275.692	1266971.735	10275.692	3452.239	367	1	2.977	0.085
Fat (%DRV)	PERIOD	4043.039	1266971.735	4043.039	3452.239	367	1	1.171	0.280
Fat (%DRV)	SFP*PERIOD	11561.086	1266971.735	11561.086	3452.239	367	1	3.349	0.068
Fat density	SFP	15.326	30855.929	15.326	84.076	367	1	0.182	0.670
Fat density	PERIOD	449.743	30855.929	449.743	84.076	367	1	5.349	0.021
Fat density	SFP*PERIOD	196.189	30855.929	196.189	84.076	367	1	2.333	0.127
Iron density	SFP	1.887	1292.844	1.887	3.523	367	1	0.536	0.465
Iron density	PERIOD	0.412	1292.844	0.412	3.523	367	1	0.117	0.733
Iron density	SFP*PERIOD	0.207	1292.844	0.207	3.523	367	1	0.059	0.809
Fiber (%DRV)	SFP	35606.559	4591638.843	35606.559	12511.278	367	1	2.846	0.092
Fiber (%DRV)	PERIOD	166010.797	4591638.843	166010.797	12511.278	367	1	13.269	0.000
Fiber (%DRV)	SFP*PERIOD	9079.765	4591638.843	9079.765	12511.278	367	1	0.726	0.395
Fiber density	SFP	0.041	9674.922	0.041	26.362	367	1	0.002	0.969
Fiber density	PERIOD	331.666	9674.922	331.666	26.362	367	1	12.581	0.000
Fiber density	SFP*PERIOD	24.830	9674.922	24.830	26.362	367	1	0.942	0.332

Table 13: Regression Analysis for Nutrient Intake by Year and School Feeding Program (SFP) (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Folate (mcg)	SFP	50424.726	13201690.576	50424.726	35971.909	367	1	1.402	0.237
Folate (mcg)	PERIOD	109681.522	13201690.576	109681.522	35971.909	367	1	3.049	0.082
Folate (mcg)	SFP*PERIOD	90227.571	13201690.576	90227.571	35971.909	367	1	2.508	0.114
Folate density	SFP	12154.447	1926871.853	12154.447	5250.332	367	1	2.315	0.129
Folate density	PERIOD	478.585	1926871.853	478.585	5250.332	367	1	0.091	0.763
Folate density	SFP*PERIOD	108.994	1926871.853	108.994	5250.332	367	1	0.021	0.886
Iron (mg)	SFP	141.127	14940.488	141.127	40.710	367	1	3.467	0.063
Iron (mg)	PERIOD	168.107	14940.488	168.107	40.710	367	1	4.129	0.043
Iron (mg)	SFP*PERIOD	103.686	14940.488	103.686	40.710	367	1	2.547	0.111
Iron (%DRI)	SFP	22051.077	2334451.232	22051.077	6360.903	367	1	3.467	0.063
Iron (%DRI)	PERIOD	26266.738	2334451.232	26266.738	6360.903	367	1	4.129	0.043
Iron (%DRI)	SFP*PERIOD	16200.953	2334451.232	16200.953	6360.903	367	1	2.547	0.111
Iron (%DRV--high)	SFP	3450.820	546541.497	3450.820	1489.214	367	1	2.317	0.129
Iron (%DRV--high)	PERIOD	1321.497	546541.497	1321.497	1489.214	367	1	0.887	0.347
Iron (%DRV--high)	SFP*PERIOD	165.640	546541.497	165.640	1489.214	367	1	0.111	0.739
Iron (%DRV--low)	SFP	27658.517	5272433.326	27658.517	14366.303	367	1	1.925	0.166
Iron (%DRV--low)	PERIOD	10046.719	5272433.326	10046.719	14366.303	367	1	0.699	0.404
Iron (%DRV--low)	SFP*PERIOD	3670.631	5272433.326	3670.631	14366.303	367	1	0.256	0.614
Folate (%DRI)	SFP	5602.747	1466854.508	5602.747	3996.879	367	1	1.402	0.237
Folate (%DRI)	PERIOD	12186.836	1466854.508	12186.836	3996.879	367	1	3.049	0.082
Folate (%DRI)	SFP*PERIOD	10025.286	1466854.508	10025.286	3996.879	367	1	2.508	0.114
Energy (%DRV)	SFP	10469.347	1049693.850	10469.347	2860.201	367	1	3.660	0.056
Energy (%DRV)	PERIOD	15815.266	1049693.850	15815.266	2860.201	367	1	5.529	0.019
Energy (%DRV)	SFP*PERIOD	7219.296	1049693.850	7219.296	2860.201	367	1	2.524	0.113
Energy Density	SFP	4.148	350.220	4.148	0.954	367	1	4.347	0.038
Energy Density	PERIOD	5.193	350.220	5.193	0.954	367	1	5.441	0.020
Energy Density	SFP*PERIOD	2.096	350.220	2.096	0.954	367	1	2.196	0.139

Table 13: Regression Analysis for Nutrient Intake by Year and School Feeding Program (SFP) (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Sodium density	PERIOD	10800634.812	336843233.012	10800634.812	917828.973	367	1	11.768	0.001
Sodium density	SFP*PERIOD	2476102.193	336843233.012	2476102.193	917828.973	367	1	2.698	0.101
Sodium (mg)	SFP	27730964.259	2545925480.681	27730964.259	6937126.650	367	1	3.997	0.046
Sodium (mg)	PERIOD	88693593.375	2545925480.681	88693593.375	6937126.650	367	1	12.785	0.000
Sodium (mg)	SFP*PERIOD	8270363.495	2545925480.681	8270363.495	6937126.650	367	1	1.192	0.276
Sodium (%DRI)	SFP	123248.730	11315224.359	123248.730	30831.674	367	1	3.997	0.046
Sodium (%DRI)	PERIOD	394193.748	11315224.359	394193.748	30831.674	367	1	12.785	0.000
Sodium (%DRI)	SFP*PERIOD	36757.171	11315224.359	36757.171	30831.674	367	1	1.192	0.276
Sodium (%DRV--high)	SFP	3206444.520	1341667140.493	3206444.520	3665757.214	366	1	0.875	0.350
Sodium (%DRV--high)	PERIOD	7060379.956	1341667140.493	7060379.956	3665757.214	366	1	1.926	0.166
Sodium (%DRV--high)	SFP*PERIOD	6361427.303	1341667140.493	6361427.303	3665757.214	366	1	1.735	0.189
Sodium (%DRV--low)	SFP	326546.781	125123734.502	326546.781	341868.127	366	1	0.955	0.329
Sodium (%DRV--low)	PERIOD	3529471.860	125123734.502	3529471.860	341868.127	366	1	10.324	0.001
Sodium (%DRV--low)	SFP*PERIOD	4319.187	125123734.502	4319.187	341868.127	366	1	0.013	0.911
Phosphorus (mg)	SFP	176292.457	121799860.302	176292.457	331879.728	367	1	0.531	0.467
Phosphorus (mg)	PERIOD	5865854.201	121799860.302	5865854.201	331879.728	367	1	17.675	0.000
Phosphorus (mg)	SFP*PERIOD	8503.316	121799860.302	8503.316	331879.728	367	1	0.026	0.873
Potassium density	SFP	147023.020	100810698.959	147023.020	274688.553	367	1	0.535	0.465
Potassium density	PERIOD	1555362.880	100810698.959	1555362.880	274688.553	367	1	5.662	0.018
Potassium density	SFP*PERIOD	934056.141	100810698.959	934056.141	274688.553	367	1	3.400	0.066
Protein (%DRV)	SFP	630.485	7445454.028	630.485	20287.341	367	1	0.031	0.860
Protein (%DRV)	PERIOD	169192.522	7445454.028	169192.522	20287.341	367	1	8.340	0.004
Protein (%DRV)	SFP*PERIOD	19580.817	7445454.028	19580.817	20287.341	367	1	0.965	0.327
Protein density	SFP	1189.576	51099.156	1189.576	139.235	367	1	8.544	0.004
Protein density	PERIOD	449.909	51099.156	449.909	139.235	367	1	3.231	0.073
Protein density	SFP*PERIOD	60.083	51099.156	60.083	139.235	367	1	0.432	0.512

Table 13: Regression Analysis for Nutrient Intake by Year and School Feeding Program (SFP) (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Phosphorus density	SFP	527137.470	12283058.507	527137.470	33468.824	367	1	15.750	0.000
Phosphorus density	PERIOD	561066.712	12283058.507	561066.712	33468.824	367	1	16.764	0.000
Phosphorus density	SFP*PERIOD	121781.093	12283058.507	121781.093	33468.824	367	1	3.639	0.057
Phosphorus (%DRI)	SFP	1128.272	779519.106	1128.272	2124.030	367	1	0.531	0.467
Phosphorus (%DRI)	PERIOD	37541.467	779519.106	37541.467	2124.030	367	1	17.675	0.000
Phosphorus (%DRI)	SFP*PERIOD	54.421	779519.106	54.421	2124.030	367	1	0.026	0.873
Phosphorus (%DRV)	SFP	28.178	11710534.289	28.178	31908.813	367	1	0.001	0.976
Phosphorus (%DRV)	PERIOD	319954.744	11710534.289	319954.744	31908.813	367	1	10.027	0.002
Phosphorus (%DRV)	SFP*PERIOD	34562.949	11710534.289	34562.949	31908.813	367	1	1.083	0.299
Vitamin K density	SFP	417.585	48311.611	417.585	136.860	353	1	3.051	0.082
Vitamin K density	PERIOD	40.645	48311.611	40.645	136.860	353	1	0.297	0.586
Vitamin K density	SFP*PERIOD	134.667	48311.611	134.667	136.860	353	1	0.984	0.322
Vitamin K (mcg)	SFP	5699.731	652785.359	5699.731	1849.250	353	1	3.082	0.080
Vitamin K (mcg)	PERIOD	1556.545	652785.359	1556.545	1849.250	353	1	0.842	0.360
Vitamin K (mcg)	SFP*PERIOD	2196.208	652785.359	2196.208	1849.250	353	1	1.188	0.277
Vitamin K (%DRI)	SFP	15832.585	1813292.665	15832.585	5136.806	353	1	3.082	0.080
Vitamin K (%DRI)	PERIOD	4323.737	1813292.665	4323.737	5136.806	353	1	0.842	0.360
Vitamin K (%DRI)	SFP*PERIOD	6100.578	1813292.665	6100.578	5136.806	353	1	1.188	0.277
Vitamin K (%DRV--high)	SFP	2669292.569	471831718.373	2669292.569	1336633.763	353	1	1.997	0.158
Vitamin K (%DRV--high)	PERIOD	152012.114	471831718.373	152012.114	1336633.763	353	1	0.114	0.736
Vitamin K (%DRV--high)	SFP*PERIOD	404894.208	471831718.373	404894.208	1336633.763	353	1	0.303	0.582
Vitamin K (%DRV--low)	SFP	1256328.615	193562908.967	1256328.615	548336.853	353	1	2.291	0.131
Vitamin K (%DRV--low)	PERIOD	93595.418	193562908.967	93595.418	548336.853	353	1	0.171	0.680
Vitamin K (%DRV--low)	SFP*PERIOD	219148.306	193562908.967	219148.306	548336.853	353	1	0.400	0.528
Zinc density	SFP	0.215	576.830	0.215	1.572	367	1	0.137	0.712
Zinc density	PERIOD	4.879	576.830	4.879	1.572	367	1	3.104	0.079
Zinc density	SFP*PERIOD	0.177	576.830	0.177	1.572	367	1	0.113	0.737

Table 13: Regression Analysis for Nutrient Intake by Year and School Feeding Program (SFP) (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Zinc (mg)	SFP	47.914	5588.952	47.914	15.229	367	1	3.146	0.077
Zinc (mg)	PERIOD	132.775	5588.952	132.775	15.229	367	1	8.719	0.003
Zinc (mg)	SFP*PERIOD	48.925	5588.952	48.925	15.229	367	1	3.213	0.074
Zinc (%DRI)	SFP	7486.609	873273.717	7486.609	2379.492	367	1	3.146	0.077
Zinc (%DRI)	PERIOD	20746.157	873273.717	20746.157	2379.492	367	1	8.719	0.003
Zinc (%DRI)	SFP*PERIOD	7644.535	873273.717	7644.535	2379.492	367	1	3.213	0.074
Zinc (%DRV)	SFP	40988.636	2050656.715	40988.636	5587.620	367	1	7.336	0.007
Zinc (%DRV)	PERIOD	60308.481	2050656.715	60308.481	5587.620	367	1	10.793	0.001
Zinc (%DRV)	SFP*PERIOD	11155.601	2050656.715	11155.601	5587.620	367	1	1.996	0.159
Fat (g)	SFP	6246.213	645904.348	6246.213	1759.957	367	1	3.549	0.060
Fat (g)	PERIOD	1649.704	645904.348	1649.704	1759.957	367	1	0.937	0.334
Fat (g)	SFP*PERIOD	5245.607	645904.348	5245.607	1759.957	367	1	2.981	0.085
Fat (%DRI)	SFP	45543.457	8050692.080	45543.457	21936.491	367	1	2.076	0.150
Fat (%DRI)	PERIOD	9997.173	8050692.080	9997.173	21936.491	367	1	0.456	0.500
Fat (%DRI)	SFP*PERIOD	16825.814	8050692.080	16825.814	21936.491	367	1	0.767	0.382
Fiber (g)	SFP	856.749	98999.203	856.749	269.753	367	1	3.176	0.076
Fiber (g)	PERIOD	3819.789	98999.203	3819.789	269.753	367	1	14.160	0.000
Fiber (g)	SFP*PERIOD	178.168	98999.203	178.168	269.753	367	1	0.660	0.417
Fiber (%DRI)	SFP	9417.593	1285154.245	9417.593	3501.783	367	1	2.689	0.102
Fiber (%DRI)	PERIOD	44849.774	1285154.245	44849.774	3501.783	367	1	12.808	0.000
Fiber (%DRI)	SFP*PERIOD	2631.334	1285154.245	2631.334	3501.783	367	1	0.751	0.387
Fiber (%DRV)	SFP	12216.745	1698261.007	12216.745	4627.414	367	1	2.640	0.105
Fiber (%DRV)	PERIOD	8524.399	1698261.007	8524.399	4627.414	367	1	1.842	0.176
Fiber (%DRV)	SFP*PERIOD	7505.666	1698261.007	7505.666	4627.414	367	1	1.622	0.204

Table 13: Regression Analysis for Nutrient Intake by Year and School Feeding Program (SFP) (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Energy (kcal)	SFP	4148075.419	350219628.840	4148075.419	954276.918	367	1	4.347	0.038
Energy (kcal)	PERIOD	5192649.014	350219628.840	5192649.014	954276.918	367	1	5.441	0.020
Energy (kcal)	SFP*PERIOD	2095503.114	350219628.840	2095503.114	954276.918	367	1	2.196	0.139
Energy (%DRI)	SFP	12554.467	1246234.951	12554.467	3395.736	367	1	3.697	0.055
Energy (%DRI)	PERIOD	18778.868	1246234.951	18778.868	3395.736	367	1	5.530	0.019
Energy (%DRI)	SFP*PERIOD	8520.751	1246234.951	8520.751	3395.736	367	1	2.509	0.114
Potassium (mg)	SFP	13649928.967	962941879.666	13649928.967	2623819.836	367	1	5.202	0.023
Potassium (mg)	PERIOD	27486866.729	962941879.666	27486866.729	2623819.836	367	1	10.476	0.001
Potassium (mg)	SFP*PERIOD	48026.211	962941879.666	48026.211	2623819.836	367	1	0.018	0.892
Potassium (%DRI)	SFP	6740.706	475526.854	6740.706	1295.713	367	1	5.202	0.023
Potassium (%DRI)	PERIOD	13573.761	475526.854	13573.761	1295.713	367	1	10.476	0.001
Potassium (%DRI)	SFP*PERIOD	23.717	475526.854	23.717	1295.713	367	1	0.018	0.892
Potassium (%DRV--high)	SFP	9231457.864	1990582146.533	9231457.864	5423929.555	367	1	1.702	0.193
Potassium (%DRV--high)	PERIOD	8561282.095	1990582146.533	8561282.095	5423929.555	367	1	1.578	0.210
Potassium (%DRV--high)	SFP*PERIOD	14887477.753	1990582146.533	14887477.753	5423929.555	367	1	2.745	0.098
Potassium (%DRV--low)	SFP	1395839.156	238264597.734	1395839.156	649222.337	367	1	2.150	0.143
Potassium (%DRV--low)	PERIOD	1453214.247	238264597.734	1453214.247	649222.337	367	1	2.238	0.135
Potassium (%DRV--low)	SFP*PERIOD	1659764.559	238264597.734	1659764.559	649222.337	367	1	2.557	0.111
Protein (g)	SFP	50.495	596298.968	50.495	1624.793	367	1	0.031	0.860
Protein (g)	PERIOD	13550.460	596298.968	13550.460	1624.793	367	1	8.340	0.004
Protein (g)	SFP*PERIOD	1568.208	596298.968	1568.208	1624.793	367	1	0.965	0.327
Protein (%DRI)	SFP	436.807	5158295.568	436.807	14055.301	367	1	0.031	0.860
Protein (%DRI)	PERIOD	117218.511	5158295.568	117218.511	14055.301	367	1	8.340	0.004
Protein (%DRI)	SFP*PERIOD	13565.814	5158295.568	13565.814	14055.301	367	1	0.965	0.327

Table 14: Regression Analysis for Nutrient Intake by Year and Region

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Vitamin A (IU)	REGION	418809728.454	9361731238.614	209404864.227	25648578.736	365	2	8.164	0.000
Vitamin A (IU)	PERIOD	102403491.831	9361731238.614	102403491.831	25648578.736	365	1	3.993	0.046
Vitamin A (IU)	REGION*PERIOD	243902687.929	9361731238.614	121951343.964	25648578.736	365	2	4.755	0.009
Vitamin A (%DRI)	REGION	1049121.515	23451207.059	524560.758	64249.882	365	2	8.164	0.000
Vitamin A (%DRI)	PERIOD	256521.516	23451207.059	256521.516	64249.882	365	1	3.993	0.046
Vitamin A (%DRI)	REGION*PERIOD	610978.065	23451207.059	305489.032	64249.882	365	2	4.755	0.009
Vitamin A (%DRV)	REGION	2776063.882	219508593.687	1388031.941	601393.407	365	2	2.308	0.101
Vitamin A (%DRV)	PERIOD	243903.068	219508593.687	243903.068	601393.407	365	1	0.406	0.525
Vitamin A (%DRV)	REGION*PERIOD	3225632.245	219508593.687	1612816.122	601393.407	365	2	2.682	0.070
Vitamin A density	REGION	54626219.297	2826709113.669	27313109.649	7744408.531	365	2	3.527	0.030
Vitamin A density	PERIOD	17515663.379	2826709113.669	17515663.379	7744408.531	365	1	2.262	0.133
Vitamin A density	REGION*PERIOD	33913797.010	2826709113.669	16956898.505	7744408.531	365	2	2.190	0.113
Thiamin (mg)	REGION	11.611	151.674	5.805	0.416	365	2	13.971	0.000
Thiamin (mg)	PERIOD	1.351	151.674	1.351	0.416	365	1	3.252	0.072
Thiamin (mg)	REGION*PERIOD	2.250	151.674	1.125	0.416	365	2	2.707	0.068
Vitamin B12 (mcg)	REGION	119.850	4488.912	59.925	12.298	365	2	4.873	0.008
Vitamin B12 (mcg)	PERIOD	55.432	4488.912	55.432	12.298	365	1	4.507	0.034
Vitamin B12 (mcg)	REGION*PERIOD	110.684	4488.912	55.342	12.298	365	2	4.500	0.012
Vitamin B12 (%DRI)	REGION	369906.423	13854667.469	184953.211	37957.993	365	2	4.873	0.008
Vitamin B12 (%DRI)	PERIOD	171087.309	13854667.469	171087.309	37957.993	365	1	4.507	0.034
Vitamin B12 (%DRI)	REGION*PERIOD	341616.725	13854667.469	170808.363	37957.993	365	2	4.500	0.012
Vitamin B12 (%DRV)	REGION	595413.958	15260828.344	297706.979	41810.489	365	2	7.120	0.001
Vitamin B12 (%DRV)	PERIOD	87008.405	15260828.344	87008.405	41810.489	365	1	2.081	0.150
Vitamin B12 (%DRV)	REGION*PERIOD	167742.460	15260828.344	83871.230	41810.489	365	2	2.006	0.136
Vitamin B12 density	REGION	6.716	933.634	3.358	2.558	365	2	1.313	0.270
Vitamin B12 density	PERIOD	3.207	933.634	3.207	2.558	365	1	1.254	0.264
Vitamin B12 density	REGION*PERIOD	8.202	933.634	4.101	2.558	365	2	1.603	0.203

Table 14: Regression Analysis for Nutrient Intake by Year and Region (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Thiamin (%DRI)	REGION	143345.205	1872521.719	71672.602	5130.196	365	2	13.971	0.000
Thiamin (%DRI)	PERIOD	16682.394	1872521.719	16682.394	5130.196	365	1	3.252	0.072
Thiamin (%DRI)	REGION*PERIOD	27776.019	1872521.719	13888.009	5130.196	365	2	2.707	0.068
Thiamin (%DRV)	REGION	158434.933	2269038.348	79217.467	6250.794	363	2	12.673	0.000
Thiamin (%DRV)	PERIOD	2610.125	2269038.348	2610.125	6250.794	363	1	0.418	0.519
Thiamin (%DRV)	REGION*PERIOD	34632.778	2269038.348	17316.389	6250.794	363	2	2.770	0.064
Thiamin density	REGION	0.010	18.378	0.005	0.050	365	2	0.104	0.901
Thiamin density	PERIOD	0.028	18.378	0.028	0.050	365	1	0.555	0.457
Thiamin density	REGION*PERIOD	0.061	18.378	0.031	0.050	365	2	0.608	0.545
Riboflavin (mg)	REGION	5.986	190.942	2.993	0.523	365	2	5.721	0.004
Riboflavin (mg)	PERIOD	2.733	190.942	2.733	0.523	365	1	5.225	0.023
Riboflavin (mg)	REGION*PERIOD	5.177	190.942	2.589	0.523	365	2	4.948	0.008
Riboflavin (%DRI)	REGION	73901.066	2357310.361	36950.533	6458.385	365	2	5.721	0.004
Riboflavin (%DRI)	PERIOD	33746.330	2357310.361	33746.330	6458.385	365	1	5.225	0.023
Riboflavin (%DRI)	REGION*PERIOD	63916.667	2357310.361	31958.333	6458.385	365	2	4.948	0.008
Riboflavin (%DRV)	REGION	191342.686	3043784.825	95671.343	8339.137	365	2	11.473	0.000
Riboflavin (%DRV)	PERIOD	11988.833	3043784.825	11988.833	8339.137	365	1	1.438	0.231
Riboflavin (%DRV)	REGION*PERIOD	55559.573	3043784.825	27779.787	8339.137	365	2	3.331	0.037
Riboflavin density	REGION	1.757	22.272	0.879	0.061	365	2	14.400	0.000
Riboflavin density	PERIOD	0.090	22.272	0.090	0.061	365	1	1.472	0.226
Riboflavin density	REGION*PERIOD	0.217	22.272	0.108	0.061	365	2	1.775	0.171

Table 14: Regression Analysis for Nutrient Intake by Year and Region (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Niacin (mg)	REGION	2558.300	40204.461	1279.150	110.149	365	2	11.613	0.000
Niacin (mg)	PERIOD	282.927	40204.461	282.927	110.149	365	1	2.569	0.110
Niacin (mg)	REGION*PERIOD	624.326	40204.461	312.163	110.149	365	2	2.834	0.060
Niacin (%DRI)	REGION	177659.704	2791976.459	88829.852	7649.251	365	2	11.613	0.000
Niacin (%DRI)	PERIOD	19647.737	2791976.459	19647.737	7649.251	365	1	2.569	0.110
Niacin (%DRI)	REGION*PERIOD	43355.993	2791976.459	21677.997	7649.251	365	2	2.834	0.060
Niacin (%DRV)	REGION	186254.095	2878201.382	93127.047	7885.483	365	2	11.810	0.000
Niacin (%DRV)	PERIOD	5047.858	2878201.382	5047.858	7885.483	365	1	0.640	0.424
Niacin (%DRV)	REGION*PERIOD	26473.473	2878201.382	13236.736	7885.483	365	2	1.679	0.188
Niacin density	REGION	46.461	4251.130	23.231	11.647	365	2	1.995	0.138
Niacin density	PERIOD	0.730	4251.130	0.730	11.647	365	1	0.063	0.803
Niacin density	REGION*PERIOD	0.034	4251.130	0.017	11.647	365	2	0.001	0.999
Vitamin B6 (mg)	REGION	23.683	310.779	11.841	0.851	365	2	13.907	0.000
Vitamin B6 (mg)	PERIOD	6.405	310.779	6.405	0.851	365	1	7.522	0.006
Vitamin B6 (mg)	REGION*PERIOD	17.645	310.779	8.823	0.851	365	2	10.362	0.000
Vitamin B6 (%DRI)	REGION	236828.001	3107786.353	118414.001	8514.483	365	2	13.907	0.000
Vitamin B6 (%DRI)	PERIOD	64046.851	3107786.353	64046.851	8514.483	365	1	7.522	0.006
Vitamin B6 (%DRI)	REGION*PERIOD	176450.924	3107786.353	88225.462	8514.483	365	2	10.362	0.000
Vitamin B6 (%DRV)	REGION	260679.995	2955817.640	130339.997	8098.131	365	2	16.095	0.000
Vitamin B6 (%DRV)	PERIOD	17514.590	2955817.640	17514.590	8098.131	365	1	2.163	0.142
Vitamin B6 (%DRV)	REGION*PERIOD	60054.602	2955817.640	30027.301	8098.131	365	2	3.708	0.025
Vitamin B6 density	REGION	3.453	42.663	1.727	0.117	365	2	14.771	0.000
Vitamin B6 density	PERIOD	0.214	42.663	0.214	0.117	365	1	1.828	0.177
Vitamin B6 density	REGION*PERIOD	0.915	42.663	0.458	0.117	365	2	3.915	0.021

Table 14: Regression Analysis for Nutrient Intake by Year and Region (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Vitamin C (mg)	REGION	1013959.379	27998113.798	506979.690	76707.161	365	2	6.609	0.002
Vitamin C (mg)	PERIOD	1633614.062	27998113.798	1633614.062	76707.161	365	1	21.297	0.000
Vitamin C (mg)	REGION*PERIOD	876669.535	27998113.798	438334.768	76707.161	365	2	5.714	0.004
Calcium density	REGION	201526.745	10808414.838	100763.373	29612.095	365	2	3.403	0.034
Calcium density	PERIOD	235729.226	10808414.838	235729.226	29612.095	365	1	7.961	0.005
Calcium density	REGION*PERIOD	132104.575	10808414.838	66052.287	29612.095	365	2	2.231	0.109
Vitamin C density	REGION	30533.981	5780387.356	15266.990	15836.678	365	2	0.964	0.382
Vitamin C density	PERIOD	310407.857	5780387.356	310407.857	15836.678	365	1	19.601	0.000
Vitamin C density	REGION*PERIOD	45363.595	5780387.356	22681.797	15836.678	365	2	1.432	0.240
Calcium (mg)	REGION	1767922.117	61632831.905	883961.058	168857.074	365	2	5.235	0.006
Calcium (mg)	PERIOD	2240687.624	61632831.905	2240687.624	168857.074	365	1	13.270	0.000
Calcium (mg)	REGION*PERIOD	2406639.507	61632831.905	1203319.753	168857.074	365	2	7.126	0.001
Calcium (%DRI)	REGION	10461.078	364691.313	5230.539	999.154	365	2	5.235	0.006
Calcium (%DRI)	PERIOD	13258.507	364691.313	13258.507	999.154	365	1	13.270	0.000
Calcium (%DRI)	REGION*PERIOD	14240.470	364691.313	7120.235	999.154	365	2	7.126	0.001
Calcium (%DRV)	REGION	872763.789	67151347.067	436381.894	183976.293	365	2	2.372	0.095
Calcium (%DRV)	PERIOD	221955.053	67151347.067	221955.053	183976.293	365	1	1.206	0.273
Calcium (%DRV)	REGION*PERIOD	451038.635	67151347.067	225519.317	183976.293	365	2	1.226	0.295
Vitamin C (%DRI)	REGION	5007206.810	138262290.358	2503603.405	378800.796	365	2	6.609	0.002
Vitamin C (%DRI)	PERIOD	8067229.936	138262290.358	8067229.936	378800.796	365	1	21.297	0.000
Vitamin C (%DRI)	REGION*PERIOD	4329232.274	138262290.358	2164616.137	378800.796	365	2	5.714	0.004
Vitamin C (%DRV)	REGION	6790027.938	223827070.738	3395013.969	613224.851	365	2	5.536	0.004
Vitamin C (%DRV)	PERIOD	10706292.331	223827070.738	10706292.331	613224.851	365	1	17.459	0.000
Vitamin C (%DRV)	REGION*PERIOD	4115343.273	223827070.738	2057671.637	613224.851	365	2	3.355	0.036

Table 14: Regression Analysis for Nutrient Intake by Year and Region (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Vitamin E (mg)	REGION	450.596	8926.446	225.298	24.456	365	2	9.212	0.000
Vitamin E (mg)	PERIOD	44.076	8926.446	44.076	24.456	365	1	1.802	0.180
Vitamin E (mg)	REGION*PERIOD	198.982	8926.446	99.491	24.456	365	2	4.068	0.018
Vitamin E density	REGION	4.665	1143.507	2.333	3.133	365	2	0.745	0.476
Vitamin E density	PERIOD	0.915	1143.507	0.915	3.133	365	1	0.292	0.589
Vitamin E density	REGION*PERIOD	8.124	1143.507	4.062	3.133	365	2	1.297	0.275
Vitamin E (%DRI)	REGION	37239.372	737722.823	18619.686	2021.158	365	2	9.212	0.000
Vitamin E (%DRI)	PERIOD	3642.677	737722.823	3642.677	2021.158	365	1	1.802	0.180
Vitamin E (%DRI)	REGION*PERIOD	16444.777	737722.823	8222.389	2021.158	365	2	4.068	0.018
Vitamin E (%DRV)	REGION	85696.807	1821855.850	42848.403	4991.386	365	2	8.584	0.000
Vitamin E (%DRV)	PERIOD	5625.938	1821855.850	5625.938	4991.386	365	1	1.127	0.289
Vitamin E (%DRV)	REGION*PERIOD	22614.184	1821855.850	11307.092	4991.386	365	2	2.265	0.105
Fat (%DRV)	REGION	46782.314	1222687.083	23391.157	3349.828	365	2	6.983	0.001
Fat (%DRV)	PERIOD	4228.487	1222687.083	4228.487	3349.828	365	1	1.262	0.262
Fat (%DRV)	REGION*PERIOD	18963.978	1222687.083	9481.989	3349.828	365	2	2.831	0.060
Fat density	REGION	29.084	30954.495	14.542	84.807	365	2	0.171	0.842
Fat density	PERIOD	340.273	30954.495	340.273	84.807	365	1	4.012	0.046
Fat density	REGION*PERIOD	84.707	30954.495	42.354	84.807	365	2	0.499	0.607
Iron density	REGION	16.320	1258.484	8.160	3.448	365	2	2.367	0.095
Iron density	PERIOD	0.006	1258.484	0.006	3.448	365	1	0.002	0.967
Iron density	REGION*PERIOD	20.371	1258.484	10.185	3.448	365	2	2.954	0.053
Fiber (%DRV)	REGION	182574.488	4225226.652	91287.244	11575.963	365	2	7.886	0.000
Fiber (%DRV)	PERIOD	137417.608	4225226.652	137417.608	11575.963	365	1	11.871	0.001
Fiber (%DRV)	REGION*PERIOD	229407.564	4225226.652	114703.782	11575.963	365	2	9.909	0.000
Fiber density	REGION	221.005	9233.074	110.503	25.296	365	2	4.368	0.013
Fiber density	PERIOD	263.260	9233.074	263.260	25.296	365	1	10.407	0.001
Fiber density	REGION*PERIOD	253.267	9233.074	126.634	25.296	365	2	5.006	0.007

