# Dietary Screener Questionnaire (DSQ) in the National Health and Nutrition Examination Survey (NHANES) 2003-2006

**April 2020**

# DSQ: EARLIER METHOD

This information was originally published online on the Epidemiology and Genomic Research Program (EGRP), National Cancer Institute's (NCI) website as a reference for the Dietary Screener Questionnaire (DSQ) in the National Health and Nutrition Examination Survey (NHANES) 2003-2006. This information includes the data processing and scoring procedures using earlier methods (based on NHANES 2003-2006), more current methods (based on NHANES 2009-10) are available on the EGRP website at https://epi.grants.cancer.gov/nhanes/dietscreen/scoring/. The information contained in this document informs analyses of data from this screener. This information is archived and provided for reference purposes only.

This publication may be viewed and downloaded from the Internet at https://epi.grants.cancer.gov/diet/screeners/.

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If you have a comment or question about this document, please contact the EGRP, RFAB, NCI, at rfab@mail.nih.gov.

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# Data Processing & Scoring Procedures

## 1. Data Processing

Our NCI research team followed several steps to formulate the Dietary Screener Questionnaire (DSQ) scoring algorithms. These steps are described here for researchers who may be interested in the methodologic process the team used. However, it is not necessary for researchers to follow these steps; a SAS program that integrates these steps is publicly available as are computed variables for the dietary variables in the National Health and Nutrition Examination Survey (NHANES) DSQ.

Our steps consisted of:

1. converting frequency data to daily frequency
2. identifying extreme exposure values
3. classifying cereal data

### Converting Frequency Responses to Daily Frequency

Frequency information on the DSQ in NHANES 2009-2010 was collected using a rate and time unit (e.g., 3 times per week). A different response format consisting of a set number of frequency categories is used in the self-administered paper questionnaire. In both cases, the frequency responses are converted to a common unit of time, i.e. times per day.

For frequency category responses, we used the following conversions. Note that the frequency categories differ somewhat between foods and beverages.

**Table 1- 1 Converting frequency responses to daily frequency**

| Frequency Category | Daily Frequency | |
|---|---|---|
| | Foods | Beverages |
| **Never** | 0 | 0 |
| **1 time last month** | 0.033 | 0.033 |
| **2-3 times last month** | 0.083 | 0.083 |
| **1 time per week** | 0.143 | 0.143 |
| **2 times per week** | 0.286 | 0.286 |
| **3-4 times per week** | 0.5 | 0.5 |
| **5-6 times per week** | 0.786 | 0.786 |
| **1 time per day** | 1 | 1 |

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| Frequency Category | Daily Frequency | |
|---|---|---|
| | Foods | Beverages |
| **2 or more times per day** | 2 | - |
| **2-3 times per day** | - | 2.5 |
| **4-5 times per day** | - | 4.5 |
| **6 or more times per day** | - | 6 |

If using the rate and time unit format, we used the following procedures:

**Table 1- 2 Converting frequency responses to daily frequency using rate and time format**

| Time Period Reported | Daily Frequency |
|---|---|
| **Day** | As reported |
| **Week** | Reported frequency divided by 7 |
| **Month** | Reported frequency divided by 30 |

## Identifying Extreme Exposure Values

There are various perspectives on whether to exclude potentially unlikely exposure values. If the researcher chooses to do so, several approaches exist for identifying extreme values. We examined the plausibility of the reported frequencies for each food item in the NHANES 2009-10 DSQ and chose to exclude extreme values using a method that identifies them based on the actual distribution of the sample, but also minimizes the number of values excluded.

Because all items have a real probability of being consumed zero or a small number of times, we focused on the higher ends of the distribution, and examined the times per day distributions. For each food item, we identified discontinuous points of the distributions. We defined the highest frequency before the discontinuity as the maximum acceptable value.

**Table 1- 3 Definition of extreme values for DSQ in NHANES 2009-10**

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| Food Group | NHANES 2009-10 (N=8541) | |
|---|---|---|
| | Maximum Acceptable Daily Frequency Value | Number of Excluded Values |
| **Fruit** | 8 | 4 |
| **Fruit juice** | 8 | 8 |
| **Salad** | 5 | 0 |
| **Fried potatoes** | 5 | 1 |
| **Other potatoes** | 3 | 2 |
| **Dried beans** | 4 | 0 |
| **Other vegetables** | 5 | 0 |
| **Tomato sauce** | 2 | 1 |
| **Salsa** | 3 | 2 |
| **Pizza** | 2 | 0 |
| **Soda** | 8 | 23 |
| **Fruitades/sports drinks** | 7 | 6 |
| **Cookies, cake, pie** | 7 | 0 |
| **Doughnuts** | 5 | 0 |
| **Ice cream** | 5 | 0 |
| **Sugar/honey in coffee/tea** | 10 | 8 |
| **Candy** | 8 | 4 |
| **Any milk (not soy)** | 10 | 12 |
| **Cheese** | 6 | 2 |
| **Any cereal** | 7 | 1 |
| **Whole grain bread** | 6 | 2 |
| **Cooked whole grains** | 4 | 1 |
| **Popcorn** | 3 | 1 |
| **Red meat** | 6 | 2 |

| Food Group | NHANES 2009-10 (N=8541) | |
|---|---|---|
| | Maximum Acceptable Daily Frequency Value | Number of Excluded Values |
| **Processed meat** | 4 | 1 |

Because the NHANES is a nationally representative survey and this screener was administered to children aged 2 years through adults aged 69 years, we expect this guidance to be appropriate for most U.S. populations.

## Classifying Cereal Data

The DSQ includes questions about cereal intake and allows respondents up to two responses on which cereals they consume. We classified each cereal reported first by hot or cold, and then along four dimensions: density of added sugars, whole grains, fiber, and calcium.

In the scoring algorithms, hot and cold cereals have different portion sizes. In addition, all categories have different regression coefficients that relate them to the various exposures. Initial coding of the cereal data must:

1. Classify each by hot or cold.
2. Classify each by nutrient density (nutrient/100 grams). We classified all hot and cold cereals reported on the DSQ in the NHANES 2009-10 into categories based on their nutrient density of four exposures: added sugars, whole grains, fiber, and calcium. The density categorization was based on the cereal composition and not the absolute frequency of reported consumption. Thus, each cereal reported is coded along the following attributes: hot or cold; category for added sugars; category for whole grains; category for fiber; and category for calcium.
3. Weight each according to order of report. For those respondents who reported two different cereal types, we assumed that the first cereal reported was the most frequently consumed and the second was less frequently consumed. Accordingly, we weighted the first cereal at 0.75 and the second at 0.25. For those who reported only one cereal type, no weighting was necessary. These weights were applied to all relevant cereal categories in the scoring algorithms.

Following are the classification criteria for cereal by hot or cold and by nutrient density. Note that each cereal may fall in different n-tiles for different nutrients.

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**Table 1- 4 Classification Criteria for Hot and Cold Cereals with Regard to Added Sugars Density**

| Type of Cereal | Density (tsp added sugars/100 grams) | No. of cereals |
|---|---|---|
| **Hot cereals: no added sugars** | 0 | 33 |
| **Hot cereals: any added sugars** | > 0 | 11 |
| **Cold cereals: 1st quartile added sugars** | < 3.0 | 71 |
| **Cold cereals: 2nd quartile added sugars** | 3.01 to 5.25 | 68 |
| **Cold cereals: 3rd quartile added sugars** | 5.26 - 9.0 | 71 |
| **Cold cereals: 4th quartile added sugars** | > 9.0 | 69 |

**Table 1- 5 Classification Criteria for Hot and Cold Cereals with Regard to Whole Grain Density**

| Type of Cereal | Density (ounce-equivalents of whole grains/100 grams) | No. of cereals |
|---|---|---|
| **Hot cereals: no whole grain** | 0 | 12 |
| **Hot cereals: any whole grain** | > 0 | 32 |
| **Cold cereals: no whole grain** | 0 | 88 |
| **Cold cereals: 2nd quartile whole grain** | 0.06 - 1.077 | 51 |
| **Cold cereals: 3rd quartile whole grain** | 1.07705 - 1.82 | 69 |
| **Cold cereals: 4th quartile whole grain** | > 1.82 | 71 |

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**Table 1- 6 Classification Criteria for Hot and Cold Cereals with Regard to Fiber Density**

| Type of Cereal | Density (grams of fiber/100 grams) | No. of cereals |
|---|---|---|
| **Hot cereals: 1st tertile fiber** | < 1.0 | 15 |
| **Hot cereals: 2nd tertile fiber** | 1.01 - 1.7 | 13 |
| **Hot cereals: 3rd tertile fiber** | > 1.7 | 16 |
| **Cold cereals: 1st quartile fiber** | < 3.1 | 69 |
| **Cold cereals: 2nd quartile fiber** | 3.103 - 5.99 | 69 |
| **Cold cereals: 3rd quartile fiber** | 6.0 - 9.99 | 72 |
| **Cold cereals: 4th quartile fiber** | > 10.0 | 69 |

**Table 1- 7 Classification Criteria for Hot and Cold Cereals with Regard to Calcium Density**

| Type of Cereal | Density (milligrams of calcium/100 grams) | No. of cereals |
|---|---|---|
| **Hot cereals: 1st tertile calcium** | < 9.99 | 18 |
| **Hot cereals: 2nd tertile calcium** | 10-64 | 11 |
| **Hot cereals: 3rd tertile calcium** | > 65 | 15 |
| **Cold cereals: 1st quartile calcium** | < 24.9 | 70 |
| **Cold cereals: 2nd quartile calcium** | 25.0 - 46.99 | 70 |
| **Cold cereals: 3rd quartile calcium** | 47.0 - 332.99 | 68 |

| Type of Cereal | Density (milligrams of calcium/100 grams) | No. of cereals |
|---|---|---|
| **Cold cereals: 4th quartile calcium** | > 333 | 71 |

Cereal data can be reported in different formats. The format used in the NHANES DSQ was 8-digit FNDDS food codes. Table A-1 in the Appendix shows the food codes and attributes for the cereals reported in the 2009-10 NHANES.

Cereal data reported on the self-administered web is in a character (i.e. letters) format. Table A-2 in the Appendix shows the food codes and attributes for the cereal choices in the self-administered web version of the questionnaire.

# 2. Scoring Procedures

We developed scoring algorithms to convert screener responses to estimates of individual dietary intake for fruits and vegetables (cup equivalents), dairy (cup equivalents), added sugars (tsp), whole grains (ounce equivalents), fiber (g), and calcium (mg) using the What We Eat in America 24-hour dietary recall data from the 2003-2006 NHANES. Equations were estimated in the NHANES 2003-2006, using SAS PROC REG.

## Developing Scoring Algorithms

We developed scoring procedures to convert screener responses to estimates of individual dietary intake for fruits and vegetables (cup equivalents), dairy (cup equivalents), added sugars (tsp), whole grains (ounce equivalents), fiber (g), and calcium (mg) using the What We Eat in America 24-hour dietary recall data from the 2003-2006 NHANES. The following equations were estimated in the NHANES 2003-2006, using SAS PROC REG.

- For cup equivalents of fruits and vegetables
- For cup equivalents of dairy
- For teaspoons of added sugars, not including cereals
- For teaspoons of added sugars including cereals
- For teaspoons of added sugars from sugar-sweetened beverages
- For ounce-equivalents of whole grains
- For grams of fiber
- For milligrams of calcium

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**For cup equivalents of fruits and vegetables**

$$E\,([\text{Fruits and Veg}]^{1/2}) = b_0 + b_1([N_{FG1}P_1 + N_{FG2}P_2 + \ldots + N_{FG10}P_{10}]^{1/2})$$

Cup equivalents of fruits and vegetables were square-root-transformed to approximate normality; $N_{FGk}$ is the usual number of times per day an individual consumed food group k; $P_k$ is the median portion size in fruit and vegetable cup equivalents of group k; and k indexes the ten fruit and vegetable food groups. We calculated weighted least-squares estimates of the regression coefficients $b_0$ and $b_1$ in the NHANES 2003-2006 samples, stratifying by sex and age group (ages 2-17 years; 18+), and excluding extreme exposure values.

**For cup equivalents of dairy**

$$E\,([\text{Dairy}]^{1/2}) = b_0 + b_1([N_{FG1}P_1 + N_{FG2}P_2 + \ldots + N_{FG4}P_4]^{1/2})$$

Cup equivalents of dairy were square-root-transformed to approximate normality; $N_{FGk}$ is the usual number of times per day an individual consumed food group k; $P_k$ is the median portion size in dairy cup equivalents of group k; and k indexes the four dairy food groups. We calculated weighted least-squares estimates of the regression coefficients $b_0$ and $b_1$ on the NHANES 2003-2006 samples, stratifying by sex and age group (ages 2-17 years; 18+), and excluding extreme exposure values.

**For teaspoons of added sugars, not including cereals**

$$E\,([\text{Added Sugars}]^{.33}) = b_0 + b_1([N_{FG1}P_1 + N_{FG2}P_2 + \ldots + N_{FG7}P_7]^{.33})$$

Teaspoons of added sugars were cube-root-transformed to approximate normality; $N_{FGk}$ is the usual number of times per day that an individual consumed food group k; $P_k$ is the median portion size in added sugars teaspoons of group k; and k indexes the six or seven added sugars food groups.

The item sugar in coffee/tea was not asked of children younger than age 12 years in NHANES. Thus, separate algorithms, not including the sugar in coffee/tea item, were estimated for children less than age 12 years.

We calculated weighted least-squares estimates of the regression coefficients $b_0$ and $b_1$ in the NHANES 2003-2006 samples, stratifying by sex and age group (ages 2-11 years; 12-17; 18+), and excluding extreme exposure values.

Users of the DSQ may prefer to include the sugar in coffee/tea item for children. If so, another algorithm is available that provides regression coefficients for all children and adolescents (ages 2-17 years).

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**For teaspoons of added sugars including cereals**

$$E\,([\text{Added Sugars}]^{.33}) = b_0 + b_1([N_{FG1}P_1 + N_{FG2}P_2 + \ldots + N_{FG13}P_{13}]^{.33})$$

Teaspoons of added sugars were cube-root-transformed to approximate normality; $N_{FGk}$ is the usual number of times per day that an individual consumed food group k; $P_k$ is the median portion size in added sugars teaspoons of group k; and k indexes the twelve or thirteen added sugars food groups: hot cereals (2 groups), cold cereals (4 groups), and the six or seven added sugars food groups.

The item sugar in coffee/tea was not asked of children younger than age 12 years in NHANES. Thus, separate algorithms, not including the sugar in coffee/tea item, were estimated for children younger than age 12 years.

We calculated weighted least-squares estimates of the regression coefficients $b_0$ and $b_1$ in the NHANES 2003-2006 samples, stratifying by sex and age group (ages 2-11 years; 12-17; 18+), and excluding extreme exposure values.

Users of the DSQ may prefer to include the sugar in coffee/tea item for children. If so, another algorithm is available that provides regression coefficients for all children and adolescents (ages 2-17 years).

**For teaspoons of added sugars from sugar-sweetened beverages**

$$E\,([\text{Added Sugars}_{ssb}]^{.5}) = b_0 + b_1([N_{FG1}P_1 + N_{FG2}P_2 + N_{FG3}P_3]^{.5})$$

The dependent variable added sugars from sugar-sweetened beverages included the following beverages: sodas, fruitades/sports drinks, and sugar in coffee/tea. Teaspoons of added sugars were square-root-transformed to approximate normality; $N_{FGk}$ is the usual number of times per day that an individual consumed food group k; $P_k$ is the median portion size in added sugars teaspoons of group k; and k indexes the two or three sugar sweetened beverage food groups.

The item sugar in coffee/tea was not asked of children younger than age 12 years in NHANES. Thus, separate algorithms, not including the sugar in coffee/tea item, were estimated for children less than age 12 years.

We calculated weighted least-squares estimates of the regression coefficients $b_0$ and $b_1$ in the NHANES 2003-2006 samples, stratifying by sex and age group (ages 2-11 years; 12-17; 18+), and excluding extreme exposure values.

Users of the DSQ may prefer to include the sugar in coffee/tea item for children. If so, another algorithm is available that provides regression coefficients for all children and adolescents (ages 2-17 years).

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**For ounce-equivalents of whole grains**

$$E([\text{Whole Grains}]^{1/2}) = b_0 + b_1(N_{FG1}P_1) + b_2(N_{FG2}P_2) + \ldots + b_9(N_{FG9}P_9)$$

Ounce-equivalents of whole grains were square-root-transformed to approximate normality; $N_{FGk}$ is the usual number of times per day an individual consumed food group k; $P_k$ is the median portion size in grams of group k; and k indexes the nine whole grain food groups: hot cereals (2 groups), cold cereals (4 groups), brown rice, whole grain bread, and popcorn.

We calculated weighted least-squares estimates of the regression coefficients $b_0$ and bk, k = 0, ..., 9 on the NHANES 2003-2006 samples, stratifying by sex and age group (ages 2-17 years; 18+), and excluding extreme exposure values.

**For grams of fiber**

$$E([\text{Fiber}]^{1/4}) = b_0 + b_1(N_{FG1}P_1) + b_2(N_{FG2}P_2) + \ldots + b_{29}(N_{FG29}P_{29})$$

Grams of fiber were quarter-root-transformed to approximate normality; $N_{FGk}$ is the usual number of times per day an individual consumed food group k; $P_k$ is the median portion size in grams of group k; and k indexes the 29 food groups, which includes three hot cereal and four cold cereal variables. Two food groups, tomato sauce and dried beans, were frequently consumed in mixed dishes. Because we wanted to represent only the particular food, we estimated the number of grams of tomatoes and legumes, respectively, in these mixed dishes. For tomato sauce, this was done by multiplying the MPED 1 cup equivalent by 171 (1 MPED = 171 grams). For legumes, this was done by estimating the MPED one cup equivalent for legumes and multiplying by 212 (1 MPED = 212 grams).

The item sugar in coffee/tea was not asked of children less than 12 years of age in the NHANES. Thus, separate algorithms, not including the sugar in coffee/tea item, were estimated for children less than 12 years.

We calculated weighted least-squares estimates of the regression coefficients $b_0$ and $b_k$, k = 0, ... , 29 (or 28, when sugar in coffee/tea was not asked), stratifying by sex and age group (ages 2-11 years, 12-17 years; 18+), and excluding extreme exposure values. We first included all 29 (28) food groups in the regression model. After examining the results, we dropped food groups that failed to attain statistical significance at $\alpha = 0.25$ to form more parsimonious final models. In the fiber model, milk, fruitades/sports drinks, and salad were dropped for boys ages 2-11 years; sugar in coffee/tea was dropped for boys ages 12-17 years; soda and sugar in coffee/tea were dropped for men; brown rice, milk, ice cream, fruitades/sports drinks, candy, and salad were dropped for girls ages 2-11 years; sugar in coffee/tea was dropped for girls ages 12-17 years; and salad and sugar in coffee/tea were dropped for women.