Table 14: Regression Analysis for Nutrient Intake by Year and Region (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Folate (mcg)	PERIOD	158736.851	12426503.669	158736.851	34045.216	365	1	4.663	0.031
Folate (mcg)	REGION*PERIOD	140086.584	12426503.669	70043.292	34045.216	365	2	2.057	0.129
Folate density	REGION	6006.768	1895515.207	3003.384	5193.192	365	2	0.578	0.561
Folate density	PERIOD	2362.046	1895515.207	2362.046	5193.192	365	1	0.455	0.500
Folate density	REGION*PERIOD	37690.875	1895515.207	18845.437	5193.192	365	2	3.629	0.028
Iron (mg)	REGION	1280.104	13682.143	640.052	37.485	365	2	17.075	0.000
Iron (mg)	PERIOD	203.078	13682.143	203.078	37.485	365	1	5.418	0.020
Iron (mg)	REGION*PERIOD	233.208	13682.143	116.604	37.485	365	2	3.111	0.046
Iron (%DRI)	REGION	200016.249	2137834.810	100008.125	5857.082	365	2	17.075	0.000
Iron (%DRI)	PERIOD	31730.973	2137834.810	31730.973	5857.082	365	1	5.418	0.020
Iron (%DRI)	REGION*PERIOD	36438.750	2137834.810	18219.375	5857.082	365	2	3.111	0.046
Iron (%DRV--high)	REGION	43680.821	498309.983	21840.411	1365.233	365	2	15.998	0.000
Iron (%DRV--high)	PERIOD	1629.246	498309.983	1629.246	1365.233	365	1	1.193	0.275
Iron (%DRV--high)	REGION*PERIOD	8802.960	498309.983	4401.480	1365.233	365	2	3.224	0.041
Iron (%DRV--low)	REGION	389213.099	4835582.407	194606.549	13248.171	365	2	14.689	0.000
Iron (%DRV--low)	PERIOD	12325.333	4835582.407	12325.333	13248.171	365	1	0.930	0.335
Iron (%DRV--low)	REGION*PERIOD	84848.433	4835582.407	42424.216	13248.171	365	2	3.202	0.042
Folate (%DRI)	REGION	87245.423	1380722.630	43622.711	3782.802	365	2	11.532	0.000
Folate (%DRI)	PERIOD	17637.428	1380722.630	17637.428	3782.802	365	1	4.663	0.031
Folate (%DRI)	REGION*PERIOD	15565.176	1380722.630	7782.588	3782.802	365	2	2.057	0.129
Energy (%DRV)	REGION	75234.628	961456.262	37617.314	2634.127	365	2	14.281	0.000
Energy (%DRV)	PERIOD	14961.824	961456.262	14961.824	2634.127	365	1	5.680	0.018
Energy (%DRV)	REGION*PERIOD	30416.855	961456.262	15208.427	2634.127	365	2	5.774	0.003
Energy Density	REGION	26.192	319.838	13.096	0.876	365	2	14.945	0.000
Energy Density	PERIOD	4.825	319.838	4.825	0.876	365	1	5.506	0.019
Energy Density	REGION*PERIOD	10.343	319.838	5.171	0.876	365	2	5.901	0.003

Table 14: Regression Analysis for Nutrient Intake by Year and Region (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Sodium density	REGION	2838321.462	344805208.726	1419160.731	944671.805	365	2	1.502	0.224
Sodium density	PERIOD	7764148.625	344805208.726	7764148.625	944671.805	365	1	8.219	0.004
Sodium density	REGION*PERIOD	4094279.707	344805208.726	2047139.854	944671.805	365	2	2.167	0.116
Sodium (mg)	REGION	89778202.456	2414295781.567	44889101.228	6614508.991	365	2	6.786	0.001
Sodium (mg)	PERIOD	62438029.432	2414295781.567	62438029.432	6614508.991	365	1	9.440	0.002
Sodium (mg)	REGION*PERIOD	76586786.464	2414295781.567	38293393.232	6614508.991	365	2	5.789	0.003
Sodium (%DRI)	REGION	399014.233	10730203.474	199507.117	29397.818	365	2	6.786	0.001
Sodium (%DRI)	PERIOD	277502.353	10730203.474	277502.353	29397.818	365	1	9.440	0.002
Sodium (%DRI)	REGION*PERIOD	340385.718	10730203.474	170192.859	29397.818	365	2	5.789	0.003
Sodium (%DRV--high)	REGION	18816074.294	1319949378.319	9408037.147	3626234.556	364	2	2.594	0.076
Sodium (%DRV--high)	PERIOD	6854104.286	1319949378.319	6854104.286	3626234.556	364	1	1.890	0.170
Sodium (%DRV--high)	REGION*PERIOD	11960939.087	1319949378.319	5980469.543	3626234.556	364	2	1.649	0.194
Sodium (%DRV--low)	REGION	3639140.408	118273843.671	1819570.204	324928.142	364	2	5.600	0.004
Sodium (%DRV--low)	PERIOD	2630932.687	118273843.671	2630932.687	324928.142	364	1	8.097	0.005
Sodium (%DRV--low)	REGION*PERIOD	3450563.910	118273843.671	1725281.955	324928.142	364	2	5.310	0.005
Phosphorus (mg)	REGION	6892118.756	109675471.169	3446059.378	300480.743	365	2	11.468	0.000
Phosphorus (mg)	PERIOD	5173976.199	109675471.169	5173976.199	300480.743	365	1	17.219	0.000
Phosphorus (mg)	REGION*PERIOD	5471966.230	109675471.169	2735983.115	300480.743	365	2	9.105	0.000
Potassium density	REGION	4833147.183	96916350.354	2416573.591	265524.248	365	2	9.101	0.000
Potassium density	PERIOD	977382.685	96916350.354	977382.685	265524.248	365	1	3.681	0.056
Potassium density	REGION*PERIOD	165431.148	96916350.354	82715.574	265524.248	365	2	0.312	0.733
Protein (%DRV)	REGION	369131.482	6793456.219	184565.741	18612.209	365	2	9.916	0.000
Protein (%DRV)	PERIOD	162532.292	6793456.219	162532.292	18612.209	365	1	8.733	0.003
Protein (%DRV)	REGION*PERIOD	306328.274	6793456.219	153164.137	18612.209	365	2	8.229	0.000
Protein density	REGION	379.196	51149.178	189.598	140.135	365	2	1.353	0.260
Protein density	PERIOD	393.086	51149.178	393.086	140.135	365	1	2.805	0.095
Protein density	REGION*PERIOD	837.464	51149.178	418.732	140.135	365	2	2.988	0.052

Table 14: Regression Analysis for Nutrient Intake by Year and Region (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Phosphorus density	REGION	143138.262	12538805.921	71569.131	34352.893	365	2	2.083	0.126
Phosphorus density	PERIOD	480770.454	12538805.921	480770.454	34352.893	365	1	13.995	0.000
Phosphorus density	REGION*PERIOD	255167.976	12538805.921	127583.988	34352.893	365	2	3.714	0.025
Phosphorus (%DRI)	REGION	44109.560	701923.015	22054.780	1923.077	365	2	11.468	0.000
Phosphorus (%DRI)	PERIOD	33113.448	701923.015	33113.448	1923.077	365	1	17.219	0.000
Phosphorus (%DRI)	REGION*PERIOD	35020.584	701923.015	17510.292	1923.077	365	2	9.105	0.000
Phosphorus (%DRV)	REGION	414403.158	11020308.769	207201.579	30192.627	365	2	6.863	0.001
Phosphorus (%DRV)	PERIOD	293192.578	11020308.769	293192.578	30192.627	365	1	9.711	0.002
Phosphorus (%DRV)	REGION*PERIOD	305895.568	11020308.769	152947.784	30192.627	365	2	5.066	0.007
Vitamin K density	REGION	133.220	48208.966	66.610	137.347	351	2	0.485	0.616
Vitamin K density	PERIOD	33.894	48208.966	33.894	137.347	351	1	0.247	0.620
Vitamin K density	REGION*PERIOD	519.506	48208.966	259.753	137.347	351	2	1.891	0.152
Vitamin K (mcg)	REGION	5317.293	644059.545	2658.647	1834.927	351	2	1.449	0.236
Vitamin K (mcg)	PERIOD	1263.489	644059.545	1263.489	1834.927	351	1	0.689	0.407
Vitamin K (mcg)	REGION*PERIOD	11113.023	644059.545	5556.512	1834.927	351	2	3.028	0.050
Vitamin K (%DRI)	REGION	14770.259	1789054.292	7385.129	5097.021	351	2	1.449	0.236
Vitamin K (%DRI)	PERIOD	3509.691	1789054.292	3509.691	5097.021	351	1	0.689	0.407
Vitamin K (%DRI)	REGION*PERIOD	30869.509	1789054.292	15434.754	5097.021	351	2	3.028	0.050
Vitamin K (%DRV--high)	REGION	2152348.604	467535654.049	1076174.302	1332010.410	351	2	0.808	0.447
Vitamin K (%DRV--high)	PERIOD	76889.810	467535654.049	76889.810	1332010.410	351	1	0.058	0.810
Vitamin K (%DRV--high)	REGION*PERIOD	5178063.368	467535654.049	2589031.684	1332010.410	351	2	1.944	0.145
Vitamin K (%DRV--low)	REGION	971121.237	191606686.485	485560.618	545887.996	351	2	0.889	0.412
Vitamin K (%DRV--low)	PERIOD	53315.853	191606686.485	53315.853	545887.996	351	1	0.098	0.755
Vitamin K (%DRV--low)	REGION*PERIOD	2438979.484	191606686.485	1219489.742	545887.996	351	2	2.234	0.109
Zinc density	REGION	24.038	532.503	12.019	1.459	365	2	8.238	0.000
Zinc density	PERIOD	7.930	532.503	7.930	1.459	365	1	5.436	0.020
Zinc density	REGION*PERIOD	20.521	532.503	10.261	1.459	365	2	7.033	0.001

Table 14: Regression Analysis for Nutrient Intake by Year and Region (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Zinc (mg)	REGION	169.612	5310.018	84.806	14.548	365	2	5.829	0.003
Zinc (mg)	PERIOD	171.171	5310.018	171.171	14.548	365	1	11.766	0.001
Zinc (mg)	REGION*PERIOD	212.026	5310.018	106.013	14.548	365	2	7.287	0.001
Zinc (%DRI)	REGION	26501.915	829690.265	13250.957	2273.124	365	2	5.829	0.003
Zinc (%DRI)	PERIOD	26745.496	829690.265	26745.496	2273.124	365	1	11.766	0.001
Zinc (%DRI)	REGION*PERIOD	33129.031	829690.265	16564.516	2273.124	365	2	7.287	0.001
Zinc (%DRV)	REGION	61062.476	1942843.155	30531.238	5322.858	365	2	5.736	0.004
Zinc (%DRV)	PERIOD	55903.122	1942843.155	55903.122	5322.858	365	1	10.502	0.001
Zinc (%DRV)	REGION*PERIOD	101002.969	1942843.155	50501.484	5322.858	365	2	9.488	0.000
Fat (g)	REGION	24939.915	622670.381	12469.958	1705.946	365	2	7.310	0.001
Fat (g)	PERIOD	1688.391	622670.381	1688.391	1705.946	365	1	0.990	0.320
Fat (g)	REGION*PERIOD	9598.175	622670.381	4799.088	1705.946	365	2	2.813	0.061
Fat (%DRI)	REGION	299002.141	7699620.743	149501.070	21094.851	365	2	7.087	0.001
Fat (%DRI)	PERIOD	8713.104	7699620.743	8713.104	21094.851	365	1	0.413	0.521
Fat (%DRI)	REGION*PERIOD	116051.706	7699620.743	58025.853	21094.851	365	2	2.751	0.065
Fiber (g)	REGION	4161.378	90888.914	2080.689	249.011	365	2	8.356	0.000
Fiber (g)	PERIOD	3162.593	90888.914	3162.593	249.011	365	1	12.701	0.000
Fiber (g)	REGION*PERIOD	5005.471	90888.914	2502.735	249.011	365	2	10.051	0.000
Fiber (%DRI)	REGION	49546.370	1184385.478	24773.185	3244.892	365	2	7.635	0.001
Fiber (%DRI)	PERIOD	37121.079	1184385.478	37121.079	3244.892	365	1	11.440	0.001
Fiber (%DRI)	REGION*PERIOD	63502.460	1184385.478	31751.230	3244.892	365	2	9.785	0.000
Fiber (%DRV)	REGION	119709.468	1583969.462	59854.734	4339.642	365	2	13.793	0.000
Fiber (%DRV)	PERIOD	13324.591	1583969.462	13324.591	4339.642	365	1	3.070	0.081
Fiber (%DRV)	REGION*PERIOD	15644.168	1583969.462	7822.084	4339.642	365	2	1.802	0.166

Table 14: Regression Analysis for Nutrient Intake by Year and Region (continued)

Variable	Source	Type III Sums of Square	Type III Sums of Square error	Means Square	Means Square Error	Degrees of Freedom error	DF	F	Pr>F
Energy (kcal)	REGION	26192385.239	319837977.190	13096192.620	876268.431	365	2	14.945	0.000
Energy (kcal)	PERIOD	4825016.499	319837977.190	4825016.499	876268.431	365	1	5.506	0.019
Energy (kcal)	REGION*PERIOD	10342521.534	319837977.190	5171260.767	876268.431	365	2	5.901	0.003
Energy (%DRI)	REGION	89599.586	1141203.685	44799.793	3126.585	365	2	14.329	0.000
Energy (%DRI)	PERIOD	17749.560	1141203.685	17749.560	3126.585	365	1	5.677	0.018
Energy (%DRI)	REGION*PERIOD	36180.633	1141203.685	18090.317	3126.585	365	2	5.786	0.003
Potassium (mg)	REGION	69519887.030	881547400.528	34759943.515	2415198.358	365	2	14.392	0.000
Potassium (mg)	PERIOD	20837958.894	881547400.528	20837958.894	2415198.358	365	1	8.628	0.004
Potassium (mg)	REGION*PERIOD	25697135.548	881547400.528	12848567.774	2415198.358	365	2	5.320	0.005
Potassium (%DRI)	REGION	34330.808	435332.050	17165.404	1192.691	365	2	14.392	0.000
Potassium (%DRI)	PERIOD	10290.350	435332.050	10290.350	1192.691	365	1	8.628	0.004
Potassium (%DRI)	REGION*PERIOD	12689.943	435332.050	6344.972	1192.691	365	2	5.320	0.005
Potassium (%DRV--high)	REGION	25508053.414	1969475960.992	12754026.707	5395824.551	365	2	2.364	0.096
Potassium (%DRV--high)	PERIOD	8530271.915	1969475960.992	8530271.915	5395824.551	365	1	1.581	0.209
Potassium (%DRV--high)	REGION*PERIOD	18982365.962	1969475960.992	9491182.981	5395824.551	365	2	1.759	0.174
Potassium (%DRV--low)	REGION	3214963.527	235347264.041	1607481.763	644787.025	365	2	2.493	0.084
Potassium (%DRV--low)	PERIOD	1376217.237	235347264.041	1376217.237	644787.025	365	1	2.134	0.145
Potassium (%DRV--low)	REGION*PERIOD	2655078.898	235347264.041	1327539.449	644787.025	365	2	2.059	0.129
Protein (g)	REGION	29563.371	544081.115	14781.686	1490.633	365	2	9.916	0.000
Protein (g)	PERIOD	13017.049	544081.115	13017.049	1490.633	365	1	8.733	0.003
Protein (g)	REGION*PERIOD	24533.525	544081.115	12266.763	1490.633	365	2	8.229	0.000
Protein (%DRI)	REGION	255738.506	4706584.041	127869.253	12894.751	365	2	9.916	0.000
Protein (%DRI)	PERIOD	112604.228	4706584.041	112604.228	12894.751	365	1	8.733	0.003
Protein (%DRI)	REGION*PERIOD	212227.726	4706584.041	106113.863	12894.751	365	2	8.229	0.000

Table 15: Correlation Coefficients for Anthropometric Measurements in Year 1 with Anthropometric Measurements in Year 2

Variable	Height (year 2)	Weight (year 2)	BMI (year 2)	Tricep Skinfold (year 2)
N	188.000	188.000	188.000	187.000
Height (year 1)	0.898 **	0.687 **	0.404 **	0.390
Weight (year 1)	0.757 **	0.896 **	0.790 **	0.715
BMI (year 1)	0.399 **	0.744 **	0.820 **	0.730
Tricep Skinfold (year 1)	0.396 **	0.710 **	0.775 **	0.777

**p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2

		Year 1							
	Variable	Energy (kcal)	Energy (%DRI)	Energy (%DRV)	Protein (g)	Protein (%DRI)	Protein (%DRV)	Fiber (g)	Fiber (%DRI)
	N	186	186	186	186	186	186	186	186
Year 2	Energy (kcal)	0.205 **	0.197 **	0.197 *	0.151 *	0.151 *	0.151 *	0.184 *	0.179 *
	Energy (%DRI)	0.199 **	0.219 **	0.220 **	0.146	0.146	0.146	0.167 *	0.187 *
	Energy (%DRV)	0.198 **	0.219 **	0.220 **	0.145	0.145	0.145	0.166 *	0.187 *
	Protein (g)	0.144	0.138	0.138	0.157 *	0.157 *	0.157 *	0.184 *	0.179 *
	Protein (%DRI)	0.144	0.138	0.138	0.157 *	0.157 *	0.157 *	0.184 *	0.179 *
	Protein (%DRV)	0.144	0.138	0.138	0.157 *	0.157 *	0.157 *	0.184 *	0.179 *
	Fiber (g)	0.088	0.103	0.104	0.082	0.082	0.082	0.225 **	0.243 **
	Fiber (%DRI)	0.087	0.121	0.123	0.079	0.079	0.079	0.203 **	0.240 **
	Fiber (%DRV)	0.088	0.117	0.119	0.079	0.079	0.079	0.214 **	0.245 **
	Fat (g)	0.254 **	0.228 **	0.227 **	0.195 **	0.195 **	0.195 *	0.206 **	0.191 *
	Fat (%DRI)	0.182 *	0.156 *	0.154 *	0.157 *	0.157 *	0.157 *	0.173 *	0.158 *
	Fat (%DRV)	0.236	0.227	0.226	0.180	0.180	0.180	0.180	0.180
	Vitamin A (IU)	0.117	0.121	0.122	0.011	0.011	0.011	0.112	0.123
	Vitamin A (%DRI)	0.117	0.121	0.122	0.011	0.011	0.011	0.112	0.123
	Vitamin A (%DRV)	0.137	0.143	0.144	0.003	0.003	0.003	0.129	0.140
	Thiamin (mg)	0.083	0.082	0.082	0.112	0.112	0.112	0.100	0.100
	Thiamin (%DRI)	0.083	0.082	0.082	0.112	0.112	0.112	0.100	0.100
	Thiamin (%DRV)	0.058	0.059	0.058	0.095	0.095	0.095	0.094	0.097
	Riboflavin (mg)	0.044	0.051	0.051	-0.017	-0.017	-0.017	0.047	0.053
	Riboflavin (%DRI)	0.044	0.051	0.051	-0.017	-0.017	-0.017	0.047	0.053
	Riboflavin (%DRV)	0.058	0.059	0.058	0.095	0.095	0.095	0.094	0.097
	Niacin (mg)	0.082	0.084	0.084	0.090	0.090	0.090	0.166	0.168
	Niacin (%DRI)	0.082	0.084	0.084	0.090	0.090	0.090	0.166 *	0.168 *
	Niacin (%DRV)	0.065	0.070	0.069	0.086	0.086	0.086	0.132	0.140

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Fiber (%DRV)	Fat (g)	Fat (%DRI)	Fat (%DRV)	Vitamin A (IU)	Vitamin A (%DRI)	Vitamin A (%DRV)	Thiamin (mg)	Thiamin (%DRI)	Thiamin (%DRV)	Riboflavin (mg)	Riboflavin (%DRI)
	N	186	186	186	186	186	186	186	186	186	185	186	186
Year 2	Energy (kcal)	0.181 *	0.153 *	0.129	0.145	0.109	0.109	0.117	0.188	0.188 *	0.111	0.122	0.122
	Energy (%DRI)	0.181 *	0.161 *	0.127	0.176 *	0.113	0.113	0.127	0.169 *	0.169	0.080	0.112	0.112
	Energy (%DRV)	0.181 *	0.161	0.126	0.177 *	0.111	0.111	0.126	0.167 *	0.167	0.079	0.111	0.111
	Protein (g)	0.181 *	0.068	0.063	0.061	0.064	0.064	0.036	0.127	0.127	0.111	0.112	0.112
	Protein (%DRI)	0.181 *	0.068	0.063	0.061	0.064	0.064	0.036	0.127	0.127	0.111	0.112	0.112
	Protein (%DRV)	0.181 *	0.068	0.063	0.061	0.064	0.064	0.036	0.127	0.127	0.111	0.112	0.112
	Fiber (g)	0.236 **	0.014	0.042	0.030	0.086	0.086	0.048	0.049	0.049	0.069	0.072	0.072
	Fiber (%DRI)	0.227 **	0.027	0.042	0.058	0.089	0.089	0.056	0.037	0.037	0.049	0.071	0.071
	Fiber (%DRV)	0.235 **	0.025	0.042	0.050	0.093	0.093	0.059	0.041	0.041	0.054	0.070	0.070
	Fat (g)	0.198 **	0.202 **	0.219 **	0.185 *	0.132	0.132	0.059	0.241 **	0.241 **	0.198 **	0.165 *	0.165 **
	Fat (%DRI)	0.163 *	0.134	0.163	0.120	0.104	0.104	0.032	0.167 *	0.167 *	0.153 *	0.126	0.126
	Fat (%DRV)	0.182	0.192	0.200	0.190	0.125	0.125	0.060	0.217	0.217 *	0.169	0.151	0.151
	Vitamin A (IU)	0.120	0.134	0.145	0.136	0.159	0.159	0.167	0.045	0.045	0.057	0.146	0.146
	Vitamin A (%DRI)	0.120	0.134	0.145	0.136	0.159	0.159	0.167	0.045	0.045	0.057	0.146	0.146
	Vitamin A (%DRV)	0.139	0.167	0.134	0.169	0.140	0.140	0.203	0.075	0.075	0.024	0.107	0.107
	Thiamin (mg)	0.097	-0.008	0.037	-0.008	0.025	0.025	-0.011	0.063	0.063	0.111	0.066	0.066
	Thiamin (%DRI)	0.097	-0.008	0.037	-0.008	0.025	0.025	-0.011	0.063	0.063	0.111	0.066	0.066
	Thiamin (%DRV)	0.091	-0.023	0.021	-0.021	0.049	0.049	0.007	0.043	0.043	0.085	0.057	0.057
	Riboflavin (mg)	0.049	0.007	-0.001	0.010	0.071	0.071	0.107	0.043	0.043	0.007	0.079	0.079
	Riboflavin (%DRI)	0.049	0.007	-0.001	0.010	0.071	0.071	0.107	0.043	0.043	0.007	0.079	0.079
	Riboflavin (%DRV)	0.091	-0.023	0.021	-0.021	0.049	0.049	0.007	0.043	0.043	0.085	0.057	0.057
	Niacin (mg)	0.169	0.018	0.072	0.022	0.028	0.028	-0.007	0.028	0.028	0.073	0.064	0.064
	Niacin (%DRI)	0.169	0.018	0.072	0.022	0.028	0.028	-0.007	0.028	0.028	0.073	0.064	0.064
	Niacin (%DRV)	0.136	0.025	0.064	0.030	0.037	0.037	0.012	0.014	0.014	0.039	0.084	0.084

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Riboflavin (%DRV)	Niacin (mg)	Niacin (%DRI)	Niacin (%DRV)	Vitamin B6 (mg)	Vitamin B6 (%DRI)	Vitamin B6 (%DRV)	Vitamin B12 (mcg)	Vitamin B12 (%DRI)	Vitamin B12 (%DRV)	Vitamin C (mg)	Vitamin C (%DRI)
	N	185	186	186	186	186	186	186	186	186	186	186	186
Year 2	Energy (kcal)	0.111	0.154 *	0.154 *	0.090	0.125	0.125	0.050	0.130	0.130	0.068	0.164 *	0.164 *
	Energy (%DRI)	0.080	0.149	0.149	0.066	0.124	0.124	0.027	0.127	0.127	0.051	0.146	0.146
	Energy (%DRV)	0.079	0.148	0.148	0.065	0.124	0.124	0.027	0.126	0.126	0.050	0.143	0.143
	Protein (g)	0.111	0.132	0.132	0.101	0.161 *	0.161 *	0.114	0.138	0.138	0.109	0.140	0.140
	Protein (%DRI)	0.111	0.132	0.132	0.101	0.161 *	0.161 *	0.114	0.138	0.138	0.109	0.140	0.140
	Protein (%DRV)	0.111	0.132	0.132	0.101	0.161 *	0.161 *	0.114	0.138	0.138	0.109	0.140	0.140
	Fiber (g)	0.069	0.099	0.099	0.091	0.164 *	0.164 *	0.120	0.118	0.118	0.117	0.084	0.084
	Fiber (%DRI)	0.049	0.090	0.090	0.072	0.162 *	0.162 *	0.107	0.113	0.113	0.100	0.071	0.071
	Fiber (%DRV)	0.054	0.094	0.094	0.078	0.167 *	0.167 *	0.113	0.114	0.114	0.104	0.082	0.082
	Fat (g)	0.198 **	0.231 *	0.231 *	0.189 *	0.151 *	0.151 *	0.118	0.186	0.186	0.153 *	0.169 *	0.169 *
	Fat (%DRI)	0.153 *	0.181 *	0.181 *	0.160 *	0.137	0.137	0.119	0.203 **	0.203 **	0.185 *	0.113	0.113
	Fat (%DRV)	0.169	0.216 *	0.216 *	0.164	0.137	0.137	0.091	0.185	0.185	0.141	0.152	0.152
	Vitamin A (IU)	0.057	-0.056	-0.056	-0.018	0.076	0.076	0.067	0.074	0.074	0.075	0.157	0.157
	Vitamin A (%DRI)	0.057	-0.056	-0.056	-0.018	0.076	0.076	0.067	0.074	0.074	0.075	0.157	0.157
	Vitamin A (%DRV)	0.024	-0.026	-0.026	-0.053	0.082	0.082	0.013	0.000	0.000	-0.043	0.173	0.173
	Thiamin (mg)	0.111	0.060	0.060	0.107	0.062	0.062	0.111	0.150	0.150	0.180	0.113	0.113
	Thiamin (%DRI)	0.111	0.060	0.060	0.107	0.062	0.062	0.111	0.150	0.150	0.180	0.113	0.113
	Thiamin (%DRV)	0.085	0.052	0.052	0.092	0.077	0.077	0.105	0.153	0.153	0.189	0.086	0.086
	Riboflavin (mg)	0.007	-0.069	-0.069	-0.069	-0.019	-0.019	-0.035	0.051	0.051	0.019	0.119	0.119
	Riboflavin (%DRI)	0.007	-0.069	-0.069	-0.069	-0.019	-0.019	-0.035	0.051	0.051	0.019	0.119	0.119
	Riboflavin (%DRV)	0.085	0.052	0.052	0.092	0.077	0.077	0.105 *	0.153	0.153	0.189	0.086 *	0.086 *
	Niacin (mg)	0.073	0.047	0.047	0.076	0.110	0.110	0.089	0.116	0.116	0.111	0.162	0.162
	Niacin (%DRI)	0.073	0.047	0.047	0.076	0.110	0.110	0.089	0.116	0.116	0.111	0.162	0.162
	Niacin (%DRV)	0.039	0.037	0.037	0.049	0.125	0.125	0.080	0.151	0.151	0.137	0.112	0.112

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1												
	Variable	Vitamin C (%DRV)	Vitamin E (mg)	Vitamin E (%DRI)	Vitamin E (%DRV)	Folate (mcg)	Folate (%DRI)	Folate (%DRV)	Vitamin K (mcg)	Vitamin K (%DRI)	Vitamin K (%DRV--low)	Vitamin K (%DRV--high)	Calcium (mg)	Calcium (%DRI)
	N	186	186	186	186	186	186	186	182	182	182	182	186	186
Year 2	Energy (kcal)	0.103	0.230 *	0.230 *	0.154	0.163	0.163	0.157	0.140	0.140	0.145	0.144	0.144	0.144
	Energy (%DRI)	0.076	0.216 *	0.216 *	0.121	0.145	0.145	0.139	0.140	0.140	0.152	0.151	0.134	0.134
	Energy (%DRV)	0.074	0.215 *	0.215 *	0.121	0.144	0.144	0.137	0.139	0.139	0.152	0.151	0.134	0.134
	Protein (g)	0.130	0.239 *	0.239 *	0.197 *	0.067	0.067	0.055	0.122	0.122	0.099	0.091	0.159	0.159
	Protein (%DRI)	0.130	0.239 *	0.239 *	0.197 *	0.067	0.067	0.055	0.122	0.122	0.099	0.091	0.159	0.159
	Protein (%DRV)	0.130	0.239 *	0.239 *	0.197 *	0.067	0.067	0.055	0.122	0.122	0.099	0.091	0.159	0.159
	Fiber (g)	0.099	0.202	0.202	0.169	0.072	0.072	0.066	0.029	0.029	-0.019	-0.025	0.043	0.043
	Fiber (%DRI)	0.078	0.196	0.196	0.152	0.058	0.058	0.052	0.029	0.029	-0.014	-0.020	0.036	0.036
	Fiber (%DRV)	0.089	0.201	0.201	0.159	0.065	0.065	0.058	0.031	0.031	-0.013	-0.019	0.038	0.038
	Fat (g)	0.151	0.231 *	0.231 *	0.207 *	0.209	0.209	0.196	0.217	0.217	0.173	0.167	0.206	0.206
	Fat (%DRI)	0.121	0.166	0.166	0.168	0.156	0.156	0.143	0.192	0.192	0.146	0.139	0.192 *	0.192 *
	Fat (%DRV)	0.126	0.210 *	0.210 *	0.176	0.185	0.185	0.172	0.216	0.216	0.178	0.172	0.194	0.194
	Vitamin A (IU)	0.143	0.123	0.123	0.134 *	0.037	0.037	0.032	0.126	0.126	0.127	0.121	0.140	0.140
	Vitamin A (%DRI)	0.143	0.123	0.123	0.134 *	0.037	0.037	0.032	0.126	0.126	0.127	0.121	0.140	0.140
	Vitamin A (%DRV)	0.103	0.159	0.159	0.095	0.047	0.047	0.048	0.132	0.132	0.169	0.166	0.093	0.093
	Thiamin (mg)	0.147	0.121	0.121	0.134	0.026	0.026	0.020	0.063	0.063	0.016	0.009	0.121	0.121
	Thiamin (%DRI)	0.147	0.121	0.121	0.134	0.026	0.026	0.020	0.063	0.063	0.016	0.009	0.121 *	0.121 *
	Thiamin (%DRV)	0.126 *	0.089 *	0.089 *	0.112 *	0.057	0.057	0.051	0.068	0.068	0.023	0.016	0.135	0.135
	Riboflavin (mg)	0.090	0.069	0.069	0.058	0.024	0.024	0.017	0.140	0.140	0.184	0.186	0.122	0.122
	Riboflavin (%DRI)	0.090	0.069	0.069	0.058	0.024	0.024	0.017	0.140	0.140	0.184	0.186	0.122 *	0.122 *
	Riboflavin (%DRV)	0.126 *	0.089 *	0.089 *	0.112 *	0.057	0.057	0.051	0.068	0.068	0.023	0.016	0.135	0.135
	Niacin (mg)	0.156	0.155	0.155	0.142	0.001	0.001	-0.013	0.091	0.091	0.039	0.026	0.100	0.100
	Niacin (%DRI)	0.156	0.155	0.155	0.142	0.001	0.001	-0.013	0.091	0.091	0.039	0.026	0.100	0.100
	Niacin (%DRV)	0.108	0.120	0.120	0.107	0.036	0.036	0.024	0.116	0.116	0.073	0.062	0.128	0.128