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Users of the DSQ may prefer to include the sugar in coffee/tea item for children. If so, another algorithm is available that provides regression coefficients for all children and adolescents (ages 2-17 years). For children and adolescents combined, salad and candy were excluded for both boys and girls.

**For milligrams of calcium**

$$E([\text{Calcium}]^{1/4}) = b_0 + b_1(N_{FG1}P_1) + b_2(N_{FG2}P_2) + \ldots + b_{29}(N_{FG29}P_{29})$$

Milligrams of calcium were quarter-root-transformed to approximate normality; $N_{FGk}$ is the usual number of times per day an individual consumed food group k; $P_k$ is the median portion size in grams of group k; and k indexes the 29 food groups, which includes three hot cereal and four cold cereal variables. Two food groups, tomato sauce and dried beans, were frequently consumed in mixed dishes. Because we wanted to represent only the particular food, we estimated the number of grams of tomatoes and legumes, respectively, in these mixed dishes. For tomato sauce, this was done by multiplying the MPED 1 cup equivalent by 171 (1 MPED = 171 grams). For legumes, this was done by estimating the MPED one cup equivalent for legumes and multiplying by 212 (1 MPED = 212 grams).

The item sugar in coffee/tea was not asked of children less than 12 years of age in the NHANES. Thus, separate algorithms, not including the sugar in coffee/tea item, were estimated for children less than 12 years.

We calculated weighted least-squares estimates of the regression coefficients $b_0$ and $b_k$, k = 0, ... , 29 (or 28) on the NHANES 2003-2006 samples, stratifying by sex and age group (ages 2-11 years, 12-17 years; 18+), and excluding extreme exposure values. We first included all 29 (28) food groups in the regression model. After examining the results, we dropped food groups that failed to attain statistical significance at $\alpha = 0.25$ to form more parsimonious final models. In the calcium model, doughnuts, salad, and French fries were dropped for boys ages 2-11; sugar in coffee/tea, fruit, and other potatoes were dropped for boys ages 12-17; popcorn, brown rice, soda, sugar in coffee/tea, and other potatoes were dropped for men; fruitades/sports drinks, candy, fruit, other potatoes, and cookies/cake/pie were dropped for girls ages 2-11; popcorn, candy, other potatoes, French fries, fruitades/sports drinks, and tomato sauce were dropped for girls ages 12-17; and popcorn, brown rice, fruitades/sports drinks, doughnuts, and tomato sauce were dropped for women.

Users of the DSQ may prefer to include the sugar in coffee/tea item for children. If so, another algorithm is available that provides regression coefficients for all children and adolescents (ages 2-17 years). For children and adolescents combined, popcorn, sugar in coffee/tea, fruit, and other potatoes were excluded for boys; popcorn, doughnuts, candy, other potatoes, and fruitades/sports drinks were excluded for girls.

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## Estimating intakes

Using the scoring algorithms we developed, we performed the following steps to estimate the individual intake of fruits and vegetables (cup equivalents), dairy (cup equivalents), added sugars (tsp), whole grains (ounce equivalents), fiber (g), and calcium (mg).

- **Estimation of $P_k$:**

  The median sex and age-specific portion sizes for each food were estimated from NHANES 2003-2006. For fruit and vegetable variables, the unit was cup equivalents of fruits and vegetables (Table 2-1 & Table 2-2); for dairy, the unit was cup equivalents (Table 2-3 & Table 2-4). For added sugars, the unit was teaspoons of added sugars (Table 2-5 & Table 2-6); for added sugars from sugar-sweetened beverages, the unit was teaspoons of added sugars (Table 2-7 & Table 2-8); for whole grains, the unit was grams (Table 2-9 & Table 2-10); and for fiber and calcium, the unit was grams (Table 2-11 & Table 2-12).

  For fruits and vegetables, a cup equivalent is defined by the U.S. Department of Agriculture and the U.S. Department of Health and Human Services in the Dietary Guidelines for Americans, 2010 as:

  - vegetables: 1 cup raw or cooked; 1 cup vegetable juice; or 2 cups leafy salad greens
  - fruit: 1 cup raw or cooked; ½ cup dried fruits; or 1 cup fruit juice.

  For dairy, a cup equivalent is defined by the U.S. Department of Agriculture and the U.S. Department of Health and Human Services in the Dietary Guidelines for Americans, 2010 as:

  - 1 cup milk, fortified soy beverage, or yogurt
  - 1 ½ ounces of natural cheese
  - 2 ounces of processed cheese

  The exposure sugar-sweetened beverages is defined in the Dietary Guidelines for Americans, 2010 as: "Liquids that are sweetened with various forms of sugars that add calories. These beverages include, but are not limited to, soda, fruitades and fruit drinks, and sports and energy drinks." For our analyses, we defined this exposure as including the above types of drinks plus coffees and teas when sweetened with sugar.

  For whole grains, an ounce equivalent is defined by the U.S. Department of Agriculture and the U.S. Department of Health and Human Services in the Dietary Guidelines for Americans, 2010 as:

  - 1 one-ounce slice of whole grain bread
  - 1 ounce of uncooked whole grain pasta or rice
  - ½ cup of cooked whole grain rice, pasta, or cereal

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- 1 whole grain tortilla (6 inch diameter)
- 1 whole grain pancake (5 inch diameter)
- 1 ounce (or about 1 cup cereal flakes) ready-to-eat whole grain cereal.

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**Table 2- 1 Median Portion Size (Pk) in Cup Equivalents per Mention by Sex & Age for Fruits & Vegetables Analyses: Children/Adolescents**

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| **Boys** | | | | | | | | |
| **Fruit ($P_1$)** | 0.593960 | 0.637200 | 0.702503 | 0.824490 | 0.858231 | 0.983798 | 0.976005 | 0.955500 |
| **100% Fruit juice ($P_2$)** | 0.734405 | 0.751000 | 0.812000 | 0.812000 | 0.843000 | 1.249333 | 1.312000 | 1.439000 |
| **Salad ($P_3$)** | 0.124988 | 0.130669 | 0.249975 | 0.145440 | 0.145440 | 0.218000 | 0.250000 | 0.249975 |
| **Fried potatoes ($P_4$)** | 0.320600 | 0.318000 | 0.372000 | 0.545000 | 0.375000 | 0.479532 | 0.545000 | 0.711510 |
| **Other potatoes ($P_5$)** | 0.341880 | 0.499800 | 0.500000 | 0.750000 | 0.515485 | 0.765500 | 0.700590 | 1.000000 |
| **Dried beans ($P_6$)** | 0.321000 | 0.250038 | 0.342000 | 0.332000 | 0.440250 | 0.438150 | 0.630700 | 0.482000 |
| **Other vegetables ($P_7$)** | 0.249900 | 0.306500 | 0.312400 | 0.347700 | 0.397750 | 0.316223 | 0.318160 | 0.309015 |
| **Tomato sauce ($P_8$)** | 0.351000 | 0.425250 | 0.586703 | 0.316000 | 0.587000 | 0.733000 | 0.525000 | 0.708500 |
| **Salsa ($P_9$)** | 0.051383 | 0.106080 | 0.159120 | 0.193000 | 0.231000 | 0.116000 | 0.309555 | 0.206392 |
| **Pizza ($P_{10}$)** | 0.253843 | 0.256000 | 0.284000 | 0.283250 | 0.290000 | 0.401795 | 0.496000 | 0.546259 |
| **Girls** | | | | | | | | |
| **Fruit ($P_1$)** | 0.531500 | 0.632000 | 0.650160 | 0.660667 | 0.812333 | 0.858980 | 0.845610 | 0.867000 |
| **100% Fruit juice ($P_2$)** | 0.734557 | 0.754416 | 0.749580 | 0.798096 | 0.815000 | 1.000980 | 1.103333 | 1.300000 |
| **Salad ($P_3$)** | 0.249975 | 0.268000 | 0.218000 | 0.208500 | 0.250000 | 0.203500 | 0.291000 | 0.374963 |
| **Fried potatoes ($P_4$)** | 0.272000 | 0.293000 | 0.455500 | 0.272425 | 0.456713 | 0.493592 | 0.455500 | 0.543178 |

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| Other potatoes ($P_5$) | 0.499800 | 0.500000 | 0.500000 | 0.562478 | 0.715000 | 0.515485 | 0.749700 | 0.501000 |
| Dried beans ($P_6$) | 0.247050 | 0.346000 | 0.390320 | 0.217736 | 0.357500 | 0.562118 | 0.320000 | 0.406725 |
| Other vegetables ($P_7$) | 0.241000 | 0.250000 | 0.333426 | 0.302000 | 0.349000 | 0.264000 | 0.323000 | 0.276250 |
| Tomato sauce ($P_8$) | 0.323700 | 0.387810 | 0.370000 | 0.460802 | 0.517080 | 0.776000 | 0.587000 | 0.525000 |
| Salsa ($P_9$) | 0.053040 | 0.056500 | 0.231000 | 0.154148 | 0.106080 | 0.412718 | 0.112000 | 0.154148 |
| Pizza ($P_{10}$) | 0.198327 | 0.256500 | 0.290000 | 0.248400 | 0.300000 | 0.319783 | 0.350000 | 0.444000 |

**Table 2- 2 Median Portion Size (Pk) in Cup Equivalents per Mention by Sex and Age for Fruits & Vegetables Analyses: Adults**

| Food Group | Age Group (years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 18-27 | 28-37 | 38-47 | 48-57 | 58-67 | 68-77 | >78 |
| **Men** | | | | | | | |
| Fruit ($P_1$) | 0.867300 | 0.911790 | 0.867300 | 0.867300 | 0.813000 | 0.715500 | 0.713000 |
| 100% Fruit juice ($P_2$) | 1.480620 | 1.458000 | 1.437000 | 1.147570 | 0.999440 | 0.812045 | 0.780813 |
| Salad ($P_3$) | 0.291000 | 0.375000 | 0.390500 | 0.400500 | 0.499950 | 0.407500 | 0.388810 |
| Fried potatoes ($P_4$) | 0.622000 | 0.663435 | 0.548000 | 0.548055 | 0.545000 | 0.455000 | 0.444000 |
| Other potatoes ($P_5$) | 0.836000 | 0.767025 | 0.874650 | 0.930000 | 0.809676 | 0.809676 | 0.536000 |
| Dried beans ($P_6$) | 0.563000 | 0.524700 | 0.597726 | 0.563000 | 0.480533 | 0.377000 | 0.411000 |

# DSQ: EARLIER METHOD

| Food Group | Age Group (years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 18-27 | 28-37 | 38-47 | 48-57 | 58-67 | 68-77 | >78 |
| Other vegetables ($P_7$) | 0.333401 | 0.410997 | 0.388250 | 0.410901 | 0.431000 | 0.442680 | 0.375000 |
| Tomato sauce ($P_8$) | 0.612000 | 0.688000 | 0.637962 | 0.925000 | 0.861500 | 0.861800 | 0.486000 |
| Salsa ($P_9$) | 0.177021 | 0.212160 | 0.198000 | 0.265000 | 0.206392 | 0.132000 | 0.231000 |
| Pizza ($P_{10}$) | 0.647000 | 0.729000 | 0.694861 | 0.693760 | 0.759000 | 0.542720 | 0.293000 |
| **Women** | | | | | | | |
| Fruit ($P_1$) | 0.764240 | 0.750000 | 0.739187 | 0.775915 | 0.742000 | 0.633000 | 0.632000 |
| 100% Fruit juice ($P_2$) | 1.242252 | 1.003392 | 1.000000 | 1.000000 | 0.813000 | 0.749580 | 0.750000 |
| Salad ($P_3$) | 0.318225 | 0.395500 | 0.500000 | 0.500000 | 0.437502 | 0.375000 | 0.333500 |
| Fried potatoes ($P_4$) | 0.480000 | 0.446660 | 0.444000 | 0.385000 | 0.455275 | 0.444000 | 0.320000 |
| Other potatoes ($P_5$) | 0.749700 | 0.500000 | 0.697000 | 0.555500 | 0.570960 | 0.666000 | 0.515000 |
| Dried beans ($P_6$) | 0.390000 | 0.342000 | 0.321000 | 0.333000 | 0.341398 | 0.323400 | 0.305000 |
| Other vegetables ($P_7$) | 0.308000 | 0.361100 | 0.333200 | 0.389714 | 0.396680 | 0.389083 | 0.347200 |
| Tomato sauce ($P_8$) | 0.624000 | 0.480000 | 0.388000 | 0.537240 | 0.563000 | 0.710000 | 0.336660 |
| Salsa ($P_9$) | 0.129000 | 0.212160 | 0.174877 | 0.206392 | 0.138705 | 0.231000 | 0.097852 |
| Pizza ($P_{10}$) | 0.433541 | 0.444000 | 0.432000 | 0.431609 | 0.488653 | 0.569016 | 0.390861 |

# DSQ: EARLIER METHOD

**Table 2- 3 Median Portion Size (Pk) in Cup Equivalents per Mention by Sex & Age for Dairy Analyses: Children/Adolescents**

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| **Boys** | | | | | | | | |
| **Cheese ($P_1$)** | 0.379000 | 0.470500 | 0.411953 | 0.542017 | 0.592920 | 0.552181 | 0.666792 | 0.667000 |
| **Pizza ($P_2$)** | 0.569568 | 0.706000 | 0.759935 | 0.756010 | 0.717858 | 0.982000 | 1.114109 | 1.453760 |
| **Milk ($P_3$)** | 0.773875 | 0.812500 | 0.906413 | 0.969000 | 0.998400 | 1.125000 | 1.313025 | 1.281500 |
| **Frozen desserts ($P_4$)** | 0.073260 | 0.132000 | 0.102000 | 0.105000 | 0.182500 | 0.226000 | 0.281174 | 0.199778 |
| **Girls** | | | | | | | | |
| **Cheese ($P_1$)** | 0.357000 | 0.411180 | 0.370440 | 0.461790 | 0.518500 | 0.511000 | 0.526000 | 0.584210 |
| **Pizza ($P_2$)** | 0.471123 | 0.658000 | 0.863877 | 0.700196 | 0.740715 | 0.717858 | 0.858929 | 1.040520 |
| **Milk ($P_3$)** | 0.666931 | 0.781750 | 0.802333 | 0.812520 | 1.000000 | 1.030500 | 1.000000 | 1.000400 |
| **Frozen desserts ($P_4$)** | 0.061880 | 0.146965 | 0.153000 | 0.165330 | 0.190000 | 0.183000 | 0.194480 | 0.220440 |

# DSQ: EARLIER METHOD

**Table 2- 4 Median Portion Size (Pk) in Cup Equivalents per Mention by Sex & Age for Dairy Analyses: Adults**

| Food Group | Age Group (years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 18-27 | 28-37 | 38-47 | 48-57 | 58-67 | 68-77 | >78 |
| **Men** | | | | | | | |
| **Cheese ($P_1$)** | 0.708341 | 0.584210 | 0.648000 | 0.595350 | 0.586278 | 0.518500 | 0.505700 |
| **Pizza ($P_2$)** | 1.317000 | 1.500000 | 1.190850 | 1.325659 | 1.166539 | 1.113000 | 0.726591 |
| **Milk ($P_3$)** | 1.313025 | 1.313025 | 1.311965 | 1.000400 | 1.000000 | 0.833333 | 0.781563 |
| **Frozen desserts ($P_4$)** | 0.261840 | 0.238967 | 0.264000 | 0.264000 | 0.271000 | 0.220448 | 0.226000 |
| **Women** | | | | | | | |
| **Cheese ($P_1$)** | 0.500250 | 0.471000 | 0.470000 | 0.469920 | 0.461080 | 0.469920 | 0.432075 |
| **Pizza ($P_2$)** | 0.878526 | 0.853000 | 0.851482 | 0.968774 | 0.988000 | 0.992000 | 0.713000 |
| **Milk ($P_3$)** | 1.042083 | 1.000000 | 0.968000 | 0.999000 | 0.750300 | 0.750000 | 0.708500 |
| **Frozen desserts ($P_4$)** | 0.198000 | 0.201000 | 0.205000 | 0.226980 | 0.192889 | 0.221000 | 0.194480 |

# DSQ: EARLIER METHOD

**Table 2- 5 Median Portion Size (Pk) in Teaspoons per Mention by Sex & Age for Added Sugars Analyses: Children/Adolescents**

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| **Boys** | | | | | | | | |
| **Hot cereals ($P_1$)** | 0.671760 | 0.000000 | 0.000000 | 3.732000 | 3.742200 | 2.910960 | 0.000000 | 0.628500 |
| **Cold cereals ($P_2$)** | 1.546500 | 2.509758 | 3.428864 | 3.421000 | 3.607222 | 4.318000 | 3.946876 | 4.631570 |
| **Soda ($P_3$)** | 3.142293 | 4.714080 | 7.588000 | 6.746025 | 8.271500 | 8.938500 | 10.710667 | 11.755190 |
| **Sugar/honey in coffee/tea ($P_4$)** | 1.932288 | 1.932288 | 2.572000 | 2.572000 | 3.622500 | 3.622500 | 4.064000 | 4.064000 |
| **Fruitades/sports drinks($P_5$)** | 4.405266 | 4.617000 | 4.692120 | 4.790000 | 5.966880 | 6.841511 | 7.978000 | 8.157000 |
| **Candy ($P_6$)** | 1.856000 | 2.225000 | 1.778000 | 3.148000 | 2.618980 | 2.674000 | 2.731076 | 4.249883 |
| **Doughnuts ($P_7$)** | 2.405700 | 3.100420 | 2.737800 | 4.395000 | 3.826746 | 4.109025 | 4.395000 | 4.811400 |
| **Cookies, cake, pie, brownies ($P_8$)** | 1.814927 | 2.054360 | 2.640000 | 2.573000 | 3.482000 | 3.180000 | 4.058775 | 3.999500 |
| **Frozen desserts ($P_9$)** | 2.345500 | 3.253000 | 3.253000 | 2.977730 | 3.875520 | 4.392990 | 6.650000 | 3.975072 |
| **Girls** | | | | | | | | |
| **Hot cereals, no added sugars ($P_1$)** | 0.958000 | 0.909737 | 1.915760 | 0.000000 | 1.915760 | 0.909737 | 0.000000 | 1.546000 |
| **Cold cereals ($P_2$)** | 1.536500 | 2.191694 | 2.107000 | 3.338100 | 3.548396 | 3.109000 | 3.818813 | 3.043425 |

# DSQ: EARLIER METHOD

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| **Soda ($P_3$)** | 3.144742 | 4.719204 | 5.364167 | 6.288856 | 7.875000 | 7.889000 | 8.984976 | 9.428160 |
| **Sugar/honey in coffee/tea ($P_4$)** | 1.932288 | 1.932288 | 2.572000 | 2.572000 | 2.650680 | 2.650680 | 3.494000 | 3.494000 |
| **Fruitades/sports drinks ($P_5$)** | 3.822525 | 4.258716 | 4.617000 | 5.028540 | 5.019210 | 5.091030 | 8.157000 | 7.391000 |
| **Candy ($P_6$)** | 2.098600 | 2.120000 | 1.451500 | 2.248833 | 2.248500 | 2.618980 | 2.618980 | 2.722667 |
| **Doughnuts ($P_7$)** | 2.405700 | 2.593800 | 2.659300 | 3.664865 | 3.296500 | 4.395000 | 4.395000 | 3.463040 |
| **Cookies, cake, pie, brownies ($P_8$)** | 1.810160 | 2.417000 | 2.752750 | 3.225000 | 3.115333 | 2.679119 | 2.790000 | 2.468400 |
| **Frozen desserts ($P_9$)** | 2.477200 | 3.156580 | 2.774000 | 3.785000 | 4.775000 | 2.977730 | 4.063000 | 5.006500 |

# DSQ: EARLIER METHOD

**Table 2- 6 Median Portion Size (Pk) in Teaspoons per Mention by Sex & Age for Added Sugars Analyses: Adults**

| Food Group | Age Group (years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 18-27 | 28-37 | 38-47 | 48-57 | 58-67 | 68-77 | >78 |
| **Men** | | | | | | | |
| **Hot cereals ($P_1$)** | 1.758667 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| **Cold cereals ($P_2$)** | 3.840000 | 3.939187 | 2.724000 | 2.515333 | 1.594763 | 1.449000 | 1.127508 |
| **Soda ($P_3$)** | 11.601377 | 10.544000 | 10.327300 | 9.302000 | 8.994700 | 8.994700 | 7.889000 |
| **Sugar/honey in coffee/tea ($P_4$)** | 4.241000 | 3.807000 | 3.395571 | 3.000186 | 2.000000 | 2.120544 | 2.222844 |
| **Fruitades/sports drinks($P_5$)** | 8.559500 | 8.232800 | 10.264077 | 8.113458 | 7.558200 | 5.439624 | 5.439624 |
| **Candy ($P_6$)** | 3.475000 | 3.259468 | 3.031745 | 3.054975 | 2.974000 | 2.359090 | 2.445380 |
| **Doughnuts ($P_7$)** | 4.282600 | 4.262250 | 3.708000 | 3.517150 | 4.289115 | 2.789390 | 3.127400 |
| **Cookies, cake, pie, brownies ($P_8$)** | 3.761000 | 3.756900 | 4.387860 | 3.735000 | 3.192000 | 3.230824 | 2.667387 |
| **Frozen desserts ($P_9$)** | 5.052000 | 5.262000 | 5.052000 | 4.680000 | 4.508965 | 3.691000 | 3.849000 |
| **Women** | | | | | | | |
| **Hot cereals, no added sugars ($P_1$)** | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| **Cold cereals ($P_2$)** | 2.827000 | 2.585755 | 2.393280 | 1.843222 | 0.793000 | 0.972800 | 0.789570 |
| **Soda ($P_3$)** | 9.346200 | 8.947000 | 7.953000 | 8.617500 | 7.865340 | 7.295500 | 5.917000 |
| **Sugar/honey in coffee/tea ($P_4$)** | 3.053667 | 2.884500 | 2.827392 | 2.153000 | 1.983456 | 1.982667 | 1.382000 |
| **Fruitades/sports drinks ($P_5$)** | 7.258570 | 7.493000 | 6.451665 | 6.230040 | 6.798000 | 4.536750 | 4.113113 |
| **Candy ($P_6$)** | 2.703000 | 2.121000 | 2.275000 | 2.248500 | 2.098600 | 1.858320 | 1.686480 |

# DSQ: EARLIER METHOD

| Food Group | Age Group (years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | **18-27** | **28-37** | **38-47** | **48-57** | **58-67** | **68-77** | **>78** |
| **Doughnuts ($P_7$)** | 4.191040 | 3.112720 | 3.127000 | 2.781216 | 3.242000 | 3.150500 | 2.383229 |
| **Cookies, cake, pie, brownies ($P_8$)** | 2.661000 | 3.340980 | 3.651000 | 3.208920 | 2.821134 | 2.729500 | 2.572640 |
| **Frozen desserts ($P_9$)** | 3.509870 | 3.875520 | 3.300180 | 3.094000 | 2.949000 | 3.350500 | 3.300180 |

# DSQ: EARLIER METHOD

**Table 2- 7 Median Portion Size (Pk) in Teaspoons per Mention by Sex & Age for Added Sugars from Sugar-Sweetened Beverages Analyses: Children/Adolescents**

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| **Boys** | | | | | | | | |
| **Soda ($P_1$)** | 3.142293 | 4.714080 | 7.588000 | 6.746025 | 8.271500 | 8.938500 | 10.710667 | 11.755190 |
| **Sugar/honey in coffee/tea ($P_2$)** | 1.932288 | 1.932288 | 2.572000 | 2.572000 | 3.622500 | 3.622500 | 4.064000 | 4.064000 |
| **Fruitades/sports drinks ($P_3$)** | 4.405266 | 4.617000 | 4.692120 | 4.790000 | 5.966880 | 6.841511 | 7.978000 | 8.157000 |
| **Girls** | | | | | | | | |
| **Soda ($P_1$)** | 3.144742 | 4.719204 | 5.364167 | 6.288856 | 7.875000 | 7.889000 | 8.984976 | 9.428160 |
| **Sugar/honey in coffee/tea ($P_2$)** | 1.932288 | 1.932288 | 2.572000 | 2.572000 | 2.650680 | 2.650680 | 3.494000 | 3.494000 |
| **Fruitades/sports drinks ($P_3$)** | 3.822525 | 4.258716 | 4.617000 | 5.028540 | 5.019210 | 5.091030 | 8.157000 | 7.391000 |

# DSQ: EARLIER METHOD

**Table 2- 8 Median Portion Size (Pk) in Teaspoons per Mention by Sex & Age for Sugar-Sweetened Beverage Analyses: Adults**

| Food Group | Age Group (years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 18-27 | 28-37 | 38-47 | 48-57 | 58-67 | 68-77 | >78 |
| **Men** | | | | | | | |
| **Soda ($P_1$)** | 11.601377 | 10.544000 | 10.327300 | 9.302000 | 8.994700 | 8.994700 | 7.889000 |
| **Sugar/honey in coffee/tea ($P_2$)** | 4.241000 | 3.807000 | 3.395571 | 3.000186 | 2.000000 | 2.120544 | 2.222844 |
| **Fruitades/sports drinks ($P_3$)** | 8.559500 | 8.232800 | 10.264077 | 8.113458 | 7.558200 | 5.439624 | 5.439624 |
| **Women** | | | | | | | |
| **Soda ($P_1$)** | 9.346200 | 8.947000 | 7.953000 | 8.617500 | 7.865340 | 7.295500 | 5.917000 |
| **Sugar/honey in coffee/tea ($P_2$)** | 3.053667 | 2.884500 | 2.827392 | 2.153000 | 1.983456 | 1.982667 | 1.382000 |
| **Fruitades/sports drinks ($P_3$)** | 7.258570 | 7.493000 | 6.451665 | 6.230040 | 6.798000 | 4.536750 | 4.113113 |

# DSQ: EARLIER METHOD

**Table 2- 9 Median Portion Size (Pk) in Grams per Mention by Sex & Age for Whole Grains Analyses: Children/Adolescents**

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| **Boys** | | | | | | | | |
| **Hot cereals ($P_1$)** | 154.000000 | 202.250000 | 234.000000 | 307.130000 | 308.000000 | 234.000000 | 242.000000 | 212.065000 |
| **Cold cereals ($P_2$)** | 22.503333 | 34.275000 | 38.155000 | 40.000000 | 42.500000 | 53.810000 | 56.310000 | 58.500000 |
| ***Brown rice ($P_3$)** | 65.340000 | 65.340000 | 65.340000 | 65.340000 | 159.000000 | 159.000000 | 217.000000 | 217.000000 |
| **Whole grain bread ($P_4$)** | 26.000000 | 34.500000 | 52.000000 | 45.500000 | 51.000000 | 52.000000 | 52.000000 | 52.000000 |
| **Popcorn ($P_5$)** | 12.250000 | 18.380000 | 21.000000 | 28.000000 | 33.833333 | 44.000000 | 23.560000 | 42.500000 |
| **Girls** | | | | | | | | |
| **Hot cereals ($P_1$)** | 175.500000 | 154.000000 | 154.000000 | 126.970000 | 181.500000 | 73.130000 | 262.440000 | 242.000000 |
| **Cold cereals ($P_2$)** | 22.500000 | 28.880000 | 31.000000 | 39.505000 | 43.880000 | 44.065000 | 46.875000 | 49.940000 |
| ***Brown rice ($P_3$)** | 65.340000 | 65.340000 | 65.340000 | 65.340000 | 159.000000 | 159.000000 | 217.000000 | 217.000000 |
| **Whole grain bread ($P_4$)** | 26.000000 | 31.500000 | 36.000000 | 26.000000 | 48.000000 | 52.000000 | 48.000000 | 52.000000 |

# DSQ: EARLIER METHOD

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| **Popcorn ($P_5$)** | 12.500000 | 14.440000 | 24.000000 | 22.000000 | 19.690000 | 28.000000 | 37.500000 | 33.416667 |

# DSQ: EARLIER METHOD

**Table 2- 10 Median Portion Size (Pk) in Grams per Mention by Sex & Age for Whole Grains Analyses: Adults**

| Food Group | Age Group (years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 18-27 | 28-37 | 38-47 | 48-57 | 58-67 | 68-77 | >78 |
| **Men** | | | | | | | |
| **Hot cereals ($P_1$)** | 308.000000 | 256.000000 | 242.000000 | 234.000000 | 234.000000 | 234.000000 | 215.345000 |
| **Cold cereals ($P_2$)** | 59.095000 | 63.440000 | 56.720000 | 56.310000 | 50.750000 | 43.030000 | 39.000000 |
| ***Brown rice ($P_3$)** | 170.630000 | 170.630000 | 159.000000 | 159.000000 | 115.785000 | 115.785000 | 115.785000 |
| **Whole grain bread ($P_4$)** | 52.000000 | 50.666667 | 52.000000 | 52.000000 | 50.666667 | 43.000000 | 44.000000 |
| **Popcorn ($P_5$)** | 25.380000 | 54.310000 | 56.250000 | 39.880000 | 37.500000 | 51.840000 | 44.565000 |
| **Women** | | | | | | | |
| **Hot cereals ($P_1$)** | 248.630000 | 211.750000 | 234.000000 | 175.500000 | 181.500000 | 204.750000 | 167.340000 |
| **Cold cereals ($P_2$)** | 41.000000 | 45.000000 | 45.000000 | 39.380000 | 39.380000 | 30.625000 | 30.000000 |
| ***Brown rice ($P_3$)** | 139.130000 | 139.130000 | 164.000000 | 164.000000 | 98.000000 | 98.000000 | 98.000000 |
| **Whole grain bread ($P_4$)** | 48.000000 | 45.500000 | 42.250000 | 46.000000 | 40.000000 | 37.000000 | 29.000000 |
| **Popcorn ($P_5$)** | 25.380000 | 35.000000 | 30.400000 | 26.500000 | 22.800000 | 28.000000 | 28.000000 |

*Because of the small number of consumers of brown rice, certain age/sex groups were collapsed: by sex, ages 18-37; by sex, ages 38-57; by sex, ages 58 +.

# DSQ: EARLIER METHOD

**Table 2- 11 Median Portion Size (Pk) in Grams per Mention by Sex & Age for Fiber and Calcium Analyses: Children/Adolescents**

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| **Boys** | | | | | | | | |
| **Hot cereals ($P_1$)** | 154.000000 | 202.250000 | 234.000000 | 307.130000 | 308.000000 | 234.000000 | 242.000000 | 212.065000 |
| **Cold cereals ($P_2$)** | 22.503333 | 34.275000 | 38.155000 | 40.000000 | 42.500000 | 53.810000 | 56.310000 | 58.500000 |
| **Milk ($P_3$)** | 190.625000 | 200.428571 | 223.666667 | 244.000000 | 244.000000 | 274.500000 | 320.250000 | 323.300000 |
| **Soda ($P_4$)** | 124.000000 | 207.425000 | 344.650000 | 305.450000 | 368.000000 | 369.000000 | 442.240000 | 529.166667 |
| **100% Fruit juices ($P_5$)** | 182.775000 | 187.200000 | 202.310000 | 201.500000 | 209.250000 | 310.200000 | 325.500000 | 357.940000 |
| **Sugar added to coffee/tea ($P_6$)** | 148.000000 | 148.000000 | 207.200000 | 207.200000 | 310.800000 | 310.800000 | 340.400000 | 340.400000 |
| **Fruitades/sports drinks ($P_7$)** | 209.000000 | 209.000000 | 224.750000 | 265.630000 | 293.815000 | 370.800000 | 453.130000 | 503.500000 |
| **Fruit ($P_8$)** | 88.800000 | 97.333333 | 108.571429 | 118.000000 | 118.000000 | 128.666667 | 136.000000 | 138.000000 |
| **Salad ($P_9$)** | 13.750000 | 13.750000 | 27.500000 | 16.000000 | 16.000000 | 24.000000 | 27.500000 | 27.500000 |
| **Fried potatoes ($P_{10}$)** | 51.000000 | 49.880000 | 58.000000 | 85.000000 | 57.000000 | 74.810000 | 85.000000 | 111.000000 |
| **Other potatoes ($P_{11}$)** | 61.000000 | 105.000000 | 105.000000 | 138.000000 | 171.000000 | 157.500000 | 143.065000 | 210.000000 |
| **Dried beans ($P_{12}$)** | 68.052000 | 53.007950 | 72.504000 | 70.384000 | 93.333000 | 92.887800 | 133.708400 | 102.184000 |

# DSQ: EARLIER METHOD

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| *Brown rice ($P_{13}$) | 65.340000 | 65.340000 | 65.340000 | 65.340000 | 159.000000 | 159.000000 | 217.000000 | 217.000000 |
| Other vegetables ($P_{14}$) | 51.350000 | 55.976000 | 58.812500 | 67.500000 | 75.541500 | 78.000000 | 80.000000 | 70.928000 |
| Salsa ($P_{15}$) | 7.750000 | 16.000000 | 24.000000 | 26.700000 | 32.000000 | 16.000000 | 46.690000 | 31.130000 |
| Pizza ($P_{16}$) | 95.000000 | 117.000000 | 134.700000 | 131.480000 | 134.700000 | 176.000000 | 207.820000 | 274.890000 |
| Other vegetables ($P_{17}$) | 60.021000 | 72.717750 | 100.326213 | 54.036000 | 100.377000 | 125.343000 | 89.775000 | 121.153500 |
| Cheese ($P_{18}$) | 20.129000 | 26.683333 | 21.516667 | 28.100000 | 32.928000 | 31.950000 | 36.209040 | 33.603873 |
| Whole grain bread ($P_{19}$) | 26.000000 | 34.500000 | 52.000000 | 45.500000 | 51.000000 | 52.000000 | 52.000000 | 52.000000 |
| Candy ($P_{20}$) | 15.000000 | 20.500000 | 15.000000 | 22.000000 | 21.000000 | 23.100000 | 22.500000 | 28.500000 |
| Doughnuts ($P_{21}$) | 53.000000 | 60.000000 | 53.000000 | 86.000000 | 76.000000 | 81.000000 | 86.500000 | 104.000000 |
| Cookies, cake, pie, brownies ($P_{22}$) | 22.000000 | 25.520000 | 30.000000 | 35.900000 | 40.380000 | 40.000000 | 49.500000 | 56.000000 |
| Frozen desserts ($P_{23}$) | 64.500000 | 78.000000 | 87.000000 | 78.000000 | 96.500000 | 110.000000 | 159.500000 | 119.880000 |
| Popcorn ($P_{24}$) | 12.250000 | 18.380000 | 21.000000 | 28.000000 | 33.833333 | 44.000000 | 23.560000 | 42.500000 |
| **Girls** | | | | | | | | |
| Hot cereals ($P_1$) | 175.500000 | 154.000000 | 154.000000 | 126.970000 | 181.500000 | 73.130000 | 262.440000 | 242.000000 |

# DSQ: EARLIER METHOD

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| Cold cereals ($P_2$) | 22.500000 | 28.880000 | 31.000000 | 39.505000 | 43.880000 | 44.065000 | 46.875000 | 49.940000 |
| Milk ($P_3$) | 162.666667 | 191.895000 | 198.250000 | 203.125000 | 246.178571 | 256.166667 | 244.000000 | 250.000000 |
| Soda ($P_4$) | 124.000000 | 201.500000 | 246.333333 | 257.433333 | 328.660000 | 368.000000 | 368.400000 | 394.733333 |
| 100% Fruit juices ($P_5$) | 184.385556 | 187.500000 | 186.250000 | 198.300000 | 203.130000 | 249.000000 | 282.460000 | 322.660000 |
| Sugar added to coffee/tea ($P_6$) | 148.000000 | 148.000000 | 207.200000 | 207.200000 | 305.866667 | 305.866667 | 274.300000 | 274.300000 |
| Fruitades/sports drinks ($P_7$) | 198.250000 | 203.130000 | 209.000000 | 228.500000 | 250.000000 | 277.875000 | 396.500000 | 357.940000 |
| Fruit ($P_8$) | 81.330000 | 101.000000 | 106.000000 | 101.422500 | 122.500000 | 118.000000 | 118.000000 | 118.000000 |
| Salad ($P_9$) | 27.500000 | 29.220000 | 21.043333 | 22.166667 | 27.500000 | 22.345000 | 29.190000 | 37.155000 |
| Fried potatoes ($P_{10}$) | 42.400000 | 49.625000 | 72.583333 | 58.000000 | 70.000000 | 71.100000 | 69.000000 | 85.000000 |
| Other potatoes ($P_{11}$) | 83.500000 | 105.000000 | 105.000000 | 105.000000 | 131.000000 | 105.000000 | 157.500000 | 128.670000 |
| Dried beans ($P_{12}$) | 52.374600 | 73.352000 | 82.747840 | 46.160053 | 75.790000 | 119.168910 | 67.840000 | 86.225700 |
| *Brown rice ($P_{13}$) | 65.340000 | 65.340000 | 65.340000 | 65.340000 | 159.000000 | 159.000000 | 217.000000 | 217.000000 |
| Other vegetables ($P_{14}$) | 38.750000 | 47.813333 | 56.250000 | 57.916667 | 66.125000 | 72.000000 | 70.500000 | 63.299000 |
| Salsa ($P_{15}$) | 8.000000 | 7.785000 | 32.000000 | 23.250000 | 16.000000 | 62.000000 | 15.560000 | 23.780000 |

# DSQ: EARLIER METHOD

| Food Group | Age Group (years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| **Pizza ($P_{16}$)** | 98.670000 | 100.000000 | 142.500000 | 117.290000 | 156.510000 | 127.170000 | 168.500000 | 189.440000 |
| **Other vegetables ($P_{17}$)** | 55.352700 | 66.315510 | 63.270000 | 78.797159 | 88.420680 | 132.696000 | 100.377000 | 89.775000 |
| **Cheese ($P_{18}$)** | 18.500000 | 21.150720 | 18.625000 | 24.400000 | 26.822740 | 26.753850 | 27.155250 | 29.547000 |
| **Whole grain bread ($P_{19}$)** | 26.000000 | 31.500000 | 36.000000 | 26.000000 | 48.000000 | 52.000000 | 48.000000 | 52.000000 |
| **Candy ($P_{20}$)** | 15.715000 | 17.500000 | 14.000000 | 18.000000 | 15.066667 | 24.500000 | 21.800000 | 26.000000 |
| **Doughnuts ($P_{21}$)** | 52.000000 | 54.000000 | 53.000000 | 60.000000 | 56.000000 | 70.000000 | 78.000000 | 62.250000 |
| **Cookies, cake, pie, brownies ($P_{22}$)** | 23.250000 | 27.840000 | 34.250000 | 38.566667 | 40.000000 | 34.000000 | 38.000000 | 32.400000 |
| **Frozen desserts ($P_{23}$)** | 59.333333 | 77.585000 | 78.000000 | 86.530000 | 99.750000 | 74.810000 | 100.000000 | 132.000000 |
| **Popcorn ($P_{24}$)** | 12.500000 | 14.440000 | 24.000000 | 22.000000 | 19.690000 | 28.000000 | 37.500000 | 33.416667 |

*Because of the small number of consumers of brown rice, certain age/sex groups were combined: both sexes, ages 2-9 years; both sexes, ages 10-13; and both sexes, ages 14-17. In addition, age/sex groups for sugar added to coffee or tea were combined: both sexes, ages 2-5 years; both sexes, ages 6-9; girls, ages 10-13; boys, ages 10-13; girls, ages 14-17; and boys, ages 14-17.