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Calcium (%DRV)	Iron (mg)	Iron (%DRI)	Iron (%DRV--low)	Iron (%DRV--high)	Phosphorus (mg)	Phosphorus (%DRI)	Phosphorus (%DRV)	Potassium (mg)	Potassium (%DRI)	Potassium (%DRV--low)	Potassium (%DRV--high)
	N	186	186	186	186	186	186	186	186	186	186	186	186
Year 2	Energy (kcal)	0.144	0.181	0.181	0.082	0.085	0.190	0.190	0.193	0.187	0.187	0.162	0.143
	Energy (%DRI)	0.134	0.164	0.164	0.048	0.051	0.183	0.183	0.194	0.168	0.168	0.144	0.126
	Energy (%DRV)	0.134	0.162	0.162	0.046	0.050	0.182	0.182	0.193	0.168	0.168	0.143	0.125
	Protein (g)	0.159	0.130	0.130	0.080	0.080	0.201	0.201	0.170	0.190	0.190	0.152	0.135
	Protein (%DRI)	0.159	0.130	0.130	0.080	0.080	0.201	0.201	0.170	0.190	0.190	0.152	0.135
	Protein (%DRV)	0.159	0.130	0.130	0.080	0.080	0.201	0.201	0.170	0.190	0.190	0.152	0.135
	Fiber (g)	0.043	0.117	0.117	0.077	0.079	0.165	0.165	0.123	0.178	0.178	0.064	0.048
	Fiber (%DRI)	0.036	0.105	0.105	0.056	0.058	0.155	0.155	0.121	0.169	0.169	0.064	0.050
	Fiber (%DRV)	0.038	0.109	0.109	0.062	0.064	0.158	0.158	0.123	0.175	0.175	0.067	0.052
	Fat (g)	0.206	0.243	0.243	0.182	0.186	0.234 *	0.234 *	0.194	0.231	0.231	0.155	0.136
	Fat (%DRI)	0.192 *	0.198 *	0.198 *	0.154	0.158	0.193 *	0.193 *	0.142	0.222 *	0.222 *	0.138	0.122
	Fat (%DRV)	0.194	0.220 *	0.220 *	0.150	0.154	0.222 *	0.222 *	0.191	0.213	0.213	0.142	0.126
	Vitamin A (IU)	0.140	0.090	0.090	0.067	0.070	0.124	0.124	0.107	0.141	0.141	0.102	0.099
	Vitamin A (%DRI)	0.140	0.090	0.090	0.067	0.070	0.124	0.124	0.107	0.141	0.141	0.102	0.099
	Vitamin A (%DRV)	0.093	0.093	0.093	0.026	0.028	0.101	0.101	0.137	0.108	0.108	0.141	0.136
	Thiamin (mg)	0.121	0.053	0.053	0.098	0.097	0.170	0.170	0.131	0.080	0.080	0.015	-0.003
	Thiamin (%DRI)	0.121 *	0.053	0.053	0.098	0.097	0.170 *	0.170 *	0.131	0.080 *	0.080 *	0.015	-0.003
	Thiamin (%DRV)	0.135	0.061	0.061	0.090	0.090	0.146	0.146	0.093	0.116	0.116	0.052	0.037
	Riboflavin (mg)	0.122	0.019	0.019	-0.023	-0.023	0.094	0.094	0.107	0.047	0.047	0.071	0.069
	Riboflavin (%DRI)	0.122 *	0.019	0.019	-0.023	-0.023	0.094 *	0.094 *	0.107	0.047	0.047 *	0.071	0.069
	Riboflavin (%DRV)	0.135	0.061	0.061	0.090	0.090	0.146	0.146	0.093	0.116	0.116	0.052	0.037
	Niacin (mg)	0.100	0.091	0.091	0.081	0.085	0.138	0.138	0.104	0.098	0.098	0.028	0.009
	Niacin (%DRI)	0.100	0.091	0.091	0.081	0.085	0.138	0.138	0.104	0.098	0.098	0.028	0.009
	Niacin (%DRV)	0.128	0.092	0.092	0.062	0.065	0.124	0.124	0.089	0.121	0.121	0.069	0.054

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1									
	Variable	Sodium (mg)	Sodium (%DRI)	Sodium (%DRV--low)	Sodium (%DRV--high)	Zinc (mg)	Zinc (%DRI)	Zinc (%DRV)	Protein density	Fiber density	Fat density
	N	186	186	185	185	186	186	186	186	186	186
Year 2	Energy (kcal)	0.166	0.166	0.174	0.162	0.150	0.150	0.068	-0.018	0.083	-0.015
	Energy (%DRI)	0.171	0.171	0.181	0.169	0.147	0.147	0.044	-0.014	0.069	0.008
	Energy (%DRV)	0.169	0.169	0.180	0.168	0.147	0.147	0.044	-0.013	0.068	0.009
	Protein (g)	0.117	0.117	0.117	0.093	0.121	0.121	0.082	0.090	0.101	-0.065
	Protein (%DRI)	0.117	0.117	0.117	0.093	0.121	0.121	0.082	0.090	0.101	-0.065
	Protein (%DRV)	0.117	0.117	0.117	0.093	0.121	0.121	0.082	0.090	0.101	-0.065
	Fiber (g)	-0.039	-0.039	-0.063	-0.084	0.145	0.145	0.116	0.013	0.216	-0.076
	Fiber (%DRI)	-0.035	-0.035	-0.055	-0.073	0.141	0.141	0.100	0.013	0.191	-0.055
	Fiber (%DRV)	-0.040	-0.040	-0.060	-0.079	0.143	0.143	0.105	0.010	0.205	-0.061
	Fat (g)	0.253 *	0.253 *	0.227	0.191	0.162	0.162	0.124	0.001	0.091	0.018
	Fat (%DRI)	0.241 **	0.241 **	0.203 *	0.162	0.101	0.101	0.086	0.035	0.082	-0.011
	Fat (%DRV)	0.249	0.249	0.228	0.194	0.150	0.150	0.100	0.004	0.070	0.023
	Vitamin A (IU)	0.010	0.010	-0.005	-0.008	0.134	0.134 *	0.129	-0.138	0.073	0.055
	Vitamin A (%DRI)	0.010	0.010	-0.005	-0.008	0.134	0.134 *	0.129	-0.138	0.073	0.055
	Vitamin A (%DRV)	0.004	0.004	0.040	0.062	0.142	0.142	0.083	-0.168	0.095	0.096
	Thiamin (mg)	0.039	0.039	0.017	-0.008	0.098	0.098	0.138	0.081	0.048	-0.075
	Thiamin (%DRI)	0.039	0.039	0.017	-0.008	0.098	0.098	0.138	0.081	0.048	-0.075
	Thiamin (%DRV)	0.078	0.078	0.042	0.017	0.065	0.065	0.096	0.075	0.056	-0.073
	Riboflavin (mg)	0.050	0.050	0.074	0.077	0.061	0.061	0.027	-0.090	0.033	-0.057
	Riboflavin (%DRI)	0.050	0.050	0.074	0.077	0.061	0.061	0.027	-0.090	0.033	-0.057
	Riboflavin (%DRV)	0.078	0.078	0.042	0.017	0.065	0.065	0.096	0.075	0.056	-0.073
	Niacin (mg)	-0.001	-0.001	-0.013	-0.033	0.089	0.089	0.105	0.039	0.117	-0.086
	Niacin (%DRI)	-0.001	-0.001	-0.013	-0.033	0.089	0.089	0.105	0.039	0.117	-0.086
	Niacin (%DRV)	0.060	0.060	0.042	0.023	0.078	0.078	0.074	0.045	0.090	-0.043

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Vitamin A density	Energy density	Thiamin density	Riboflavin density	Niacin density	Vitamin B6 density	Vitamin B12 density	Vitamin C density	Vitamin E density	Folate density	Vitamin K density	Calcium density
	N	186	186	186	186	186	186	186	186	186	186	182	186
Year 2	Energy (kcal)	-0.012	0.205	0.018	-0.087	0.002	0.045	0.010	0.096	0.150	0.008	0.079	0.016
	Energy (%DRI)	0.002	0.199	-0.002	-0.090	0.004	0.052	0.009	0.080	0.138	0.000	0.083	0.009
	Energy (%DRV)	0.001	0.198	-0.003	-0.090	0.005	0.053	0.008	0.078	0.138	-0.001	0.083	0.009
	Protein (g)	-0.035	0.144	0.002	-0.021	0.046	0.134	0.068	0.095	0.209 *	-0.064	0.083	0.086
	Protein (%DRI)	-0.035	0.144	0.002	-0.021	0.046	0.134	0.068	0.095	0.209 *	-0.064	0.083	0.086
	Protein (%DRV)	-0.035	0.144	0.002	-0.021	0.046	0.134	0.068	0.095	0.209 *	-0.064	0.083	0.086
	Fiber (g)	0.066	0.088	-0.060 *	0.003	0.057	0.163	0.075	0.059	0.195	0.006	0.010	0.001
	Fiber (%DRI)	0.072	0.087	-0.070 *	0.006	0.053	0.167	0.071	0.047	0.190	0.000	0.013	-0.004
	Fiber (%DRV)	0.075	0.088	-0.068 *	0.003	0.055	0.170	0.071	0.058	0.196	0.004	0.013	-0.004
	Fat (g)	0.005	0.254	0.030	-0.084	0.043	0.051	0.058	0.084	0.098	0.013	0.147	0.052
	Fat (%DRI)	0.000	0.182	0.028	-0.046	0.050	0.070	0.127 *	0.047	0.063	0.009	0.139	0.097
	Fat (%DRV)	0.011	0.236	0.025	-0.080	0.045	0.051	0.067	0.073	0.085	0.008	0.153	0.052
	Vitamin A (IU)	0.123	0.117	-0.091	0.032	-0.163	0.025	-0.002	0.135	0.085	-0.032	0.105	0.040
	Vitamin A (%DRI)	0.123	0.117	-0.091	0.032	-0.163	0.025	-0.002	0.135	0.085	-0.032	0.105	0.040
	Vitamin A (%DRV)	0.094	0.137	-0.068	-0.036	-0.142	0.025	-0.099	0.148	0.128	-0.021	0.111	-0.031
	Thiamin (mg)	-0.030	0.083	-0.025	-0.011	0.021	0.038	0.104	0.089	0.121	-0.040	0.049	0.087
	Thiamin (%DRI)	-0.030	0.083	-0.025	-0.011	0.021	0.038	0.104	0.089	0.121	-0.040	0.049	0.087
	Thiamin (%DRV)	-0.008	0.058	-0.021	0.015	0.020	0.065	0.126	0.066	0.086	0.020	0.058	0.126
	Riboflavin (mg)	0.052	0.044	0.004	0.038	-0.085	-0.028	0.006	0.119	0.089	0.021	0.137	0.094
	Riboflavin (%DRI)	0.052	0.044	0.004	0.038	-0.085	-0.028	0.006	0.119	0.089	0.021	0.137	0.094
	Riboflavin (%DRV)	-0.008	0.058	-0.021	0.015	0.020	0.065	0.126	0.066	0.086	0.020	0.058	0.126
	Niacin (mg)	-0.021	0.082	-0.050	-0.011	0.018	0.122	0.076	0.126	0.150	-0.077	0.077	0.049
	Niacin (%DRI)	-0.021	0.082	-0.050	-0.011	0.018	0.122	0.076	0.126	0.150	-0.077	0.077	0.049
	Niacin (%DRV)	-0.016	0.065	-0.059	0.040	0.005	0.138	0.120	0.077	0.107	-0.019	0.105	0.099

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1				
	Variable	Iron density	Phosphorus density	Potassium density	Sodium density	Zinc density
	N	186	186	186	186	186
Year 2	Energy (kcal)	0.020	0.017	0.036	0.035	-0.042
	Energy (%DRI)	-0.003	0.020	0.026	0.041	-0.034
	Energy (%DRV)	-0.003	0.020	0.025	0.039	-0.033
	Protein (g)	0.005	0.119	0.075	0.030	0.017
	Protein (%DRI)	0.005	0.119	0.075	0.030	0.017
	Protein (%DRV)	0.005	0.119	0.075	0.030	0.017
	Fiber (g)	0.089	0.115	0.134	-0.133	0.107
	Fiber (%DRI)	0.071	0.114	0.133	-0.131	0.112
	Fiber (%DRV)	0.076	0.113	0.136	-0.139	0.108
	Fat (g)	0.065	0.040	0.051	0.111	-0.082
	Fat (%DRI)	0.076	0.078	0.086	0.175	-0.077
	Fat (%DRV)	0.047	0.047	0.049	0.113	-0.078
	Vitamin A (IU)	-0.022	0.010	0.066	-0.126	0.004
	Vitamin A (%DRI)	-0.022	0.010	0.066	-0.126	0.004
	Vitamin A (%DRV)	-0.027	-0.052	0.022	-0.147	-0.004
	Thiamin (mg)	-0.028	0.138	0.017	-0.028	0.030
	Thiamin (%DRI)	-0.028	0.138	0.017	-0.028	0.030
	Thiamin (%DRV)	0.007	0.152	0.093	0.039	0.033
	Riboflavin (mg)	-0.022	0.049	0.024	0.003	-0.005
	Riboflavin (%DRI)	-0.022	0.049	0.024	0.003	-0.005
	Riboflavin (%DRV)	0.007	0.152	0.093	0.039	0.033
	Niacin (mg)	0.025	0.097	0.029	-0.075	0.008
	Niacin (%DRI)	0.025	0.097	0.029	-0.075	0.008
	Niacin (%DRV)	0.036	0.117	0.086	0.014	0.037

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1							
	Variable	Energy (kcal)	Energy (%DRI)	Energy (%DRV)	Protein (g)	Protein (%DRI)	Protein (%DRV)	Fiber (g)	Fiber (%DRI)
Year 2	Vitamin B6 (mg)	0.004	0.004	0.004	0.052	0.052	0.052	0.160	0.165
	Vitamin B6 (%DRI)	0.004	0.004	0.004	0.052	0.052	0.052	0.160 *	0.165
	Vitamin B6 (%DRV)	0.001	0.001	0.001	0.053	0.053	0.053	0.138	0.145
	Vitamin B12 (mcg)	0.030	0.018	0.017	0.027	0.027	0.027	0.018	0.009
	Vitamin B12 (%DRI)	0.030	0.018	0.017	0.027	0.027	0.027	0.018	0.009
	Vitamin B12 (%DRV)	-0.003	-0.011	-0.012	0.005	0.005	0.005	0.005	0.002
	Vitamin C (mg)	0.077	0.083	0.084	-0.018	-0.018	-0.018	0.148	0.152
	Vitamin C (%DRI)	0.077	0.083	0.084	-0.018	-0.018	-0.018	0.148	0.152
	Vitamin C (%DRV)	0.044	0.052	0.052	-0.021	-0.021	-0.021	0.134	0.140
	Vitamin E (mg)	0.095	0.085	0.085	0.082	0.082	0.082	0.106	0.099
	Vitamin E (%DRI)	0.095	0.085	0.085	0.082	0.082	0.082	0.106	0.099
	Vitamin E (%DRV)	0.069	0.059	0.059	0.078	0.078	0.078	0.106	0.102
	Folate (mcg)	0.045	0.049	0.049	0.079	0.079	0.079	0.107	0.112
	Folate (%DRI)	0.045	0.049	0.049	0.079	0.079	0.079	0.107	0.112
	Folate (%DRV)	0.056	0.061	0.061	0.083	0.083	0.083	0.112	0.116
	Vitamin K (mcg)	0.007	-0.016	-0.018	0.101	0.101	0.101	0.034	0.019
	Vitamin K (%DRI)	0.007	-0.016	-0.018	0.101	0.101	0.101	0.034	0.019
	Vitamin K (%DRV--low)	0.039	0.023	0.022	0.120	0.120	0.120	0.054	0.044
	Vitamin K (%DRV--high)	0.044	0.031	0.029	0.120	0.120	0.120	0.060	0.051
	Calcium (mg)	0.027	0.030	0.031	-0.034	-0.034	-0.034	0.017	0.016
	Calcium (%DRI)	0.027	0.030	0.031	-0.034	-0.034	-0.034	0.017	0.016
	Calcium (%DRV)	0.027	0.030	0.031	-0.034	-0.034	-0.034	0.017	0.016

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Fiber (%DRV)	Fat (g)	Fat (%DRI)	Fat (%DRV)	Vitamin A (IU)	Vitamin A (%DRI)	Vitamin A (%DRV)	Thiamin (mg)	Thiamin (%DRI)	Thiamin (%DRV)	Riboflavin (mg)	Riboflavin (%DRI)
Year 2	Vitamin B6 (mg)	0.164	-0.091	-0.055	-0.090	0.044	0.044	0.042	-0.014	-0.014	0.022	0.028	0.028
	Vitamin B6 (%DRI)	0.164	-0.091	-0.055	-0.090	0.044	0.044	0.042	-0.014	-0.014	0.022	0.028	0.028
	Vitamin B6 (%DRV)	0.140	-0.067	-0.058	-0.066	0.062	0.062	0.078	-0.015	-0.015	-0.018	0.051	0.051
	Vitamin B12 (mcg)	0.012	-0.004	-0.034	-0.014	0.024	0.024	0.069	0.021	0.021	-0.015	0.057	0.057
	Vitamin B12 (%DRI)	0.012	-0.004	-0.034	-0.014	0.024	0.024	0.069	0.021	0.021	-0.015	0.057	0.057
	Vitamin B12 (%DRV)	0.000	-0.036	-0.076	-0.040	0.040	0.040	0.098	-0.004	-0.004	-0.057	0.048	0.048
	Vitamin C (mg)	0.152	0.098	0.073	0.102	0.046	0.046	0.125	0.051	0.051	0.017	0.068	0.068
	Vitamin C (%DRI)	0.152	0.098	0.073	0.102	0.046	0.046	0.125	0.051	0.051	0.017	0.068	0.068
	Vitamin C (%DRV)	0.136	0.058	0.032	0.064	0.080	0.080	0.143	0.021	0.021	-0.001	0.071	0.071
	Vitamin E (mg)	0.102	0.055	0.044	0.053	-0.039	-0.039	0.002	0.025	0.025	-0.001	-0.025	-0.025
	Vitamin E (%DRI)	0.102	0.055	0.044	0.053	-0.039	-0.039	0.002	0.025	0.025	-0.001	-0.025	-0.025
	Vitamin E (%DRV)	0.102	0.038	0.024	0.036	0.015	0.015	0.045	0.010	0.010	-0.010	-0.003	-0.003
	Folate (mcg)	0.111	-0.076	-0.014	-0.067	0.041	0.041	0.000	0.024	0.024	0.089	0.054	0.054
	Folate (%DRI)	0.111	-0.076	-0.014	-0.067	0.041	0.041	0.000	0.024	0.024	0.089	0.054	0.054
	Folate (%DRV)	0.116	-0.059	-0.018	-0.051	0.036	0.036	0.018	0.037	0.037	0.069	0.057	0.057
	Vitamin K (mcg)	0.027	-0.023	0.069	-0.034	0.052	0.052	-0.071	0.044	0.044	0.092	0.037	0.037
	Vitamin K (%DRI)	0.027	-0.023	0.069	-0.034	0.052	0.052	-0.071	0.044	0.044	0.092	0.037	0.037
	Vitamin K (%DRV--low)	0.051	-0.001	0.079	-0.011	0.067	0.067	-0.049	0.075	0.075	0.115	0.064	0.064
	Vitamin K (%DRV--high)	0.058	0.007	0.087	-0.001	0.065	0.065	-0.051	0.076	0.076	0.116	0.064	0.064
	Calcium (mg)	0.014	-0.010	-0.036	-0.014	0.045	0.045	0.108	0.125	0.125	0.053	0.061	0.061
	Calcium (%DRI)	0.014	-0.010	-0.036	-0.014	0.045	0.045	0.108	0.125	0.125	0.053	0.061	0.061
	Calcium (%DRV)	0.014	-0.010	-0.036	-0.014	0.045	0.045	0.108	0.125	0.125	0.053	0.061	0.061

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Riboflavin (%DRV)	Niacin (mg)	Niacin (%DRI)	Niacin (%DRV)	Vitamin B6 (mg)	Vitamin B6 (%DRI)	Vitamin B6 (%DRV)	Vitamin B12 (mcg)	Vitamin B12 (%DRI)	Vitamin B12 (%DRV)	Vitamin C (mg)	Vitamin C (%DRI)
Year 2	Vitamin B6 (mg)	0.022	0.036	0.036	0.060	0.145	0.145	0.126	0.097	0.097	0.093	0.100	0.100
	Vitamin B6 (%DRI)	0.022	0.036	0.036	0.060	0.145	0.145	0.126	0.097	0.097	0.093	0.100	0.100
	Vitamin B6 (%DRV)	-0.018	0.027	0.027	0.013	0.142	0.142	0.079	0.132	0.132	0.105	0.065	0.065
	Vitamin B12 (mcg)	-0.015	-0.006	-0.006	-0.052	0.073	0.073	0.014	0.074	0.074	0.037	0.052	0.052
	Vitamin B12 (%DRI)	-0.015	-0.006	-0.006	-0.052	0.073	0.073	0.014	0.074	0.074	0.037	0.052	0.052
	Vitamin B12 (%DRV)	-0.057	-0.038	-0.038	-0.087	0.057	0.057	-0.015	0.110	0.110	0.055	0.039	0.039
	Vitamin C (mg)	0.017	-0.071	-0.071	-0.076	0.077	0.077	0.020	-0.014	-0.014	-0.045	0.122	0.122
	Vitamin C (%DRI)	0.017	-0.071	-0.071	-0.076	0.077	0.077	0.020	-0.014	-0.014	-0.045	0.122	0.122
	Vitamin C (%DRV)	-0.001	-0.083	-0.083	-0.083	0.068	0.068	0.010	0.017	0.017	-0.011	0.119	0.119
	Vitamin E (mg)	-0.001	0.054	0.054	0.018	0.144	0.144	0.072	0.077	0.077	0.032	0.056	0.056
	Vitamin E (%DRI)	-0.001	0.054	0.054	0.018	0.144	0.144	0.072	0.077	0.077	0.032	0.056	0.056
	Vitamin E (%DRV)	-0.010	0.032	0.032	0.001	0.141	0.141	0.068	0.112	0.112	0.070	0.049	0.049
	Folate (mcg)	0.089	0.086	0.086	0.132	0.031	0.031	0.074	0.117	0.117	0.153	0.075 *	0.075 *
	Folate (%DRI)	0.089	0.086	0.086	0.132	0.031	0.031	0.074	0.117	0.117	0.153	0.075 *	0.075 *
	Folate (%DRV)	0.069	0.096	0.096	0.106	0.043	0.043	0.045	0.107	0.107	0.121	0.072 **	0.072 **
	Vitamin K (mcg)	0.092	0.102	0.102	0.117	0.004	0.004	0.020	0.111	0.111	0.124	0.047	0.047
	Vitamin K (%DRI)	0.092	0.102	0.102	0.117	0.004	0.004	0.020	0.111	0.111	0.124	0.047	0.047
	Vitamin K (%DRV--low)	0.115	0.120	0.120	0.131	0.024	0.024	0.033	0.100	0.100	0.105	0.076	0.076
	Vitamin K (%DRV--high)	0.116	0.120	0.120	0.130	0.032	0.032	0.039	0.092	0.092	0.097	0.073	0.073
	Calcium (mg)	0.053	-0.050	-0.050	-0.073	-0.041	-0.041	-0.046	0.005	0.005	-0.034	0.063	0.063
	Calcium (%DRI)	0.053	-0.050	-0.050	-0.073	-0.041	-0.041	-0.046	0.005	0.005	-0.034	0.063	0.063
	Calcium (%DRV)	0.053	-0.050	-0.050	-0.073	-0.041	-0.041	-0.046	0.005	0.005	-0.034	0.063	0.063

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1												
	Variable	Vitamin C (%DRV)	Vitamin E (mg)	Vitamin E (%DRI)	Vitamin E (%DRV)	Folate (mcg)	Folate (%DRI)	Folate (%DRV)	Vitamin K (mcg)	Vitamin K (%DRI)	Vitamin K (%DRV--low)	Vitamin K (%DRV--high)	Calcium (mg)	Calcium (%DRI)
Year 2	Vitamin B6 (mg)	0.100	0.087	0.087	0.096	0.012	0.012	0.007	0.054	0.054	0.036	0.033	0.006	0.006
	Vitamin B6 (%DRI)	0.100	0.087	0.087	0.096	0.012	0.012	0.007	0.054	0.054	0.036	0.033	0.006	0.006
	Vitamin B6 (%DRV)	0.048	0.072	0.072	0.054	0.050	0.050	0.047	0.095	0.095	0.091	0.089	0.055	0.055
	Vitamin B12 (mcg)	0.024	0.043	0.043	-0.013	0.021	0.021	0.019	0.057	0.057	0.111	0.115	0.047	0.047
	Vitamin B12 (%DRI)	0.024	0.043	0.043	-0.013	0.021	0.021	0.019	0.057	0.057	0.111	0.115	0.047	0.047
	Vitamin B12 (%DRV)	0.000	0.004	0.004	-0.045	0.026	0.026	0.027	0.072	0.072	0.139	0.144	0.075	0.075
	Vitamin C (mg)	0.065	0.078	0.078	0.028	0.081	0.081	0.087	0.118	0.118	0.127	0.123	0.033	0.033
	Vitamin C (%DRI)	0.065	0.078	0.078	0.028	0.081	0.081	0.087	0.118	0.118	0.127	0.123	0.033	0.033
	Vitamin C (%DRV)	0.068	0.037	0.037	0.006	0.087	0.087	0.093	0.108	0.108	0.120	0.117	0.073	0.073
	Vitamin E (mg)	-0.004	0.105	0.105	0.032	0.093	0.093	0.095	0.156	0.156	0.145	0.141	-0.001	-0.001
	Vitamin E (%DRI)	-0.004	0.105	0.105	0.032	0.093	0.093	0.095	0.156	0.156	0.145	0.141	-0.001	-0.001
	Vitamin E (%DRV)	-0.001	0.069	0.069	0.017	0.102	0.102	0.103	0.131	0.131	0.126	0.123	0.057	0.057
	Folate (mcg)	0.115 **	0.114	0.114	0.147 **	-0.041	-0.041	-0.049	0.026	0.026	-0.024	-0.029	0.123	0.123
	Folate (%DRI)	0.115 **	0.114	0.114	0.147	-0.041	-0.041	-0.049	0.026	0.026	-0.024	-0.029	0.123	0.123
	Folate (%DRV)	0.086 **	0.127 **	0.127	0.122 **	-0.028	-0.028	-0.034	0.051	0.051	0.016	0.011	0.117	0.117
	Vitamin K (mcg)	0.075	0.030	0.030	0.062	0.044	0.044	0.024	0.119	0.119	0.043	0.027	0.012	0.012
	Vitamin K (%DRI)	0.075	0.030	0.030	0.062	0.044	0.044	0.024	0.119	0.119	0.043	0.027	0.012	0.012
	Vitamin K (%DRV--low)	0.090	0.063	0.063	0.080	0.057	0.057	0.038	0.085	0.085	0.018	0.004	0.029	0.029
	Vitamin K (%DRV--high)	0.086	0.063	0.063	0.078	0.057	0.057	0.038	0.081	0.081	0.015	0.002	0.025	0.025
	Calcium (mg)	0.022	0.048	0.048	0.031	0.119	0.119	0.115	0.064	0.064	0.159	0.168	0.122	0.122
	Calcium (%DRI)	0.022	0.048	0.048	0.031	0.119	0.119	0.115	0.064	0.064	0.159	0.168	0.122	0.122
	Calcium (%DRV)	0.022	0.048	0.048	0.031	0.119	0.119	0.115	0.064	0.064	0.159	0.168	0.122	0.122

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Calcium (%DRV)	Iron (mg)	Iron (%DRI)	Iron (%DRV--low)	Iron (%DRV--high)	Phosphorus (mg)	Phosphorus (%DRI)	Phosphorus (%DRV)	Potassium (mg)	Potassium (%DRI)	Potassium (%DRV--low)	Potassium (%DRV--high)
Year 2	Vitamin B6 (mg)	0.006	0.065	0.065	0.049	0.052	0.099	0.099	0.073	0.148	0.148	0.104	0.099
	Vitamin B6 (%DRI)	0.006	0.065	0.065	0.049	0.052	0.099	0.099	0.073	0.148	0.148	0.104	0.099
	Vitamin B6 (%DRV)	0.055	0.067	0.067	0.016	0.020	0.090	0.090	0.075	0.158	0.158	0.148	0.145
	Vitamin B12 (mcg)	0.047	0.004	0.004	-0.035	-0.038	0.042	0.042	0.065	0.060	0.060	0.107	0.114
	Vitamin B12 (%DRI)	0.047	0.004	0.004	-0.035	-0.038	0.042	0.042	0.065	0.060	0.060	0.107	0.114
	Vitamin B12 (%DRV)	0.075	-0.006	-0.006	-0.063	-0.065	0.021	0.021	0.051	0.079	0.079	0.139	0.147
	Vitamin C (mg)	0.033	0.083	0.083	0.034	0.038	0.031	0.031	0.061	0.067	0.067	0.090	0.081
	Vitamin C (%DRI)	0.033	0.083	0.083	0.034	0.038	0.031	0.031	0.061	0.067	0.067	0.090	0.081
	Vitamin C (%DRV)	0.073	0.062	0.062	0.015	0.019	0.025	0.025	0.042	0.091	0.091	0.106	0.101
	Vitamin E (mg)	-0.001	0.099	0.099	0.043	0.047	0.083	0.083	0.097	0.102	0.102	0.093	0.078
	Vitamin E (%DRI)	-0.001	0.099	0.099	0.043	0.047	0.083	0.083	0.097	0.102	0.102	0.093	0.078
	Vitamin E (%DRV)	0.057	0.089	0.089	0.033	0.037	0.086	0.086	0.090	0.132	0.132	0.122	0.110
	Folate (mcg)	0.123	0.046	0.046	0.085	0.085	0.166	0.166	0.114	0.062	0.062	-0.026	-0.040
	Folate (%DRI)	0.123	0.046	0.046	0.085	0.085	0.166	0.166	0.114	0.062	0.062	-0.026	-0.040
	Folate (%DRV)	0.117	0.053	0.053	0.063	0.063	0.163	0.163	0.128	0.062	0.062	0.005	-0.009
	Vitamin K (mcg)	0.012	0.027	0.027	0.048	0.051	0.086	0.086	0.004	0.053	0.053	-0.073	-0.094
	Vitamin K (%DRI)	0.012	0.027	0.027	0.048	0.051	0.086	0.086	0.004	0.053	0.053	-0.073	-0.094
	Vitamin K (%DRV--low)	0.029	0.049	0.049	0.067	0.069	0.115	0.115	0.044	0.070	0.070	-0.050	-0.072
	Vitamin K (%DRV--high)	0.025	0.053	0.053	0.070	0.072	0.116	0.116	0.045	0.069	0.069	-0.051	-0.073
	Calcium (mg)	0.122	0.020	0.020	-0.021	-0.022	0.084	0.084	0.112	0.047	0.047	0.111	0.113
	Calcium (%DRI)	0.122	0.020	0.020	-0.021	-0.022	0.084	0.084	0.112	0.047	0.047	0.111	0.113
	Calcium (%DRV)	0.122	0.020	0.020	-0.021	-0.022	0.084	0.084	0.112	0.047	0.047	0.111	0.113

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1									
	Variable	Sodium (mg)	Sodium (%DRI)	Sodium (%DRV--low)	Sodium (%DRV--high)	Zinc (mg)	Zinc (%DRI)	Zinc (%DRV)	Protein density	Fiber density	Fat density
Year 2	Vitamin B6 (mg)	-0.063	-0.063	-0.062	-0.065	0.067	0.067	0.079	0.086	0.194 *	-0.190 *
	Vitamin B6 (%DRI)	-0.063	-0.063	-0.062	-0.065	0.067	0.067	0.079	0.086	0.194 *	-0.190 *
	Vitamin B6 (%DRV)	0.014	0.014	0.020	0.021	0.053	0.053	0.026	0.075	0.167 *	-0.132
	Vitamin B12 (mcg)	0.083	0.083	0.118	0.132	0.020	0.020	-0.026	0.023	-0.003	-0.027
	Vitamin B12 (%DRI)	0.083	0.083	0.118	0.132	0.020	0.020	-0.026	0.023	-0.003	-0.027
	Vitamin B12 (%DRV)	0.108	0.108	0.141	0.153	-0.024	-0.024	-0.081	0.002	-0.002	-0.041
	Vitamin C (mg)	-0.105	-0.105	-0.093	-0.072	0.106	0.106	0.071	-0.140	0.114	0.044
	Vitamin C (%DRI)	-0.105	-0.105	-0.093	-0.072	0.106	0.106	0.071	-0.140	0.114	0.044
	Vitamin C (%DRV)	-0.069	-0.069	-0.066	-0.052	0.067	0.067	0.033	-0.111	0.113	0.023
	Vitamin E (mg)	0.090	0.090	0.101	0.090	0.033	0.033	0.005	0.008	0.058	-0.027
	Vitamin E (%DRI)	0.090	0.090	0.101 *	0.090	0.033	0.033	0.005	0.008	0.058	-0.027
	Vitamin E (%DRV)	0.131	0.131	0.131	0.115	0.017	0.017	-0.014	0.023	0.066	-0.023
	Folate (mcg)	-0.032	-0.032	-0.056	-0.079	0.089	0.089	0.134	0.075	0.087	-0.157
	Folate (%DRI)	-0.032	-0.032	-0.056	-0.079	0.089	0.089	0.134	0.075	0.087	-0.157
	Folate (%DRV)	-0.027	-0.027	-0.032	-0.041	0.096	0.096	0.109	0.066	0.094	-0.139
	Vitamin K (mcg)	0.007	0.007	-0.053	-0.081	0.041	0.041	0.080	0.105	0.081	-0.022
	Vitamin K (%DRI)	0.007	0.007	-0.053	-0.081	0.041	0.041	0.080	0.105	0.081	-0.022
	Vitamin K (%DRV--low)	-0.005	-0.005	-0.051	-0.072	0.074	0.074	0.104	0.107	0.084	-0.035
	Vitamin K (%DRV--high)	-0.005	-0.005	-0.050	-0.071	0.079	0.079	0.108	0.101	0.087	-0.029
	Calcium (mg)	0.050	0.050	0.100	0.108	0.037	0.037	-0.004	-0.089	0.005	-0.080
	Calcium (%DRI)	0.050	0.050	0.100	0.108	0.037	0.037	-0.004	-0.089	0.005	-0.080
	Calcium (%DRV)	0.050	0.050	0.100	0.108	0.037	0.037	-0.004	-0.089	0.005	-0.080

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Vitamin A density	Energy density	Thiamin density	Riboflavin density	Niacin density	Vitamin B6 density	Vitamin B12 density	Vitamin C density	Vitamin E density	Folate density	Vitamin K density	Calcium density
Year 2	Vitamin B6 (mg)	0.073	0.004	0.001	0.030	0.107	0.197 *	0.081	0.110	0.119	0.045	0.056	-0.001
	Vitamin B6 (%DRI)	0.073	0.004	0.001	0.030	0.107	0.197 *	0.081	0.110	0.119	0.045	0.056	-0.001
	Vitamin B6 (%DRV)	0.069	0.001	-0.016	0.058	0.072	0.185 *	0.116	0.066	0.090	0.089	0.100	0.056
	Vitamin B12 (mcg)	0.004	0.030	-0.010	0.024	0.003	0.059	0.025	0.064	0.051	0.009	0.042	0.023
	Vitamin B12 (%DRI)	0.004	0.030	-0.010	0.024	0.003	0.059	0.025	0.064	0.051	0.009	0.042	0.023
	Vitamin B12 (%DRV)	0.021	-0.003	-0.018	0.049	-0.031	0.056	0.085	0.054	0.014	0.035	0.072	0.085
	Vitamin C (mg)	-0.011	0.077	-0.101	-0.039	-0.169	-0.003	-0.087 *	0.068	0.039	0.016	0.091	-0.047
	Vitamin C (%DRI)	-0.011	0.077	-0.101	-0.039	-0.169	-0.003	-0.087 *	0.068	0.039	0.016	0.091	-0.047
	Vitamin C (%DRV)	0.035	0.044	-0.082	0.008	-0.153	0.002	-0.027	0.076	0.004	0.059	0.089	0.033
	Vitamin E (mg)	-0.069	0.095	-0.091	-0.135	0.004	0.127	0.016	0.023	0.062	0.038	0.141	-0.053
	Vitamin E (%DRI)	-0.069	0.095	-0.091	-0.135	0.004	0.127	0.016	0.023	0.062	0.038	0.141	-0.053
	Vitamin E (%DRV)	-0.015	0.069	-0.075	-0.071	-0.016	0.126	0.076	0.019	0.023	0.067	0.119	0.034
	Folate (mcg)	0.020	0.045	-0.007	0.021	0.076	0.053	0.100	0.073	0.140	-0.095	0.024	0.124
	Folate (%DRI)	0.020	0.045	-0.007	0.021	0.076	0.053	0.100	0.073	0.140	-0.095	0.024	0.124
	Folate (%DRV)	0.002	0.056	-0.006	0.004	0.078	0.061	0.074	0.065	0.148	-0.082	0.050	0.100
	Vitamin K (mcg)	0.087	0.007	0.063	0.033	0.137	0.033	0.115	0.066	0.031	0.074	0.109	0.015
	Vitamin K (%DRI)	0.087	0.007	0.063	0.033	0.137	0.033	0.115	0.066	0.031	0.074	0.109	0.015
	Vitamin K (%DRV--low)	0.094	0.039	0.076	0.034	0.135	0.036	0.093	0.086	0.057	0.063	0.059	0.008
	Vitamin K (%DRV--high)	0.087	0.044	0.069	0.028	0.127	0.041	0.080	0.080	0.052	0.056	0.052	-0.001
	Calcium (mg)	0.024	0.027	0.112	0.023	-0.104	-0.068	-0.032	0.060	0.053	0.119	0.056	0.104
	Calcium (%DRI)	0.024	0.027	0.112	0.023	-0.104	-0.068	-0.032	0.060	0.053	0.119	0.056	0.104
	Calcium (%DRV)	0.024	0.027	0.112	0.023	-0.104	-0.068	-0.032	0.060	0.053	0.119	0.056	0.104

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1				
	Variable	Iron density	Phosphorus density	Potassium density	Sodium density	Zinc density
Year 2	Vitamin B6 (mg)	0.112	0.112	0.167	-0.087	0.077
	Vitamin B6 (%DRI)	0.112	0.112	0.167	-0.087	0.077 *
	Vitamin B6 (%DRV)	0.097	0.121	0.202	0.009	0.077 *
	Vitamin B12 (mcg)	-0.013	0.006	0.029 **	0.094	-0.004
	Vitamin B12 (%DRI)	-0.013	0.006	0.029	0.094	-0.004
	Vitamin B12 (%DRV)	-0.021	0.028	0.100	0.138	-0.026
	Vitamin C (mg)	-0.015	-0.089	-0.027	-0.206 *	0.021
	Vitamin C (%DRI)	-0.015	-0.089 *	-0.027	-0.206 *	0.021
	Vitamin C (%DRV)	-0.005	-0.045	0.028	-0.127	0.018
	Vitamin E (mg)	0.022	-0.015	0.028	0.021	-0.089
	Vitamin E (%DRI)	0.022	-0.015	0.028	0.021	-0.089
	Vitamin E (%DRV)	0.030	0.036	0.087	0.105	-0.066
	Folate (mcg)	0.022	0.172	0.048	-0.110	0.051
	Folate (%DRI)	0.022	0.172	0.048	-0.110	0.051
	Folate (%DRV)	0.018	0.149	0.046	-0.116	0.051
	Vitamin K (mcg)	0.082	0.099	0.083	0.019	0.021
	Vitamin K (%DRI)	0.082	0.099	0.083	0.019	0.021
	Vitamin K (%DRV--low)	0.085	0.096	0.068	-0.022	0.032
	Vitamin K (%DRV--high)	0.083	0.090	0.060	-0.025	0.035
	Calcium (mg)	-0.030	0.045	0.040	0.013	-0.021
	Calcium (%DRI)	-0.030	0.045	0.040	0.013	-0.021
	Calcium (%DRV)	-0.030	0.045	0.040	0.013	-0.021

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1							
	Variable	Energy (kcal)	Energy (%DRI)	Energy (%DRV)	Protein (g)	Protein (%DRI)	Protein (%DRV)	Fiber (g)	Fiber (%DRI)
Year 2	Iron (mg)	0.124	0.127	0.127	0.147	0.147	0.147	0.216	0.219
	Iron (%DRI)	0.124	0.127	0.127	0.147	0.147	0.147	0.216	0.219
	Iron (%DRV--low)	0.087	0.090	0.089	0.127	0.127	0.127	0.179 *	0.184 *
	Iron (%DRV--high)	0.089	0.092	0.091	0.129	0.129	0.129	0.181 *	0.185 *
	Phosphorus (mg)	0.079	0.080	0.080	0.063	0.063	0.063	0.119	0.117
	Phosphorus (%DRI)	0.079	0.080	0.080	0.063	0.063	0.063	0.119	0.117
	Phosphorus (%DRV)	0.110	0.110	0.111	0.069	0.069	0.069	0.115	0.116
	Potassium (mg)	0.140	0.143	0.144	0.111	0.111	0.111	0.253	0.258 *
	Potassium (%DRI)	0.140	0.143	0.144	0.111	0.111	0.111	0.253 *	0.258 *
	Potassium (%DRV--low)	0.186	0.190	0.191	0.111	0.111	0.111	0.247	0.257
	Potassium (%DRV--high)	0.186	0.190	0.191	0.111	0.111	0.111	0.247	0.257
	Sodium (mg)	0.179	0.178	0.178	0.143	0.143	0.143	0.138	0.142
	Sodium (%DRI)	0.179	0.178	0.178	0.143	0.143	0.143	0.138	0.142
	Sodium (%DRV--low)	0.185	0.184	0.184	0.136	0.136	0.136	0.131	0.135
	Sodium (%DRV--high)	0.196	0.194	0.194	0.138	0.138	0.138	0.142	0.146
	Zinc (mg)	0.137	0.139	0.140	0.109	0.109	0.109	0.143	0.145
	Zinc (%DRI)	0.137	0.139	0.140	0.109	0.109	0.109	0.143	0.145
	Zinc (%DRV)	-0.019	-0.014	-0.014	-0.068	-0.068	-0.068	0.074	0.082
	Protein density	-0.035	-0.041	-0.041	0.052	0.052	0.052	0.052	0.046
	Fiber density	-0.068	-0.044	-0.043	-0.025	-0.025	-0.025	0.108	0.135
	Fat density	0.185	0.152	0.149	0.171	0.171	0.171	0.116	0.094
	Vitamin A density	0.042	0.054	0.055	-0.050	-0.050	-0.050	0.046	0.065
	Energy density	0.205	0.197	0.197	0.151	0.151	0.151	0.184	0.179
	Thiamin density	-0.155	-0.154	-0.154	-0.035	-0.035	-0.035	-0.064	-0.064
	Riboflavin density	-0.180 *	-0.164 *	-0.163 *	-0.184	-0.184	-0.184	-0.133	-0.118

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Fiber (%DRV)	Fat (g)	Fat (%DRI)	Fat (%DRV)	Vitamin A (IU)	Vitamin A (%DRI)	Vitamin A (%DRV)	Thiamin (mg)	Thiamin (%DRI)	Thiamin (%DRV)	Riboflavin (mg)	Riboflavin (%DRI)
Year 2	Iron (mg)	0.219	0.023	0.057	0.027	0.141 **	0.141 **	0.105	0.125	0.125	0.143	0.149	0.149
	Iron (%DRI)	0.219	0.023	0.057	0.027	0.141 **	0.141 **	0.105	0.125	0.125	0.143	0.149	0.149
	Iron (%DRV--low)	0.180 *	0.016	0.040	0.019	0.124 **	0.124 **	0.099	0.090	0.090	0.088	0.131	0.131
	Iron (%DRV--high)	0.181	0.018	0.042	0.021	0.124 **	0.124 **	0.099	0.092	0.092	0.089	0.132	0.132
	Phosphorus (mg)	0.116	-0.009	-0.034	-0.012	0.049	0.049	0.079	0.117	0.117	0.048	0.077	0.077
	Phosphorus (%DRI)	0.116	-0.009	-0.034	-0.012	0.049	0.049	0.079	0.117	0.117	0.048	0.077	0.077
	Phosphorus (%DRV)	0.116	0.044	0.004	0.040	0.037	0.037	0.092	0.140	0.140	0.050	0.071	0.071
	Potassium (mg)	0.256 *	0.098	0.108	0.100	0.184	0.184	0.166	0.111	0.111	0.111	0.148	0.148
	Potassium (%DRI)	0.256 *	0.098	0.108	0.100	0.184	0.184	0.166	0.111	0.111	0.111	0.148	0.148
	Potassium (%DRV--low)	0.255	0.161	0.146	0.161	0.175	0.175	0.182	0.150	0.150	0.122	0.124	0.124
	Potassium (%DRV--high)	0.255	0.161	0.146	0.161	0.175	0.175	0.182	0.150	0.150	0.122	0.124	0.124
	Sodium (mg)	0.142	0.150	0.077	0.150	0.095	0.095	0.151	0.207	0.207	0.091	0.129	0.129
	Sodium (%DRI)	0.142	0.150	0.077	0.150	0.095	0.095	0.151	0.207	0.207	0.091	0.129	0.129
	Sodium (%DRV--low)	0.136	0.174	0.102	0.173	0.075	0.075	0.140	0.205	0.205	0.091	0.109	0.109
	Sodium (%DRV--high)	0.147	0.183	0.111	0.180	0.082	0.082	0.145	0.215	0.215	0.102	0.097	0.097
	Zinc (mg)	0.145	0.080	0.025	0.079	0.014	0.014	0.071	0.137	0.137	0.045	0.106	0.106
	Zinc (%DRI)	0.145	0.080	0.025	0.079	0.014	0.014	0.071	0.137	0.137	0.045	0.106	0.106
	Zinc (%DRV)	0.079	0.007	-0.070	0.007	-0.001	-0.001	0.107	0.015	0.015	-0.100	0.018	0.018
	Protein density	0.049	-0.075	-0.061	-0.083	-0.038	-0.038	-0.077	-0.031	-0.031	0.018	0.020	0.020
	Fiber density	0.124	-0.110	-0.069	-0.087	0.040	0.040	-0.014	-0.107	-0.107	-0.017	-0.012	-0.012
	Fat density	0.106	0.150	0.198	0.131	0.116	0.116	-0.016	0.197	0.197	0.201	0.164	0.164
	Vitamin A density	0.057	0.084	0.114	0.090	0.141	0.141	0.137	-0.036	-0.036	0.021	0.100	0.100
	Energy density	0.181	0.153	0.129	0.145	0.109	0.109	0.117	0.188	0.188	0.111	0.122	0.122
	Thiamin density	-0.067	-0.220	-0.153	-0.215	-0.063	-0.063	-0.121	-0.143	-0.143	-0.009	-0.061	-0.061
	Riboflavin density	-0.127	-0.165	-0.135	-0.157	-0.001	-0.001	0.021	-0.140	-0.140	-0.114	-0.015	-0.015

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Riboflavin (%DRV)	Niacin (mg)	Niacin (%DRI)	Niacin (%DRV)	Vitamin B6 (mg)	Vitamin B6 (%DRI)	Vitamin B6 (%DRV)	Vitamin B12 (mcg)	Vitamin B12 (%DRI)	Vitamin B12 (%DRV)	Vitamin C (mg)	Vitamin C (%DRI)
Year 2	Iron (mg)	0.143	0.119	0.119	0.138	0.126	0.126	0.129	0.186	0.186	0.175	0.160 **	0.160 **
	Iron (%DRI)	0.143	0.119	0.119	0.138	0.126	0.126	0.129	0.186	0.186	0.175	0.160 **	0.160 **
	Iron (%DRV--low)	0.088	0.097	0.097	0.093	0.129	0.129	0.102	0.197	0.197	0.184	0.099 **	0.099 **
	Iron (%DRV--high)	0.089	0.098	0.098	0.094	0.130	0.130	0.103	0.199	0.199	0.185	0.098 **	0.098 **
	Phosphorus (mg)	0.048	0.034	0.034	-0.022	0.060	0.060	0.003	0.117	0.117	0.050	0.110	0.110
	Phosphorus (%DRI)	0.048	0.034	0.034	-0.022	0.060	0.060	0.003	0.117	0.117	0.050	0.110	0.110
	Phosphorus (%DRV)	0.050	0.055	0.055	-0.018	0.076	0.076	0.008	0.075	0.075	-0.004	0.108	0.108
	Potassium (mg)	0.111	0.052	0.052	0.038	0.234	0.234	0.174	0.118	0.118	0.116	0.170	0.170
	Potassium (%DRI)	0.111	0.052	0.052	0.038	0.234	0.234	0.174	0.118	0.118	0.116	0.170	0.170
	Potassium (%DRV--low)	0.122	0.090	0.090	0.049	0.237	0.237	0.160	0.040	0.040	0.022	0.185	0.185
	Potassium (%DRV--high)	0.122	0.090	0.090	0.049	0.237	0.237	0.160	0.040	0.040	0.022	0.185	0.185
	Sodium (mg)	0.091	0.161	0.161	0.046	0.064	0.064	-0.037	0.123	0.123	0.031	0.053	0.053
	Sodium (%DRI)	0.091	0.161	0.161	0.046	0.064	0.064	-0.037	0.123	0.123	0.031	0.053	0.053
	Sodium (%DRV--low)	0.091	0.159	0.159	0.049	0.067	0.067	-0.023	0.082	0.082	-0.005	0.046	0.046
	Sodium (%DRV--high)	0.102	0.162	0.162	0.054	0.069	0.069	-0.018	0.060	0.060	-0.022	0.056	0.056
	Zinc (mg)	0.045	0.077	0.077	-0.005	0.093	0.093	-0.006	0.123	0.123	0.035	0.055	0.055
	Zinc (%DRI)	0.045	0.077	0.077	-0.005	0.093	0.093	-0.006	0.123	0.123	0.035	0.055	0.055
	Zinc (%DRV)	-0.100	-0.046	-0.046	-0.148	-0.051	-0.051	-0.173	-0.053	-0.053	-0.146	-0.002	-0.002
	Protein density	0.018	0.007	0.007	0.028	0.105	0.105	0.105	0.083	0.083	0.086	0.019	0.019
	Fiber density	-0.017	-0.023	-0.023	0.034	0.067	0.067	0.096	0.032	0.032	0.087	-0.010	-0.010
	Fat density	0.201	0.221 *	0.221 *	0.207 *	0.118	0.118	0.126	0.203 *	0.203 *	0.195 *	0.085	0.085
	Vitamin A density	0.021	-0.118	-0.118	-0.041	0.021	0.021	0.055	0.011	0.011	0.051	0.113	0.113
	Energy density	0.111	0.154	0.154	0.090	0.125	0.125	0.050	0.130	0.130	0.068	0.164	0.164
	Thiamin density	-0.009	-0.108 *	-0.108	0.008	-0.035	-0.035	0.088	0.036	0.036	0.133	-0.023	-0.023
	Riboflavin density	-0.114	-0.282 *	-0.282	-0.217	-0.147	-0.147	-0.090	-0.066	-0.066	-0.039	-0.005	-0.005

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1												
	Variable	Vitamin C (%DRV)	Vitamin E (mg)	Vitamin E (%DRI)	Vitamin E (%DRV)	Folate (mcg)	Folate (%DRI)	Folate (%DRV)	Vitamin K (mcg)	Vitamin K (%DRI)	Vitamin K (%DRV--low)	Vitamin K (%DRV--high)	Calcium (mg)	Calcium (%DRI)
Year 2	Iron (mg)	0.170 **	0.183 *	0.183 *	0.189 *	0.061	0.061	0.051	0.058	0.058	0.032	0.029	0.203	0.203
	Iron (%DRI)	0.170 **	0.183 *	0.183 *	0.189 *	0.061	0.061	0.051	0.058	0.058	0.032	0.029	0.203	0.203
	Iron (%DRV--low)	0.114 **	0.142 *	0.142 *	0.139 *	0.082	0.082	0.074	0.080	0.080	0.055	0.053	0.205 *	0.205 *
	Iron (%DRV--high)	0.112 **	0.144 *	0.144 *	0.141 *	0.083	0.083	0.074	0.083	0.083	0.058	0.055	0.206 *	0.206 *
	Phosphorus (mg)	0.066	0.162	0.162	0.103	0.077	0.077	0.072	0.046	0.046	0.101	0.107	0.151	0.151
	Phosphorus (%DRI)	0.066	0.162	0.162	0.103	0.077	0.077	0.072	0.046	0.046	0.101	0.107	0.151	0.151
	Phosphorus (%DRV)	0.048	0.183	0.183	0.103	0.076	0.076	0.073	0.041	0.041	0.105	0.111	0.125	0.125
	Potassium (mg)	0.162	0.205 *	0.205 *	0.152	0.147	0.147	0.143	0.124	0.124	0.075	0.065	0.126	0.126
	Potassium (%DRI)	0.162	0.205 *	0.205 *	0.152	0.147	0.147	0.143	0.124	0.124	0.075	0.065	0.126	0.126
	Potassium (%DRV--low)	0.148	0.249	0.249	0.165	0.146	0.146	0.145	0.115	0.115	0.083	0.076	0.093	0.093
	Potassium (%DRV--high)	0.148	0.249	0.249	0.165	0.146	0.146	0.145	0.115	0.115	0.083	0.076	0.093	0.093
	Sodium (mg)	-0.011	0.177	0.177	0.060	0.218	0.218	0.221	0.181	0.181	0.211	0.212	0.139	0.139
	Sodium (%DRI)	-0.011	0.177	0.177	0.060	0.218	0.218	0.221	0.181	0.181	0.211	0.212	0.139	0.139
	Sodium (%DRV--low)	-0.016	0.186	0.186	0.067	0.202	0.202	0.205	0.154	0.154	0.185	0.187	0.112	0.112
	Sodium (%DRV--high)	-0.006	0.189	0.189	0.072	0.193	0.193	0.196	0.126	0.126	0.160	0.162	0.102	0.102
	Zinc (mg)	0.012	0.181	0.181	0.102	0.098	0.098	0.094	0.081	0.081	0.127	0.132	0.143	0.143
	Zinc (%DRI)	0.012	0.181	0.181	0.102	0.098	0.098	0.094	0.081	0.081	0.127	0.132	0.143	0.143
	Zinc (%DRV)	-0.075	0.027	0.027	-0.064	0.010	0.010	0.015	0.049	0.049	0.137	0.147	0.039	0.039
	Protein density	0.063	0.089	0.089	0.103	-0.115	-0.115	-0.125	-0.006	-0.006	-0.035	-0.045	0.076	0.076
	Fiber density	0.050	0.051	0.051	0.086	-0.044	-0.044	-0.045	-0.129	-0.129	-0.180	-0.184	-0.057	-0.057
	Fat density	0.117	0.112	0.112	0.145	0.186	0.186	0.170	0.231	0.231	0.149	0.138	0.173	0.173
	Vitamin A density	0.130	0.042	0.042	0.093	-0.020	-0.020	-0.025	0.052	0.052	0.047	0.043	0.091	0.091
	Energy density	0.103	0.230	0.230	0.154	0.163	0.163	0.157	0.140	0.140	0.145	0.144	0.144	0.144
	Thiamin density	0.082	-0.102	-0.102	-0.017	-0.147	-0.147	-0.146	-0.118	-0.118	-0.181	-0.186	-0.013	-0.013
	Riboflavin density	0.019	-0.140	-0.140	-0.075	-0.138	-0.138	-0.146	0.004	0.004	0.059	0.063	0.051	0.051

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Calcium (%DRV)	Iron (mg)	Iron (%DRI)	Iron (%DRV--low)	Iron (%DRV--high)	Phosphorus (mg)	Phosphorus (%DRI)	Phosphorus (%DRV)	Potassium (mg)	Potassium (%DRI)	Potassium (%DRV--low)	Potassium (%DRV--high)
Year 2	Iron (mg)	0.203	0.118	0.118	0.111	0.111	0.238	0.238	0.194	0.199	0.199	0.112	0.099
	Iron (%DRI)	0.203	0.118	0.118	0.111	0.111	0.238	0.238	0.194	0.199	0.199	0.112	0.099
	Iron (%DRV--low)	0.205 *	0.112	0.112	0.079	0.080	0.205	0.205	0.156	0.201 **	0.201 **	0.133	0.123
	Iron (%DRV--high)	0.206 *	0.114	0.114	0.081	0.082	0.207 *	0.207 *	0.158	0.202 **	0.202 **	0.135	0.125
	Phosphorus (mg)	0.151	0.083	0.083	0.008	0.008	0.170	0.170	0.175	0.127	0.127	0.145	0.137
	Phosphorus (%DRI)	0.151	0.083	0.083	0.008	0.008	0.170	0.170	0.175	0.127	0.127	0.145	0.137
	Phosphorus (%DRV)	0.125	0.097	0.097	0.015	0.015	0.161	0.161	0.192	0.111	0.111	0.157	0.148
	Potassium (mg)	0.126	0.153	0.153	0.109	0.113	0.170	0.170	0.149	0.242 *	0.242 *	0.157	0.141
	Potassium (%DRI)	0.126	0.153	0.153	0.109	0.113	0.170	0.170	0.149	0.242 *	0.242 *	0.157	0.141
	Potassium (%DRV--low)	0.093	0.168	0.168	0.112	0.115	0.166	0.166	0.174	0.208	0.208	0.161	0.145
	Potassium (%DRV--high)	0.093	0.168	0.168	0.112	0.115	0.166	0.166	0.174	0.208	0.208	0.161	0.145
	Sodium (mg)	0.139	0.200	0.200	0.072	0.075	0.202	0.202	0.241	0.172	0.172	0.178	0.158
	Sodium (%DRI)	0.139	0.200	0.200	0.072	0.075	0.202	0.202	0.241	0.172	0.172	0.178	0.158
	Sodium (%DRV--low)	0.112	0.196	0.196	0.079	0.081	0.187	0.187	0.236	0.148	0.148	0.165	0.145
	Sodium (%DRV--high)	0.102	0.207	0.207	0.092	0.094	0.192	0.192	0.240	0.142	0.142	0.159	0.139
	Zinc (mg)	0.143	0.149	0.149	0.021	0.022	0.186	0.186	0.195	0.151	0.151	0.178	0.172
	Zinc (%DRI)	0.143	0.149	0.149	0.021	0.022	0.186	0.186	0.195	0.151	0.151	0.178	0.172
	Zinc (%DRV)	0.039	0.015	0.015	-0.128	-0.126	0.011	0.011	0.052	0.044	0.044	0.147	0.148
	Protein density	0.076	-0.036	-0.036	-0.008	-0.010	0.076	0.076	0.036	0.058	0.058	0.056	0.044
	Fiber density	-0.057	-0.029	-0.029	0.013	0.012	0.036	0.036	-0.019	0.071	0.071	-0.027	-0.032
	Fat density	0.173	0.205	0.205	0.193	0.196	0.190	0.190	0.120	0.187	0.187	0.083	0.072
	Vitamin A density	0.091	0.021	0.021	0.048	0.049	0.053	0.053	0.028	0.068	0.068	0.022	0.030
	Energy density	0.144	0.181	0.181	0.082	0.085	0.190	0.190	0.193	0.187	0.187	0.162	0.143
	Thiamin density	-0.013	-0.169	-0.169	-0.017	-0.022	0.004	0.004	-0.055	-0.077	-0.077	-0.134	-0.135
	Riboflavin density	0.051	-0.192	-0.192	-0.146	-0.149	-0.067	-0.067	-0.065	-0.117	-0.117	-0.084	-0.067

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1									
	Variable	Sodium (mg)	Sodium (%DRI)	Sodium (%DRV--low)	Sodium (%DRV--high)	Zinc (mg)	Zinc (%DRI)	Zinc (%DRV)	Protein density	Fiber density	Fat density
Year 2	Iron (mg)	0.037	0.037	0.024	0.002	0.181	0.181	0.172	0.086	0.158 *	-0.105
	Iron (%DRI)	0.037	0.037	0.024	0.002	0.181	0.181	0.172	0.086	0.158 *	-0.105
	Iron (%DRV--low)	0.085	0.085	0.064	0.043	0.142	0.142	0.114	0.094	0.140	-0.059
	Iron (%DRV--high)	0.086	0.086	0.065	0.045	0.144	0.144	0.116	0.093	0.139	-0.059
	Phosphorus (mg)	0.108	0.108	0.140	0.138	0.075	0.075	0.005	0.004	0.085	-0.109
	Phosphorus (%DRI)	0.108	0.108	0.140	0.138	0.075	0.075	0.005	0.004	0.085	-0.109
	Phosphorus (%DRV)	0.103	0.103	0.153	0.162	0.114	0.114	0.030	-0.018	0.068	-0.058
	Potassium (mg)	-0.005	-0.005	-0.023	-0.040	0.177	0.177	0.150	-0.026	0.226 *	0.004
	Potassium (%DRI)	-0.005	-0.005	-0.023	-0.040	0.177	0.177	0.150	-0.026	0.226 *	0.004
	Potassium (%DRV--low)	0.000	0.000	0.009	0.007	0.217	0.217	0.165	-0.074	0.197	0.049
	Potassium (%DRV--high)	0.000	0.000	0.009	0.007	0.217	0.217	0.165	-0.074	0.197	0.049
	Sodium (mg)	0.174	0.174	0.194	0.193	0.171	0.171	0.043	0.037	0.080	0.028
	Sodium (%DRI)	0.174	0.174	0.194	0.193	0.171	0.171	0.043	0.037	0.080	0.028
	Sodium (%DRV--low)	0.157	0.157	0.184	0.188	0.180	0.180	0.062	0.021	0.068	0.062
	Sodium (%DRV--high)	0.151	0.151	0.179	0.184	0.192	0.192	0.074	0.011	0.076	0.061
	Zinc (mg)	0.123	0.123	0.152	0.155	0.144	0.144	0.027	0.019	0.072	-0.043
	Zinc (%DRI)	0.123	0.123	0.152	0.155	0.144	0.144	0.027	0.019	0.072	-0.043
	Zinc (%DRV)	-0.009	-0.009	0.032	0.084	0.032	0.032	-0.107	-0.095	0.102 *	0.000
	Protein density	-0.031	-0.031	-0.026	-0.038	-0.003	-0.003	0.022	0.169	0.051	-0.076
	Fiber density	-0.178	-0.178	-0.208	-0.221	0.050	0.050	0.089	0.050	0.183 *	-0.095
	Fat density	0.249	0.249	0.200	0.154	0.129	0.129	0.136	0.048	0.035	0.027
	Vitamin A density	-0.064	-0.064	-0.091	-0.093	0.081	0.081	0.121	-0.132	0.054	0.053
	Energy density	0.166	0.166	0.174	0.162	0.150	0.150	0.068	-0.018	0.083	-0.015
	Thiamin density	-0.139	-0.139	-0.175	-0.195	-0.053	-0.053	0.067	0.157 *	0.014	-0.121
	Riboflavin density	-0.114	-0.114	-0.090	-0.082	-0.097	-0.097	-0.054	-0.068	-0.016	-0.075

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Vitamin A density	Energy density	Thiamin density	Riboflavin density	Niacin density	Vitamin B6 density	Vitamin B12 density	Vitamin C density	Vitamin E density	Folate density	Vitamin K density	Calcium density
Year 2	Iron (mg)	0.073 **	0.124	0.039	0.051	0.057	0.110	0.132	0.132 **	0.170 *	-0.043	0.021	0.158
	Iron (%DRI)	0.073 **	0.124	0.039	0.051	0.057	0.110	0.132	0.132 **	0.170 *	-0.043	0.021	0.158
	Iron (%DRV--low)	0.056 **	0.087	0.027	0.073	0.054	0.129	0.164	0.073	0.133	0.022	0.058	0.188
	Iron (%DRV--high)	0.054 **	0.089	0.026	0.073	0.052	0.127	0.164	0.071	0.133	0.020	0.060	0.188
	Phosphorus (mg)	-0.001	0.079	0.062	0.007	-0.030	0.050	0.072	0.092	0.154	0.028	0.026	0.118
	Phosphorus (%DRI)	-0.001	0.079	0.062	0.007	-0.030	0.050	0.072	0.092	0.154	0.028	0.026	0.118
	Phosphorus (%DRV)	-0.021	0.110	0.052	-0.015	-0.032	0.050	0.019	0.086	0.167	-0.003	0.009	0.071
	Potassium (mg)	0.135	0.140	-0.032	0.003	-0.033	0.196	0.012	0.125	0.188 *	0.074	0.100	0.022
	Potassium (%DRI)	0.135	0.140	-0.032	0.003	-0.033	0.196	0.012	0.125	0.188 *	0.074	0.100	0.022
	Potassium (%DRV--low)	0.110	0.186	-0.032	-0.050	-0.035	0.172	-0.080	0.135	0.221	0.033	0.075	-0.039
	Potassium (%DRV--high)	0.110	0.186	-0.032	-0.050	-0.035	0.172	-0.080	0.135	0.221	0.033	0.075	-0.039
	Sodium (mg)	0.027	0.179	0.086	-0.024	0.039	0.014	0.027	0.013	0.117	0.141	0.148	0.054
	Sodium (%DRI)	0.027	0.179	0.086	-0.024	0.039	0.014	0.027	0.013	0.117	0.141	0.148	0.054
	Sodium (%DRV--low)	0.007	0.185	0.078	-0.045	0.032	0.010	-0.011	0.007	0.128	0.114	0.115	0.022
	Sodium (%DRV--high)	0.009	0.196	0.080	-0.062	0.023	0.004	-0.037	0.014	0.126	0.091	0.085	0.004
	Zinc (mg)	-0.076	0.137	0.032	-0.016	-0.025	0.068	0.058	0.015	0.142	0.003	0.035	0.064
	Zinc (%DRI)	-0.076	0.137	0.032	-0.016	-0.025	0.068	0.058	0.015	0.142	0.003	0.035	0.064
	Zinc (%DRV)	0.001	-0.019	0.035	0.027	-0.053	-0.027	-0.064	0.002	0.068	0.070	0.054	0.058
	Protein density	-0.038	-0.035	0.002	0.083	0.063	0.164	0.125	0.037	0.147 *	-0.123	0.012	0.120
	Fiber density	0.112	-0.068	-0.089	0.073	0.053	0.141	0.084	0.022	0.110	0.012	-0.114	0.007
	Fat density	0.035	0.185	0.047	-0.017	0.093	0.056	0.124	0.019	-0.015	0.049	0.191 *	0.062
	Vitamin A density	0.160	0.042	-0.108	0.059	-0.151	0.005	-0.024	0.115	0.041	-0.023	0.051	0.034
	Energy density	-0.012	0.205	0.018	-0.087	0.002	0.045	0.010	0.096	0.150	0.008	0.079	0.016
	Thiamin density	0.018	-0.155	-0.025	0.094	0.051	0.065	0.115	0.040	0.007	-0.021	-0.068	0.102
	Riboflavin density	0.132	-0.180	0.041	0.178	-0.116	-0.042	-0.003	0.082	-0.009	0.053	0.074	0.175 *