# DSQ: EARLIER METHOD

**Table 2- 12 Median Portion Size (Pk) in Grams per Mention by Sex & Age for Fiber and Calcium Analyses: Adults**

| Food Group | Age Group (years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 18-27 | 28-37 | 38-47 | 48-57 | 58-67 | 68-77 | >78 |
| **Men** | | | | | | | |
| **Hot cereals ($P_1$)** | 308.000000 | 256.000000 | 242.000000 | 234.000000 | 234.000000 | 234.000000 | 215.345000 |
| **Cold cereals ($P_2$)** | 59.095000 | 63.440000 | 56.720000 | 56.310000 | 50.750000 | 43.030000 | 39.000000 |
| **Milk ($P_3$)** | 325.333333 | 320.250000 | 320.250000 | 250.000000 | 244.000000 | 205.116000 | 198.250000 |
| **Soda ($P_4$)** | 495.637500 | 461.250000 | 450.266667 | 370.900000 | 370.000000 | 368.400000 | 335.500000 |
| **100% Fruit juices ($P_5$)** | 372.000000 | 372.000000 | 357.940000 | 287.083333 | 248.000000 | 201.500000 | 193.750000 |
| **Sugar added to coffee/tea ($P_6$)** | 253.300000 | 83.975000 | 39.540000 | 25.200000 | 10.400000 | 12.500000 | 12.600000 |
| **Fruitades/sports drinks ($P_7$)** | 496.000000 | 453.130000 | 540.310000 | 458.560000 | 352.190000 | 252.000000 | 248.000000 |
| **Fruit ($P_8$)** | 126.666667 | 127.500000 | 128.000000 | 120.835000 | 118.000000 | 109.500000 | 109.500000 |
| **Salad ($P_9$)** | 30.000000 | 41.250000 | 41.250000 | 40.315000 | 53.845000 | 43.500000 | 41.250000 |
| **Fried potatoes ($P_{10}$)** | 99.065000 | 114.000000 | 85.500000 | 88.000000 | 85.000000 | 85.500000 | 72.750000 |
| **Other potatoes ($P_{11}$)** | 147.000000 | 157.500000 | 173.000000 | 160.500000 | 157.500000 | 142.500000 | 120.375000 |
| **Dried beans ($P_{12}$)** | 119.356000 | 111.236400 | 126.717912 | 119.356000 | 101.872890 | 79.924000 | 87.132000 |
| ***Brown rice ($P_{13}$)** | 170.630000 | 170.630000 | 159.000000 | 159.000000 | 115.785000 | 115.785000 | 115.785000 |
| **Other vegetables ($P_{14}$)** | 73.757143 | 80.500000 | 77.908571 | 74.250000 | 75.422500 | 75.100000 | 60.830000 |

# DSQ: EARLIER METHOD

| Food Group | Age Group (years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 18-27 | 28-37 | 38-47 | 48-57 | 58-67 | 68-77 | >78 |
| Salsa ($P_{15}$) | 26.700000 | 32.000000 | 31.130000 | 43.380000 | 31.130000 | 29.250000 | 32.000000 |
| Pizza ($P_{16}$) | 261.380000 | 318.090000 | 255.000000 | 265.070000 | 255.820000 | 213.120000 | 132.320000 |
| Tomato sauce ($P_{17}$) | 104.652000 | 117.648000 | 109.091425 | 158.175000 | 147.316500 | 147.367800 | 83.106000 |
| Cheese ($P_{18}$) | 37.044000 | 29.767500 | 32.400000 | 29.414338 | 29.988000 | 25.901400 | 25.850000 |
| Whole grain bread ($P_{19}$) | 52.000000 | 50.666667 | 52.000000 | 52.000000 | 50.666667 | 43.000000 | 44.000000 |
| Candy ($P_{20}$) | 28.000000 | 26.000000 | 25.333333 | 24.675000 | 22.500000 | 20.000000 | 20.925000 |
| Doughnuts ($P_{21}$) | 93.000000 | 83.250000 | 68.510000 | 64.500000 | 80.500000 | 60.000000 | 65.000000 |
| Cookies, cake, pie, brownies ($P_{22}$) | 53.000000 | 53.333333 | 66.000000 | 50.000000 | 45.000000 | 48.000000 | 40.000000 |
| Frozen desserts ($P_{23}$) | 132.000000 | 124.875000 | 116.380000 | 116.380000 | 118.000000 | 95.500000 | 93.670000 |
| Popcorn ($P_{24}$) | 25.380000 | 54.310000 | 56.250000 | 39.880000 | 37.500000 | 51.840000 | 44.565000 |
| **Women** | | | | | | | |
| Hot cereals ($P_1$) | 248.630000 | 211.750000 | 234.000000 | 175.500000 | 181.500000 | 204.750000 | 167.340000 |
| Cold cereals ($P_2$) | 41.000000 | 45.000000 | 45.000000 | 39.380000 | 39.380000 | 30.625000 | 30.000000 |
| Milk ($P_3$) | 266.875000 | 245.000000 | 244.000000 | 244.000000 | 187.577500 | 183.750000 | 183.000000 |
| Soda ($P_4$) | 392.100000 | 369.000000 | 368.200000 | 368.400000 | 366.000000 | 307.000000 | 248.000000 |
| 100% Fruit juices ($P_5$) | 313.875000 | 263.500000 | 248.800000 | 248.800000 | 202.310000 | 186.000000 | 186.600000 |

# DSQ: EARLIER METHOD

| Food Group | Age Group (years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 18-27 | 28-37 | 38-47 | 48-57 | 58-67 | 68-77 | >78 |
| Sugar added to coffee/tea ($P_6$) | 220.880000 | 132.865000 | 89.900000 | 21.000000 | 30.000000 | 42.380000 | 8.400000 |
| Fruitades/sports drinks ($P_7$) | 357.940000 | 355.500000 | 332.060000 | 321.560000 | 252.800000 | 205.560000 | 183.600000 |
| Fruit ($P_8$) | 118.000000 | 115.750000 | 107.000000 | 117.000000 | 107.000000 | 100.500000 | 104.282500 |
| Salad ($P_9$) | 33.606667 | 41.250000 | 55.000000 | 46.876667 | 48.125000 | 41.250000 | 32.655000 |
| Fried potatoes ($P_{10}$) | 72.500000 | 68.333333 | 70.000000 | 61.000000 | 72.000000 | 66.000000 | 57.000000 |
| Other potatoes ($P_{11}$) | 144.750000 | 122.000000 | 127.000000 | 125.000000 | 118.130000 | 116.220000 | 112.500000 |
| Dried beans ($P_{12}$) | 82.680000 | 72.504000 | 68.052000 | 70.596000 | 72.376418 | 68.560800 | 64.660000 |
| *Brown rice ($P_{13}$) | 139.130000 | 139.130000 | 164.000000 | 164.000000 | 98.000000 | 98.000000 | 98.000000 |
| Other vegetables ($P_{14}$) | 63.950000 | 66.500000 | 58.907500 | 62.480000 | 67.500000 | 63.416667 | 61.080000 |
| Salsa ($P_{15}$) | 22.500000 | 31.130000 | 29.250000 | 31.130000 | 20.750000 | 32.000000 | 17.800000 |
| Pizza ($P_{16}$) | 180.960000 | 168.390000 | 161.005000 | 157.790000 | 176.000000 | 250.830000 | 145.395000 |
| Other vegetables ($P_{17}$) | 106.704000 | 82.080000 | 66.348000 | 91.868040 | 96.273000 | 121.410000 | 57.568860 |
| Cheese ($P_{18}$) | 25.384278 | 24.250000 | 23.496000 | 23.500000 | 23.187780 | 23.500000 | 21.700000 |
| Whole grain bread ($P_{19}$) | 48.000000 | 45.500000 | 42.250000 | 46.000000 | 40.000000 | 37.000000 | 29.000000 |
| Candy ($P_{20}$) | 22.750000 | 19.800000 | 20.500000 | 18.000000 | 18.000000 | 16.000000 | 14.000000 |
| Doughnuts ($P_{21}$) | 81.500000 | 64.000000 | 65.000000 | 64.000000 | 66.000000 | 62.000000 | 56.000000 |

# DSQ: EARLIER METHOD

| Food Group | Age Group (years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | **18-27** | **28-37** | **38-47** | **48-57** | **58-67** | **68-77** | **>78** |
| **Cookies, cake, pie, brownies ($P_{22}$)** | 37.000000 | 44.550000 | 51.680000 | 48.750000 | 41.000000 | 40.000000 | 40.000000 |
| **Frozen desserts ($P_{23}$)** | 92.375000 | 99.750000 | 92.000000 | 88.750000 | 89.000000 | 88.665000 | 78.000000 |
| **Popcorn ($P_{24}$)** | 25.380000 | 35.000000 | 30.400000 | 26.500000 | 22.800000 | 28.000000 | 28.000000 |

*Because of the small number of consumers of brown rice, some age/sex groups were combined: by sex, ages 18-37 years; by sex, ages 38-57; by sex, ages 58+.

## Estimation of $b_0$ and $b_1$:

**Table 2- 13 Estimated Regression Coefficients for Sum of Foods Predicting Square Root Cup Equivalents of Total Fruits & Vegetables Excluding French Fries, by Age Group & Sex**

Cup equivalents of **fruits and vegetables**, estimation of $b_0$ and $b_1$, the model is:

$$E([\text{Fruits and Veg}]^{1/2}) = b_0 + b_1([N_{FG1}P_1 + N_{FG2}P_2 + \ldots + N_{FG10}P_{10}]^{1/2})$$

Cup equivalents of **fruits and vegetables**, including and excluding French fries, for each sex, the estimates of the parameters are:

| Parameter | Men/Boys | Women/Girls |
|---|---|---|
| **Children/Adolescents - Summary Variable including French fries** | | |
| **Intercept ($b_0$)** | 0.462571 | 0.392334 |
| **$b_1$** | 0.811789 | 0.854302 |
| **Children/Adolescents - Summary Variable excluding French fries** | | |
| **Intercept ($b_0$)** | 0.477569 | 0.410229 |
| **$b_1$** | 0.799521 | 0.839937 |
| **Adults - Summary Variable including French fries** | | |
| **Intercept ($b_0$)** | 0.569237 | 0.475853 |
| **$b_1$** | 0.811703 | 0.835344 |
| **Adults - Summary Variable excluding French fries** | | |
| **Intercept ($b_0$)** | 0.578786 | 0.482116 |
| **$b_1$** | 0.805061 | 0.831300 |

**Table 2- 14 Estimated Regression Coefficients for Sum of Foods Predicting Square Root Cup Equivalents of Dairy, by Age Group & Sex**

Cup equivalents of **dairy**, estimation of $b_0$ and $b_1$, the model is:

$$E([\text{Dairy}]^{1/2}) = b_0 + b_1([N_{FG1}P_1 + N_{FG2}P_2 + \ldots + N_{FG4}P_4]^{1/2})$$

Cup equivalents of **dairy**, for each age group and sex, the estimates of the parameters are:

| Parameter | Boys/Men | Girls/Women |
|---|---|---|
| **Children/Adolescents** | | |
| **Intercept ($b_0$)** | 0.267324 | 0.302148 |
| **$b_1$** | 0.911968 | 0.888512 |
| **Adults** | | |
| **Intercept ($b_0$)** | 0.354193 | 0.388273 |
| **$b_1$** | 0.889021 | 0.832711 |

**Table 2- 15 Estimated Regression Coefficients for Sum of Foods Predicting Cube Root Teaspoons of Added Sugars Not Including Cereals, by Age Group & Sex**

Teaspoons of **added sugars not including cereals**, estimation of $b_0$ and $b_1$, the model is:

$$E([\text{Dietary Factor}]^{1/3}) = b_0 + b_1([N_{FG1}P_1 + N_{FG2}P_2 + \ldots + N_{FG7}P_7]^{1/3})$$

Teaspoons of **added sugars not including cereals**, for each age group and sex, the estimates of the parameters are:

| Parameter | Boys/Men | Girls/Women |
|---|---|---|
| **Children/Adolescents** | | |
| **Intercept ($b_0$)** | 1.235692 | 1.178198 |
| **$b_1$** | 0.656940 | 0.640204 |
| **Adults** | | |
| **Intercept ($b_0$)** | 1.067886 | 1.029347 |
| **$b_1$** | 0.712746 | 0.688867 |
| **Children Only** | | |
| **Intercept ($b_0$)** | 1.264097 | 1.251062 |
| **$b_1$** | 0.641369 | 0.610546 |
| **Adolescents Only** | | |
| **Intercept ($b_0$)** | 1.314717 | 1.076452 |
| **$b_1$** | 0.634545 | 0.684974 |

**Table 2- 16 Estimated Regression Coefficients for Sum of Foods Predicting Cube Root Teaspoons of Added Sugars Including Cereals by Age Group & Sex**

Teaspoons of **added sugars including cereals**, estimation of $b_0$ and $b_1$, the model is:

$$E([\text{Dietary Factor}]^{1/3}) = b_0 + b_1([N_{FG1}P_1 + N_{FG2}P_2 + \ldots + N_{FG13}P_{13}]^{1/3})$$

Teaspoons of **added sugars**, for each age group and sex, the estimates of the parameters are:

| Parameter | Boys/Men | Girls/Women |
|---|---|---|
| **Children/Adolescents** | | |
| **Intercept ($b_0$)** | 0.860406 | 0.872896 |
| **$b_1$** | 0.781429 | 0.747548 |
| **Adults** | | |
| **Intercept ($b_0$)** | 0.909718 | 0.868961 |
| **$b_1$** | 0.763567 | 0.749127 |
| **Children Only** | | |
| **Intercept ($b_0$)** | 0.858940 | 0.979270 |
| **$b_1$** | 0.783682 | 0.704663 |
| **Adolescents Only** | | |
| **Intercept ($b_0$)** | 0.947773 | 0.702767 |
| **$b_1$** | 0.752702 | 0.818578 |

**Table 2- 17 Estimated Regression Coefficients for Sum of Foods Predicting Square Root Teaspoons of Added Sugars from Sugar-Sweetened Beverages, by Age Group & Sex**

Teaspoons of **added sugars from sugar-sweetened beverages**, estimation of $b_0$ and $b_1$, the model is:

$$E([\text{Dietary Factor}]^{1/2}) = b_0 + b_1([N_{FG1}P_1 + N_{FG2}P_2 + N_{FG}P_3]^{1/2})$$

Food groups used are: soda, fruitades/sports drinks, and sugar in coffee/tea. Regression coefficients for children who are not asked the sugars in coffee/tea are also presented.