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1				
	Variable	Iron density	Phosphorus density	Potassium density	Sodium density	Zinc density
Year 2	Iron (mg)	0.035	0.182	0.117	-0.076	0.097
	Iron (%DRI)	0.035	0.182	0.117	-0.076	0.097
	Iron (%DRV--low)	0.063	0.200	0.168	0.017	0.113
	Iron (%DRV--high)	0.063	0.200	0.166	0.018	0.111
	Phosphorus (mg)	0.011	0.116	0.081	0.056	0.011
	Phosphorus (%DRI)	0.011	0.116	0.081	0.056	0.011
	Phosphorus (%DRV)	0.005	0.075	0.041	0.031	0.033
	Potassium (mg)	0.052	0.045	0.164	-0.132	0.057
	Potassium (%DRI)	0.052	0.045	0.164	-0.132	0.057
	Potassium (%DRV--low)	0.034	-0.006	0.095	-0.160	0.066
	Potassium (%DRV--high)	0.034	-0.006	0.095 *	-0.160	0.066
	Sodium (mg)	0.111	0.105	0.095	0.072	0.043
	Sodium (%DRI)	0.111	0.105	0.095	0.072	0.043
	Sodium (%DRV--low)	0.105	0.078	0.059	0.054	0.049
	Sodium (%DRV--high)	0.112	0.072	0.039	0.040	0.053
	Zinc (mg)	0.068	0.093	0.047	0.032	0.074
	Zinc (%DRI)	0.068	0.093	0.047	0.032	0.074
	Zinc (%DRV)	0.064	0.021	0.063	-0.014	0.092
	Protein density	-0.030	0.168	0.081	-0.001	0.087
	Fiber density	0.059	0.126	0.155	-0.188	0.180
	Fat density	0.090	0.082	0.061	0.158	-0.062
	Vitamin A density	-0.027	0.002	0.053	-0.171	0.035
	Energy density	0.020	0.017	0.036	0.035	-0.042
	Thiamin density	-0.074	0.186 *	0.056	-0.079	0.121
	Riboflavin density	-0.067	0.095	0.062	-0.050	0.028

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1							
	Variable	Energy (kcal)	Energy (%DRI)	Energy (%DRV)	Protein (g)	Protein (%DRI)	Protein (%DRV)	Fiber (g)	Fiber (%DRI)
Year 2	Niacin density	-0.122	-0.111	-0.111	-0.030	-0.030	-0.030	0.025	0.036
	Vitamin B6 density	-0.174	-0.167	-0.166	-0.076	-0.076	-0.076	0.040	0.050
	Vitamin B12 density	-0.048	-0.057	-0.058	-0.042	-0.042	-0.042	-0.069	-0.075
	Vitamin C density	-0.015	-0.003	-0.002	-0.084	-0.084	-0.084	0.066	0.074
	Vitamin E density	-0.054	-0.060	-0.060	-0.014	-0.014	-0.014	-0.022	-0.024
	Folate density	-0.163	-0.151	-0.150	-0.056	-0.056	-0.056	-0.031	-0.019
	Vitamin K density	-0.041	-0.062	-0.063	0.073	0.073	0.073	-0.008	-0.024
	Calcium density	-0.107	-0.094	-0.094	-0.130	-0.130	-0.130	-0.083	-0.076
	Iron density	-0.129	-0.111	-0.110	0.021	0.021	0.021	0.060	0.075
	Phosphorus density	-0.123	-0.118	-0.117	-0.094	-0.094	-0.094	-0.029	-0.031
	Potassium density	-0.082	-0.064	-0.063	-0.065	-0.065	-0.065	0.114	0.127
	Sodium density	0.020	0.017	0.017	0.050	0.050	0.050	0.000	0.001
	Zinc density	-0.038	-0.027	-0.026	0.000	0.000	0.000	0.015	0.022

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Fiber (%DRV)	Fat (g)	Fat (%DRI)	Fat (%DRV)	Vitamin A (IU)	Vitamin A (%DRI)	Vitamin A (%DRV)	Thiamin (mg)	Thiamin (%DRI)	Thiamin (%DRV)	Riboflavin (mg)	Riboflavin (%DRI)
Year 2	Niacin density	0.033	-0.149	-0.062	-0.138	-0.037	-0.037	-0.111	-0.136	-0.136	-0.036	-0.037	-0.037
	Vitamin B6 density	0.047	-0.215	-0.158	-0.208	0.007	0.007	0.000	-0.175	-0.175	-0.078	-0.055	-0.055
	Vitamin B12 density	-0.075	-0.069	-0.100	-0.076	-0.027	-0.027	0.027	-0.049	-0.049	-0.079	0.003	0.003
	Vitamin C density	0.072	0.028	0.004	0.036	-0.013	-0.013	0.073	-0.023	-0.023	-0.032	0.000	0.000
	Vitamin E density	-0.022	-0.079	-0.070	-0.076	-0.084	-0.084	-0.056	-0.095	-0.095	-0.082	-0.104	-0.104
	Folate density	-0.022	-0.264	-0.187	-0.247	-0.048	-0.048	-0.092	-0.169	-0.169	-0.030	-0.090	-0.090
	Vitamin K density	-0.016	-0.063	0.039	-0.072	0.035	0.035	-0.099	-0.003	-0.003	0.062	0.006	0.006
	Calcium density	-0.082	-0.118	-0.127	-0.115	0.003	0.003	0.055	0.027	0.027	-0.019	0.015	0.015
	Iron density	0.071	-0.209	-0.135	-0.193	0.065	0.065	-0.008	-0.069	-0.069	0.043	0.029	0.029
	Phosphorus density	-0.033	-0.170	-0.191	-0.170	-0.023	-0.023	0.015	-0.065	-0.065	-0.097	-0.032	-0.032
	Potassium density	0.122	-0.047	-0.024	-0.035	0.113	0.113	0.105	-0.095	-0.095	-0.028	0.034	0.034
	Sodium density	0.002	0.018	-0.038	0.018	0.057	0.057	0.099	0.094	0.094	0.020	0.055	0.055
	Zinc density	0.020	-0.076	-0.119	-0.072	-0.027	-0.027	0.042	0.001	0.001	-0.060	0.040	0.040

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Riboflavin (%DRV)	Niacin (mg)	Niacin (%DRI)	Niacin (%DRV)	Vitamin B6 (mg)	Vitamin B6 (%DRI)	Vitamin B6 (%DRV)	Vitamin B12 (mcg)	Vitamin B12 (%DRI)	Vitamin B12 (%DRV)	Vitamin C (mg)	Vitamin C (%DRI)
Year 2	Niacin density	-0.036	-0.083	-0.083	-0.012	0.029	0.029	0.050	0.029	0.029	0.068	0.065	0.065
	Vitamin B6 density	-0.078	-0.090	-0.090	-0.017	0.060	0.060	0.092	0.005	0.005	0.049	0.005	0.005
	Vitamin B12 density	-0.079	-0.085	-0.085	-0.119	0.018	0.018	-0.026	0.038	0.038	0.005	-0.022	-0.022
	Vitamin C density	-0.032	-0.140	-0.140	-0.124	0.008	0.008	-0.025	-0.069	-0.069	-0.080	0.066	0.066
	Vitamin E density	-0.082	-0.056	-0.056	-0.055	0.074	0.074	0.043	0.023	0.023	0.012	-0.032	-0.032 *
	Folate density	-0.030	-0.046	-0.046	0.056	-0.072	-0.072	0.033	0.003	0.003	0.094	-0.016	-0.016
	Vitamin K density	0.062	0.068	0.068	0.098	-0.019	-0.019	0.011	0.110	0.110	0.133	0.013	0.013
	Calcium density	-0.019	-0.175	-0.175	-0.173	-0.130	-0.130	-0.107	-0.077	-0.077	-0.086	-0.017	-0.017
	Iron density	0.043	-0.027	-0.027	0.073	0.027	0.027	0.120	0.091	0.091	0.141	0.062	0.062
	Phosphorus density	-0.097	-0.144	-0.144	-0.167	-0.032	-0.032	-0.057	0.039	0.039	-0.014	-0.014	-0.014
	Potassium density	-0.028	-0.140	-0.140	-0.092	0.102	0.102	0.094	0.003	0.003	0.044	0.050	0.050
	Sodium density	0.020	0.072	0.072	-0.009	-0.037	-0.037	-0.082	0.047	0.047	0.001	-0.061	-0.061
	Zinc density	-0.060	-0.042	-0.042	-0.099	0.043	0.043	-0.027	0.047	0.047	-0.020	-0.045	-0.045

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1												
	Variable	Vitamin C (%DRV)	Vitamin E (mg)	Vitamin E (%DRI)	Vitamin E (%DRV)	Folate (mcg)	Folate (%DRI)	Folate (%DRV)	Vitamin K (mcg)	Vitamin K (%DRI)	Vitamin K (%DRV--low)	Vitamin K (%DRV--high)	Calcium (mg)	Calcium (%DRI)
Year 2	Niacin density	0.109	-0.007	-0.007	0.028	-0.158	-0.158	-0.171	-0.049	-0.049	-0.122	-0.137	-0.007	-0.007
	Vitamin B6 density	0.042	-0.064	-0.064	0.000	-0.127	-0.127	-0.127	-0.065	-0.065	-0.079	-0.081	-0.085	-0.085
	Vitamin B12 density	-0.042	-0.051	-0.051	-0.088	-0.050	-0.050	-0.050	0.002	0.002	0.069	0.075	-0.006	-0.006
	Vitamin C density	0.026	-0.006	-0.006	-0.036	0.023	0.023	0.033	0.043	0.043	0.057	0.056	-0.031	-0.031
	Vitamin E density	-0.061	-0.047	-0.047	-0.075	0.001	0.001	0.007	0.058	0.058	0.048	0.044	-0.083	-0.083
	Folate density	0.069	-0.065	-0.065	0.022	-0.207	-0.207	-0.212	-0.154	-0.154	-0.202	-0.204	-0.023	-0.023
	Vitamin K density	0.053	-0.026	-0.026	0.024	0.008	0.008	-0.013	0.106	0.106	0.021	0.004	-0.010	-0.010
	Calcium density	-0.031	-0.093	-0.093	-0.075	0.062	0.062	0.058	-0.039	-0.039	0.066	0.077	0.061	0.061
	Iron density	0.140	-0.041	-0.041	0.055	-0.118	-0.118	-0.127	-0.133	-0.133	-0.172	-0.171	0.063	0.063
	Phosphorus density	-0.030	-0.011	-0.011	-0.027	-0.097	-0.097	-0.099	-0.080	-0.080	0.002	0.011	0.054	0.054
	Potassium density	0.080	0.029	0.029	0.032	-0.024	-0.024	-0.020	-0.020	-0.020	-0.064	-0.072	0.015	0.015
	Sodium density	-0.080	-0.015	-0.015	-0.080	0.146	0.146	0.155	0.130	0.130	0.150	0.150	0.048	0.048
	Zinc density	-0.056	0.022	0.022	-0.012	-0.029	-0.029	-0.029	-0.058	-0.058	0.022	0.033	0.074	0.074

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Calcium (%DRV)	Iron (mg)	Iron (%DRI)	Iron (%DRV--low)	Iron (%DRV--high)	Phosphorus (mg)	Phosphorus (%DRI)	Phosphorus (%DRV)	Potassium (mg)	Potassium (%DRI)	Potassium (%DRV--low)	Potassium (%DRV--high)
Year 2	Niacin density	-0.007	-0.089	-0.089	-0.031	-0.030	0.009	0.009	-0.048	-0.031	-0.031	-0.109	-0.116
	Vitamin B6 density	-0.085	-0.085	-0.085	-0.030	-0.028	-0.035	-0.035	-0.067	0.025	0.025	0.004	0.017
	Vitamin B12 density	-0.006	-0.081	-0.081	-0.097	-0.100	-0.042	-0.042	-0.009	-0.012	-0.012	0.059	0.072
	Vitamin C density	-0.031	-0.007	-0.007	-0.021	-0.018	-0.055	-0.055	-0.023	-0.016	-0.016	0.029	0.030
	Vitamin E density	-0.083	-0.036	-0.036	-0.035	-0.033	-0.034	-0.034	-0.027	0.006	0.006	-0.001	-0.007
	Folate density	-0.023	-0.146	-0.146	-0.023	-0.027	0.005	0.005	-0.051	-0.088	-0.088	-0.160	-0.159
	Vitamin K density	-0.010	-0.011	-0.011	0.027	0.029	0.054	0.054	-0.035	0.026	0.026	-0.108	-0.129
	Calcium density	0.061	-0.085	-0.085	-0.090	-0.093	-0.025	-0.025	-0.002	-0.048	-0.048	0.012	0.028
	Iron density	0.063	-0.104	-0.104	0.003	-0.001	0.086	0.086	0.014	0.060	0.060	-0.040	-0.026
	Phosphorus density	0.054	-0.118	-0.118	-0.133	-0.135	0.002	0.002	0.015	-0.013	-0.013	0.060	0.077
	Potassium density	0.015	-0.041	-0.041	-0.007	-0.005	-0.008	-0.008	-0.021	0.081	0.081	0.034	0.038
	Sodium density	0.048	0.071	0.071	0.011	0.011	0.089	0.089	0.125	0.049	0.049	0.060	0.046
	Zinc density	0.074	0.005	0.005	-0.076	-0.077	0.068	0.068	0.079	0.057	0.057	0.130	0.147

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1									
	Variable	Sodium (mg)	Sodium (%DRI)	Sodium (%DRV--low)	Sodium (%DRV--high)	Zinc (mg)	Zinc (%DRI)	Zinc (%DRV)	Protein density	Fiber density	Fat density
Year 2	Niacin density	-0.176	-0.176	-0.201	-0.215	-0.029	-0.029	0.038	0.119	0.087	-0.121
	Vitamin B6 density	-0.200	-0.200	-0.198	-0.188	-0.045	-0.045	0.025	0.111	0.169	-0.175
	Vitamin B12 density	0.038	0.038	0.080	0.100	-0.058	-0.058	-0.087	0.013	-0.058	-0.034
	Vitamin C density	-0.177	-0.177	-0.158	-0.129	0.033	0.033	0.024	-0.124	0.082	0.040
	Vitamin E density	0.006	0.006	0.011	0.004	-0.078	-0.078	-0.056	0.057	0.015	-0.075
	Folate density	-0.199	-0.199	-0.225	-0.240	-0.062	-0.062	0.052	0.127	0.066	-0.212 *
	Vitamin K density	-0.015	-0.015	-0.079	-0.110	0.004	0.004	0.060	0.110	0.064	-0.029
	Calcium density	-0.060	-0.060	-0.013	0.000	-0.045	-0.045	-0.056	-0.074	-0.012	-0.090
	Iron density	-0.169	-0.169	-0.195	-0.215	0.041	0.041	0.121	0.199	0.133	-0.163
	Phosphorus density	-0.015	-0.015	0.040	0.053	-0.089	-0.089	-0.118	0.005	0.036	-0.124
	Potassium density	-0.193	-0.193	-0.206	-0.202	0.027	0.027	0.063	-0.027	0.213 *	0.030
	Sodium density	0.074	0.074	0.080	0.084	0.082	0.082	0.005	0.106	0.044	0.004
	Zinc density	-0.001	-0.001	0.042	0.062	0.045	0.045	-0.041	0.065	0.028	-0.078

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1											
	Variable	Vitamin A density	Energy density	Thiamin density	Riboflavin density	Niacin density	Vitamin B6 density	Vitamin B12 density	Vitamin C density	Vitamin E density	Folate density	Vitamin K density	Calcium density
Year 2	Niacin density	0.029	-0.122	-0.020	0.088	0.074	0.151	0.094	0.102	0.089	-0.056	-0.010	0.061
	Vitamin B6 density	0.152	-0.174	-0.017	0.136	0.120	0.192 **	0.091	0.080	0.044	0.043	-0.018	0.026
	Vitamin B12 density	0.001	-0.048	-0.013	0.056	-0.024	0.037	0.038	0.021	-0.017	-0.006	0.013	0.028
	Vitamin C density	-0.010	-0.015	-0.085	-0.009	-0.159	-0.031	-0.086 *	0.046	-0.003	0.044	0.038	-0.050
	Vitamin E density	-0.018	-0.054	-0.072	-0.059	0.028	0.140	0.037	-0.011	-0.022	0.080	0.087	-0.030
	Folate density	0.056 *	-0.163	-0.016	0.069	0.117	0.060	0.096	0.065 *	0.062	-0.104	-0.100	0.106 **
	Vitamin K density	0.099	-0.041	0.050	0.049	0.130	0.034	0.142	0.041	-0.010	0.069	0.114	0.026
	Calcium density	0.077	-0.107	0.148	0.131	-0.125	-0.091	-0.043	0.031	-0.030	0.186 *	-0.011	0.137
	Iron density	0.159 **	-0.129	0.078	0.175 **	0.140	0.144	0.174	0.132 **	0.065	-0.016	-0.099	0.177 **
	Phosphorus density	0.054	-0.123	0.048	0.106	-0.069	0.050	0.110	0.041	0.064	0.007	-0.040	0.151
	Potassium density	0.199	-0.082	-0.054	0.113	-0.064	0.160 **	0.027	0.076	0.115	0.086	0.013	0.052
	Sodium density	0.091	0.020	0.114	0.056	0.086	0.008	0.026	-0.043	-0.007	0.216	0.146	0.064
	Zinc density	-0.004	-0.038	0.061	0.113	-0.004	0.101	0.086	-0.021	0.056	0.007	-0.059 *	0.107

*p <0.05; **p<0.01

Table 16: Correlation Coefficients for Nutrient Intake in Year 1 with Nutrient Intake in Year 2 (continued)

		Year 1				
	Variable	Iron density	Phosphorus density	Potassium density	Sodium density	Zinc density
Year 2	Niacin density	0.016	0.157	0.067	-0.146	0.101
	Vitamin B6 density	0.107	0.127	0.190	-0.112	0.132 **
	Vitamin B12 density	-0.050	-0.005	0.018	0.108	-0.022
	Vitamin C density	-0.032	-0.104	-0.038	-0.222 *	0.041
	Vitamin E density	0.005	0.007	0.063	0.018	-0.056
	Folate density	-0.018	0.189 **	0.071	-0.184	0.093
	Vitamin K density	0.075 *	0.114	0.097	0.026	0.015
	Calcium density	-0.017	0.064	0.072	-0.030	0.035
	Iron density	0.021	0.258 *	0.188	-0.157	0.209 *
	Phosphorus density	-0.059	0.119	0.104	0.062	0.021
	Potassium density	0.029	0.047	0.175 **	-0.195	0.112 **
	Sodium density	0.122	0.150	0.126 *	0.058	0.128
	Zinc density	0.069	0.123	0.093	0.013	0.154

*p <0.05; **p<0.01

Table 17: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1

Variable	Height	Weight	Tricep Skinfold	BMI
N	189	189	189	189
Energy (kcal)	0.163 *	0.123	-0.078	0.041
Energy (%DRI)	0.173 *	0.140	-0.048	0.055
Energy (%DRV)	0.174 *	0.141	-0.047	0.056
Protein (g)	0.129	0.084	-0.044	0.012
Protein (%DRI)	0.129	0.084	-0.044	0.012
Protein (%DRV)	0.129	0.084	-0.044	0.012
Fiber (g)	0.160 *	0.103	-0.101	0.029
Fiber (%DRI)	0.170 *	0.117	-0.077	0.041
Fiber (%DRV)	0.167 *	0.113	-0.084	0.037
Fat (g)	0.126	0.100	-0.083	0.034
Fat (%DRI)	0.105	0.058	-0.117	-0.015
Fat (%DRV)	0.135	0.113	-0.062	0.046
Vitamin A (IU)	0.028	0.004	-0.121	-0.022
Vitamin A (%DRI)	0.028	0.004	-0.121	-0.022
Vitamin A (%DRV)	0.075	0.070	-0.041	0.043
Thiamin (mg)	0.133	0.086	-0.002	0.020
Thiamin (%DRI)	0.133	0.086	-0.002	0.020
Thiamin (%DRV)	0.062	-0.027	-0.086	-0.094
Riboflavin (mg)	0.113	0.042	-0.069	-0.042
Riboflavin (%DRI)	0.113	0.042	-0.069	-0.042
Riboflavin (%DRV)	0.062	-0.027	-0.086	-0.094
Niacin (mg)	0.106	0.044	-0.056	-0.022
Niacin (%DRI)	0.106	0.044	-0.056	-0.022
Niacin (%DRV)	0.049	-0.047	-0.117	-0.112
Vitamin B6 (mg)	0.173 *	0.102	-0.100	0.021
Vitamin B6 (%DRI)	0.173	0.102	-0.100	0.021
Vitamin B6 (%DRV)	0.113	-0.008	-0.159 *	-0.093
Vitamin B12 (mcg)	0.103	0.124	0.067	0.085
Vitamin B12 (%DRI)	0.103	0.124	0.067	0.085
Vitamin B12 (%DRV)	0.071	0.082	0.024	0.047
Vitamin C (mg)	0.080	0.052	-0.066	0.012
Vitamin C (%DRI)	0.080	0.052	-0.066	0.012
Vitamin C (%DRV)	0.045	0.006	-0.084	-0.028
Vitamin E (mg)	0.137	0.086	-0.075	0.015
Vitamin E (%DRI)	0.137	0.086	-0.075	0.015
Vitamin E (%DRV)	0.083	0.015	-0.102	-0.045
Folate (mcg)	0.121	0.130	0.016	0.089
Folate (%DRI)	0.121	0.130	0.016	0.089
Folate (%DRV)	0.126	0.136	0.012	0.095
Vitamin K (mcg)	0.013	0.031	-0.049	0.039
Vitamin K (%DRI)	0.013	0.031	-0.049	0.039
Vitamin K (%DRV--low)	0.045	0.101	0.007	0.110
Vitamin K (%DRV--high)	0.047	0.103	0.014	0.112

*p <0.05; **p<0.01

Table 17: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 (continued)

Variable	Height	Weight	Tricep	BMI
N	189	189	189	189
Calcium (mg)	0.110	0.037	-0.085	-0.043
Calcium (%DRI)	0.110	0.037	-0.085	-0.043
Calcium (%DRV)	0.110	0.037	-0.085	-0.043
Iron (mg)	0.113	0.080	-0.034	0.021
Iron (%DRI)	0.113	0.080	-0.034	0.021
Iron (%DRV--low)	0.050	-0.035	-0.103	-0.099
Iron (%DRV--high)	0.059	-0.023	-0.099	-0.089
Phosphorus (mg)	0.171 *	0.114	-0.028	0.023
Phosphorus (%DRI)	0.171 *	0.114 *	-0.028	0.023
Phosphorus (%DRV)	0.180 *	0.170	0.041	0.102
Potassium (mg)	0.166 *	0.112	-0.073	0.033
Potassium (%DRI)	0.166 *	0.112	-0.073	0.033
Potassium (%DRV--low)	0.109	0.152 *	0.069	0.139
Potassium (%DRV--high)	0.098	0.147	0.079	0.142
Sodium (mg)	0.104	0.142	0.050	0.113
Sodium (%DRI)	0.104	0.142	0.050	0.113
Sodium (%DRV--low)	0.115	0.158	0.073	0.133
Sodium (%DRV--high)	0.078	0.102	0.071	0.094
Zinc (mg)	0.077	-0.001	-0.115	-0.069
Zinc (%DRI)	0.077	-0.001	-0.115 *	-0.069 *
Zinc (%DRV)	0.018	-0.094	-0.166	-0.159
Protein density	0.027	-0.030	0.005	-0.064
Fiber density	0.056	-0.001	-0.083	-0.024
Fat density	-0.007	0.019	-0.021	0.017
Vitamin A density	-0.040	-0.042	-0.101	-0.036
Energy density	0.163	0.123	-0.078	0.041
Thiamin density	-0.035	-0.055	0.103	-0.038
Riboflavin density	-0.087	-0.162	-0.037	-0.174 *
Niacin density	-0.035	-0.092	-0.007	-0.100
Vitamin B6 density	0.101	0.029	-0.066	-0.008
Vitamin B12 density	0.034	0.064	0.065	0.052
Vitamin C density	-0.042	-0.026	-0.036	-0.004
Vitamin E density	0.024	-0.010	-0.026	-0.032
Folate density	-0.008	0.023	0.076	0.043
Vitamin K density	-0.025	0.010	-0.030	0.039
Calcium density	-0.048	-0.123	-0.042	-0.144
Iron density	-0.021	-0.051	0.025	-0.049
Phosphorus density	0.037	-0.031	0.021	-0.070
Potassium density	0.030	-0.007	-0.017	-0.021
Sodium density	0.032	0.088	0.070	0.094
Zinc density	-0.046	-0.141	-0.106	-0.164

*p <0.05; **p<0.01

Table 18: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2

Variable	Height	Weight	Tricep Skinfold	BMI
N	188	188	187	188
Energy (kcal)	0.206 **	0.146 *	0.025	0.041
Energy (%DRI)	0.230 **	0.183 *	0.080	0.073
Energy (%DRV)	0.231 **	0.185 *	0.083	0.074
Protein (g)	0.120	0.100	-0.023	0.044
Protein (%DRI)	0.120	0.100	-0.023	0.044
Protein (%DRV)	0.120	0.100	-0.023	0.044
Fiber (g)	0.145 *	0.077	0.025	0.009
Fiber (%DRI)	0.154 *	0.098	0.065	0.030
Fiber (%DRV)	0.151 *	0.092	0.053	0.023
Fat (g)	0.093	0.057	-0.019	0.022
Fat (%DRI)	0.081	0.043	-0.007	0.021
Fat (%DRV)	0.107	0.083	0.022	0.047
Vitamin A (IU)	0.007	-0.083	-0.124	-0.114
Vitamin A (%DRI)	0.007	-0.083	-0.124	-0.114
Vitamin A (%DRV)	-0.002	-0.018	-0.067	-0.029
Thiamin (mg)	0.220 **	0.182 *	0.072	0.064
Thiamin (%DRI)	0.220 **	0.182 *	0.072	0.064
Thiamin (%DRV)	0.230 **	0.207 **	0.120	0.093
Riboflavin (mg)	0.102	0.069	-0.009	0.006
Riboflavin (%DRI)	0.102	0.069	-0.009	0.006
Riboflavin (%DRV)	0.230 **	0.207 **	0.120	0.093
Niacin (mg)	0.068	0.041	-0.086	0.016
Niacin (%DRI)	0.068	0.041	-0.086	0.016
Niacin (%DRV)	0.091	0.085	-0.012	0.056
Vitamin B6 (mg)	0.027	-0.068	-0.116	-0.106
Vitamin B6 (%DRI)	0.027	-0.068	-0.116	-0.106
Vitamin B6 (%DRV)	0.080	0.023	-0.012	-0.027
Vitamin B12 (mcg)	0.004	-0.041	-0.062	-0.066
Vitamin B12 (%DRI)	0.004	-0.041	-0.062	-0.066
Vitamin B12 (%DRV)	0.079	0.077	0.035	0.030
Vitamin C (mg)	0.017	-0.065	-0.126	-0.099
Vitamin C (%DRI)	0.017	-0.065	-0.126	-0.099
Vitamin C (%DRV)	0.034	-0.044	-0.091	-0.083
Vitamin E (mg)	0.092	0.020	-0.065	-0.020
Vitamin E (%DRI)	0.092	0.020	-0.065	-0.020
Vitamin E (%DRV)	0.102	0.048	-0.013	0.013
Folate (mcg)	0.170 *	0.151 *	0.051	0.081
Folate (%DRI)	0.170 *	0.151 *	0.051	0.081
Folate (%DRV)	0.210 **	0.223 **	0.104	0.134
Vitamin K (mcg)	-0.030	-0.092	-0.114	-0.089
Vitamin K (%DRI)	-0.030	-0.092	-0.114	-0.089
Vitamin K (%DRV--low)	-0.006	-0.043	-0.095	-0.049
Vitamin K (%DRV--high)	-0.004	-0.040	-0.093	-0.046

*p<0.05; **p<0.01

Table 18: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 (continued)

Variable	Height	Weight	Tricep Skinfold	BMI
N	188	188	187	188
Calcium (mg)	0.098	0.111	0.051	0.065
Calcium (%DRI)	0.098	0.111	0.051	0.065
Calcium (%DRV)	0.098	0.111	0.051	0.065
Iron (mg)	0.185 *	0.162 *	0.062	0.069
Iron (%DRI)	0.185 *	0.162 *	0.062	0.069
Iron (%DRV--low)	0.188 *	0.191 **	0.120	0.106
Iron (%DRV--high)	0.196 **	0.199 **	0.123	0.110
Phosphorus (mg)	0.133	0.125	0.034	0.066
Phosphorus (%DRI)	0.133	0.125	0.034	0.066
Phosphorus (%DRV)	0.090	0.087	0.007	0.044
Potassium (mg)	0.132	0.042	-0.085	-0.046
Potassium (%DRI)	0.132	0.042	-0.085	-0.046
Potassium (%DRV--low)	-0.005	-0.033	-0.087	-0.046
Potassium (%DRV--high)	-0.018	-0.040	-0.083	-0.045
Sodium (mg)	0.067	0.063	0.047	0.027
Sodium (%DRI)	0.067	0.063	0.047	0.027
Sodium (%DRV--low)	0.039	0.024	-0.010	-0.003
Sodium (%DRV--high)	0.001	-0.021	-0.066	-0.031
Zinc (mg)	0.174	0.138	-0.003	0.047
Zinc (%DRI)	0.174	0.138	-0.003	0.047
Zinc (%DRV)	0.148	0.093	-0.028	0.026
Protein density	-0.007	0.026	-0.059	0.042
Fiber density	0.051	0.016	0.013	0.004
Fat density	-0.103	-0.060	-0.014	0.033
Vitamin A density	-0.064	-0.143	-0.125	-0.148
Energy density	0.206 **	0.146	0.025	0.041
Thiamin density	0.037	0.020	0.001	-0.025
Riboflavin density	-0.075	-0.078	-0.065	-0.073
Niacin density	-0.152 *	-0.115	-0.169	-0.021
Vitamin B6 density	-0.081	-0.159 *	-0.155	-0.147
Vitamin B12 density	-0.055	-0.087	-0.086	-0.085
Vitamin C density	-0.055	-0.132	-0.138	-0.140
Vitamin E density	-0.042	-0.073	-0.093	-0.025
Folate density	-0.013	0.009	-0.014	0.032
Vitamin K density	-0.096	-0.151 *	-0.105	-0.113
Calcium density	-0.017	0.016	0.030	0.019
Iron density	-0.017	0.002	0.002	0.003
Phosphorus density	0.036	0.085	0.034	0.086
Potassium density	0.019	-0.064	-0.134	-0.106
Sodium density	-0.018	0.004	0.065	0.010
Zinc density	0.051	0.064	-0.029	0.035

*p<0.05; **p<0.01

Table 19: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Availability of a School Feeding Program (SFP)

SFP	Variable	Height	Weight	Tricep Skinfold	BMI
Yes	N	112	112	112	112
	Energy (kcal)	0.230 *	0.152	-0.037	0.056
	Energy (%DRI)	0.234 *	0.167	-0.012	0.074
	Energy (%DRV)	0.234 *	0.168	-0.010	0.074
	Protein (g)	0.134	0.067	-0.055	-0.004
	Protein (%DRI)	0.134	0.067	-0.055	-0.004
	Protein (%DRV)	0.134	0.067	-0.055	-0.004
	Fiber (g)	0.229 *	0.164	-0.094	0.078
	Fiber (%DRI)	0.231 *	0.178	-0.070	0.098
	Fiber (%DRV)	0.231 *	0.174	-0.077	0.092
	Fat (g)	0.220 *	0.163	-0.041	0.075
	Fat (%DRI)	0.246 *	0.137	-0.086	0.005
	Fat (%DRV)	0.224 *	0.176	-0.023	0.090
	Vitamin A (IU)	0.029	-0.018	-0.116	-0.058
	Vitamin A (%DRI)	0.029	-0.018	-0.116	-0.058
	Vitamin A (%DRV)	0.055	0.052	-0.017	0.044
	Thiamin (mg)	0.197 *	0.132	0.074	0.053
	Thiamin (%DRI)	0.197 *	0.132	0.074	0.053
	Thiamin (%DRV)	0.153	0.004	-0.058	-0.121
	Riboflavin (mg)	0.192 *	0.095	0.032	-0.012
	Riboflavin (%DRI)	0.192 *	0.095	0.032	-0.012
	Riboflavin (%DRV)	0.153	0.004	-0.058	-0.121
	Niacin (mg)	0.138	0.057	-0.044	-0.010
	Niacin (%DRI)	0.138	0.057	-0.044	-0.010
	Niacin (%DRV)	0.103	-0.038	-0.126	-0.136
	Vitamin B6 (mg)	0.160	0.093	-0.122	0.029
	Vitamin B6 (%DRI)	0.160	0.093	-0.122	0.029
	Vitamin B6 (%DRV)	0.124	-0.033	-0.217	-0.142
	Vitamin B12 (mcg)	0.183	0.123	0.013	0.032
	Vitamin B12 (%DRI)	0.183	0.123	0.013	0.032
	Vitamin B12 (%DRV)	0.158	0.064	-0.062	-0.044
	Vitamin C (mg)	0.151	0.065	-0.096	-0.006
	Vitamin C (%DRI)	0.151	0.065	-0.096	-0.006
	Vitamin C (%DRV)	0.148	0.036	-0.114	-0.055
	Vitamin E (mg)	0.232 *	0.129	-0.091	0.020
	Vitamin E (%DRI)	0.232 *	0.129	-0.091	0.020
	Vitamin E (%DRV)	0.184	0.048	-0.137	-0.070
	Folate (mcg)	0.189	0.203 *	0.101	0.166
	Folate (%DRI)	0.189	0.203 *	0.101	0.166
	Folate (%DRV)	0.190	0.207 *	0.091	0.171
	Vitamin K (mcg)	0.032	0.047	-0.043	0.054
	Vitamin K (%DRI)	0.032	0.047	-0.043	0.054
	Vitamin K (%DRV--low)	0.055	0.127	0.029	0.150
	Vitamin K (%DRV--high)	0.054	0.129	0.036	0.152

*p<0.05; **p<0.01

Table 19: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Availability of a School Feeding Program (SFP) (continued)

SFP	Variable	Height	Weight	Tricep Skinfold	BMI
Yes	N	112	112	112	112
	Calcium (mg)	0.240 *	0.111	-0.015	-0.021
	Calcium (%DRI)	0.240 *	0.111	-0.015	-0.021
	Calcium (%DRV)	0.240 *	0.111	-0.015	-0.021
	Iron (mg)	0.145	0.106	0.012	0.048
	Iron (%DRI)	0.145	0.106	0.012	0.048
	Iron (%DRV--low)	0.104	-0.024	-0.100	-0.125
	Iron (%DRV--high)	0.113	-0.010	-0.092	-0.109
	Phosphorus (mg)	0.252 *	0.150	-0.021	0.032
	Phosphorus (%DRI)	0.252 *	0.150	-0.021	0.032
	Phosphorus (%DRV)	0.198 *	0.192	0.077	0.145
	Potassium (mg)	0.232 *	0.164	-0.039	0.078
	Potassium (%DRI)	0.232 *	0.164	-0.039	0.078
	Potassium (%DRV--low)	0.093	0.166	0.111	0.191 *
	Potassium (%DRV--high)	0.077	0.159	0.120	0.193 *
	Sodium (mg)	0.223 *	0.189	0.031	0.116
	Sodium (%DRI)	0.223 *	0.189	0.031	0.116
	Sodium (%DRV--low)	0.149	0.156	0.059	0.131
	Sodium (%DRV--high)	0.038	0.084	0.070	0.114
	Zinc (mg)	0.070	0.015	-0.069	-0.037
	Zinc (%DRI)	0.070	0.015	-0.069	-0.037
	Zinc (%DRV)	0.038	-0.082	-0.151	-0.167
	Protein density	-0.048	-0.092	-0.070	-0.112
	Fiber density	0.091	0.081	-0.126	0.056
	Fat density	0.078	0.108	0.000	0.081
	Vitamin A density	-0.074	-0.086	-0.096	-0.088
	Energy density	0.230	0.152	-0.037	0.056
	Thiamin density	-0.032	-0.005	0.212 *	0.022
	Riboflavin density	-0.092	-0.135	0.068	-0.150
	Niacin density	-0.024	-0.084	-0.056	-0.101
	Vitamin B6 density	0.003	-0.013	-0.154	-0.012
	Vitamin B12 density	0.063	0.020	0.008	-0.038
	Vitamin C density	0.002	-0.012	-0.047	-0.013
	Vitamin E density	0.121	0.037	-0.097	-0.047
	Folate density	0.018	0.121	0.193	0.173
	Vitamin K density	-0.008	0.028	-0.022	0.052
	Calcium density	0.003	-0.091	-0.010	-0.149
	Iron density	-0.065	-0.027	0.046	0.005
	Phosphorus density	0.050	-0.034	-0.012	-0.099
	Potassium density	0.048	0.053	0.015	0.046
	Sodium density	0.120	0.113	0.049	0.080
	Zinc density	-0.118	-0.137	-0.085	-0.127

*p<0.05; **p<0.01

Table 19: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Availability of a School Feeding Program (SFP) (continued)

SFP	Variable	Height	Weight	Tricep Skinfold	BMI
No	N	77.000	77.000	77.000	77.000
	Energy (kcal)	0.048	0.064	-0.106	0.029
	Energy (%DRI)	0.071	0.086	-0.067	0.038
	Energy (%DRV)	0.073	0.087	-0.065	0.038
	Protein (g)	0.123	0.110	-0.015	0.041
	Protein (%DRI)	0.123	0.110	-0.015	0.041
	Protein (%DRV)	0.123	0.110	-0.015	0.041
	Fiber (g)	0.044	-0.030	-0.088	-0.060
	Fiber (%DRI)	0.073	-0.017	-0.061	-0.068
	Fiber (%DRV)	0.064	-0.021	-0.070	-0.065
	Fat (g)	-0.035	-0.028	-0.110	-0.025
	Fat (%DRI)	-0.086	-0.072	-0.134	-0.038
	Fat (%DRV)	-0.020	-0.016	-0.082	-0.022
	Vitamin A (IU)	0.014	0.038	-0.115	0.046
	Vitamin A (%DRI)	0.014	0.038	-0.115	0.046
	Vitamin A (%DRV)	0.130	0.141	-0.054	0.077
	Thiamin (mg)	0.027	-0.004	-0.081	-0.027
	Thiamin (%DRI)	0.027	-0.004	-0.081	-0.027
	Thiamin (%DRV)	-0.060	-0.080	-0.127	-0.054
	Riboflavin (mg)	0.002	-0.049	-0.177	-0.082
	Riboflavin (%DRI)	0.002	-0.049	-0.177	-0.082
	Riboflavin (%DRV)	-0.060	-0.080	-0.127	-0.054
	Niacin (mg)	0.057	0.014	-0.063	-0.044
	Niacin (%DRI)	0.057	0.014	-0.063	-0.044
	Niacin (%DRV)	-0.031	-0.067	-0.122	-0.076
	Vitamin B6 (mg)	0.200	0.120	-0.032	0.018
	Vitamin B6 (%DRI)	0.200	0.120	-0.032	0.018
	Vitamin B6 (%DRV)	0.103	0.030	-0.083	-0.019
	Vitamin B12 (mcg)	0.083	0.145	0.076	0.119
	Vitamin B12 (%DRI)	0.083	0.145	0.076	0.119
	Vitamin B12 (%DRV)	0.046	0.109	0.044	0.102
	Vitamin C (mg)	0.002	0.032	-0.023	0.036
	Vitamin C (%DRI)	0.002	0.032	-0.023	0.036
	Vitamin C (%DRV)	-0.058	-0.033	-0.052	0.005
	Vitamin E (mg)	-0.016	-0.003	-0.021	0.015
	Vitamin E (%DRI)	-0.016	-0.003	-0.021	0.015
	Vitamin E (%DRV)	-0.072	-0.050	-0.041	0.002
	Folate (mcg)	0.003	-0.018	-0.078	-0.039
	Folate (%DRI)	0.003	-0.018	-0.078	-0.039
	Folate (%DRV)	0.010	-0.011	-0.072	-0.036
	Vitamin K (mcg)	-0.235	-0.149	-0.085	-0.006
	Vitamin K (%DRI)	-0.235 *	-0.149	-0.085	-0.006
	Vitamin K (%DRV--low)	-0.073	-0.041	-0.027	-0.004
	Vitamin K (%DRV--high)	0.014	0.015	0.004	-0.002

*p<0.05; **p<0.01

Table 19: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Availability of a School Feeding Program (SFP) (continued)

SFP	Variable	Height	Weight	Tricep Skinfold	BMI
No	N	77.000	77.000	77.000	77.000
	Calcium (mg)	-0.031	-0.065	-0.169	-0.071
	Calcium (%DRI)	-0.031	-0.065	-0.169	-0.071
	Calcium (%DRV)	-0.031	-0.065	-0.169	-0.071
	Iron (mg)	0.044	0.012	-0.076	-0.025
	Iron (%DRI)	0.044	0.012	-0.076	-0.025
	Iron (%DRV--low)	-0.043	-0.068	-0.111	-0.056
	Iron (%DRV--high)	-0.035	-0.061	-0.109	-0.053
	Phosphorus (mg)	0.094	0.068	-0.042	0.012
	Phosphorus (%DRI)	0.094	0.068	-0.042	0.012
	Phosphorus (%DRV)	0.166	0.134	0.006	0.035
	Potassium (mg)	0.068	0.014	-0.098	-0.037
	Potassium (%DRI)	0.068	0.014	-0.098	-0.037
	Potassium (%DRV--low)	0.176	0.154	0.070	0.051
	Potassium (%DRV--high)	0.168	0.154	0.086	0.058
	Sodium (mg)	0.059	0.129	0.036	0.113
	Sodium (%DRI)	0.059	0.129	0.036	0.113
	Sodium (%DRV--low)	0.094	0.163	0.075	0.133
	Sodium (%DRV--high)	0.151	0.154	0.141	0.079
	Zinc (mg)	0.077	-0.060	-0.183	-0.147
	Zinc (%DRI)	0.077	-0.060	-0.183	-0.147
	Zinc (%DRV)	-0.027	-0.138	-0.199	-0.158
	Protein density	0.122	0.051	0.032	-0.024
	Fiber density	0.031	-0.092	-0.053	-0.112
	Fat density	-0.100	-0.085	-0.012	-0.043
	Vitamin A density	-0.001	0.025	-0.111	0.039
	Energy density	0.048	0.064	-0.106	0.029
	Thiamin density	-0.021	-0.105	-0.032	-0.110
	Riboflavin density	-0.071	-0.192	-0.177	-0.210
	Niacin density	-0.020	-0.090	-0.006	-0.112
	Vitamin B6 density	0.242 *	0.101	0.053	-0.002
	Vitamin B12 density	0.047	0.109	0.061	0.102
	Vitamin C density	-0.076	-0.038	-0.035	0.003
	Vitamin E density	-0.098	-0.084	0.069	-0.009
	Folate density	-0.017	-0.061	-0.035	-0.076
	Vitamin K density	-0.292	-0.182	-0.031	0.012
	Calcium density	-0.082	-0.159	-0.122	-0.150
	Iron density	0.029	-0.077	-0.009	-0.113
	Phosphorus density	0.071	-0.012	-0.018	-0.059
	Potassium density	0.020	-0.083	-0.069	-0.109
	Sodium density	0.025	0.102	0.043	0.107
	Zinc density	0.070	-0.164	-0.162	-0.258 *

*p<0.05; **p<0.01

Table 20: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Availability of a School Feeding Program (SFP)

SFP	Variable	Height	Weight	Tricep Skinfold	BMI
Yes	N	109	109	108	109
	Energy (kcal)	0.221 *	0.091	-0.040	-0.055
	Energy (%DRI)	0.235 *	0.134	0.020	-0.012
	Energy (%DRV)	0.236 *	0.136	0.023	-0.010
	Protein (g)	0.124	0.035	-0.121	-0.042
	Protein (%DRI)	0.124	0.035	-0.121	-0.042
	Protein (%DRV)	0.124	0.035	-0.121	-0.042
	Fiber (g)	0.112	-0.014	-0.057	-0.076
	Fiber (%DRI)	0.115	0.014	-0.010	-0.043
	Fiber (%DRV)	0.114	0.005	-0.024	-0.053
	Fat (g)	0.089	-0.007	-0.093	-0.054
	Fat (%DRI)	0.110	0.005	-0.069	-0.034
	Fat (%DRV)	0.092	0.020	-0.051	-0.020
	Vitamin A (IU)	0.014	-0.120	-0.166	-0.162
	Vitamin A (%DRI)	0.014	-0.120	-0.166	-0.162
	Vitamin A (%DRV)	-0.021	-0.059	-0.109	-0.070
	Thiamin (mg)	0.237 *	0.070	-0.012	-0.093
	Thiamin (%DRI)	0.237 *	0.070	-0.012	-0.093
	Thiamin (%DRV)	0.306 **	0.243 *	0.138	0.061
	Riboflavin (mg)	0.109	-0.020	-0.105	-0.121
	Riboflavin (%DRI)	0.109	-0.020	-0.105	-0.121
	Riboflavin (%DRV)	0.306 **	0.243 *	0.138	0.061
	Niacin (mg)	0.081	-0.014	-0.132	-0.054
	Niacin (%DRI)	0.081	-0.014	-0.132	-0.054
	Niacin (%DRV)	0.153	0.126	-0.002	0.059
	Vitamin B6 (mg)	0.030	-0.132	-0.172	-0.178
	Vitamin B6 (%DRI)	0.030	-0.132	-0.172	-0.178
	Vitamin B6 (%DRV)	0.120	0.032	-0.028	-0.054
	Vitamin B12 (mcg)	0.034	-0.081	-0.172	-0.138
	Vitamin B12 (%DRI)	0.034	-0.081	-0.172	-0.138
	Vitamin B12 (%DRV)	0.173	0.180	0.041	0.059
	Vitamin C (mg)	0.068	-0.044	-0.110	-0.108
	Vitamin C (%DRI)	0.068	-0.044	-0.110	-0.108
	Vitamin C (%DRV)	0.104	0.005	-0.049	-0.070
	Vitamin E (mg)	0.111	-0.008	-0.090	-0.051
	Vitamin E (%DRI)	0.111	-0.008	-0.090	-0.051
	Vitamin E (%DRV)	0.149	0.060	-0.011	0.011
	Folate (mcg)	0.174	0.054	-0.063	-0.051
	Folate (%DRI)	0.174	0.054	-0.063	-0.051
	Folate (%DRV)	0.234	0.189 *	0.045	0.044
	Vitamin K (mcg)	-0.027	-0.091	-0.139	-0.082
	Vitamin K (%DRI)	-0.027	-0.091	-0.139	-0.082
	Vitamin K (%DRV--low)	-0.008	-0.061	-0.126	-0.063
	Vitamin K (%DRV--high)	-0.007	-0.059	-0.124	-0.061

*p<0.05; **p<0.01

Table 20: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Availability of a School Feeding Program (SFP) (continued)

SFP	Variable	Height	Weight	Tricep Skinfold	BMI
Yes	N	109	109	108	109
	Calcium (mg)	0.098	0.031	-0.048	-0.044
	Calcium (%DRI)	0.098	0.031	-0.048	-0.044
	Calcium (%DRV)	0.098	0.031	-0.048	-0.044
	Iron (mg)	0.173	0.037	-0.032	-0.082
	Iron (%DRI)	0.173	0.037	-0.032	-0.082
	Iron (%DRV--low)	0.241 *	0.221 *	0.128	0.080
	Iron (%DRV--high)	0.244 *	0.219 *	0.125	0.074
	Phosphorus (mg)	0.129	0.050	-0.083	-0.030
	Phosphorus (%DRI)	0.129	0.050	-0.083	-0.030
	Phosphorus (%DRV)	0.059	-0.010	-0.096	-0.058
	Potassium (mg)	0.159	0.010	-0.137	-0.115
	Potassium (%DRI)	0.159	0.010	-0.137	-0.115
	Potassium (%DRV--low)	-0.025	-0.093	-0.128	-0.101
	Potassium (%DRV--high)	-0.042	-0.101	-0.122	-0.097
	Sodium (mg)	0.134	0.093	0.022	0.004
	Sodium (%DRI)	0.134	0.093	0.022	0.004
	Sodium (%DRV--low)	0.039	-0.017	-0.068	-0.054
	Sodium (%DRV--high)	-0.034	-0.091	-0.125	-0.089
	Zinc (mg)	0.151	0.027	-0.137	-0.086
	Zinc (%DRI)	0.151	0.027	-0.137	-0.086
	Zinc (%DRV)	0.257 **	0.234 *	0.051	0.081
	Protein density	-0.058	-0.032	-0.133	0.018
	Fiber density	-0.009	-0.066	-0.033	-0.035
	Fat density	-0.127	-0.088	-0.056	0.039
	Vitamin A density	-0.046	-0.152	-0.135	-0.163
	Energy density	0.221	0.091	-0.040	-0.055
	Thiamin density	0.039	-0.057	-0.022	-0.104
	Riboflavin density	-0.102	-0.165	-0.123	-0.160
	Niacin density	-0.174	-0.142	-0.172	-0.012
	Vitamin B6 density	-0.102	-0.215	-0.178	-0.181
	Vitamin B12 density	-0.077	-0.122	-0.140	-0.114
	Vitamin C density	-0.029	-0.108	-0.118	-0.122
	Vitamin E density	-0.042	-0.070	-0.083	0.019
	Folate density	-0.028	-0.055	-0.077	-0.021
	Vitamin K density	-0.119	-0.153	-0.120	-0.084
	Calcium density	-0.038	-0.028	-0.007	-0.024
	Iron density	-0.058	-0.099	-0.054	-0.074
	Phosphorus density	-0.041	0.003	-0.049	0.044
	Potassium density	0.016	-0.087	-0.159	-0.131
	Sodium density	0.077	0.164	0.213 *	0.122
	Zinc density	-0.023	-0.061	-0.143	-0.062

*p<0.05; **p<0.01

Table 20: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Availability of a School Feeding Program (SFP) (continued)

	Variable	Height	Weight	Tricep Skinfold	BMI
SFP	N	79.000	79.000	79.000	79.000
No	Energy (kcal)	0.177	0.223	0.130	0.226 *
	Energy (%DRI)	0.221	0.252 *	0.173	0.233 *
	Energy (%DRV)	0.223	0.253 *	0.175	0.233 *
	Protein (g)	0.120	0.181	0.101	0.195
	Protein (%DRI)	0.120	0.181	0.101	0.195
	Protein (%DRV)	0.120	0.181	0.101	0.195
	Fiber (g)	0.192	0.194	0.149	0.157
	Fiber (%DRI)	0.209	0.203	0.172	0.153
	Fiber (%DRV)	0.204	0.201	0.165	0.155
	Fat (g)	0.100	0.153	0.102	0.177
	Fat (%DRI)	0.035	0.089	0.083	0.117
	Fat (%DRV)	0.131	0.173	0.137	0.182
	Vitamin A (IU)	-0.035	-0.033	-0.015	-0.003
	Vitamin A (%DRI)	-0.035	-0.033	-0.015	-0.003
	Vitamin A (%DRV)	0.058	0.094	0.073	0.127
	Thiamin (mg)	0.198	0.324 **	0.185	0.342
	Thiamin (%DRI)	0.198	0.324 **	0.185	0.342 **
	Thiamin (%DRV)	0.115	0.160	0.101	0.142
	Riboflavin (mg)	0.082	0.198	0.155	0.257 *
	Riboflavin (%DRI)	0.082	0.198	0.155	0.257 *
	Riboflavin (%DRV)	0.115	0.160	0.101	0.142
	Niacin (mg)	0.043	0.131	-0.005	0.172
	Niacin (%DRI)	0.043	0.131	-0.005	0.172
	Niacin (%DRV)	-0.003	0.031	-0.020	0.043
	Vitamin B6 (mg)	0.013	0.026	-0.013	0.041
	Vitamin B6 (%DRI)	0.013	0.026	-0.013	0.041
	Vitamin B6 (%DRV)	-0.001	0.001	0.026	0.009
	Vitamin B12 (mcg)	-0.026	-0.006	0.042	0.018
	Vitamin B12 (%DRI)	-0.026	-0.006	0.042	0.018
	Vitamin B12 (%DRV)	-0.037	-0.032	0.031	-0.016
	Vitamin C (mg)	-0.127	-0.138	-0.161	-0.123
	Vitamin C (%DRI)	-0.127	-0.138	-0.161	-0.123
	Vitamin C (%DRV)	-0.134	-0.156	-0.169	-0.155
	Vitamin E (mg)	0.043	0.064	-0.006	0.037
	Vitamin E (%DRI)	0.043	0.064	-0.006	0.037
	Vitamin E (%DRV)	0.007	0.024	-0.005	-0.005
	Folate (mcg)	0.166	0.272	0.200	0.315 **
	Folate (%DRI)	0.166	0.272	0.200	0.315 **
	Folate (%DRV)	0.168	0.276	0.200	0.319 **
	Vitamin K (mcg)	-0.053	-0.123	-0.067	-0.138
	Vitamin K (%DRI)	-0.053	-0.123	-0.067	-0.138
	Vitamin K (%DRV--low)	-0.003	0.015	-0.012	0.038
	Vitamin K (%DRV--high)	0.009	0.043	0.001	0.071

*p<0.05; **p<0.01

Table 20: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Availability of a School Feeding Program (SFP) (continued)

SFP	Variable	Height	Weight	Tricep Skinfold	BMI
No	N	79.000	79.000	79.000	79.000
	Calcium (mg)	0.094	0.220	0.208	0.271 *
	Calcium (%DRI)	0.094	0.220	0.208	0.271 *
	Calcium (%DRV)	0.094	0.220	0.208	0.271 *
	Iron (mg)	0.207	0.350	0.215	0.384 **
	Iron (%DRI)	0.207	0.350	0.215	0.384 **
	Iron (%DRV--low)	0.083	0.146	0.119	0.152
	Iron (%DRV--high)	0.099	0.171	0.133	0.181
	Phosphorus (mg)	0.145	0.218	0.185	0.238 *
	Phosphorus (%DRI)	0.145	0.218	0.185	0.238 *
	Phosphorus (%DRV)	0.156	0.248	0.181	0.280 *
	Potassium (mg)	0.071	0.095	0.026	0.102
	Potassium (%DRI)	0.071	0.095	0.026	0.102
	Potassium (%DRV--low)	0.041	0.078	-0.009	0.100
	Potassium (%DRV--high)	0.035	0.070	-0.011	0.092
	Sodium (mg)	0.007	0.042	0.068	0.065
	Sodium (%DRI)	0.007	0.042	0.068	0.065
	Sodium (%DRV--low)	0.044	0.091	0.085	0.116
	Sodium (%DRV--high)	0.092	0.132	0.066	0.147
	Zinc (mg)	0.210	0.284 *	0.188	0.291 *
	Zinc (%DRI)	0.210	0.284 *	0.188	0.291 *
	Zinc (%DRV)	0.004	-0.067	-0.108	-0.086
	Protein density	0.057	0.087	0.008	0.090
	Fiber density	0.152	0.135	0.090	0.077
	Fat density	-0.060	-0.018	0.048	0.030
	Vitamin A density	-0.152	-0.179	-0.107	-0.155
	Energy density	0.177	0.223	0.130	0.226
	Thiamin density	0.045	0.097	0.017	0.086
	Riboflavin density	-0.038	0.035	0.029	0.083
	Niacin density	-0.114	-0.077	-0.165	-0.039
	Vitamin B6 density	-0.050	-0.083	-0.112	-0.085
	Vitamin B12 density	-0.027	-0.049	-0.018	-0.043
	Vitamin C density	-0.133	-0.206	-0.174	-0.225
	Vitamin E density	-0.051	-0.085	-0.101	-0.125
	Folate density	0.016	0.093	0.065	0.137
	Vitamin K density	-0.062	-0.150	-0.080	-0.174
	Calcium density	0.013	0.073	0.089	0.095
	Iron density	0.080	0.206	0.121	0.226
	Phosphorus density	0.131	0.172	0.116	0.164
	Potassium density	0.014	-0.040	-0.086	-0.072
	Sodium density	-0.065	-0.060	-0.001	-0.044
	Zinc density	0.158	0.215	0.118	0.204

*p<0.05; **p<0.01

Table 21: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Gender

Gender	Variable	Height	Weight	Tricep	BMI
Female	N	98	98	98	98
	Energy (kcal)	0.110	0.121	-0.067	0.075
	Energy (%DRI)	0.109	0.122	-0.066	0.077
	Energy (%DRV)	0.109	0.122	-0.066	0.077
	Protein (g)	0.147	0.139	-0.004	0.077
	Protein (%DRI)	0.147	0.139	-0.004	0.077
	Protein (%DRV)	0.147	0.139	-0.004	0.077
	Fiber (g)	0.126	0.083	-0.124	0.031
	Fiber (%DRI)	0.125	0.084	-0.123	0.033
	Fiber (%DRV)	0.125	0.084	-0.123	0.032
	Fat (g)	0.082	0.097	-0.120	0.062
	Fat (%DRI)	0.067	0.064	-0.122	0.019
	Fat (%DRV)	0.081	0.097	-0.119	0.063
	Vitamin A (IU)	0.050	0.048	-0.152	0.033
	Vitamin A (%DRI)	0.050	0.048	-0.152	0.033
	Vitamin A (%DRV)	0.064	0.072	-0.104	0.058
	Thiamin (mg)	0.039	0.043	0.012	0.030
	Thiamin (%DRI)	0.039	0.043	0.012	0.030
	Thiamin (%DRV)	-0.027	-0.069	0.006	-0.087
	Riboflavin (mg)	0.023	0.031	-0.054	0.010
	Riboflavin (%DRI)	0.023	0.031	-0.054	0.010
	Riboflavin (%DRV)	-0.027	-0.069	0.006	-0.087
	Niacin (mg)	0.067	0.067	0.011	0.042
	Niacin (%DRI)	0.067	0.067	0.011	0.042
	Niacin (%DRV)	-0.002	-0.056	0.002	-0.089
	Vitamin B6 (mg)	0.169	0.137	-0.080	0.081
	Vitamin B6 (%DRI)	0.169	0.137	-0.080	0.081
	Vitamin B6 (%DRV)	0.121	0.020	-0.068	-0.049
	Vitamin B12 (mcg)	0.135	0.214	0.150	0.185
	Vitamin B12 (%DRI)	0.135	0.214	0.150	0.185
	Vitamin B12 (%DRV)	0.090	0.161	0.141	0.142
	Vitamin C (mg)	0.051	0.035	-0.063	0.006
	Vitamin C (%DRI)	0.051	0.035	-0.063	0.006
	Vitamin C (%DRV)	-0.005	-0.029	-0.023	-0.042
	Vitamin E (mg)	0.087	0.080	-0.064	0.049
	Vitamin E (%DRI)	0.087	0.080	-0.064	0.049
	Vitamin E (%DRV)	0.019	-0.013	-0.057	-0.032
	Folate (mcg)	0.052	0.120	0.018	0.123
	Folate (%DRI)	0.052	0.120	0.018	0.123
	Folate (%DRV)	0.054	0.127	0.020	0.132
	Vitamin K (mcg)	-0.046	0.038	-0.067	0.088
	Vitamin K (%DRI)	-0.046	0.038	-0.067	0.088
	Vitamin K (%DRV--low)	0.030	0.102	-0.024	0.124
	Vitamin K (%DRV--high)	0.034	0.105	-0.022	0.125

*p <0.05; **p<0.01

Table 21: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Gender (continued)

Gender	Variable	Height	Weight	Tricep	BMI
Female	N	98	98	98	98
	Calcium (mg)	0.032	0.017	-0.082	-0.014
	Calcium (%DRI)	0.032	0.017	-0.082	-0.014
	Calcium (%DRV)	0.032	0.017	-0.082	-0.014
	Iron (mg)	0.059	0.060	-0.040	0.033
	Iron (%DRI)	0.059	0.060	-0.040	0.033
	Iron (%DRV--low)	-0.001	-0.058	-0.045	-0.095
	Iron (%DRV--high)	0.006	-0.046	-0.046	-0.083
	Phosphorus (mg)	0.127	0.129	-0.013	0.081
	Phosphorus (%DRI)	0.127	0.129	-0.013	0.081
	Phosphorus (%DRV)	0.129	0.165	0.002	0.137
	Potassium (mg)	0.135	0.125	-0.074	0.079
	Potassium (%DRI)	0.135	0.125	-0.074	0.079
	Potassium (%DRV--low)	0.087	0.135	-0.008	0.131
	Potassium (%DRV--high)	0.081	0.132	-0.002	0.132
	Sodium (mg)	0.197	0.275 **	0.100	0.218 *
	Sodium (%DRI)	0.197	0.275 **	0.100	0.218 *
	Sodium (%DRV--low)	0.155	0.216 *	0.045	0.179
	Sodium (%DRV--high)	0.055	0.069	-0.044	0.062
	Zinc (mg)	0.069	0.024	-0.120	-0.019
	Zinc (%DRI)	0.069	0.024	-0.120	-0.019
	Zinc (%DRV)	0.012	-0.081	-0.108	-0.127
	Protein density	0.133	0.066	0.085	0.008
	Fiber density	0.113	-0.020	-0.137	-0.078
	Fat density	-0.011	0.016	-0.127	0.021
	Vitamin A density	0.010	0.020	-0.146	0.023
	Energy density	0.110	0.121	-0.067	0.075
	Thiamin density	-0.085	-0.110	0.118	-0.071
	Riboflavin density	-0.160	-0.212	-0.098	-0.185
	Niacin density	-0.053	-0.079	0.119	-0.061
	Vitamin B6 density	0.214 *	0.112	-0.030	0.048
	Vitamin B12 density	0.074	0.162	0.140	0.164
	Vitamin C density	-0.058	-0.058	-0.041	-0.046
	Vitamin E density	0.026	-0.021	-0.023	-0.042
	Folate density	-0.036	0.002	0.045	0.028
	Vitamin K density	-0.166	-0.015	-0.035	0.101
	Calcium density	-0.123	-0.194	-0.139	-0.184
	Iron density	-0.014	-0.070	-0.018	-0.078
	Phosphorus density	0.031	-0.030	-0.010	-0.047
	Potassium density	0.074	0.011	-0.062	-0.017
	Sodium density	0.150	0.239	0.129	0.210 *
	Zinc density	0.013	-0.124	-0.166	-0.159

*p <0.05; **p<0.01

Table 21: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Gender (continued)

Gender	Variable	Height	Weight	Tricep	BMI
Male	N	91.000	91.000	91.000	91.000
	Energy (kcal)	0.254 *	0.126	-0.116	-0.024
	Energy (%DRI)	0.254 *	0.126	-0.116	-0.024
	Energy (%DRV)	0.254 *	0.126	-0.116	-0.024
	Protein (g)	0.113	0.006	-0.095	-0.086
	Protein (%DRI)	0.113	0.006	-0.095	-0.086
	Protein (%DRV)	0.113	0.006	-0.095	-0.086
	Fiber (g)	0.231 *	0.155	-0.061	0.036
	Fiber (%DRI)	0.231 *	0.155	-0.061	0.036
	Fiber (%DRV)	0.231	0.155	-0.061	0.036
	Fat (g)	0.176	0.077	-0.091	-0.036
	Fat (%DRI)	0.163	0.058	-0.122	-0.059
	Fat (%DRV)	0.176	0.077	-0.091	-0.036
	Vitamin A (IU)	-0.012	-0.075	-0.109	-0.113
	Vitamin A (%DRI)	-0.012	-0.075	-0.109	-0.113
	Vitamin A (%DRV)	0.042	-0.014	-0.010	-0.056
	Thiamin (mg)	0.321 *	0.190	0.001	0.014
	Thiamin (%DRI)	0.321 *	0.190	0.001	0.014
	Thiamin (%DRV)	0.256 *	0.100	-0.122	-0.073
	Riboflavin (mg)	0.257 *	0.071	-0.083	-0.116
	Riboflavin (%DRI)	0.257 *	0.071	-0.083	-0.116
	Riboflavin (%DRV)	0.256 *	0.100	-0.122	-0.073
	Niacin (mg)	0.178	0.038	-0.104	-0.088
	Niacin (%DRI)	0.178	0.038	-0.104	-0.088
	Niacin (%DRV)	0.152	0.002	-0.168	-0.123
	Vitamin B6 (mg)	0.188	0.044	-0.136	-0.084
	Vitamin B6 (%DRI)	0.188	0.044	-0.136	-0.084
	Vitamin B6 (%DRV)	0.168	0.009	-0.195	-0.124
	Vitamin B12 (mcg)	0.082	0.036	0.000	-0.021
	Vitamin B12 (%DRI)	0.082	0.036	0.000	-0.021
	Vitamin B12 (%DRV)	0.073	0.012	-0.064	-0.050
	Vitamin C (mg)	0.165	0.128	-0.010	0.050
	Vitamin C (%DRI)	0.165	0.128	-0.010	0.050
	Vitamin C (%DRV)	0.154	0.100	-0.049	0.017
	Vitamin E (mg)	0.231 *	0.121	-0.070	-0.019
	Vitamin E (%DRI)	0.231 *	0.121	-0.070	-0.019
	Vitamin E (%DRV)	0.216 *	0.104	-0.090	-0.035
	Folate (mcg)	0.271 *	0.160	0.018	0.020
	Folate (%DRI)	0.271 *	0.160	0.018	0.020
	Folate (%DRV)	0.284 **	0.164	0.004	0.017
	Vitamin K (mcg)	0.064	0.049	-0.034	0.027
	Vitamin K (%DRI)	0.064	0.049	-0.034	0.027
	Vitamin K (%DRV--low)	0.077	0.045	0.020	0.013
	Vitamin K (%DRV--high)	0.069	0.031	0.058	0.000

*p <0.05; **p<0.01

Table 21: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Gender (continued)