# DSQ: EARLIER METHOD

Teaspoons of **added sugars from sugar-sweetened beverages**, for each age group and sex, the estimates of the parameters are:

| Parameter | Boys/Men | Girls/Women |
|---|---|---|
| **Children/Adolescents** | | |
| **Intercept ($b_0$)** | 0.023990 | 0.020830 |
| **$b_1$** | 1.021405 | 1.011982 |
| **Adults** | | |
| **Intercept ($b_0$)** | 0.013561 | -0.023338 |
| **$b_1$** | 1.059944 | 1.054829 |
| **Children Only** | | |
| **Intercept ($b_0$)** | 0.059330 | 0.146439 |
| **$b_1$** | 1.018115 | 0.968547 |
| **Adolescents Only** | | |
| **Intercept ($b_0$)** | 0.180068 | 0.027709 |
| **$b_1$** | 0.986619 | 1.020004 |

**Table 2- 18 Estimated Regression Coefficients for Foods as Predictors of Square Root of Ounce-Equivalents of Whole Grains by Age Group & Sex**

Ounce-equivalents of **whole grains**, estimation of $b_0$ and $b_1$...$b_9$, the model is:

$$E([\text{Whole Grains}]^{.50}) = b_0 + b_1 N_{FG1} P_1 + b_2 N_{FG2} P_2 + \ldots + b_9 N_{FG9} P_9$$

Ounce-equivalents of **whole grains**, for each age group and sex, the estimates of the parameters are:

| Parameter | Males | | Females | |
|---|---|---|---|---|
| | **Ages 2-17 years** | **Ages 18 and above** | **Ages 2-17 years** | **Ages 18 and above** |
| **Intercept (b0)** | 0.254596 | 0.266412 | 0.248340 | 0.262635 |
| **Hot cereals: no whole grain ($b_1$)** | -0.000271 | -0.000254 | -0.000260 | -0.000084 |

| Parameter | Males | | Females | |
|---|---|---|---|---|
| | Ages 2-17 years | Ages 18 and above | Ages 2-17 years | Ages 18 and above |
| **Hot cereals: any whole grain ($b_2$)** | 0.004480 | 0.004534 | 0.004818 | 0.005142 |
| **Cold cereals: no whole grain ($b_3$)** | -0.000761 | -0.001101 | -0.001865 | -0.001681 |
| **Cold cereals: 2nd quartile whole grain ($b_4$)** | 0.009885 | 0.011122 | 0.012790 | 0.010002 |
| **Cold cereals: 3rd quartile whole grain ($b_5$)** | 0.014900 | 0.012334 | 0.015437 | 0.013282 |
| **Cold cereals: 4th quartile whole grain ($b_6$)** | 0.019228 | 0.016685 | 0.021642 | 0.018480 |
| **Brown rice ($b_7$)** | 0.007318 | 0.008077 | 0.005955 | 0.005883 |
| **Whole grain bread ($b_8$)** | 0.010882 | 0.010057 | 0.011497 | 0.010776 |
| **Popcorn ($b_9$)** | 0.020172 | 0.017884 | 0.024950 | 0.022795 |

**Table 2- 19 Estimated Regression Coefficients for Foods as Predictors of Quarter Root fiber (gm) by Sex & Age Group**

For grams of **fiber**, estimation of $b_0$ and $b_1 \ldots b_{29}$, the model is:

$$E([\text{fiber}]^{.25}) = b_0 + b_1 N_{FG1} P_1 + b_2 N_{FG2} P_2 + \ldots + b_{29} N_{FG29} P_{29}$$

For cube root grams of **fiber**, for each age group and sex, the estimates of the parameters are:

| Parameter | Boys/Men | | Girls/Women | |
|---|---|---|---|---|
| | Children/Adolescents | Adults | Children/Adolescents | Adults |
| **Intercept ($b_0$)** | 1.585271 | 1.677395 | 1.524505 | 1.601281 |
| **Hot cereals,1st tertile fiber ($b_1$)** | 0.000197 | 0.000034 | -0.000029 | --- |
| **Hot cereals,2nd tertile fiber ($b_2$)** | 0.000551 | 0.000459 | 0.000394 | 0.000621 |

# DSQ: EARLIER METHOD

| Parameter | Boys/Men | | Girls/Women | |
|---|---|---|---|---|
| | Children/Adolescents | Adults | Children/Adolescents | Adults |
| **Hot cereals,3rd tertile fiber ($b_3$)** | 0.000801 | 0.000551 | 0.000745 | 0.000660 |
| **Cold cereals,1st quartile fiber ($b_4$)** | -0.000021 | 0.000091 | -0.000083 | -0.000746 |
| **Cold cereals, low 2nd quartile fiber ($b_5$)** | 0.001475 | 0.000951 | 0.001664 | 0.001748 |
| **Cold cereals, high 3rd quartile fiber ($b_6$)** | 0.002887 | 0.002346 | 0.003627 | 0.002819 |
| **Cold cereals, 4th quartile fiber ($b_7$)** | 0.003609 | 0.003411 | 0.004553 | 0.003646 |
| **Milk ($b_8$)** | 0.000057 | 0.000070 | 0.000040 | 0.000111 |
| **Soda ($b_9$)** | 0.000077 | --- | 0.000032 | -0.000032 |
| **100% Fruit juices ($b_{10}$)** | 0.000062 | 0.000077 | 0.000122 | 0.000103 |
| **Sugar added to coffee/tea ($b_{11}$)** | 0.000044 | --- | 0.000047 | --- |
| **Fruitades/sports drinks ($b_{12}$)** | 0.000039 | 0.000053 | 0.000035 | -0.000023 |
| **Fruit ($b_{13}$)** | 0.000702 | 0.000693 | 0.000823 | 0.000715 |
| **Salad ($b_{14}$)** | --- | -0.000156 | --- | --- |
| **Fried potatoes ($b_{15}$)** | 0.000747 | 0.000672 | 0.001342 | 0.000904 |
| **Other potatoes ($b_{16}$)** | 0.000373 | 0.000400 | 0.000746 | 0.000239 |

| Parameter | Boys/Men | | Girls/Women | |
|---|---|---|---|---|
| | Children/Adolescents | Adults | Children/Adolescents | Adults |
| **Dried beans ($b_{17}$)** | 0.002410 | 0.002147 | 0.002676 | 0.002593 |
| **Brown rice ($b_{18}$)** | 0.001561 | 0.001032 | 0.000745 | 0.001046 |
| **Other vegetables ($b_{19}$)** | 0.000533 | 0.000569 | 0.000742 | 0.000597 |
| **Salsa ($b_{20}$)** | 0.002785 | 0.002049 | 0.003493 | 0.002128 |
| **Pizza ($b_{21}$)** | 0.000555 | 0.000426 | 0.000661 | 0.000336 |
| **Tomato sauce ($b_{22}$)** | 0.000902 | 0.001026 | 0.001383 | 0.001066 |
| **Cheese ($b_{23}$)** | 0.000672 | 0.000401 | 0.000713 | 0.000745 |
| **Whole grain bread ($b_{24}$)** | 0.001199 | 0.000949 | 0.001203 | 0.001257 |
| **Candy ($b_{25}$)** | --- | 0.001882 | --- | 0.001622 |
| **Doughnuts ($b_{26}$)** | 0.000535 | 0.000574 | 0.000581 | 0.000840 |
| **Cookies, cake, pie, brownies ($b_{27}$)** | 0.000743 | 0.000603 | 0.000652 | 0.000816 |
| **Frozen desserts ($b_{28}$)** | 0.000337 | 0.000320 | 0.000273 | 0.000327 |
| **Popcorn ($b_{29}$)** | 0.003613 | 0.003181 | 0.004172 | 0.004668 |

**Table 2- 20 Estimated Regression Coefficients for Foods as Predictors of Quarter Root fiber (gm) by Sex for Children & Adolescents**

For grams of **fiber**, estimation of $b_0$ and $b_1 ... b_{29}$, the model is:

$$E([\text{fiber}]^{.25}) = b_0 + b_1 N_{FG1} P_1 + b_2 N_{FG2} P_2 + \ldots + b_9 N_{FG29} P_{29}$$

For cube root grams of **fiber**, for each age group and sex, the estimates of the parameters are:

# DSQ: EARLIER METHOD

| Parameter | Boys | | Girls | |
|---|---|---|---|---|
| | Children | Adolescents | Children | Adolescents |
| **Intercept ($b_0$)** | 1.597364 | 1.584421 | 1.538635 | 1.513948 |
| **Hot cereals,1st tertile fiber ($b_1$)** | 0.000174 | 0.000322 | 0.000096 | -0.000243 |
| **Hot cereals,2nd tertile fiber ($b_2$)** | 0.000478 | 0.000714 | 0.000354 | 0.000616 |
| **Hot cereals,3rd tertile fiber ($b_3$)** | 0.000772 | 0.000821 | 0.000781 | 0.000734 |
| **Cold cereals,1st quartile fiber ($b_4$)** | 0.000593 | -0.000517 | 0.000256 | -0.000464 |
| **Cold cereals, low 2nd quartile fiber ($b_5$)** | 0.001827 | 0.001041 | 0.001323 | 0.001619 |
| **Cold cereals, high 3rd quartile fiber ($b_6$)** | 0.002523 | 0.003230 | 0.003048 | 0.004720 |
| **Cold cereals, 4th quartile fiber ($b_7$)** | 0.004390 | 0.003372 | 0.004307 | 0.005205 |
| **Milk ($b_8$)** | --- | 0.000103 | --- | 0.000089 |
| **Soda ($b_9$)** | 0.000076 | 0.000063 | 0.000038 | 0.000022 |
| **100% Fruit juices ($b_{10}$)** | 0.000059 | 0.000063 | 0.000114 | 0.000154 |
| **Sugar added to coffee/tea ($b_{11}$)** | --- | --- | --- | --- |
| **Fruitades/sports drinks ($b_{12}$)** | --- | 0.000052 | --- | 0.000043 |
| **Fruit ($b_{13}$)** | 0.000706 | 0.000774 | 0.000815 | 0.000860 |
| **Salad ($b_{14}$)** | --- | -0.000779 | --- | -0.000560 |
| **Fried potatoes ($b_{15}$)** | 0.000894 | 0.000670 | 0.001420 | 0.001368 |
| **Other potatoes ($b_{16}$)** | 0.000331 | 0.000366 | 0.000653 | 0.001022 |
| **Dried beans ($b_{17}$)** | 0.002656 | 0.002346 | 0.003074 | 0.002332 |
| **Brown rice ($b_{18}$)** | 0.002615 | 0.000685 | --- | 0.000723 |
| **Other vegetables ($b_{19}$)** | 0.000560 | 0.000551 | 0.000856 | 0.000550 |
| **Salsa ($b_{20}$)** | 0.003014 | 0.002488 | 0.005610 | 0.002983 |
| **Pizza ($b_{21}$)** | 0.000434 | 0.000591 | 0.000685 | 0.000582 |

| Parameter | Boys | | Girls | |
|---|---|---|---|---|
| | Children | Adolescents | Children | Adolescents |
| **Tomato sauce ($b_{22}$)** | 0.001172 | 0.000722 | 0.001694 | 0.001055 |
| **Cheese ($b_{23}$)** | 0.000575 | 0.000951 | 0.000536 | 0.001032 |
| **Whole grain bread ($b_{24}$)** | 0.000775 | 0.001612 | 0.001499 | 0.000965 |
| **Candy ($b_{25}$)** | -0.000407 | 0.000365 | --- | 0.000546 |
| **Doughnuts ($b_{26}$)** | 0.000585 | 0.000507 | 0.000512 | 0.000566 |
| **Cookies, cake, pie, brownies ($b_{27}$)** | 0.000784 | 0.000816 | 0.000404 | 0.001382 |
| **Frozen desserts ($b_{28}$)** | 0.000304 | 0.000358 | --- | 0.000662 |
| **Popcorn ($b_{29}$)** | 0.005295 | 0.002210 | 0.004445 | 0.003847 |

**Table 2- 21 Estimated Regression Coefficients for Foods as Predictors of Quarter Root Calcium (mg) by Sex & Age Group**

For milligrams of **calcium**, estimation of $b_0$ and $b_1 \ldots b_{29}$, the model is:

$$E([\text{Calcium}]^{.25}) = b_0 + b_1 N_{FG1} P_1 + b_2 N_{FG2} P_2 + \ldots + b_9 N_{FG29} P_{29}$$

For quarter root of grams of **calcium**, for each age group and sex, the estimates of the parameters are:

| Parameter | Boys/Men | | Girls/Women | |
|---|---|---|---|---|
| | Children/Adolescents | Adults | Children/Adolescents | Adults |
| **Intercept ($b_0$)** | 4.567591 | 4.607439 | 4.438487 | 4.392113 |
| **Hot cereals,1st tertile fiber ($b_1$)** | -0.000386 | 0.000364 | -0.000833 | -0.000237 |
| **Hot cereals,2nd tertile fiber ($b_2$)** | 0.000100 | -0.000383 | -0.001814 | 0.000202 |
| **Hot cereals,3rd tertile fiber ($b_3$)** | 0.001395 | 0.001234 | 0.001540 | 0.001473 |

# DSQ: EARLIER METHOD

| Parameter | Boys/Men | | Girls/Women | |
|---|---|---|---|---|
| | Children/Adolescents | Adults | Children/Adolescents | Adults |
| **Cold cereals,1st quartile fiber ($b_4$)** | -0.003086 | -0.004061 | -0.001801 | -0.003941 |
| **Cold cereals, low 2nd quartile fiber ($b_5$)** | -0.003505 | -0.001969 | -0.001946 | -0.000746 |
| **Cold cereals, high 3rd quartile fiber ($b_6$)** | -0.000832 | -0.002168 | 0.000992 | 0.000393 |
| **Cold cereals, 4th quartile fiber ($b_7$)** | 0.002687 | 0.003378 | 0.002957 | 0.005292 |
| **Milk ($b_8$)** | 0.001674 | 0.002110 | 0.001829 | 0.002154 |
| **Soda ($b_9$)** | 0.000172 | --- | 0.000058 | -0.000041 |
| **100% Fruit juices ($b_{10}$)** | 0.000331 | 0.000476 | 0.000366 | 0.000543 |
| **Sugar added to coffee/tea ($b_{11}$)** | --- | --- | 0.000180 | 0.000287 |
| **Fruitades/sports drinks ($b_{12}$)** | 0.000210 | 0.000143 | --- | --- |
| **Fruit ($b_{13}$)** | --- | 0.000375 | 0.000206 | 0.000389 |
| **Salad ($b_{14}$)** | -0.001624 | -0.001216 | -0.001142 | -0.001232 |
| **Fried potatoes ($b_{15}$)** | -0.000550 | 0.000843 | 0.000822 | 0.001641 |
| **Other potatoes ($b_{16}$)** | --- | --- | --- | -0.000375 |
| **Dried beans ($b_{17}$)** | 0.001013 | 0.001151 | 0.000888 | 0.001799 |
| **Brown rice ($b_{18}$)** | 0.001952 | --- | -0.003105 | --- |

| Parameter | Boys/Men | | Girls/Women | |
|---|---|---|---|---|
| | Children/Adolescents | Adults | Children/Adolescents | Adults |
| **Other vegetables ($b_{19}$)** | 0.000937 | 0.000890 | 0.000968 | 0.000869 |
| **Salsa ($b_{20}$)** | 0.004811 | 0.004009 | 0.005438 | 0.004581 |
| **Pizza ($b_{21}$)** | 0.002575 | 0.002236 | 0.002661 | 0.002744 |
| **Tomato sauce ($b_{22}$)** | -0.001498 | 0.001162 | 0.000816 | --- |
| **Cheese ($b_{23}$)** | 0.011532 | 0.012615 | 0.012763 | 0.014689 |
| **Whole grain bread ($b_{24}$)** | 0.002451 | 0.000390 | 0.002142 | 0.001564 |
| **Candy ($b_{25}$)** | -0.002456 | 0.002980 | --- | 0.003592 |
| **Doughnuts ($b_{26}$)** | 0.000606 | 0.000407 | --- | --- |
| **Cookies, cake, pie, brownies ($b_{27}$)** | 0.001709 | 0.000576 | 0.001109 | 0.001495 |
| **Frozen desserts ($b_{28}$)** | 0.001249 | 0.002096 | 0.001234 | 0.002727 |
| **Popcorn ($b_{29}$)** | --- | --- | --- | --- |

**Table 2- 22 Estimated Regression Coefficients for Foods as Predictors of Quarter Root Calcium (mg) by Sex & Age Group: Children & Adolescents**

For milligrams of **calcium**, estimation of $b_0$ and $b_1 ... b_{29}$, the model is:

$$E([\text{Calcium}]^{.25}) = b_0 + b_1 N_{FG1} P_1 + b_2 N_{FG2} P_2 + \ldots + b_9 N_{FG29} P_{29}$$

For quarter root of grams of **calcium**, for each age group and sex, the estimates of the parameters are:

| Parameter | Boys | | Girls | |
|---|---|---|---|---|
| | Children | Adolescents | Children | Adolescents |
| **Intercept ($b_0$)** | 4.625667 | 4.535107 | 4.522207 | 4.378301 |

# DSQ: EARLIER METHOD

| Parameter | Boys | | Girls | |
|---|---|---|---|---|
| | Children | Adolescents | Children | Adolescents |
| **Hot cereals,1st tertile fiber ($b_1$)** | -0.000380 | -0.001033 | -0.000313 | -0.001006 |
| **Hot cereals,2nd tertile fiber ($b_2$)** | 0.000083 | 0.000060 | -0.002544 | -0.001016 |
| **Hot cereals,3rd tertile fiber ($b_3$)** | 0.001286 | 0.001064 | 0.001465 | 0.001865 |
| **Cold cereals,1st quartile fiber ($b_4$)** | -0.003051 | -0.003680 | -0.001525 | -0.002990 |
| **Cold cereals, low 2nd quartile fiber ($b_5$)** | -0.003791 | -0.003640 | -0.003180 | -0.002917 |
| **Cold cereals, high 3rd quartile fiber ($b_6$)** | 0.002870 | -0.003948 | 0.001697 | -0.001442 |
| **Cold cereals, 4th quartile fiber ($b_7$)** | 0.001513 | 0.003530 | 0.002212 | 0.001869 |
| **Milk ($b_8$)** | 0.001576 | 0.001793 | 0.001788 | 0.002071 |
| **Soda ($b_9$)** | 0.000098 | 0.000180 | -0.000083 | 0.000100 |
| **100% Fruit juices ($b_{10}$)** | 0.000227 | 0.000425 | 0.000149 | 0.000748 |
| **Sugar added to coffee/tea ($b_{11}$)** | --- | --- | --- | 0.000169 |
| **Fruitades/sports drinks ($b_{12}$)** | 0.000108 | 0.000242 | --- | --- |
| **Fruit ($b_{13}$)** | 0.000218 | --- | --- | 0.000439 |
| **Salad ($b_{14}$)** | --- | -0.004322 | -0.001748 | -0.002068 |
| **Fried potatoes ($b_{15}$)** | --- | -0.000893 | 0.001810 | --- |
| **Other potatoes ($b_{16}$)** | 0.000413 | --- | --- | --- |
| **Dried beans ($b_{17}$)** | 0.001620 | 0.000673 | 0.001657 | 0.000907 |
| **Brown rice ($b_{18}$)** | 0.002995 | 0.001306 | -0.004854 | -0.002793 |
| **Other vegetables ($b_{19}$)** | 0.000659 | 0.001213 | 0.000605 | 0.001130 |

# DSQ: EARLIER METHOD

| Parameter | Boys | | Girls | |
|---|---|---|---|---|
| | Children | Adolescents | Children | Adolescents |
| **Salsa ($b_{20}$)** | 0.006022 | 0.004043 | 0.008799 | 0.004350 |
| **Pizza ($b_{21}$)** | 0.002334 | 0.002630 | 0.002369 | 0.002950 |
| **Tomato sauce ($b_{22}$)** | -0.000903 | -0.001945 | 0.001808 | --- |
| **Cheese ($b_{23}$)** | 0.010654 | 0.012429 | 0.012667 | 0.013251 |
| **Whole grain bread ($b_{24}$)** | 0.000745 | 0.004615 | 0.001711 | 0.002070 |
| **Candy ($b_{25}$)** | -0.002018 | -0.002440 | --- | --- |
| **Doughnuts ($b_{26}$)** | --- | 0.000775 | 0.000858 | -0.001199 |
| **Cookies, cake, pie, brownies ($b_{27}$)** | 0.001137 | 0.002167 | --- | 0.002003 |
| **Frozen desserts ($b_{28}$)** | 0.001247 | 0.001298 | 0.001035 | 0.001866 |
| **Popcorn ($b_{29}$)** | 0.003552 | -0.004267 | -0.002876 | --- |

## 3. Computed Variables

**NOTE:** The dietary variables provided here are in their natural units. For most analyses, however, they must be transformed first, to approximate normal distributions. For fruits and vegetables, dairy, added sugars from sugar sweetened beverages, and whole grains, use the square-root transformation; for added sugars, use the cube-root transformation; for fiber and calcium, use the quarter-root transformation. After analyses, the result variables can be back-transformed for easier interpretation.