Gender	Variable	Height	Weight	Tricep	BMI
Male	N	91.000	91.000	91.000	91.000
	Calcium (mg)	0.245 *	0.095	-0.059	-0.067
	Calcium (%DRI)	0.245 *	0.095	-0.059	-0.067
	Calcium (%DRV)	0.245 *	0.095	-0.059	-0.067
	Iron (mg)	0.229 *	0.116	-0.050	-0.015
	Iron (%DRI)	0.229 *	0.116	-0.050	-0.015
	Iron (%DRV--low)	0.197	0.061	-0.132	-0.077
	Iron (%DRV--high)	0.203	0.067	-0.127	-0.073
	Phosphorus (mg)	0.247 *	0.102	-0.046	-0.059
	Phosphorus (%DRI)	0.247 *	0.102	-0.046	-0.059
	Phosphorus (%DRV)	0.257 *	0.139	0.048	-0.005
	Potassium (mg)	0.231 *	0.109	-0.065	-0.032
	Potassium (%DRI)	0.231 *	0.109	-0.065	-0.032
	Potassium (%DRV--low)	0.110	0.137	0.180	0.125
	Potassium (%DRV--high)	0.065	0.117	0.196	0.133
	Sodium (mg)	0.036	0.033	0.031	0.026
	Sodium (%DRI)	0.036	0.033	0.031	0.026
	Sodium (%DRV--low)	0.054	0.066	0.095	0.064
	Sodium (%DRV--high)	0.072	0.123	0.224	0.134
	Zinc (mg)	0.079	-0.063	-0.145	-0.168
	Zinc (%DRI)	0.079	-0.063	-0.145	-0.168
	Zinc (%DRV)	0.066	-0.083	-0.196	-0.191
	Protein density	-0.074	-0.132	-0.045	-0.143
	Fiber density	0.038	0.065	0.023	0.063
	Fat density	-0.061	-0.039	0.023	-0.026
	Vitamin A density	-0.113	-0.135	-0.078	-0.118
	Energy density	0.254 *	0.126	-0.116	-0.024
	Thiamin density	0.078	0.072	0.156	0.038
	Riboflavin density	0.017	-0.092	0.048	-0.164
	Niacin density	-0.001	-0.102	-0.118	-0.148
	Vitamin B6 density	-0.009	-0.056	-0.082	-0.065
	Vitamin B12 density	-0.001	-0.037	0.013	-0.065
	Vitamin C density	0.008	0.049	0.027	0.066
	Vitamin E density	0.048	0.033	0.007	-0.003
	Folate density	0.053	0.083	0.157	0.083
	Vitamin K density	0.043	0.039	-0.022	0.030
	Calcium density	0.073	-0.007	0.101	-0.083
	Iron density	-0.017	-0.002	0.116	0.011
	Phosphorus density	0.060	-0.023	0.074	-0.095
	Potassium density	-0.010	-0.013	0.069	-0.015
	Sodium density	-0.060	-0.031	0.056	0.008
	Zinc density	-0.106	-0.179	-0.059	-0.189

*p <0.05; **p<0.01

Table 22: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Gender

Gender	Variable	Height	Weight	Tricep Skinfold	BMI
Female	N	96	96	95	96
	Energy (kcal)	0.259 *	0.204 *	0.162	0.046
	Energy (%DRI)	0.254 *	0.206 *	0.173	0.052
	Energy (%DRV)	0.254 *	0.206 *	0.173	0.052
	Protein (g)	0.259 *	0.258 *	0.188	0.121
	Protein (%DRI)	0.259 *	0.258 *	0.188	0.121
	Protein (%DRV)	0.259 *	0.258 *	0.188	0.121
	Fiber (g)	0.111	0.028	0.009	-0.040
	Fiber (%DRI)	0.109	0.031	0.017	-0.036
	Fiber (%DRV)	0.110	0.030	0.015	-0.038
	Fat (g)	0.045	0.064	0.123	0.059
	Fat (%DRI)	-0.032	0.025	0.100	0.084
	Fat (%DRV)	0.042	0.066	0.132	0.063
	Vitamin A (IU)	-0.051	-0.154	-0.147	-0.165
	Vitamin A (%DRI)	-0.051	-0.154	-0.147	-0.165
	Vitamin A (%DRV)	0.049	0.005	0.034	-0.066
	Thiamin (mg)	0.240 *	0.204 *	0.140	0.041
	Thiamin (%DRI)	0.240 *	0.204 *	0.140	0.041
	Thiamin (%DRV)	0.148	0.239 *	0.215 *	0.157
	Riboflavin (mg)	0.101	0.060	0.075	-0.037
	Riboflavin (%DRI)	0.101	0.060	0.075	-0.037
	Riboflavin (%DRV)	0.148	0.239 *	0.215 *	0.157
	Niacin (mg)	0.072	0.060	-0.029	0.033
	Niacin (%DRI)	0.072	0.060	-0.029	0.033
	Niacin (%DRV)	0.011	0.090	0.049	0.110
	Vitamin B6 (mg)	0.101	0.019	0.062	-0.052
	Vitamin B6 (%DRI)	0.101	0.019	0.062	-0.052
	Vitamin B6 (%DRV)	0.081	0.109	0.167	0.067
	Vitamin B12 (mcg)	0.103	0.074	0.112	-0.003
	Vitamin B12 (%DRI)	0.103	0.074	0.112	-0.003
	Vitamin B12 (%DRV)	0.125	0.230 *	0.288 **	0.160
	Vitamin C (mg)	-0.046	-0.122	-0.143	-0.134
	Vitamin C (%DRI)	-0.046	-0.122	-0.143	-0.134
	Vitamin C (%DRV)	-0.063	-0.115	-0.136	-0.110
	Vitamin E (mg)	0.042	0.018	-0.044	0.014
	Vitamin E (%DRI)	0.042	0.018	-0.044	0.014
	Vitamin E (%DRV)	-0.009	0.027	-0.025	0.061
	Folate (mcg)	0.186	0.155	0.070	0.057
	Folate (%DRI)	0.186	0.155	0.070	0.057
	Folate (%DRV)	0.226	0.266	0.192	0.145
	Vitamin K (mcg)	-0.084	-0.172	-0.145	-0.131
	Vitamin K (%DRI)	-0.084	-0.172	-0.145	-0.131
	Vitamin K (%DRV--low)	0.049	-0.113	-0.119	-0.167
	Vitamin K (%DRV--high)	0.086	-0.060	-0.077	-0.136

*p<0.05; **p<0.01

Table 22: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Gender (continued)

Gender	Variable	Height	Weight	Tricep Skinfold	BMI
Female	N	96	96	95	96
	Calcium (mg)	0.106	0.122	0.142	0.041
	Calcium (%DRI)	0.106	0.122	0.142	0.041
	Calcium (%DRV)	0.106	0.122	0.142	0.041
	Iron (mg)	0.235 *	0.193	0.114	0.047
	Iron (%DRI)	0.235 *	0.193	0.114	0.047
	Iron (%DRV--low)	0.136	0.227 *	0.208 *	0.161
	Iron (%DRV--high)	0.147	0.234 *	0.211 *	0.160
	Phosphorus (mg)	0.240 *	0.240 *	0.213 *	0.109
	Phosphorus (%DRI)	0.240 *	0.240 *	0.213 *	0.109
	Phosphorus (%DRV)	0.271 *	0.206 *	0.168	0.038
	Potassium (mg)	0.178	0.142	0.091	0.017
	Potassium (%DRI)	0.178	0.142	0.091	0.017
	Potassium (%DRV--low)	0.135	0.004	-0.034	-0.107
	Potassium (%DRV--high)	0.109	-0.019	-0.050	-0.112
	Sodium (mg)	0.086	0.115	0.161	0.053
	Sodium (%DRI)	0.086	0.115	0.161	0.053
	Sodium (%DRV--low)	0.116	0.070	0.093	-0.024
	Sodium (%DRV--high)	0.103	-0.012	-0.034	-0.103
	Zinc (mg)	0.306 **	0.254 *	0.173	0.063
	Zinc (%DRI)	0.306 **	0.254 *	0.173	0.063
	Zinc (%DRV)	0.118	0.140	0.106	0.086
	Protein density	0.143	0.202	0.115	0.151
	Fiber density	0.004	-0.044	-0.075	-0.041
	Fat density	-0.195	-0.072	0.076	0.104
	Vitamin A density	-0.154	-0.258 *	-0.229	-0.226 *
	Energy density	0.259 *	0.204 *	0.162	0.046
	Thiamin density	0.019	0.010	-0.035	-0.040
	Riboflavin density	-0.110	-0.135	-0.093	-0.135
	Niacin density	-0.167	-0.122	-0.203	0.005
	Vitamin B6 density	-0.005	-0.079	-0.019	-0.088
	Vitamin B12 density	0.061	0.032	0.095	-0.026
	Vitamin C density	-0.106	-0.199	-0.210 *	-0.188
	Vitamin E density	-0.133	-0.092	-0.139	0.038
	Folate density	-0.016	0.005	-0.065	0.033
	Vitamin K density	-0.148	-0.198	-0.144	-0.115
	Calcium density	-0.038	-0.008	0.034	-0.017
	Iron density	0.021	0.033	-0.039	0.009
	Phosphorus density	0.145	0.220	0.180	0.159
	Potassium density	0.057	0.024	-0.020	-0.037
	Sodium density	-0.070	-0.016	0.074	0.010
	Zinc density	0.182	0.173	0.084	0.056

*p<0.05; **p<0.01

Table 22: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Gender (continued)

Gender	Variable	Height	Weight	Tricep Skinfold	BMI
Male	N	92	92	92	92
	Energy (kcal)	0.215 *	0.153	-0.027	0.085
	Energy (%DRI)	0.215 *	0.153	-0.027	0.085
	Energy (%DRV)	0.215 *	0.153	-0.027	0.085
	Protein (g)	0.055	0.034	-0.105	0.025
	Protein (%DRI)	0.055	0.034	-0.105	0.025
	Protein (%DRV)	0.055	0.034	-0.105	0.025
	Fiber (g)	0.167	0.098	-0.038	0.046
	Fiber (%DRI)	0.167	0.098	-0.038	0.046
	Fiber (%DRV)	0.167	0.098	-0.038	0.046
	Fat (g)	0.208 *	0.135	-0.032	0.061
	Fat (%DRI)	0.261 *	0.140	0.000	0.024
	Fat (%DRV)	0.208 *	0.135	-0.032	0.061
	Vitamin A (IU)	0.084	-0.004	-0.113	-0.057
	Vitamin A (%DRI)	0.084	-0.004	-0.113	-0.057
	Vitamin A (%DRV)	-0.011	-0.012	-0.090	0.001
	Thiamin (mg)	0.251 *	0.221	0.066	0.150
	Thiamin (%DRI)	0.251 *	0.221 *	0.066	0.150
	Thiamin (%DRV)	0.374 **	0.189	0.043	0.003
	Riboflavin (mg)	0.125	0.100	-0.064	0.074
	Riboflavin (%DRI)	0.125	0.100	-0.064	0.074
	Riboflavin (%DRV)	0.374 **	0.189	0.043	0.003
	Niacin (mg)	0.086	0.044	-0.123	0.013
	Niacin (%DRI)	0.086	0.044	-0.123	0.013
	Niacin (%DRV)	0.205	0.066	-0.099	-0.050
	Vitamin B6 (mg)	-0.043	-0.159	-0.253	-0.196
	Vitamin B6 (%DRI)	-0.043	-0.159	-0.253	-0.196
	Vitamin B6 (%DRV)	0.078	-0.102	-0.205	-0.204
	Vitamin B12 (mcg)	-0.066	-0.118	-0.142	-0.120
	Vitamin B12 (%DRI)	-0.066	-0.118	-0.142	-0.120
	Vitamin B12 (%DRV)	0.058	-0.051	-0.133	-0.113
	Vitamin C (mg)	0.117	0.006	-0.155	-0.060
	Vitamin C (%DRI)	0.117	0.006	-0.155	-0.060
	Vitamin C (%DRV)	0.228 *	0.050	-0.116	-0.080
	Vitamin E (mg)	0.173	0.039	-0.071	-0.058
	Vitamin E (%DRI)	0.173	0.039	-0.071	-0.058
	Vitamin E (%DRV)	0.272	0.081	-0.007	-0.075
	Folate (mcg)	0.162	0.163	0.046	0.140
	Folate (%DRI)	0.162	0.163	0.046	0.140
	Folate (%DRV)	0.199	0.177	0.022	0.133
	Vitamin K (mcg)	0.006	-0.059	-0.090	-0.089
	Vitamin K (%DRI)	0.006	-0.059	-0.090	-0.089
	Vitamin K (%DRV--low)	0.006	-0.038	-0.103	-0.057
	Vitamin K (%DRV--high)	0.006	-0.037	-0.104	-0.055

*p<0.05; **p<0.01

Table 22: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Gender (continued)

Gender	Variable	Height	Weight	Tricep Skinfold	BMI
Male	N	92	92	92	92
	Calcium (mg)	0.113	0.131	0.000	0.135
	Calcium (%DRI)	0.113	0.131	0.000	0.135
	Calcium (%DRV)	0.113	0.131	0.000	0.135
	Iron (mg)	0.158	0.162	0.048	0.135
	Iron (%DRI)	0.158	0.162	0.048	0.135
	Iron (%DRV--low)	0.278 **	0.134	0.019	-0.005
	Iron (%DRV--high)	0.281 **	0.144	0.021	0.009
	Phosphorus (mg)	0.066	0.061	-0.057	0.062
	Phosphorus (%DRI)	0.066	0.061	-0.057	0.062
	Phosphorus (%DRV)	-0.001	0.054	-0.043	0.099
	Potassium (mg)	0.095	-0.066	-0.240	-0.150
	Potassium (%DRI)	0.095	-0.066	-0.240	-0.150
	Potassium (%DRV--low)	-0.083	-0.040	-0.096	0.009
	Potassium (%DRV--high)	-0.095	-0.037	-0.081	0.022
	Sodium (mg)	0.091	0.070	0.027	0.045
	Sodium (%DRI)	0.091	0.070	0.027	0.045
	Sodium (%DRV--low)	0.029	0.037	-0.017	0.042
	Sodium (%DRV--high)	-0.042	-0.007	-0.062	0.030
	Zinc (mg)	0.063	0.051	-0.122	0.055
	Zinc (%DRI)	0.063	0.051	-0.122	0.055
	Zinc (%DRV)	0.196	0.029	-0.173	-0.083
	Protein density	-0.144	-0.112	-0.152	-0.048
	Fiber density	0.066	0.009	-0.002	-0.018
	Fat density	0.077	0.023	-0.029	-0.018
	Vitamin A density	0.046	-0.025	-0.071	-0.067
	Energy density	0.215	0.153	-0.027	0.085
	Thiamin density	0.076	0.048	0.055	0.012
	Riboflavin density	-0.050	-0.037	-0.093	-0.005
	Niacin density	-0.160	-0.139	-0.177	-0.088
	Vitamin B6 density	-0.177	-0.270 **	-0.278 **	-0.267 *
	Vitamin B12 density	-0.143	-0.165	-0.158	-0.133
	Vitamin C density	0.011	-0.062	-0.113	-0.090
	Vitamin E density	0.073	-0.063	-0.068	-0.141
	Folate density	-0.025	-0.010	0.019	0.009
	Vitamin K density	-0.035	-0.099	-0.055	-0.120
	Calcium density	0.002	0.036	0.013	0.071
	Iron density	-0.074	-0.047	0.022	-0.020
	Phosphorus density	-0.089	-0.054	-0.076	0.007
	Potassium density	-0.071	-0.250 *	-0.330 **	-0.304 **
	Sodium density	0.040	0.034	0.076	0.021
	Zinc density	-0.148	-0.101	-0.169	-0.016

*p<0.05; **p<0.01

Table 23: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Region

Region	Variable	Height	Weight	Tricep Skinfold	BMI
Carib	N	49	49	49	49
	Energy (kcal)	0.137	0.150	0.214	0.097
	Energy (%DRI)	0.153	0.182	0.257	0.133
	Energy (%DRV)	0.154	0.184	0.259	0.135
	Protein (g)	0.156	0.115	0.170	0.001
	Protein (%DRI)	0.156	0.115	0.170	0.001
	Protein (%DRV)	0.156	0.115	0.170	0.001
	Fiber (g)	0.244	0.200	0.276	0.088
	Fiber (%DRI)	0.270	0.244	0.338	0.133
	Fiber (%DRV)	0.263	0.231	0.319 *	0.120
	Fat (g)	-0.010	0.068	0.184 *	0.114
	Fat (%DRI)	-0.019	0.030	0.212	0.043
	Fat (%DRV)	0.009	0.097	0.218	0.142
	Vitamin A (IU)	0.350 *	0.368 *	0.131	0.174
	Vitamin A (%DRI)	0.350 *	0.368 *	0.131	0.174
	Vitamin A (%DRV)	0.361 *	0.414 **	0.083	0.261
	Thiamin (mg)	0.187	0.153	0.334	0.058
	Thiamin (%DRI)	0.187	0.153	0.334	0.058
	Thiamin (%DRV)	0.153	0.085	0.351	-0.042
	Riboflavin (mg)	0.093	0.067	0.232	-0.021
	Riboflavin (%DRI)	0.093	0.067	0.232	-0.021
	Riboflavin (%DRV)	0.153	0.085	0.351	-0.042
	Niacin (mg)	0.112	0.029	0.051 *	-0.096
	Niacin (%DRI)	0.112	0.029	0.051 *	-0.096
	Niacin (%DRV)	0.096	-0.004	0.077 *	-0.146
	Vitamin B6 (mg)	0.181	0.166	0.141	0.107
	Vitamin B6 (%DRI)	0.181	0.166	0.141	0.107
	Vitamin B6 (%DRV)	0.165	0.130	0.158	0.050
	Vitamin B12 (mcg)	0.241	0.253	0.284	0.139
	Vitamin B12 (%DRI)	0.241	0.253	0.284	0.139
	Vitamin B12 (%DRV)	0.230	0.228	0.297 *	0.099
	Vitamin C (mg)	0.121	0.090	0.124	0.034
	Vitamin C (%DRI)	0.121	0.090	0.124	0.034
	Vitamin C (%DRV)	0.117	0.079	0.131	0.015
	Vitamin E (mg)	0.067	0.012	0.189	-0.071
	Vitamin E (%DRI)	0.067	0.012	0.189	-0.071
	Vitamin E (%DRV)	0.055	-0.016	0.209	-0.116
	Folate (mcg)	0.178	0.153	0.382 **	0.065
	Folate (%DRI)	0.178	0.153	0.382 **	0.065
	Folate (%DRV)	0.180	0.157	0.379 **	0.072
	Vitamin K (mcg)	-0.401 **	-0.243	-0.048	0.072
	Vitamin K (%DRI)	-0.401 **	-0.243	-0.048	0.072
	Vitamin K (%DRV--low)	-0.317 *	-0.122	-0.116	0.216
	Vitamin K (%DRV--high)	-0.170	0.008	-0.143	0.279

*p<0.05; **p <0.01

Table 23: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Region (continued)

Region	Variable	Height	Weight	Tricep Skinfold	BMI
Carib	N	49	49	49	49
	Calcium (mg)	0.086	0.102	0.262	0.042
	Calcium (%DRI)	0.086	0.102	0.262	0.042
	Calcium (%DRV)	0.086	0.102	0.262	0.042
	Iron (mg)	0.148	0.106	0.241	0.012
	Iron (%DRI)	0.148	0.106	0.241	0.012
	Iron (%DRV--low)	0.123	0.051	0.267	-0.074
	Iron (%DRV--high)	0.127	0.057	0.265	-0.065
	Phosphorus (mg)	0.204	0.201	0.298 *	0.095
	Phosphorus (%DRI)	0.204	0.201	0.298 *	0.095
	Phosphorus (%DRV)	0.221	0.254	0.258	0.184
	Potassium (mg)	0.335 *	0.311 *	0.375 **	0.145
	Potassium (%DRI)	0.335 *	0.311	0.375 **	0.145
	Potassium (%DRV--low)	0.122	0.232	-0.059	0.323 *
	Potassium (%DRV--high)	0.052	0.164	-0.133	0.286
	Sodium (mg)	0.245	0.310	0.255	0.236
	Sodium (%DRI)	0.245	0.310 *	0.255	0.236
	Sodium (%DRV--low)	0.247	0.339 *	0.212	0.299
	Sodium (%DRV--high)	0.075	0.193	-0.097	0.306 *
	Zinc (mg)	0.059	0.027	0.093	-0.025
	Zinc (%DRI)	0.059	0.027	0.093	-0.025
	Zinc (%DRV)	0.050	0.000	0.114	-0.070
	Protein density	0.115	0.036	0.112	-0.089
	Fiber density	0.167	0.121	0.203	0.055
	Fat density	-0.202	-0.083	0.001	0.055
	Vitamin A density	0.327 *	0.334 *	0.041	0.133
	Energy density	0.137	0.150	0.214	0.097
	Thiamin density	0.070	0.009	0.227	-0.046
	Riboflavin density	-0.046	-0.120	-0.003	-0.180
	Niacin density	-0.066	-0.145	-0.155	-0.189
	Vitamin B6 density	0.124	0.100	0.029	0.076
	Vitamin B12 density	0.157	0.136	0.201	0.037
	Vitamin C density	0.096	0.083	0.094	0.061
	Vitamin E density	-0.039	-0.113	0.013	-0.173
	Folate density	0.082	0.035	0.326 *	-0.022
	Vitamin K density	-0.415 **	-0.248	-0.092	0.092
	Calcium density	-0.018	-0.061	0.050	-0.112
	Iron density	0.057	-0.019	0.179	-0.095
	Phosphorus density	0.088	0.043	0.168	-0.042
	Potassium density	0.199	0.146	0.181	0.035
	Sodium density	0.143	0.218	0.181	0.197
	Zinc density	0.011	-0.035	0.040	-0.067

*p<0.05; **p <0.01

Table 23: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Region (continued)

Region	Variable	Height	Weight	Tricep Skinfold	BMI
North	N	60	60	60	60
	Energy (kcal)	0.153	0.115	0.096	0.010
	Energy (%DRI)	0.164	0.125	0.134	0.016
	Energy (%DRV)	0.165	0.126	0.136	0.016
	Protein (g)	0.223	0.061	0.014	-0.091
	Protein (%DRI)	0.223	0.061	0.014	-0.091
	Protein (%DRV)	0.223	0.061	0.014	-0.091
	Fiber (g)	0.179	-0.032	-0.033	-0.154
	Fiber (%DRI)	0.191	-0.029	0.001	-0.156
	Fiber (%DRV)	0.188	-0.030	-0.009	-0.156
	Fat (g)	0.166	0.118	0.093	-0.016
	Fat (%DRI)	0.160	0.053	-0.048	-0.097
	Fat (%DRV)	0.173	0.124	0.112	-0.013
	Vitamin A (IU)	0.026	0.069	0.060	0.014
	Vitamin A (%DRI)	0.026	0.069	0.060	0.014
	Vitamin A (%DRV)	0.022	0.147	0.240	0.170
	Thiamin (mg)	0.145	0.112	0.103	0.023
	Thiamin (%DRI)	0.145	0.112	0.103	0.023
	Thiamin (%DRV)	0.122	-0.040	-0.146	-0.160
	Riboflavin (mg)	0.248	0.162	0.090	-0.008
	Riboflavin (%DRI)	0.248	0.162	0.090	-0.008
	Riboflavin (%DRV)	0.122	-0.040	-0.146	-0.160
	Niacin (mg)	0.108	-0.006	-0.006	-0.090
	Niacin (%DRI)	0.108	-0.006	-0.006	-0.090
	Niacin (%DRV)	0.076	-0.137	-0.235	-0.237
	Vitamin B6 (mg)	0.251	0.024	0.012	-0.119
	Vitamin B6 (%DRI)	0.251	0.024	0.012	-0.119
	Vitamin B6 (%DRV)	0.196	-0.104	-0.212	-0.247
	Vitamin B12 (mcg)	0.062	0.019	-0.026	-0.048
	Vitamin B12 (%DRI)	0.062	0.019	-0.026	-0.048
	Vitamin B12 (%DRV)	0.021	-0.065	-0.177	-0.121
	Vitamin C (mg)	-0.117	-0.072	-0.083	-0.021
	Vitamin C (%DRI)	-0.117	-0.072	-0.083	-0.021
	Vitamin C (%DRV)	-0.082	-0.113	-0.165	-0.109
	Vitamin E (mg)	0.197	0.061	-0.020	-0.102
	Vitamin E (%DRI)	0.197	0.061	-0.020	-0.102
	Vitamin E (%DRV)	0.179	0.027	-0.130	-0.133
	Folate (mcg)	0.094	0.086	0.027	0.027
	Folate (%DRI)	0.094	0.086	0.027	0.027
	Folate (%DRV)	0.092	0.097	0.046	0.043
	Vitamin K (mcg)	-0.047	-0.165	-0.054	-0.183
	Vitamin K (%DRI)	-0.047	-0.165	-0.054	-0.183
	Vitamin K (%DRV--low)	0.008	-0.038	0.044	-0.055
	Vitamin K (%DRV--high)	0.012	-0.027	0.050	-0.044

*p<0.05; **p <0.01

Table 23: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Region (continued)

Region	Variable	Height	Weight	Tricep Skinfold	BMI
North	N	60	60	60	60
	Calcium (mg)	0.229	0.127	0.042	-0.038
	Calcium (%DRI)	0.229	0.127	0.042	-0.038
	Calcium (%DRV)	0.229	0.127	0.042	-0.038
	Iron (mg)	0.179	0.117	0.075	0.006
	Iron (%DRI)	0.179	0.117	0.075	0.006
	Iron (%DRV--low)	0.135	-0.049	-0.190	-0.176
	Iron (%DRV--high)	0.144	-0.035	-0.171	-0.165
	Phosphorus (mg)	0.266	0.050	-0.016	-0.141
	Phosphorus (%DRI)	0.266	0.050	-0.016	-0.141
	Phosphorus (%DRV)	0.178	0.114	0.168	0.012
	Potassium (mg)	0.127	0.043	0.086	-0.037
	Potassium (%DRI)	0.127	0.043	0.086	-0.037
	Potassium (%DRV--low)	0.025	0.149	0.285	0.180
	Potassium (%DRV--high)	0.016	0.150	0.286	0.188
	Sodium (mg)	0.006	0.084	0.090	0.066
	Sodium (%DRI)	0.006	0.084	0.090	0.066
	Sodium (%DRV--low)	0.010	0.161	0.247	0.179
	Sodium (%DRV--high)	0.007	0.139	0.264	0.173
	Zinc (mg)	0.270	0.072	0.031	-0.112
	Zinc (%DRI)	0.270	0.072	0.031	-0.112
	Zinc (%DRV)	0.211	-0.074	-0.209	-0.254
	Protein density	0.197	-0.042	-0.149	-0.180
	Fiber density	0.123	-0.164	-0.192	-0.254
	Fat density	0.133	0.127	0.116	0.015
	Vitamin A density	-0.105	-0.097	-0.105	-0.093
	Energy density	0.153	0.115	0.096	0.010
	Thiamin density	0.027	0.005	-0.029	-0.006
	Riboflavin density	0.215	0.059	-0.062	-0.103
	Niacin density	0.008	-0.156	-0.193	-0.195
	Vitamin B6 density	0.223	-0.062	-0.092	-0.173
	Vitamin B12 density	0.002	-0.012	-0.059	-0.037
	Vitamin C density	-0.255	-0.188	-0.201	-0.069
	Vitamin E density	0.140	-0.031	-0.122	-0.164
	Folate density	-0.019	-0.028	-0.137	-0.025
	Vitamin K density	-0.115	-0.207	-0.060	-0.181
	Calcium density	0.204	0.049	-0.064	-0.107
	Iron density	0.130	-0.007	-0.124	-0.091
	Phosphorus density	0.283	-0.046	-0.167	-0.251
	Potassium density	0.010	-0.111	-0.066	-0.123
	Sodium density	-0.081	0.020	0.008	0.060
	Zinc density	0.369 **	0.023	-0.108	-0.224

*p<0.05; **p <0.01

Table 23: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Region (continued)

Region	Variable	Height	Weight	Tricep Skinfold	BMI
Southeast	N	80	80	80	80
	Energy (kcal)	0.111	0.023	-0.187	-0.041
	Energy (%DRI)	0.127	0.045	-0.156	-0.023
	Energy (%DRV)	0.128	0.046	-0.154	-0.022
	Protein (g)	0.045	0.010	-0.099	-0.020
	Protein (%DRI)	0.045	0.010	-0.099	-0.020
	Protein (%DRV)	0.045	0.010	-0.099	-0.020
	Fiber (g)	0.109	0.043	-0.174	0.001
	Fiber (%DRI)	0.122	0.061	-0.151	0.016
	Fiber (%DRV)	0.118	0.055	-0.158	0.011
	Fat (g)	0.081	0.016	-0.198	-0.027
	Fat (%DRI)	0.085	0.001	-0.199	-0.049
	Fat (%DRV)	0.093	0.034	-0.174	-0.012
	Vitamin A (IU)	-0.140	-0.150	-0.203	-0.125
	Vitamin A (%DRI)	-0.140	-0.150	-0.203	-0.125
	Vitamin A (%DRV)	-0.029	-0.059	-0.150	-0.067
	Thiamin (mg)	0.035	-0.033	-0.105	-0.065
	Thiamin (%DRI)	0.035	-0.033	-0.105	-0.065
	Thiamin (%DRV)	-0.008	-0.085	-0.107	-0.112
	Riboflavin (mg)	0.071	-0.038	-0.151	-0.099
	Riboflavin (%DRI)	0.071	-0.038	-0.151	-0.099
	Riboflavin (%DRV)	-0.008	-0.085	-0.107	-0.112
	Niacin (mg)	0.048	-0.027	-0.091	-0.065
	Niacin (%DRI)	0.048	-0.027	-0.091	-0.065
	Niacin (%DRV)	0.013	-0.078	-0.092	-0.115
	Vitamin B6 (mg)	0.124	0.024	-0.170	-0.035
	Vitamin B6 (%DRI)	0.124	0.024	-0.170	-0.035
	Vitamin B6 (%DRV)	0.088	-0.061	-0.180	-0.132
	Vitamin B12 (mcg)	0.045	0.075	0.074	0.070
	Vitamin B12 (%DRI)	0.045	0.075	0.074	0.070
	Vitamin B12 (%DRV)	0.028	0.053	0.051	0.050
	Vitamin C (mg)	0.054	-0.021	-0.111	-0.057
	Vitamin C (%DRI)	0.054	-0.021	-0.111	-0.057
	Vitamin C (%DRV)	0.012	-0.050	-0.105	-0.069
	Vitamin E (mg)	0.066	0.011	-0.144	-0.011
	Vitamin E (%DRI)	0.066	0.011	-0.144	-0.011
	Vitamin E (%DRV)	0.021	-0.044	-0.131	-0.059
	Folate (mcg)	0.097	0.102	-0.041	0.086
	Folate (%DRI)	0.097	0.102	-0.041	0.086
	Folate (%DRV)	0.101	0.101	-0.053	0.083
	Vitamin K (mcg)	-0.016	0.001	-0.073	0.021
	Vitamin K (%DRI)	-0.016	0.001	-0.073	0.021
	Vitamin K (%DRV--low)	0.018	0.091	-0.007	0.122
	Vitamin K (%DRV--high)	0.021	0.097	0.002	0.127

*p<0.05; **p <0.01

Table 23: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 1 by Region (continued)

Region	Variable	Height	Weight	Tricep Skinfold	BMI
	N	80	80	80	80
Southeast	Calcium (mg)	-0.003	-0.098	-0.195	-0.133
	Calcium (%DRI)	-0.003	-0.098	-0.195	-0.133
	Calcium (%DRV)	-0.003	-0.098	-0.195	-0.133
	Iron (mg)	0.044	-0.002	-0.102	-0.031
	Iron (%DRI)	0.044	-0.002	-0.102	-0.031
	Iron (%DRV--low)	0.005	-0.077	-0.107	-0.111
	Iron (%DRV--high)	0.010	-0.071	-0.112	-0.107
	Phosphorus (mg)	0.082	0.037	-0.076	0.000
	Phosphorus (%DRI)	0.082	0.037	-0.076	0.000
	Phosphorus (%DRV)	0.103	0.087	-0.044	0.057
	Potassium (mg)	0.121	0.027	-0.167	-0.029
	Potassium (%DRI)	0.121	0.027	-0.167	-0.029
	Potassium (%DRV--low)	0.080	0.089	-0.022	0.075
	Potassium (%DRV--high)	0.073	0.091	-0.008	0.082
	Sodium (mg)	0.019	0.051	0.011	0.055
	Sodium (%DRI)	0.019	0.051	0.011	0.055
	Sodium (%DRV--low)	0.029	0.046	-0.003	0.044
	Sodium (%DRV--high)	0.032	0.015	-0.026	0.004
	Zinc (mg)	0.059	-0.037	-0.216	-0.094
	Zinc (%DRI)	0.059	-0.037	-0.216	-0.094
	Zinc (%DRV)	0.034	-0.097	-0.195	-0.156
	Protein density	-0.062	-0.019	0.106	0.009
	Fiber density	0.000	0.041	-0.066	0.073
	Fat density	-0.028	-0.003	-0.140	0.021
	Vitamin A density	-0.186	-0.148	-0.136	-0.096
	Energy density	0.111	0.023	-0.187	-0.041
	Thiamin density	-0.101	-0.073	0.179	-0.028
	Riboflavin density	-0.125	-0.140	0.110	-0.112
	Niacin density	-0.049	-0.064	0.125	-0.048
	Vitamin B6 density	0.084	0.053	-0.022	0.043
	Vitamin B12 density	0.007	0.061	0.112	0.076
	Vitamin C density	-0.048	-0.045	-0.004	-0.027
	Vitamin E density	-0.045	0.004	0.037	0.058
	Folate density	0.044	0.134	0.192	0.172
	Vitamin K density	-0.038	0.009	-0.041	0.047
	Calcium density	-0.193	-0.201	0.005	-0.154
	Iron density	-0.078	-0.023	0.117	0.026
	Phosphorus density	-0.065	-0.002	0.151	0.043
	Potassium density	0.045	0.046	0.025	0.053
	Sodium density	-0.013	0.039	0.066	0.062
	Zinc density	-0.128	-0.128	-0.058	-0.101