The computed diet variables for the Dietary Screener Questionnaire in NHANES 2009-10 are available for download from NCI's Short Dietary Assessment Instruments website in two formats -- SAS transport and comma-separated values (CSV). The files include the following variables:

- **SEQN** - Unique individual identifier
- **predfib** - Predicted fiber (gm) per day

# DSQ: EARLIER METHOD

- **predcalc** - Predicted calcium (mg) per day
- **predsug** - Predicted added sugars (tsp) per day
- **predsugnc** - Predicted added sugars (tsp) per day, not using cereal
- **predwhgr** - Predicted ounce equivalents of whole grains per day
- **preddairy** - Predicted cup equivalents of dairy per day
- **predfvl** - Predicted cup equivalents of fruits and vegetables (including legumes) per day
- **predfvlnf** - Predicted cup equivalents of fruits and vegetables (including legumes) except French fries per day
- **predssb** - Predicted added sugars (tsp) from sugar-sweetened beverages

The datasets are sorted in ascending order by the ID variable SEQN.

- Comma-separated Values File (nh0910.dietvars.1-29-13). This zip file contains the comma-separated values file, which includes 10 variables, 8,541 records, and an additional record for the variable names.
- SAS Transport File (nh0910.dietvars.02-11-2013.v9x). The SAS transport file includes 8,541 records and 10 variables. To access the SAS dataset, unzip the file, then use proc cimport.

  For example:
  proc cimport file='nh0910.dietvars.?.v9x' data=dietvars;
- SAS Program (nh0910.scoring.create). This is the SAS program that created the dataset. This is for reference, only; there should be no need to run this program.
- Supplement Excel Files (nhanes.dietvars.excel.0212-2013). This zip file contains 3 Excel files that are required to run the SAS program.

Note that 680 respondents did not answer the DSQ. When one or more values is missing in the estimation of the computed diet variable, that value for that variable will also be missing.

# Appendix

**Table A_ 1 Cereal attributes by food code**

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| 100% Bran | 57318000 | 2 | 2 | 3 | 3 | 4 |
| 100% Low Fat Natural Granola | 57229000 | 2 | 4 | 3 | 2 | 3 |
| 100% Natural Cereal | 57319000 | 2 | 4 | 2 | 3 | 3 |
| 100% Natural Cereal, with oats, honey and raisins | 57320500 | 2 | 3 | 2 | 3 | 3 |
| 100% Natural Granola, Oats & Honey | 57320500 | 2 | 3 | 2 | 3 | 3 |
| 100% Natural Wholegrain Cereal with raisins, lowfat | 57321500 | 2 | 3 | 2 | 3 | 2 |
| All-Bran | 57101000 | 2 | 1 | 1 | 4 | 4 |
| All-Bran Bran Buds | 57110000 | 2 | 1 | 3 | 3 | 4 |
| All-Bran with Extra Fiber | 57101020 | 2 | 1 | 1 | 4 | 4 |
| Alpen | 57102000 | 2 | 4 | 1 | 3 | 3 |
| Alpha-Bits | 57103000 | 2 | 4 | 4 | 2 | 2 |
| Alpha-Bits with marshmallows | 57103020 | 2 | 3 | 4 | 1 | 1 |
| Amaranth Flakes | 57103050 | 2 | 4 | 1 | 1 | 3 |
| Apple Jacks | 57104000 | 2 | 1 | 4 | 1 | 3 |
| Apple Zaps | 57404200 | 2 | 1 | 4 | 4 | 2 |
| Apple Zings, Malt-O-Meal | 57404200 | 2 | 1 | 4 | 4 | 2 |
| Banana Nut Crunch Cereal | 57106050 | 2 | 3 | 2 | 2 | 3 |
| Barley | 56207340 | 1 | 2 | 2 | 2 | 1 |
| Basic 4 | 57106100 | 2 | 2 | 2 | 4 | 2 |
| Berry Colossal Crunch, Malt-O-Meal | 57305300 | 2 | 1 | 4 | 1 | 1 |
| Blueberry Morning | 57106530 | 2 | 2 | 2 | 2 | 2 |
| Booberry | 57107000 | 2 | 1 | 4 | 3 | 1 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Bran | 57207000 | 2 | 3 | 2 | 3 | 4 |
| Bran Buds | 57110000 | 2 | 1 | 3 | 3 | 4 |
| Bran flakes | 57207000 | 2 | 3 | 2 | 3 | 4 |
| Bran, Nabisco | 57318000 | 2 | 2 | 3 | 3 | 4 |
| Branola | 56207190 | 1 | 2 | 1 | 1 | 2 |
| Buckwheat groats | 56200490 | 1 | 2 | 1 | 1 | 3 |
| Bulgur | 56207130 | 1 | 2 | 1 | 2 | 3 |
| Cap'n Crunch | 57117000 | 2 | 2 | 4 | 1 | 1 |
| Cap'n Crunch's Christmas Crunch | 57117500 | 2 | 3 | 4 | 1 | 1 |
| Cap'n Crunch's Crunch Berries | 57119000 | 2 | 3 | 4 | 1 | 1 |
| Cap'n Crunch's Oops! ChocoDonuts | 57120000 | 2 | 2 | 3 | 1 | 1 |
| Cap'n Crunch's Peanut Butter Crunch | 57120000 | 2 | 2 | 3 | 1 | 1 |
| Cereal, NFS | 57000000 | 2 | 2 | 2 | 3 | 2 |
| Cereal, cooked, NFS | 56200300 | 1 | 2 | 1 | 2 | 2 |
| Cheerios | 57123000 | 2 | 4 | 1 | 4 | 4 |
| Cheerios, Apple Cinnamon | 57103100 | 2 | 4 | 4 | 4 | 2 |
| Cheerios, Berry Burst | 57106260 | 2 | 1 | 3 | 4 | 3 |
| Cheerios, Berry Burst Strawberry | 57106260 | 2 | 1 | 3 | 4 | 3 |
| Cheerios, Berry Burst Triple Berry | 57106260 | 2 | 1 | 3 | 4 | 3 |
| Cheerios, Berry Burst, Cherry Vanilla | 57106260 | 2 | 1 | 3 | 4 | 3 |
| Cheerios, Berry Burst, Strawberry Banana | 57106260 | 2 | 1 | 3 | 4 | 3 |
| Cheerios, Frosted | 57213850 | 2 | 3 | 4 | 4 | 2 |
| Cheerios, Honey Nut | 57241000 | 2 | 2 | 3 | 4 | 3 |
| Cheerios, Multi Grain | 57308400 | 2 | 4 | 2 | 4 | 3 |
| Cheerios, Team | 57213850 | 2 | 3 | 4 | 4 | 2 |
| Cheerios, Yogurt Burst, Strawberry | 57419000 | 2 | 2 | 3 | 4 | 3 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Cheerios, Yogurt Burst, Vanilla | 57419000 | 2 | 2 | 3 | 4 | 3 |
| Cheese grits | 56201060 | 1 | 1 | 1 | 3 | 1 |
| Chex | 57124000 | 2 | 2 | 1 | 3 | 2 |
| Chex Morning Mix Banana Nut | 57240100 | 2 | 1 | 3 | 4 | 1 |
| Chex Morning Mix Cinnamon | 57240100 | 2 | 1 | 3 | 4 | 1 |
| Chex Morning Mix Fruit & Nut | 57240100 | 2 | 1 | 3 | 4 | 1 |
| Chex Morning Mix Honey Nut | 57240100 | 2 | 1 | 3 | 4 | 1 |
| Chex, Bran | 57111000 | 2 | 4 | 2 | 3 | 4 |
| Chex, Corn | 57132000 | 2 | 1 | 1 | 4 | 2 |
| Chex, Honey Nut | 57240100 | 2 | 1 | 3 | 4 | 1 |
| Chex, Multi-Bran | 57308300 | 2 | 4 | 2 | 3 | 4 |
| Chex, Rice | 57336000 | 2 | 1 | 1 | 4 | 1 |
| Chex, Wheat | 57411000 | 2 | 4 | 1 | 3 | 4 |
| Chocolate frosted cereal | 57124200 | 2 | 2 | 4 | 3 | 2 |
| Cinnamon Cluster Raisin Bran | 57330010 | 2 | 2 | 3 | 2 | 3 |
| Cinnamon Crunch Crispix | 57148000 | 2 | 1 | 1 | 1 | 1 |
| Cinnamon Grahams Cereal | 57124500 | 2 | 2 | 3 | 4 | 2 |
| Cinnamon Marshmallow Scooby Doo! | 57305150 | 2 | 3 | 4 | 3 | 2 |
| Cinnamon Toast Crunch | 57125000 | 2 | 3 | 3 | 4 | 2 |
| Cinnamon Toast Crunch, Reduced Sugar | 57125010 | 2 | 4 | 1 | 4 | 4 |
| Coco-Roos, Malt-O-Meal | 57305170 | 2 | 1 | 4 | 4 | 1 |
| Cocoa Blasts | 57126500 | 2 | 4 | 4 | 1 | 1 |
| Cocoa Comets | 57124200 | 2 | 2 | 4 | 3 | 2 |
| Cocoa Dyno Bites, Malt-O-Meal | 57305300 | 2 | 1 | 4 | 1 | 1 |
| Cocoa Krispies | 57126000 | 2 | 1 | 3 | 1 | 1 |
| Cocoa Pebbles | 57127000 | 2 | 1 | 4 | 1 | 1 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Cocoa Puffs | 57128000 | 2 | 1 | 4 | 4 | 2 |
| Cocoa Puffs, Reduced Sugar | 57407110 | 2 | 1 | 3 | 4 | 2 |
| Cocoa Wheats | 56207370 | 1 | 2 | 1 | 2 | 2 |
| Complete Bran Flakes | 57208000 | 2 | 4 | 2 | 3 | 4 |
| Complete Oat Bran Flakes | 57128880 | 2 | 3 | 2 | 3 | 4 |
| Complete Wheat Bran Flakes | 57208000 | 2 | 4 | 2 | 3 | 4 |
| Cookie-Crisp (all flavors) | 57130000 | 2 | 1 | 4 | 4 | 2 |
| Corn Bursts, Malt-O-Meal | 57305180 | 2 | 1 | 4 | 1 | 1 |
| Corn Flakes, Kellogg's | 57135000 | 2 | 1 | 1 | 1 | 1 |
| Corn Pops | 57347000 | 2 | 1 | 4 | 1 | 1 |
| Corn Puffs | 57137000 | 2 | 3 | 1 | 4 | 3 |
| Corn flakes | 57134000 | 2 | 1 | 1 | 3 | 1 |
| Corn flakes, low sodium | 57134090 | 2 | 1 | 1 | 2 | 1 |
| Cornmeal mush | 56201510 | 1 | 1 | 1 | 1 | 1 |
| Count Chocula | 57139000 | 2 | 1 | 4 | 4 | 2 |
| Cracklin' Oat Bran | 57143000 | 2 | 2 | 3 | 3 | 4 |
| Cranberry Almond Crunch Cereal | 57143500 | 2 | 2 | 3 | 2 | 3 |
| Cream of Rice | 56205050 | 1 | 1 | 1 | 1 | 1 |
| Cream of Rye | 56209000 | 1 | 2 | 1 | 1 | 1 |
| Cream of Wheat | 56206990 | 1 | 1 | 1 | 3 | 1 |
| Crisp Crunch | 57144000 | 2 | 2 | 4 | 1 | 1 |
| Crispix | 57148000 | 2 | 1 | 1 | 1 | 1 |
| Crispy Brown Rice Cereal | 57148500 | 2 | 4 | 1 | 2 | 3 |
| Crispy Rice | 57151000 | 2 | 1 | 1 | 1 | 1 |
| Crispy Rice, Malt-O-Meal | 57305200 | 2 | 1 | 1 | 1 | 1 |
| Crispy Wheats'N Raisins | 57152000 | 2 | 3 | 2 | 1 | 3 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Crunchy Corn Bran | 57131000 | 2 | 2 | 2 | 3 | 4 |
| Disney Cereal | 57201800 | 2 | 1 | 4 | 4 | 1 |
| Disney Hunny B's | 57201800 | 2 | 1 | 4 | 4 | 1 |
| Disney Mickey's Magix | 57201800 | 2 | 1 | 4 | 4 | 1 |
| Disney Mud & Bugs | 57201800 | 2 | 1 | 4 | 4 | 1 |
| Dora the Explorer Cereal | 57201900 | 2 | 2 | 2 | 4 | 4 |
| Ener-G Pure Rice Bran | 57603200 | 2 | 1 | 1 | 3 | 4 |
| Familia | 57206000 | 2 | 4 | 2 | 3 | 3 |
| Farina | 56206990 | 1 | 1 | 1 | 3 | 1 |
| Fiber 7 Flakes | 57206800 | 2 | 4 | 1 | 3 | 4 |
| Fiber One | 57206700 | 2 | 1 | 1 | 4 | 4 |
| Frankenberry | 57211000 | 2 | 1 | 4 | 3 | 1 |
| French Toast Crunch | 57212100 | 2 | 1 | 4 | 3 | 1 |
| Froot Loops | 57213000 | 2 | 1 | 4 | 3 | 3 |
| Frosted Flakes, Kellogg's | 57349000 | 2 | 1 | 3 | 1 | 1 |
| Frosted Flakes, Malt-O-Meal | 57305210 | 2 | 1 | 3 | 1 | 1 |
| Frosted Fruit Rings | 57221700 | 2 | 1 | 4 | 3 | 3 |
| Frosted Mini Spooners, Malt-O-Meal | 57214100 | 2 | 4 | 3 | 1 | 3 |
| Frosted Mini Wheats | 57214000 | 2 | 4 | 2 | 2 | 4 |
| Frosted Shredded Wheat | 57214000 | 2 | 4 | 2 | 2 | 4 |
| Frosted Wheat Bites | 57214100 | 2 | 4 | 3 | 1 | 3 |
| Frosted cereal, with marshmallows | 57305150 | 2 | 3 | 4 | 3 | 2 |
| Frosted corn flakes | 57348000 | 2 | 1 | 3 | 1 | 1 |
| Frosted flakes | 57348000 | 2 | 1 | 3 | 1 | 1 |
| Frosted rice | 57216000 | 2 | 1 | 4 | 1 | 1 |
| Frosty O's | 57215000 | 2 | 3 | 4 | 4 | 2 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Fruit & Fibre (fiber) | 57219000 | 2 | 3 | 2 | 2 | 3 |
| Fruit & Fibre (fiber) with Dates, Raisins and Walnuts | 57221000 | 2 | 3 | 2 | 2 | 3 |
| Fruit & Fibre (fiber) with Peaches, Raisins, Almonds, and Oat Clust | 57221000 | 2 | 3 | 2 | 2 | 3 |
| Fruit Harvest | 57221650 | 2 | 2 | 3 | 2 | 2 |
| Fruit Harvest Apple Cinnamon | 57221650 | 2 | 2 | 3 | 2 | 2 |
| Fruit Harvest Strawberry Blueberry | 57221650 | 2 | 2 | 3 | 2 | 2 |
| Fruit Loops | 57213000 | 2 | 1 | 4 | 3 | 3 |
| Fruit Rings | 57221700 | 2 | 1 | 4 | 3 | 3 |
| Fruit Whirls | 57221800 | 2 | 1 | 4 | 3 | 3 |
| Fruit and Cream Oatmeal | 56203080 | 1 | 2 | 2 | 3 | 3 |
| Fruity Cheerios | 57221810 | 2 | 4 | 3 | 4 | 3 |
| Fruity Dyno Bites, Malt-O-Meal | 57305300 | 2 | 1 | 4 | 1 | 1 |
| Fruity Pebbles | 57223000 | 2 | 1 | 4 | 1 | 1 |
| Gerber cereal rice & mixed fruit | 57824500 | 2 | 2 | 1 | 1 | 1 |
| Golden Crisp | 57355000 | 2 | 3 | 4 | 1 | 1 |
| Golden Grahams | 57224000 | 2 | 2 | 3 | 4 | 2 |
| Golden Puffs, Malt-O-Meal | 57306500 | 2 | 3 | 4 | 1 | 2 |
| Granola | 57227000 | 2 | 3 | 2 | 3 | 3 |
| Granola, homemade | 57228000 | 2 | 2 | 1 | 3 | 3 |
| Granola, lowfat | 57229000 | 2 | 4 | 3 | 2 | 3 |
| Granola, lowfat, Kellogg's | 57229000 | 2 | 4 | 3 | 2 | 3 |
| Granola, lowfat, with Raisins, Kellogg's | 57229500 | 2 | 3 | 3 | 2 | 3 |