*p<0.05; **p <0.01

Table 24: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Region

Region	Variable	Height	Weight	Tricep Skinfold	BMI
Carib	N	49	49	49	49
	Energy (kcal)	0.066	0.131	0.094	0.153
	Energy (%DRI)	0.088	0.169	0.169	0.187
	Energy (%DRV)	0.089	0.171	0.173	0.189
	Protein (g)	0.080	0.188	0.169	0.251
	Protein (%DRI)	0.080	0.188	0.169	0.251
	Protein (%DRV)	0.080	0.188	0.169	0.251
	Fiber (g)	0.165	0.133	0.038	0.075
	Fiber (%DRI)	0.185	0.162	0.087	0.099
	Fiber (%DRV)	0.179	0.154	0.072	0.092
	Fat (g)	-0.032	0.038	0.007	0.086
	Fat (%DRI)	0.063	0.145	0.094	0.182
	Fat (%DRV)	-0.025	0.059	0.061	0.108
	Vitamin A (IU)	0.005	0.063	-0.014	0.094
	Vitamin A (%DRI)	0.005	0.063	-0.014	0.094
	Vitamin A (%DRV)	-0.205	-0.120	-0.051	0.001
	Thiamin (mg)	0.099	0.145	0.098	0.135
	Thiamin (%DRI)	0.099	0.145	0.098	0.135
	Thiamin (%DRV)	0.248	0.274	0.175	0.215
	Riboflavin (mg)	0.067	0.179	0.164	0.241
	Riboflavin (%DRI)	0.067	0.179	0.164	0.241
	Riboflavin (%DRV)	0.248	0.274	0.175	0.215
	Niacin (mg)	0.142	0.244	0.133	0.254
	Niacin (%DRI)	0.142	0.244	0.133	0.254
	Niacin (%DRV)	0.213	0.288	0.155	0.262
	Vitamin B6 (mg)	0.101	0.088	0.037	0.061
	Vitamin B6 (%DRI)	0.101	0.088	0.037	0.061
	Vitamin B6 (%DRV)	0.166	0.141	0.059	0.087
	Vitamin B12 (mcg)	-0.175	-0.098	-0.079	0.004
	Vitamin B12 (%DRI)	-0.175	-0.098	-0.079	0.004
	Vitamin B12 (%DRV)	-0.048	0.007	-0.025	0.058
	Vitamin C (mg)	-0.070	-0.072	-0.083	-0.057
	Vitamin C (%DRI)	-0.070	-0.072	-0.083	-0.057
	Vitamin C (%DRV)	0.011	-0.015	-0.061	-0.040
	Vitamin E (mg)	0.075	0.096	-0.020	0.046
	Vitamin E (%DRI)	0.075	0.096	-0.020	0.046
	Vitamin E (%DRV)	0.172	0.168	0.016	0.075
	Folate (mcg)	0.224	0.203	0.135	0.128
	Folate (%DRI)	0.224	0.203	0.135	0.128
	Folate (%DRV)	0.215	0.195	0.130	0.122
	Vitamin K (mcg)	0.083	0.061	0.006	0.022
	Vitamin K (%DRI)	0.083	0.061	0.006	0.022
	Vitamin K (%DRV--low)	-0.123	-0.089	-0.052	-0.037
	Vitamin K (%DRV--high)	-0.212	-0.154	-0.072	-0.062

*p<0.05; **p<0.01

Table 24: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Region (continued)

Region	Variable	Height	Weight	Tricep Skinfold	BMI
Carib	N	49	49	49	49
	Calcium (mg)	-0.020	0.077	0.205	0.180
	Calcium (%DRI)	-0.020	0.077	0.205	0.180
	Calcium (%DRV)	-0.020	0.077	0.205	0.180
	Iron (mg)	0.093	0.152	0.156	0.167
	Iron (%DRI)	0.093	0.152	0.156	0.167
	Iron (%DRV--low)	0.232	0.272	0.218	0.241
	Iron (%DRV--high)	0.223	0.266	0.217	0.238
	Phosphorus (mg)	0.036	0.157	0.200	0.249
	Phosphorus (%DRI)	0.036	0.157	0.200	0.249
	Phosphorus (%DRV)	-0.112	0.001	0.089	0.129
	Potassium (mg)	0.156	0.174	0.086	0.138
	Potassium (%DRI)	0.156	0.174	0.086	0.138
	Potassium (%DRV--low)	-0.203	-0.172	-0.082	-0.093
	Potassium (%DRV--high)	-0.230	-0.202	-0.097	-0.116
	Sodium (mg)	-0.155	-0.054	0.091	0.044
	Sodium (%DRI)	-0.155	-0.054	0.091	0.044
	Sodium (%DRV--low)	-0.246	-0.185	-0.053	-0.090
	Sodium (%DRV--high)	-0.232	-0.241	-0.181	-0.191
	Zinc (mg)	0.066	0.164	0.184	0.243
	Zinc (%DRI)	0.066	0.164	0.184	0.243
	Zinc (%DRV)	0.217	0.281	0.232	0.291
	Protein density	0.016	0.081	0.049	0.144
	Fiber density	0.223	0.126	0.011	0.007
	Fat density	-0.115	-0.079	-0.029	-0.020
	Vitamin A density	-0.030	0.020	-0.043	0.051
	Energy density	0.066	0.131	0.094	0.153
	Thiamin density	0.066	0.023	-0.055	-0.042
	Riboflavin density	-0.026	0.090	0.086	0.178
	Niacin density	0.019	0.113	0.009	0.157
	Vitamin B6 density	0.102	0.058	0.015	0.018
	Vitamin B12 density	-0.147	-0.091	-0.116	0.002
	Vitamin C density	-0.086	-0.100	-0.100	-0.088
	Vitamin E density	0.131	0.100	-0.027	-0.004
	Folate density	0.199	0.094	0.002	-0.032
	Vitamin K density	0.104	0.074	0.038	0.027
	Calcium density	-0.039	0.004	0.145	0.077
	Iron density	0.042	0.018	0.009	-0.010
	Phosphorus density	0.000	0.081	0.118	0.172
	Potassium density	0.179	0.158	0.038	0.080
	Sodium density	-0.274	-0.242	-0.020	-0.163
	Zinc density	0.013	0.068	0.089	0.152

*p<0.05; **p<0.01

Table 24: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Region (continued)

Region	Variable	Height	Weight	Tricep Skinfold	BMI
North	N	63	63	63	63
	Energy (kcal)	0.112	-0.028	-0.210	-0.103
	Energy (%DRI)	0.122	-0.008	-0.171	-0.084
	Energy (%DRV)	0.122	-0.007	-0.169	-0.083
	Protein (g)	0.052	-0.084	-0.278 *	-0.117
	Protein (%DRI)	0.052	-0.084	-0.278 *	-0.117
	Protein (%DRV)	0.052	-0.084	-0.278 *	-0.117
	Fiber (g)	0.150	0.071	0.008	-0.029
	Fiber (%DRI)	0.146	0.077	0.044	-0.016
	Fiber (%DRV)	0.148	0.075	0.033	-0.020
	Fat (g)	0.046	-0.019	-0.180	-0.022
	Fat (%DRI)	0.043	0.000	-0.193	0.015
	Fat (%DRV)	0.050	-0.002	-0.145	0.000
	Vitamin A (IU)	-0.022	-0.108	-0.137	-0.103
	Vitamin A (%DRI)	-0.022	-0.108	-0.137	-0.103
	Vitamin A (%DRV)	0.017	-0.043	-0.119	-0.059
	Thiamin (mg)	0.052	-0.087	-0.174	-0.134
	Thiamin (%DRI)	0.052	-0.087	-0.174	-0.134
	Thiamin (%DRV)	0.078	-0.036	-0.086	-0.086
	Riboflavin (mg)	0.068	-0.058	-0.142	-0.126
	Riboflavin (%DRI)	0.068	-0.058	-0.142	-0.126
	Riboflavin (%DRV)	0.078	-0.036	-0.086	-0.086
	Niacin (mg)	-0.067	-0.141	-0.272 *	-0.056
	Niacin (%DRI)	-0.067	-0.141	-0.272 *	-0.056
	Niacin (%DRV)	-0.082	-0.121	-0.196	-0.001
	Vitamin B6 (mg)	0.022	-0.119	-0.187	-0.134
	Vitamin B6 (%DRI)	0.022	-0.119	-0.187	-0.134
	Vitamin B6 (%DRV)	0.047	-0.041	-0.041	-0.067
	Vitamin B12 (mcg)	0.007	-0.150	-0.199	-0.163
	Vitamin B12 (%DRI)	0.007	-0.150	-0.199	-0.163
	Vitamin B12 (%DRV)	0.013	-0.094	-0.093	-0.111
	Vitamin C (mg)	0.054	-0.043	-0.120	-0.087
	Vitamin C (%DRI)	0.054	-0.043	-0.120	-0.087
	Vitamin C (%DRV)	0.059	-0.011	-0.025	-0.057
	Vitamin E (mg)	-0.033	-0.075	-0.183	-0.006
	Vitamin E (%DRI)	-0.033	-0.075	-0.183	-0.006
	Vitamin E (%DRV)	-0.048	-0.017	-0.068	0.084
	Folate (mcg)	0.004	-0.082	-0.213	-0.058
	Folate (%DRI)	0.004	-0.082	-0.213	-0.058
	Folate (%DRV)	0.003	-0.080	-0.208	-0.058
	Vitamin K (mcg)	-0.038	-0.172	-0.210	-0.131
	Vitamin K (%DRI)	-0.038	-0.172	-0.210	-0.131
	Vitamin K (%DRV--low)	-0.004	-0.092	-0.186	-0.084
	Vitamin K (%DRV--high)	-0.003	-0.087	-0.184	-0.082

*p<0.05; **p<0.01

Table 24: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Region (continued)

Region	Variable	Height	Weight	Tricep Skinfold	BMI
North	N	63	63	63	63
	Calcium (mg)	0.100	0.012	-0.134	-0.082
	Calcium (%DRI)	0.100	0.012	-0.134	-0.082
	Calcium (%DRV)	0.100	0.012	-0.134	-0.082
	Iron (mg)	0.092	-0.010	-0.224	-0.073
	Iron (%DRI)	0.092	-0.010	-0.224	-0.073
	Iron (%DRV--low)	0.097	0.019	-0.176	-0.032
	Iron (%DRV--high)	0.105	0.017	-0.198	-0.040
	Phosphorus (mg)	0.090	-0.015	-0.191	-0.086
	Phosphorus (%DRI)	0.090	-0.015	-0.191	-0.086
	Phosphorus (%DRV)	0.047	-0.053	-0.171	-0.094
	Potassium (mg)	0.070	-0.067	-0.224	-0.123
	Potassium (%DRI)	0.070	-0.067	-0.224	-0.123
	Potassium (%DRV--low)	-0.008	-0.089	-0.166	-0.089
	Potassium (%DRV--high)	-0.013	-0.089	-0.159	-0.085
	Sodium (mg)	-0.003	-0.103	-0.141	-0.101
	Sodium (%DRI)	-0.003	-0.103	-0.141	-0.101
	Sodium (%DRV--low)	0.003	-0.089	-0.148	-0.093
	Sodium (%DRV--high)	0.008	-0.055	-0.124	-0.064
	Zinc (mg)	0.151	0.015	-0.265 *	-0.118
	Zinc (%DRI)	0.151	0.015	-0.265 *	-0.118
	Zinc (%DRV)	0.156	0.083	-0.171	-0.048
	Protein density	0.018	-0.027	-0.181	-0.042
	Fiber density	0.111	0.164	0.154	0.088
	Fat density	-0.159	0.006	0.026	0.207
	Vitamin A density	-0.138	-0.207	-0.042	-0.142
	Energy density	0.112	-0.028	-0.210	-0.103
	Thiamin density	-0.062	-0.157	-0.095	-0.143
	Riboflavin density	-0.006	-0.087	0.006	-0.137
	Niacin density	-0.301 *	-0.275 *	-0.238	0.025
	Vitamin B6 density	-0.030	-0.112	-0.086	-0.093
	Vitamin B12 density	0.032	-0.115	-0.107	-0.155
	Vitamin C density	0.047	-0.044	-0.002	-0.095
	Vitamin E density	-0.193	-0.104	-0.093	0.119
	Folate density	-0.203	-0.213	-0.191	-0.021
	Vitamin K density	-0.144	-0.298	-0.195	-0.165
	Calcium density	0.065	0.048	0.016	-0.040
	Iron density	-0.072	-0.045	-0.100	0.001
	Phosphorus density	0.107	0.149	-0.007	0.045
	Potassium density	0.053	-0.010	-0.053	-0.075
	Sodium density	-0.057	-0.127	-0.044	-0.087
	Zinc density	0.152	0.171	-0.073	0.002

*p<0.05; **p<0.01

Table 24: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Region (continued)

Region	Variable	Height	Weight	Tricep Skinfold	BMI
Southeast	N	76	76	75	76
	Energy (kcal)	0.279 *	0.184	0.101	0.099
	Energy (%DRI)	0.344 **	0.254 *	0.178	0.154
	Energy (%DRV)	0.346 **	0.257 *	0.181	0.157
	Protein (g)	0.125	0.168	0.071	0.163
	Protein (%DRI)	0.125	0.168	0.071	0.163
	Protein (%DRV)	0.125	0.168	0.071	0.163
	Fiber (g)	0.184	0.108	0.069	0.054
	Fiber (%DRI)	0.222	0.157	0.130	0.096
	Fiber (%DRV)	0.211	0.143	0.112	0.084
	Fat (g)	0.128	0.026	0.019	-0.027
	Fat (%DRI)	0.027	-0.065	-0.001	-0.093
	Fat (%DRV)	0.174	0.072	0.072	0.008
	Vitamin A (IU)	0.022	-0.140	-0.162	-0.188
	Vitamin A (%DRI)	0.022	-0.140	-0.162	-0.188
	Vitamin A (%DRV)	0.140	0.068	-0.040	0.016
	Thiamin (mg)	0.299 *	0.227	0.112	0.144
	Thiamin (%DRI)	0.299 *	0.227	0.112	0.144
	Thiamin (%DRV)	0.193	0.167	0.105	0.115
	Riboflavin (mg)	0.165	0.120	0.005	0.081
	Riboflavin (%DRI)	0.165	0.120	0.005	0.081
	Riboflavin (%DRV)	0.193	0.167	0.105	0.115
	Niacin (mg)	0.048	-0.025	-0.141	-0.064
	Niacin (%DRI)	0.048	-0.025	-0.141	-0.064
	Niacin (%DRV)	0.029	0.003	-0.055	-0.016
	Vitamin B6 (mg)	0.062	-0.073	-0.118	-0.120
	Vitamin B6 (%DRI)	0.062	-0.073	-0.118	-0.120
	Vitamin B6 (%DRV)	0.081	0.025	0.002	-0.003
	Vitamin B12 (mcg)	0.024	0.018	0.026	0.019
	Vitamin B12 (%DRI)	0.024	0.018	0.026	0.019
	Vitamin B12 (%DRV)	0.086	0.107	0.063	0.101
	Vitamin C (mg)	0.091	-0.070	-0.163	-0.136
	Vitamin C (%DRI)	0.091	-0.070	-0.163	-0.136
	Vitamin C (%DRV)	0.062	-0.076	-0.147	-0.127
	Vitamin E (mg)	0.147	-0.043	-0.085	-0.134
	Vitamin E (%DRI)	0.147	-0.043	-0.085	-0.134
	Vitamin E (%DRV)	0.085	-0.056	-0.068	-0.119
	Folate (mcg)	0.099	0.112	0.081	0.102
	Folate (%DRI)	0.099	0.112	0.081	0.102
	Folate (%DRV)	0.204	0.240 *	0.164	0.211
	Vitamin K (mcg)	-0.083	-0.131	-0.103	-0.134
	Vitamin K (%DRI)	-0.083	-0.131	-0.103	-0.134
	Vitamin K (%DRV--low)	0.091	-0.033	-0.100	-0.096
	Vitamin K (%DRV--high)	0.134	0.016	-0.069	-0.053

*p<0.05; **p<0.01

Table 24: Correlation Coefficients for Anthropometric Measurements with Nutrient Intake in Year 2 by Region (continued)

Region	Variable	Height	Weight	Tricep Skinfold	BMI
Southeast	N	76	76	75	76
	Calcium (mg)	0.157	0.192	0.118	0.180
	Calcium (%DRI)	0.157	0.192	0.118	0.180
	Calcium (%DRV)	0.157	0.192	0.118	0.180
	Iron (mg)	0.076	0.071	0.064	0.047
	Iron (%DRI)	0.076	0.071	0.064	0.047
	Iron (%DRV--low)	0.067	0.095	0.115	0.087
	Iron (%DRV--high)	0.077	0.104	0.119	0.093
	Phosphorus (mg)	0.131	0.158	0.105	0.155
	Phosphorus (%DRI)	0.131	0.158	0.105	0.155
	Phosphorus (%DRV)	0.184	0.223	0.124	0.215
	Potassium (mg)	0.165	0.026	-0.093	-0.046
	Potassium (%DRI)	0.165	0.026	-0.093	-0.046
	Potassium (%DRV--low)	0.095	0.049	-0.046	0.019
	Potassium (%DRV--high)	0.074	0.043	-0.037	0.021
	Sodium (mg)	0.209	0.220	0.203	0.184
	Sodium (%DRI)	0.209	0.220	0.203	0.184
	Sodium (%DRV--low)	0.235 *	0.223	0.162	0.175
	Sodium (%DRV--high)	0.144	0.110	0.008	0.071
	Zinc (mg)	0.159	0.148	0.055	0.121
	Zinc (%DRI)	0.159	0.148	0.055	0.121
	Zinc (%DRV)	0.186	0.087	-0.015	0.033
	Protein density	-0.051	0.072	-0.011	0.132
	Fiber density	0.032	-0.002	0.020	-0.010
	Fat density	-0.044	-0.097	-0.023	-0.098
	Vitamin A density	-0.024	-0.163	-0.162	-0.196
	Energy density	0.279	0.184	0.101	0.099
	Thiamin density	0.143	0.141	0.079	0.112
	Riboflavin density	0.001	0.005	-0.071	0.013
	Niacin density	-0.174	-0.163	-0.238	-0.132
	Vitamin B6 density	-0.099	-0.192	-0.200	-0.195
	Vitamin B12 density	-0.036	-0.033	-0.024	-0.018
	Vitamin C density	-0.041	-0.159	-0.224	-0.192
	Vitamin E density	0.014	-0.138	-0.141	-0.192
	Folate density	-0.097	-0.009	0.019	0.042
	Vitamin K density	-0.115	-0.141	-0.099	-0.131
	Calcium density	0.063	0.133	0.087	0.148
	Iron density	-0.135	-0.074	-0.015	-0.040
	Phosphorus density	-0.007	0.081	0.053	0.127
	Potassium density	0.003	-0.113	-0.208	-0.146
	Sodium density	0.145	0.193	0.207	0.181
	Zinc density	-0.003	0.039	-0.021	0.063

*p<0.05; **p<0.01

Appendix C

Table 1: Mean Ages for Children by Year, Gender, Region, and Availability of a School Feeding Program (SFP)

Year 1								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Age (yr)	n= 198	n=90	n=97	n=78	n=50	n=59	n=77	n=110
Mean age	8.6	8.7	8.6	8.7	8.5	8.5	8.3	8.8

Year 2								
		Gender		Region			SFP	
	Overall Total	Males	Females	Southeast	Carib	North	Yes	No
Age (yr)	n= 184	n=91	n=93	n=74	n=49	n=61	n=78	n=106
Mean age	9.6	9.6	9.6	9.7	9.6	9.5	9.2	9.9

Appendix D

Table 1: Demographic Characteristics of Respondents to Household Food Security Survey

N= 257

Gender n=214	n	%
Male	39	18
Female	172	82
Marital Status n=240		
Now Married	87	37
Living Together	58	24
Widowed	3	1
Divorced	6	3
Separated	13	5
Never Married	72	30
Educational Level n=236		
Primary	144	61
Secondary	62	26
Technical	8	3
Tertiary	22	9
# of Persons in Household n=250		
2	4	2
3	25	10
4	54	22
5	47	19
6	40	16
7	45	18
8 or more	35	14
Occupation n=229		
Professional/ Semi-professional/Administrative/ Managerial	29	13
Skilled/ Technical/ Trained	16	8
Clerical Service	11	5
Farmer	30	13
Laborer/ Domestic	45	20
Retired/ Pensioner/ Student/Housewife	17	7
Unemployed	79	35
Average Monthly Income n=209		
None	37	18
< EC $1,000	107	51
EC $1,000- EC $2,400	33	16
EC $2,401- EC $5,500	29	14
ED $5,501- EC $10,000	1	<1
> EC $10,000	2	1

Table 1: Demographic Characteristics of Respondents to Household Food Security Survey (continued)

N= 257

Water Source n=257		
Own tap, inside the house	77	1
Own tap, outside the house	50	30
Stand pipe	100	19
Water tank	6	39
River or lake	9	2
Spring	9	4
Buy Water	4	2
Cooking Fuel Source n=257		
Wood fire	66	1
Coat pot/coals	6	26
Gas stove	179	2
Electric stove	3	70
Refrigerator Access n=257		
Affirmative	194	35
Negative	63	65

Table 2: Household Food Security Status of Respondents by Region

	By Region						Overall	
	Carib		North		Southeast			
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Very Low	38	49%	20	26%	49	48%	107	42%
Low	22	29%	30	38%	28	27%	80	31%
Marginal	12	13%	18	23%	11	11%	41	16%
High	5	6%	10	13%	14	14%	29	11%

Table 3: Household Food Security Status of Respondents by Availability of a School Feeding Program

By School Feeding Program				Overall	
No		Yes			
Frequency	%	Frequency	%	Frequency	%
68	40%	39	46%	107	42%
55	32%	25	29%	80	31%
29	17%	12	14%	41	16%
20	12%	9	11%	29	11%

Table 4: Child Food Security Status of Respondents by Region

	By Region						Overall	
	Carib		North		Southeast			
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Very Low	26	34%	10	13%	28	27%	64	25%
Low	25	33%	22	28%	36	35%	83	32%
High	26	34%	46	59%	38	37%	110	43%

Table 5: Child Food Security Status of Respondents by Availability of a School Feeding Program

By School Feeding Program				Overall	
No		Yes			
Frequency	%	Frequency	%	Frequency	%
40	23%	24	28%	64	25%
51	30%	32	38%	83	32%
81	47%	29	34%	110	43%

Table 6: Frequency of Household Food Security Scores by Region

	Overall		Region					
			Carib		North		Southeast	
Household Food Security Score	Frequency	%	Frequency	%	Frequency	%	Frequency	%
0	29	11	5	6	10	13	14	14
1	24	9	9	12	8	10	7	7
2	17	7	3	4	10	13	4	4
3	20	8	6	8	4	5	10	10
4	15	6	5	6	7	9	3	3
5	22	9	6	8	12	15	4	4
6	14	5	5	6	5	6	4	4
7	9	4	0	0	2	3	7	7
8	8	3	1	1	3	4	4	4
9	11	4	5	6	1	1	5	5
10	16	6	2	3	4	5	10	10
11	10	4	4	5	0	0	6	6
12	16	6	7	9	3	4	6	6
13	8	3	6	8	1	1	1	1
14	9	4	4	5	1	1	4	4
15	5	2	3	4	0	0	2	2
16	9	4	3	4	2	3	4	4
17	4	2	0	0	0	0	4	4
18	11	4	3	4	5	6	3	3

Overall n=257; Mean Food Security Score= 6.9 ± 5.42

Table 7: Frequency of Household Food Security Scores by Availability of a School Feeding Program

	Overall		School Feeding Program			
			No		Yes	
Household Food Security Score	Frequency	%	Frequency	%	Frequency	%
0	29	11	20	12	9	11
1	24	9	16	9	8	9
2	17	7	13	8	4	5
3	20	8	14	8	6	7
4	15	6	14	7	3	4
5	22	9	16	9	6	7
6	14	5	10	6	4	5
7	9	4	3	2	6	7
8	8	3	6	3	2	2
9	11	4	6	3	5	6
10	16	6	10	6	6	7
11	10	4	8	5	2	2
12	16	6	9	5	7	8
13	8	3	5	3	3	4
14	9	4	6	3	3	4
15	5	2	3	2	2	2
16	9	4	7	4	2	2
17	4	2	1	1	3	3
18	11	4	7	4	4	5

Overall n=257; Mean Food Security Score= 6.9 ± 5.42

Table 8: Frequency of Child Food Security Scores by Region

	Overall		Region					
			Carib		North		Southeast	
Childscore	Frequency	%	Frequency	%	Frequency	%	Frequency	%
0	79	31	18	23	32	44	27	26
1	31	12	8	10	12	15	11	11
2	23	9	7	9	10	13	6	6
3	27	10	10	13	5	6	12	12
4	33	13	8	10	7	9	18	18
5	17	7	9	12	0	0	8	8
6	14	5	6	8	3	4	5	5
7	14	5	6	8	1	1	7	7
8	19	7	5	6	6	8	8	8

Overall n= 257; Mean Childscore= 2.8 ± 2.63

Table 9: Frequency of Child Food Security Scores by Availability of a School Feeding Program

	Overall		School Feeding Program			
			No		Yes	
Childscore	Frequency	%	Frequency	%	Frequency	%
0	79	31	57	33	22	26
1	31	12	24	14	7	8
2	23	9	14	8	9	11
3	27	10	18	11	9	11
4	33	13	19	11	14	16
5	17	7	12	7	12	6
6	14	5	10	6	10	5
7	14	5	8	5	8	7
8	19	7	10	6	10	11

Overall n= 257; Mean Childscore= 2.8 ± 2.63

Table 10: Responses to Questions on Household Food Security Survey

Survey Question	Response	Frequency	%
"I worried whether our food would run out before I got money to buy more?"	Negative	63	25
	Affirmative	194	75
"The food that I bought just didn't last, and we didn't have money to get more."	Negative	90	35
	Affirmative	167	65
"I couldn't afford to eat balanced meals."	Negative	87	34
	Affirmative	170	66
In the last 12 months, did you ever cut the size of your meals or skip a meal because there was not enough money to buy food?	Negative	139	54
	Affirmative	118	46
If yes , how often did this happen?	Negative	141	61
	Affirmative	90	39
In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money to buy food?	Negative	142	55
	Affirmative	115	45
In the last 12 months, were you ever hungry but didn't eat because there wasn't enough money for food?	Negative	185	72
	Affirmative	72	28
In the last 12 months, did you lose weight because you did not have enough food to eat?	Negative	201	78
	Affirmative	56	22
In the last 12 months, did you or other adults in your household ever not eat for a whole day because there wasn't enough money for food?	Negative	210	82
	Affirmative	47	18
If yes , how often did this happen?	Negative	189	84
	Affirmative	37	16
"We relied on only a few kinds of low-cost food to feed the children	Negative	114	44
	Affirmative	143	56
"We couldn't feed the children a balanced meal because we couldn't afford that."	Negative	108	42
	Affirmative	149	58
"The children were not eating enough because we just couldn't afford enough	Negative	140	55
	Affirmative	117	46
In the last 12 months, did you ever cut the size of any of the children's meals because there wasn't enough money?	Negative	168	65
	Affirmative	89	35
In the last 12 months, did any of the children ever skip meals because there wasn't enough money for food?	Negative	189	74
	Affirmative	68	27
***If yes* , how often did this happen?**	Negative	206	80
	Affirmative	51	20
In the last 12 months, were the children ever hungry but you just couldn't afford more food?	Negative	202	79
	Affirmative	55	21
In the last 12 months, did any of the children ever not eat for a whole day because there wasn't enough money for food?	Negative	220	86
	Affirmative	37	14

Questions in bold comprise components of child food security score.

Table 11: Responses to Questions on Household Food Security Survey by Region and Availability of a School Feeding Program

		Region						School Feeding Program			
		Carib		North		Southeast		No		Yes	
Survey Question	Response	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
"I worried whether our food would run out before I got money to buy more?"	Negative	18	23	17	22	28	27	39	23	24	28
	Affirmative	59	77	61	78	74	73	133	77	61	72
"The food that I bought just didn't last, and we didn't have money to get more."	Negative	23	30	28	36	39	38	58	34	32	38
	Affirmative	54	70	50	64	63	62	114	66	53	62
"I couldn't afford to eat balanced meals."	Negative	19	25	35	45	33	32	56	33	31	36
	Affirmative	58	75	43	55	69	68	116	67	54	64
In the last 12 months, did you ever cut the size of your meals or skip a meal because there was not enough money to buy food?	Negative	35	45	50	64	54	53	96	56	43	51
	Affirmative	42	55	28	36	48	47	76	44	42	49
If yes , how often did this happen?	Negative	39	56	50	69	52	58	97	61	44	60
	Affirmative	31	44	22	31	37	42	61	39	29	40
In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money to buy food?	Negative	40	52	48	62	54	53	96	56	46	54
	Affirmative	37	48	30	39	48	47	76	44	39	46
In the last 12 months, were you ever hungry but didn't eat because there wasn't enough money for food?	Negative	54	70	60	76	71	70	128	74	57	67
	Affirmative	23	30	18	23	31	30	44	26	28	33
In the last 12 months, did you lose weight because you did not have enough food to eat?	Negative	57	74	65	83	79	77	134	78	67	79
	Affirmative	20	26	13	17	12	23	38	22	18	21
In the last 12 months, did you or other adults in your household ever not eat for a whole day because there wasn't enough money for food?	Negative	64	83	69	88	77	75	149	87	61	72
	Affirmative	13	17	9	12	25	25	23	13	24	28
If yes , how often did this happen?	Negative	59	84	65	89	65	78	132	86	57	78
	Affirmative	11	16	8	11	18	22	21	14	16	22

Table 11: Responses to Questions on Household Food Security Survey by Region and by Availability of a School Feeding Program (continued)

		Region						School Feeding Program			
		Carib		North		Southeast		No		Yes	
Survey Question	Response	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
"We relied on only a few kinds of low-cost food to feed the children	Negative	27	35	47	60	40	39	84	49	30	35
	Affirmative	50	65	31	40	62	61	88	51	55	65
"We couldn't feed the children a balanced meal because we couldn't afford that."	Negative	26	34	41	53	41	40	72	42	36	42
	Affirmative	51	66	37	47	61	60	100	58	49	58
"The children were not eating enough because we just couldn't afford enough	Negative	34	44	56	72	50	49	95	55	45	53
	Affirmative	43	56	22	28	52	51	77	45	40	47
In the last 12 months, did you ever cut the size of any of the children's meals because there wasn't enough money?	Negative	48	62	61	78	59	57	115	67	53	62
	Affirmative	29	38	17	22	43	42	57	33	32	38
In the last 12 months, did any of the children ever skip meals because there wasn't enough money for food?	Negative	52	68	66	84	71	70	133	77	56	66
	Affirmative	25	32	12	15	31	30	39	23	29	34
***If yes*, how often did this happen?**	Negative	58	75	69	88	79	77	143	83	63	74
	Affirmative	19	25	9	12	23	23	29	17	22	26
In the last 12 months, were the children ever hungry but you just couldn't afford more food?	Negative	55	71	68	87	79	77	141	82	61	72
	Affirmative	22	29	10	13	23	23	31	18	24	28
In the last 12 months, did any of the children ever not eat for a whole day because there wasn't enough money for food?	Negative	69	90	68	87	83	81	155	90	65	76
	Affirmative	8	10	10	13	19	19	17	10	20	24

Questions in bold comprise components of child food security score.

Table 12: Regression Analysis for Household Food Security Score and Child Food Security Score by Region, Gender, and Availability of a School Feeding Program

	by Region						by School Feeding Program					
Variable	DF	Type III sums of squares	Means Square	F	Pr>F	R^2	DF	Type III sums of squares	Means Square	F	Pr>F	R^2
Household Food Security Score	9	1080.944	120.105	4.600	<0.000	0.144	1	23.427	23.427	3.420	0.066	0.013
Child Food Security Score	9	316.649	35.183	5.980	<0.000	0.179	1	40.396	40.396	1.380	0.242	0.005

Table 13: Correlation Coefficients for Demographics and Food Security Score

Variable	Household Food Security Score	Child Food Security Score
Gender	0.082	0.068
Marital status	-0.111	-0.134 *
Varage Monthly Income	0.12 **	0.282 **
Occupation	-0.208 **	-0.201 **
# Persons in Household	-0.18 **	-0.135 *
Educational Level	0.249 **	0.24 **
Water Source	-0.345 **	-0.328 **
Cooking Fuel Source	0.293 **	-0.334 **
Refrigerator Access	0.19 **	-0.229 **

*=p <0.05; **= p <0.01

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