| Grape Nut O's | 57230000 | 2 | 4 | 1 | 2 | 3 |
| Grape-Nuts | 57230000 | 2 | 4 | 1 | 2 | 3 |
| Grape-Nuts Flakes | 57231000 | 2 | 4 | 2 | 2 | 3 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Great Grains Crunchy Pecan Whole Grain Cereal | 57231250 | 2 | 4 | 2 | 2 | 3 |
| Great Grains, Raisins, Dates, and Pecans Whole Grain Cereal | 57231200 | 2 | 3 | 2 | 2 | 3 |
| Grits | 56201230 | 1 | 1 | 1 | 3 | 1 |
| Harina de maize con leche | 56201530 | 1 | 1 | 1 | 3 | 1 |
| Harmony Vanilla Almond Oats | 57148600 | 2 | 1 | 3 | 4 | 2 |
| Healthy Choice | 57301512 | 2 | 2 | 2 | 3 | 4 |
| Honey Bunches of Oat Honey Roasted | 57237100 | 2 | 2 | 2 | 1 | 2 |
| Honey Bunches of Oat with Strawberry | 57237100 | 2 | 2 | 2 | 1 | 2 |
| Honey Bunches of Oats | 57237100 | 2 | 2 | 2 | 1 | 2 |
| Honey Bunches of Oats with Almonds | 57237300 | 2 | 3 | 2 | 2 | 2 |
| Honey Bunches of Oats with Vanilla Clusters, Post | 57237200 | 2 | 2 | 2 | 1 | 3 |
| Honey Buzzers, Malt-O-Meal | 57238000 | 2 | 4 | 3 | 1 | 1 |
| Honey Crisp Corn Flakes | 57305210 | 2 | 1 | 3 | 1 | 1 |
| Honey Crunch Corn Flakes | 57239100 | 2 | 1 | 3 | 1 | 2 |
| Honey Graham Squares, Malt-O-Meal | 57224000 | 2 | 2 | 3 | 4 | 2 |
| Honey Nut Clusters | 57125900 | 2 | 3 | 3 | 2 | 2 |
| Honey Nut Heaven | 57346500 | 2 | 3 | 3 | 4 | 2 |
| Honey Nut Shredded Wheat | 57241200 | 2 | 4 | 3 | 2 | 3 |
| Honey Smacks | 57243000 | 2 | 3 | 4 | 1 | 2 |
| Honeycomb | 57238000 | 2 | 4 | 3 | 1 | 1 |
| Honeycomb, strawberry | 57239000 | 2 | 4 | 3 | 1 | 1 |
| Instant Grits, all flavors | 56201230 | 1 | 1 | 1 | 3 | 1 |
| Jenny O's | 57243870 | 2 | 3 | 1 | 1 | 2 |
| Just Right | 57244000 | 2 | 3 | 2 | 2 | 2 |
| Just Right with Fruit & Nut | 57245000 | 2 | 2 | 2 | 2 | 2 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Kaboom | 57301100 | 2 | 1 | 2 | 4 | 2 |
| Kasha | 56200490 | 1 | 2 | 1 | 1 | 3 |
| Kashi | 57000050 | 2 | 4 | 1 | 2 | 3 |
| Kashi Autumn Wheat | 57301505 | 2 | 4 | 2 | 1 | 4 |
| Kashi GOLEAN | 57301510 | 2 | 2 | 1 | 3 | 4 |
| Kashi GOLEAN Crunch | 57301511 | 2 | 4 | 2 | 3 | 4 |
| Kashi Good Friends | 57301520 | 2 | 2 | 2 | 2 | 4 |
| Kashi Good Friends Cinna-Raisin Crunch | 57301520 | 2 | 2 | 2 | 2 | 4 |
| Kashi Heart to Heart Cereal | 57301530 | 2 | 3 | 1 | 2 | 4 |
| Kashi Honey Puffed | 57301500 | 2 | 4 | 1 | 2 | 3 |
| Kashi Medley | 57301520 | 2 | 2 | 2 | 2 | 4 |
| Kashi Organic Promise | 57301530 | 2 | 3 | 1 | 2 | 4 |
| Kashi Pilaf | 57301530 | 2 | 3 | 1 | 2 | 4 |
| Kashi Pillows | 57301530 | 2 | 3 | 1 | 2 | 4 |
| Kashi Seven in the Morning | 57301520 | 2 | 2 | 2 | 2 | 4 |
| Kashi, Puffed | 57301500 | 2 | 4 | 1 | 2 | 3 |
| Kix | 57303100 | 2 | 3 | 1 | 4 | 3 |
| Kix, Berry Berry | 57106250 | 2 | 2 | 3 | 3 | 2 |
| Life (plain and cinnamon) | 57304100 | 2 | 4 | 2 | 4 | 3 |
| Lucky Charms | 57305100 | 2 | 3 | 4 | 4 | 2 |
| Lucky Charms, Berry | 57124300 | 2 | 3 | 4 | 4 | 2 |
| Lucky Charms, Chocolate | 57124300 | 2 | 3 | 4 | 4 | 2 |
| Magic Stars | 57305150 | 2 | 3 | 4 | 3 | 2 |
| Malt-O-Meal | 56207340 | 1 | 2 | 2 | 2 | 1 |
| Malt-O-Meal, chocolate | 56207370 | 1 | 2 | 1 | 2 | 2 |
| Maltex | 56207340 | 1 | 2 | 2 | 2 | 1 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Maple Pecan Crunch Cereal, Post | 57307010 | 2 | 2 | 3 | 2 | 3 |
| Marshmallow Mateys, Malt-O-Meal | 57305600 | 2 | 3 | 4 | 4 | 2 |
| Marshmallow Safari | 57307150 | 2 | 3 | 4 | 3 | 2 |
| Masa harina | 56201600 | 1 | 1 | 1 | 2 | 3 |
| Maypo | 56203110 | 1 | 2 | 2 | 2 | 3 |
| Millet | 56201990 | 1 | 1 | 1 | 1 | 2 |
| Millet, puffed | 57307500 | 2 | 1 | 1 | 1 | 1 |
| Mini-Swirlz Cinnamon Bun Cereal, Kellogg's | 57307600 | 2 | 2 | 1 | 1 | 2 |
| Mini-Wheats | 57417000 | 2 | 4 | 1 | 2 | 4 |
| Mini-Wheats Frosted Bite Size | 57214000 | 2 | 4 | 2 | 2 | 4 |
| Mini-Wheats Frosted Original | 57214000 | 2 | 4 | 2 | 2 | 4 |
| Mini-Wheats Frosted Raisin | 57214000 | 2 | 4 | 2 | 2 | 4 |
| Mini-Wheats Frosted Strawberry | 57214000 | 2 | 4 | 2 | 2 | 4 |
| Mother's Natural Foods Cereal, Quaker | 57100100 | 2 | 2 | 2 | 3 | 3 |
| Muesli | 57308190 | 2 | 2 | 2 | 1 | 3 |
| Muesli(x) | 57308150 | 2 | 3 | 2 | 3 | 3 |
| Multigrain Oatmeal | 56203600 | 1 | 2 | 1 | 1 | 3 |
| Multigrain cereal | 56203600 | 1 | 2 | 1 | 1 | 3 |
| Natural Bran Flakes | 57209000 | 2 | 3 | 2 | 3 | 4 |
| Nature Valley Granola | 57309100 | 2 | 4 | 3 | 2 | 2 |
| Nature Valley Granola, with fruit and nuts | 57309100 | 2 | 4 | 3 | 2 | 2 |
| Nesquik | 57124200 | 2 | 2 | 4 | 3 | 2 |
| Nestum | 56210000 | 1 | 2 | 1 | 3 | 1 |
| Nu System Cuisine Toasted Grain Circles | 57311700 | 2 | 4 | 1 | 4 | 4 |
| Nutri-Grain | 57418000 | 2 | 4 | 2 | 3 | 4 |
| Nutri-Grain Golden Wheat and Raisin | 57152000 | 2 | 3 | 2 | 1 | 3 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Nutty Nuggets | 57316200 | 2 | 4 | 1 | 2 | 3 |
| OS | 57100100 | 2 | 2 | 2 | 3 | 3 |
| Oat Bran Cereal, Quaker | 57327450 | 2 | 3 | 2 | 3 | 3 |
| Oat Bran Flakes, Health Valley | 57316300 | 2 | 4 | 2 | 2 | 4 |
| Oat bran cereal | 57327450 | 2 | 3 | 2 | 3 | 3 |
| Oat bran uncooked | 57602500 | 2 | 1 | 1 | 3 | 4 |
| Oat cereal | 57000100 | 2 | 4 | 1 | 4 | 3 |
| Oat flakes | 57316300 | 2 | 4 | 2 | 2 | 4 |
| Oatmeal | 56202960 | 1 | 2 | 1 | 2 | 2 |
| Oatmeal Crisp | 57316410 | 2 | 4 | 3 | 2 | 3 |
| Oatmeal Crisp with Almonds | 57316450 | 2 | 3 | 3 | 2 | 3 |
| Oatmeal Crisp, Apple Cinnamon | 57316410 | 2 | 4 | 3 | 2 | 3 |
| Oatmeal Crisp, Raisin | 57316500 | 2 | 3 | 3 | 2 | 3 |
| Oatmeal Squares | 57327500 | 2 | 4 | 2 | 3 | 3 |
| Oatmeal Swirlers | 56203080 | 1 | 2 | 2 | 3 | 3 |
| Oatmeal, cooked, quick (1 or 3 minutes), NS as to fat added in cook | 56202970 | 1 | 2 | 1 | 2 | 2 |
| Oats, raw | 57602100 | 2 | 4 | 1 | 3 | 4 |
| Oh's | 57316710 | 2 | 3 | 4 | 1 | 1 |
| Oh's, Apple Cinnamon | 57316750 | 2 | 4 | 4 | 1 | 1 |
| Oh's, Fruitangy | 57316750 | 2 | 4 | 4 | 1 | 1 |
| Oh's, Honey Graham | 57316710 | 2 | 3 | 4 | 1 | 1 |
| Old Wessex Irish Style Oatmeal | 56202980 | 1 | 2 | 1 | 2 | 2 |
| Optimum Slim, Nature's Path | 57321800 | 2 | 2 | 2 | 4 | 4 |
| Optimum, Nature's Path | 57321700 | 2 | 1 | 3 | 4 | 4 |
| Oreo O's Cereal | 57322500 | 2 | 2 | 4 | 1 | 2 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Peanut Butter Toast Crunch | 57324000 | 2 | 2 | 4 | 4 | 2 |
| Polenta | 56201510 | 1 | 1 | 1 | 1 | 1 |
| Product 19 | 57325000 | 2 | 2 | 2 | 1 | 2 |
| Puffed Rice, Malt-O-Meal | 57306100 | 2 | 1 | 1 | 1 | 1 |
| Puffed Wheat, Malt-O-Meal | 57306120 | 2 | 4 | 1 | 1 | 3 |
| Quaker Dinosaur Eggs oatmeal | 56203080 | 1 | 2 | 2 | 3 | 3 |
| Quaker Fruit and Cream Oatmeal | 56203080 | 1 | 2 | 2 | 3 | 3 |
| Quaker Instant Grits, all flavors | 56201230 | 1 | 1 | 1 | 3 | 1 |
| Quaker Multigrain Oatmeal | 56203600 | 1 | 2 | 1 | 1 | 3 |
| Quaker Oatmeal Express | 56203080 | 1 | 2 | 2 | 3 | 3 |
| Quaker Oatmeal Nutrition for Women | 56202960 | 1 | 2 | 1 | 2 | 2 |
| Quaker Oatmeal Squares | 57327500 | 2 | 4 | 2 | 3 | 3 |
| Quisp | 57328000 | 2 | 2 | 4 | 1 | 1 |
| Raisin Bran Crunch | 57330010 | 2 | 2 | 3 | 2 | 3 |
| Raisin Bran, Kellogg's | 57330000 | 2 | 3 | 2 | 3 | 4 |
| Raisin Bran, Post | 57331000 | 2 | 3 | 2 | 3 | 4 |
| Raisin Nut Bran | 57332100 | 2 | 2 | 3 | 2 | 3 |
| Raisin bran | 57329000 | 2 | 3 | 2 | 3 | 4 |
| Reese's Peanut Butter Puffs | 57335550 | 2 | 3 | 4 | 4 | 2 |
| Rice Krispies | 57339000 | 2 | 1 | 1 | 1 | 1 |
| Rice Krispies, Frosted | 57218000 | 2 | 1 | 4 | 1 | 1 |
| Rice Krispies, Treats Cereal | 57339500 | 2 | 1 | 3 | 1 | 1 |
| Rice bran, uncooked | 57603200 | 2 | 1 | 1 | 3 | 4 |
| Rice cereal | 57337000 | 2 | 1 | 1 | 1 | 1 |
| Rice cereal with apples, baby food | 57805080 | 2 | 2 | 1 | 1 | 1 |
| Rice flakes | 57337000 | 2 | 1 | 1 | 1 | 1 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Rice polishings | 57603100 | 2 | 1 | 1 | 3 | 4 |
| Rice, puffed | 57340000 | 2 | 1 | 1 | 1 | 1 |
| Roman Meal | 56207190 | 1 | 2 | 1 | 1 | 2 |
| Seven-grain Cereal | 56203600 | 1 | 2 | 1 | 1 | 3 |
| Shredded Wheat | 57417000 | 2 | 4 | 1 | 2 | 4 |
| Shredded Wheat 'N Bran | 57341000 | 2 | 4 | 1 | 2 | 4 |
| Shredded Wheat Spoon Size | 57417000 | 2 | 4 | 1 | 2 | 4 |
| Shredded Wheat, 100% | 57417000 | 2 | 4 | 1 | 2 | 4 |
| Shredded Wheat, Original | 57417000 | 2 | 4 | 1 | 2 | 4 |
| Smacks | 57243000 | 2 | 3 | 4 | 1 | 2 |
| Smart Start | 57341200 | 2 | 1 | 3 | 1 | 2 |
| Smorz | 57342010 | 2 | 2 | 4 | 1 | 1 |
| Special K | 57344000 | 2 | 1 | 1 | 2 | 1 |
| Special K Cinnamon Pecan, Kellogg's | 57344025 | 2 | 2 | 3 | 2 | 3 |
| Special K Fruit & Yogurt | 57344015 | 2 | 2 | 2 | 2 | 2 |
| Special K Low Carb Lifestyle Protein Plus | 57344000 | 2 | 1 | 1 | 2 | 1 |
| Special K Red Berries | 57344010 | 2 | 1 | 1 | 2 | 1 |
| Special K Vanilla Almond | 57344020 | 2 | 2 | 3 | 2 | 2 |
| Strawberry Squares | 57103500 | 2 | 4 | 2 | 2 | 3 |
| Sun Country 100% Natural Granola, with Almonds | 57319500 | 2 | 4 | 2 | 3 | 2 |
| Sweet Crunch | 57323000 | 2 | 2 | 4 | 1 | 1 |
| Sweet Puffs | 57323050 | 2 | 3 | 4 | 1 | 2 |
| Tasteeos | 57401100 | 2 | 4 | 1 | 4 | 4 |
| Toasted Cinnamon Twists, Malt-O-Meal | 57124500 | 2 | 2 | 3 | 4 | 2 |
| Toasted Oatmeal Cereal | 57401100 | 2 | 4 | 1 | 4 | 4 |
| Toasted Oatmeal, Honey Nut | 57346500 | 2 | 3 | 3 | 4 | 2 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Toasted oat cereal | 57401100 | 2 | 4 | 1 | 4 | 4 |
| Toasties | 57403100 | 2 | 1 | 1 | 1 | 2 |
| Toasty O's, Apple Cinnamon, Malt-O-Meal | 57404200 | 2 | 1 | 4 | 4 | 2 |
| Toasty O's, Honey and Nut, Malt-O-Meal | 57305500 | 2 | 2 | 3 | 4 | 3 |
| Toasty O's, Malt-O-Meal | 57404100 | 2 | 1 | 1 | 4 | 4 |
| Tootie Fruities, Malt-O-Meal | 57306800 | 2 | 3 | 4 | 4 | 1 |
| Total | 57406100 | 2 | 4 | 2 | 4 | 3 |
| Total Brown Sugar & Oats | 57406105 | 2 | 3 | 3 | 4 | 3 |
| Total Corn Flakes | 57138000 | 2 | 1 | 1 | 4 | 1 |
| Total Instant Oatmeal | 56203080 | 1 | 2 | 2 | 3 | 3 |
| Total Raisin Bran | 57332050 | 2 | 1 | 3 | 4 | 3 |
| Trix | 57407100 | 2 | 1 | 4 | 3 | 2 |
| Trix, Reduced Sugar | 57407110 | 2 | 1 | 3 | 4 | 2 |
| Uncle Sam's Hi Fiber Cereal | 57408100 | 2 | 4 | 1 | 3 | 4 |
| Under Cover Bears | 56203080 | 1 | 2 | 2 | 3 | 3 |
| Waffle Crisp | 57409100 | 2 | 3 | 3 | 1 | 1 |
| Weetabix Whole Wheat Cereal | 57410000 | 2 | 4 | 1 | 3 | 4 |
| Wheat Hearts | 56207290 | 1 | 2 | 1 | 1 | 2 |
| Wheat bran, unprocessed (miller's bran) | 57601100 | 2 | 1 | 1 | 3 | 4 |
| Wheat cereal | 56207190 | 1 | 2 | 1 | 1 | 2 |
| Wheat germ | 57412000 | 2 | 1 | 1 | 2 | 4 |
| Wheat germ, with sugar and honey | 57413000 | 2 | 1 | 1 | 3 | 4 |
| Wheat, puffed | 57416000 | 2 | 4 | 1 | 1 | 3 |
| Wheat, puffed, presweetened with sugar | 57416010 | 2 | 3 | 4 | 1 | 1 |
| Wheat, rolled, cooked, NS as to fat added in cooking | 56207140 | 1 | 2 | 1 | 1 | 2 |
| Wheatena | 56207190 | 1 | 2 | 1 | 1 | 2 |

# DSQ: EARLIER METHOD

| Cereal_Name | food_code | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| Wheaties | 57418000 | 2 | 4 | 2 | 3 | 4 |
| Wheaties Energy Crunch | 57143500 | 2 | 2 | 3 | 2 | 3 |
| Wheaties Raisin Bran | 57329000 | 2 | 3 | 2 | 3 | 4 |
| Whole wheat cereal | 56207190 | 1 | 2 | 1 | 1 | 2 |
| Whole wheat, cracked | 57604100 | 2 | 4 | 1 | 2 | 4 |
| Zoom | 56207190 | 1 | 2 | 1 | 1 | 2 |

# DSQ: EARLIER METHOD

**Table A_ 2 Cereal attributes by letter**

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| A | 100% Bran | 2 | 2 | 3 | 3 | 4 |
| B | 100% Low Fat Natural Granola | 2 | 4 | 3 | 2 | 3 |
| C | 100% Natural Cereal | 2 | 4 | 2 | 3 | 3 |
| D | 100% Natural Cereal, with oats, honey and raisins | 2 | 3 | 2 | 3 | 3 |
| E | 100% Natural Granola, Oats & Honey | 2 | 3 | 2 | 3 | 3 |
| F | 100% Natural Wholegrain Cereal with raisins, lowfat | 2 | 3 | 2 | 3 | 2 |
| G | All-Bran | 2 | 1 | 1 | 4 | 4 |
| H | All-Bran Bran Buds | 2 | 1 | 3 | 3 | 4 |
| I | All-Bran with Extra Fiber | 2 | 1 | 1 | 4 | 4 |
| J | Alpen | 2 | 4 | 1 | 3 | 3 |
| K | Alpha-Bits | 2 | 4 | 4 | 2 | 2 |
| L | Alpha-Bits with marshmallows | 2 | 3 | 4 | 1 | 1 |
| M | Amaranth Flakes | 2 | 4 | 1 | 1 | 3 |
| N | Apple Jacks | 2 | 1 | 4 | 1 | 3 |
| O | Apple Zaps | 2 | 1 | 4 | 4 | 2 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| P | Apple Zings, Malt-O-Meal | 2 | 1 | 4 | 4 | 2 |
| Q | Banana Nut Crunch Cereal | 2 | 3 | 2 | 2 | 3 |
| R | Barley | 1 | 2 | 2 | 2 | 1 |
| S | Basic 4 | 2 | 2 | 2 | 4 | 2 |
| T | Berry Colossal Crunch, Malt-O-Meal | 2 | 1 | 4 | 1 | 1 |
| U | Blueberry Morning | 2 | 2 | 2 | 2 | 2 |
| V | Booberry | 2 | 1 | 4 | 3 | 1 |
| W | Bran | 2 | 3 | 2 | 3 | 4 |
| X | Bran Buds | 2 | 1 | 3 | 3 | 4 |
| Y | Bran flakes | 2 | 3 | 2 | 3 | 4 |
| Z | Bran, Nabisco | 2 | 2 | 3 | 3 | 4 |
| AA | Branola | 1 | 2 | 1 | 1 | 2 |
| AC | Buckwheat groats | 1 | 2 | 1 | 1 | 3 |
| AD | Bulgur | 1 | 2 | 1 | 2 | 3 |
| AE | Cap'n Crunch | 2 | 2 | 4 | 1 | 1 |
| AF | Cap'n Crunch's Christmas Crunch | 2 | 3 | 4 | 1 | 1 |
| AG | Cap'n Crunch's Crunch Berries | 2 | 3 | 4 | 1 | 1 |
| AH | Cap'n Crunch's Oops! ChocoDonuts | 2 | 2 | 3 | 1 | 1 |
| AI | Cap'n Crunch's Peanut Butter Crunch | 2 | 2 | 3 | 1 | 1 |
| LP | Cereal, NFS | 2 | 2 | 2 | 3 | 2 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| AJ | Cheerios | 2 | 4 | 1 | 4 | 4 |
| AK | Cheerios, Apple Cinnamon | 2 | 4 | 4 | 4 | 2 |
| AL | Cheerios, Berry Burst | 2 | 1 | 3 | 4 | 3 |
| AM | Cheerios, Berry Burst Strawberry | 2 | 1 | 3 | 4 | 3 |
| AN | Cheerios, Berry Burst Triple Berry | 2 | 1 | 3 | 4 | 3 |
| AO | Cheerios, Berry Burst, Cherry Vanilla | 2 | 1 | 3 | 4 | 3 |
| AP | Cheerios, Berry Burst, Strawberry Banana | 2 | 1 | 3 | 4 | 3 |
| AQ | Cheerios, Frosted | 2 | 3 | 4 | 4 | 2 |
| AR | Cheerios, Honey Nut | 2 | 2 | 3 | 4 | 3 |
| AS | Cheerios, Multi Grain | 2 | 4 | 2 | 4 | 3 |
| AT | Cheerios, Team | 2 | 3 | 4 | 4 | 2 |
| AU | Cheerios, Yogurt Burst, Strawberry | 2 | 2 | 3 | 4 | 3 |
| AV | Cheerios, Yogurt Burst, Vanilla | 2 | 2 | 3 | 4 | 3 |
| AW | Cheese grits | 1 | 1 | 1 | 3 | 1 |
| AX | Chex | 2 | 2 | 1 | 3 | 2 |
| AY | Chex Morning Mix Banana Nut | 2 | 1 | 3 | 4 | 1 |
| AZ | Chex Morning Mix Cinnamon | 2 | 1 | 3 | 4 | 1 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| BA | Chex Morning Mix Fruit & Nut | 2 | 1 | 3 | 4 | 1 |
| BB | Chex Morning Mix Honey Nut | 2 | 1 | 3 | 4 | 1 |
| BC | Chex, Bran | 2 | 4 | 2 | 3 | 4 |
| BD | Chex, Corn | 2 | 1 | 1 | 4 | 2 |
| BE | Chex, Honey Nut | 2 | 1 | 3 | 4 | 1 |
| BF | Chex, Multi-Bran | 2 | 4 | 2 | 3 | 4 |
| BG | Chex, Rice | 2 | 1 | 1 | 4 | 1 |
| BH | Chex, Wheat | 2 | 4 | 1 | 3 | 4 |
| BI | Chocolate frosted cereal | 2 | 2 | 4 | 3 | 2 |
| BJ | Cinnamon Cluster Raisin Bran | 2 | 2 | 3 | 2 | 3 |
| BK | Cinnamon Crunch Crispix | 2 | 1 | 1 | 1 | 1 |
| BL | Cinnamon Grahams Cereal | 2 | 2 | 3 | 4 | 2 |
| BM | Cinnamon Marshmallow Scooby Doo! | 2 | 3 | 4 | 3 | 2 |
| BN | Cinnamon Toast Crunch | 2 | 3 | 3 | 4 | 2 |
| BO | Cinnamon Toast Crunch, Reduced Sugar | 2 | 4 | 1 | 4 | 4 |
| BP | Coco-Roos, Malt-O-Meal | 2 | 1 | 4 | 4 | 1 |
| BQ | Cocoa Blasts | 2 | 4 | 4 | 1 | 1 |
| BR | Cocoa Comets | 2 | 2 | 4 | 3 | 2 |
| BS | Cocoa Dyno Bites, Malt-O-Meal | 2 | 1 | 4 | 1 | 1 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| BT | Cocoa Krispies | 2 | 1 | 3 | 1 | 1 |
| BU | Cocoa Pebbles | 2 | 1 | 4 | 1 | 1 |
| BV | Cocoa Puffs | 2 | 1 | 4 | 4 | 2 |
| BW | Cocoa Puffs, Reduced Sugar | 2 | 1 | 3 | 4 | 2 |
| BX | Cocoa Wheats | 1 | 2 | 1 | 2 | 2 |
| BY | Complete Bran Flakes | 2 | 4 | 2 | 3 | 4 |
| BZ | Complete Oat Bran Flakes | 2 | 3 | 2 | 3 | 4 |
| CA | Complete Wheat Bran Flakes | 2 | 4 | 2 | 3 | 4 |
| CB | Cookie-Crisp (all flavors) | 2 | 1 | 4 | 4 | 2 |
| CC | Corn Bursts, Malt-O-Meal | 2 | 1 | 4 | 1 | 1 |
| CD | Corn Flakes, Kellogg's | 2 | 1 | 1 | 1 | 1 |
| CE | Corn Pops | 2 | 1 | 4 | 1 | 1 |
| CF | Corn Puffs | 2 | 3 | 1 | 4 | 3 |
| CG | Corn flakes | 2 | 1 | 1 | 3 | 1 |
| CH | Corn flakes, low sodium | 2 | 1 | 1 | 2 | 1 |
| CI | Cornmeal mush | 1 | 1 | 1 | 1 | 1 |
| CJ | Count Chocula | 2 | 1 | 4 | 4 | 2 |
| CK | Cracklin' Oat Bran | 2 | 2 | 3 | 3 | 4 |
| CL | Cranberry Almond Crunch Cereal | 2 | 2 | 3 | 2 | 3 |
| CM | Cream of Rice | 1 | 1 | 1 | 1 | 1 |
| CN | Cream of Rye | 1 | 2 | 1 | 1 | 1 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| CO | Cream of Wheat | 1 | 1 | 1 | 3 | 1 |
| CP | Crisp Crunch | 2 | 2 | 4 | 1 | 1 |
| CQ | Crispix | 2 | 1 | 1 | 1 | 1 |
| CR | Crispy Brown Rice Cereal | 2 | 4 | 1 | 2 | 3 |
| CS | Crispy Rice | 2 | 1 | 1 | 1 | 1 |
| CT | Crispy Rice, Malt-O-Meal | 2 | 1 | 1 | 1 | 1 |
| CU | Crispy Wheats'N Raisins | 2 | 3 | 2 | 1 | 3 |
| CV | Crunchy Corn Bran | 2 | 2 | 2 | 3 | 4 |
| CW | Disney Cereal | 2 | 1 | 4 | 4 | 1 |
| CX | Disney Hunny B's | 2 | 1 | 4 | 4 | 1 |
| CY | Disney Mickey's Magix | 2 | 1 | 4 | 4 | 1 |
| CZ | Disney Mud & Bugs | 2 | 1 | 4 | 4 | 1 |
| DA | Ener-G Pure Rice Bran | 2 | 1 | 1 | 3 | 4 |
| DB | Familia | 2 | 4 | 2 | 3 | 3 |
| DC | Farina | 1 | 1 | 1 | 3 | 1 |
| DD | Fiber 7 Flakes | 2 | 4 | 1 | 3 | 4 |
| DE | Fiber One | 2 | 1 | 1 | 4 | 4 |
| DF | Frankenberry | 2 | 1 | 4 | 3 | 1 |
| DG | French Toast Crunch | 2 | 1 | 4 | 3 | 1 |
| DH | Froot Loops | 2 | 1 | 4 | 3 | 3 |
| DI | Frosted Flakes, Kellogg's | 2 | 1 | 3 | 1 | 1 |
| DJ | Frosted Flakes, Malt-O-Meal | 2 | 1 | 3 | 1 | 1 |
| DK | Frosted Fruit Rings | 2 | 1 | 4 | 3 | 3 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| DL | Frosted Mini Spooners, Malt-O-Meal | 2 | 4 | 3 | 1 | 3 |
| DM | Frosted Mini Wheats | 2 | 4 | 2 | 2 | 4 |
| DN | Frosted Shredded Wheat | 2 | 4 | 2 | 2 | 4 |
| DO | Frosted Wheat Bites | 2 | 4 | 3 | 1 | 3 |
| DP | Frosted cereal, with marshmallows | 2 | 3 | 4 | 3 | 2 |
| DQ | Frosted corn flakes | 2 | 1 | 3 | 1 | 1 |
| DR | Frosted flakes | 2 | 1 | 3 | 1 | 1 |
| DS | Frosted rice | 2 | 1 | 4 | 1 | 1 |
| DT | Frosty O's | 2 | 3 | 4 | 4 | 2 |
| DU | Fruit & Fibre (fiber) | 2 | 3 | 2 | 2 | 3 |
| DV | Fruit & Fibre (fiber) with Dates, Raisins and Walnuts | 2 | 3 | 2 | 2 | 3 |
| DW | Fruit & Fibre (fiber) with Dates, Raisins and Walnuts | 2 | 3 | 2 | 2 | 3 |
| DX | Fruit Harvest | 2 | 2 | 3 | 2 | 2 |
| DY | Fruit Harvest Apple Cinnamon | 2 | 2 | 3 | 2 | 2 |
| DZ | Fruit Harvest Strawberry Blueberry | 2 | 2 | 3 | 2 | 2 |
| EA | Fruit Loops | 2 | 1 | 4 | 3 | 3 |
| EB | Fruit Rings | 2 | 1 | 4 | 3 | 3 |
| EC | Fruit Whirls | 2 | 1 | 4 | 3 | 3 |
| ED | Fruit and Cream Oatmeal | 1 | 2 | 2 | 3 | 3 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| EE | Fruity Dyno Bites, Malt-O-Meal | 2 | 1 | 4 | 1 | 1 |
| EF | Fruity Pebbles | 2 | 1 | 4 | 1 | 1 |
| EG | Golden Crisp | 2 | 3 | 4 | 1 | 1 |
| EH | Golden Grahams | 2 | 2 | 3 | 4 | 2 |
| EI | Golden Puffs, Malt-O-Meal | 2 | 3 | 4 | 1 | 2 |
| EJ | Granola | 2 | 3 | 2 | 3 | 3 |
| EK | Granola, homemade | 2 | 2 | 1 | 3 | 3 |
| EL | Granola, lowfat | 2 | 4 | 3 | 2 | 3 |
| EM | Granola, lowfat, Kellogg's | 2 | 4 | 3 | 2 | 3 |
| EN | Granola, lowfat, with Raisins, Kellogg's | 2 | 3 | 3 | 2 | 3 |
| EO | Grape Nut O's | 2 | 4 | 1 | 2 | 3 |
| EP | Grape-Nuts | 2 | 4 | 1 | 2 | 3 |
| EQ | Grape-Nuts Flakes | 2 | 4 | 2 | 2 | 3 |
| ER | Great Grains Crunchy Pecan Whole Grain Cereal | 2 | 4 | 2 | 2 | 3 |
| ES | Great Grains, Raisins, Dates, and Pecans Whole Grain Cereal | 2 | 3 | 2 | 2 | 3 |
| ET | Grits | 1 | 1 | 1 | 3 | 1 |
| EU | Harina de maize con leche | 1 | 1 | 1 | 3 | 1 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| EV | Harmony Vanilla Almond Oats | 2 | 1 | 3 | 4 | 2 |
| EW | Healthy Choice | 2 | 2 | 2 | 3 | 4 |
| EX | Honey Bunches of Oat Honey Roasted | 2 | 2 | 2 | 1 | 2 |
| EY | Honey Bunches of Oat with Strawberry | 2 | 2 | 2 | 1 | 2 |
| EZ | Honey Bunches of Oats | 2 | 2 | 2 | 1 | 2 |
| FA | Honey Bunches of Oats with Almonds | 2 | 3 | 2 | 2 | 2 |
| FB | Honey Buzzers, Malt-O-Meal | 2 | 4 | 3 | 1 | 1 |
| FC | Honey Crisp Corn Flakes | 2 | 1 | 3 | 1 | 1 |
| FD | Honey Crunch Corn Flakes | 2 | 1 | 3 | 1 | 2 |
| FE | Honey Graham Squares, Malt-O-Meal | 2 | 2 | 3 | 4 | 2 |
| FF | Honey Nut Clusters | 2 | 3 | 3 | 2 | 2 |
| FG | Honey Nut Heaven | 2 | 3 | 3 | 4 | 2 |
| AB | Honey Nut Heaven | 2 | 3 | 3 | 4 | 2 |
| FH | Honey Nut Shredded Wheat | 2 | 4 | 3 | 2 | 3 |
| FI | Honey Smacks | 2 | 3 | 4 | 1 | 2 |
| FJ | Honeycomb | 2 | 4 | 3 | 1 | 1 |
| FK | Honeycomb, strawberry | 2 | 4 | 3 | 1 | 1 |
| LO | Hot Cereal, NFS | 1 | 2 | 1 | 2 | 2 |
| FL | Instant Grits, all flavors | 1 | 1 | 1 | 3 | 1 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| FM | Jenny O's | 2 | 3 | 1 | 1 | 2 |
| FN | Just Right | 2 | 3 | 2 | 2 | 2 |
| FO | Just Right with Fruit & Nut | 2 | 2 | 2 | 2 | 2 |
| FP | Kaboom | 2 | 1 | 2 | 4 | 2 |
| FQ | Kasha | 1 | 2 | 1 | 1 | 3 |
| FR | Kashi | 2 | 4 | 1 | 2 | 3 |
| FS | Kashi GOLEAN | 2 | 2 | 1 | 3 | 4 |
| FT | Kashi Good Friends | 2 | 2 | 2 | 2 | 4 |
| FU | Kashi Good Friends Cinna-Raisin Crunch | 2 | 2 | 2 | 2 | 4 |
| FV | Kashi Heart to Heart Cereal | 2 | 3 | 1 | 2 | 4 |
| FW | Kashi Honey Puffed | 2 | 4 | 1 | 2 | 3 |
| FX | Kashi Medley | 2 | 2 | 2 | 2 | 4 |
| FY | Kashi Organic Promise | 2 | 3 | 1 | 2 | 4 |
| FZ | Kashi Pilaf | 2 | 3 | 1 | 2 | 4 |
| GA | Kashi Pillows | 2 | 3 | 1 | 2 | 4 |
| GB | Kashi Seven in the Morning | 2 | 2 | 2 | 2 | 4 |
| GC | Kashi, Puffed | 2 | 4 | 1 | 2 | 3 |
| GD | Kix | 2 | 3 | 1 | 4 | 3 |
| GE | Kix, Berry Berry | 2 | 2 | 3 | 3 | 2 |
| GF | Life (plain and cinnamon) | 2 | 4 | 2 | 4 | 3 |
| GG | Lucky Charms | 2 | 3 | 4 | 4 | 2 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| GH | Lucky Charms, Berry | 2 | 3 | 4 | 4 | 2 |
| GI | Lucky Charms, Chocolate | 2 | 3 | 4 | 4 | 2 |
| GJ | Magic Stars | 2 | 3 | 4 | 3 | 2 |
| GK | Malt-O-Meal | 1 | 2 | 2 | 2 | 1 |
| GL | Malt-O-Meal, chocolate | 1 | 2 | 1 | 2 | 2 |
| GM | Maltex | 1 | 2 | 2 | 2 | 1 |
| GN | Marshmallow Mateys, Malt-O-Meal | 2 | 3 | 4 | 4 | 2 |
| GO | Marshmallow Safari | 2 | 3 | 4 | 3 | 2 |
| GP | Masa harina | 1 | 1 | 1 | 2 | 3 |
| GQ | Maypo | 1 | 2 | 2 | 2 | 3 |
| GR | Millet | 1 | 1 | 1 | 1 | 2 |
| GS | Millet, puffed | 2 | 1 | 1 | 1 | 1 |
| GT | Mini-Wheats | 2 | 4 | 1 | 2 | 4 |
| GU | Mini-Wheats Frosted Bite Size | 2 | 4 | 2 | 2 | 4 |
| GV | Mini-Wheats Frosted Original | 2 | 4 | 2 | 2 | 4 |
| GW | Mini-Wheats Frosted Raisin | 2 | 4 | 2 | 2 | 4 |
| GX | Mini-Wheats Frosted Strawberry | 2 | 4 | 2 | 2 | 4 |
| GY | Mother's Natural Foods Cereal, Quaker | 2 | 2 | 2 | 3 | 3 |
| GZ | Muesli | 2 | 2 | 2 | 1 | 3 |
| HA | Muesli(x) | 2 | 3 | 2 | 3 | 3 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| HB | Multigrain Oatmeal | 1 | 2 | 1 | 1 | 3 |
| JM | Multigrain Oatmeal | 1 | 2 | 1 | 1 | 3 |
| HC | Multigrain cereal | 1 | 2 | 1 | 1 | 3 |
| HD | Natural Bran Flakes | 2 | 3 | 2 | 3 | 4 |
| HE | Nature Valley Granola | 2 | 4 | 3 | 2 | 2 |
| HF | Nature Valley Granola, with fruit and nuts | 2 | 4 | 3 | 2 | 2 |
| HG | Nesquik | 2 | 2 | 4 | 3 | 2 |
| HH | Nestum | 1 | 2 | 1 | 3 | 1 |
| HI | Nu System Cuisine Toasted Grain Circles | 2 | 4 | 1 | 4 | 4 |
| HJ | Nutri-Grain | 2 | 4 | 2 | 3 | 4 |
| HK | Nutri-Grain Golden Wheat and Raisin | 2 | 3 | 2 | 1 | 3 |
| HL | Nutty Nuggets | 2 | 4 | 1 | 2 | 3 |
| HM | OS | 2 | 2 | 2 | 3 | 3 |
| HN | Oat Bran Cereal, Quaker | 2 | 3 | 2 | 3 | 3 |
| HO | Oat Bran Flakes, Health Valley | 2 | 4 | 2 | 2 | 4 |
| HP | Oat bran cereal | 2 | 3 | 2 | 3 | 3 |
| HQ | Oat bran uncooked | 2 | 1 | 1 | 3 | 4 |
| HR | Oat cereal | 2 | 4 | 1 | 4 | 3 |
| HS | Oat flakes | 2 | 4 | 2 | 2 | 4 |
| HT | Oatmeal | 1 | 2 | 1 | 2 | 2 |
| HU | Oatmeal Crisp | 2 | 4 | 3 | 2 | 3 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| HV | Oatmeal Crisp with Almonds | 2 | 3 | 3 | 2 | 3 |
| HW | Oatmeal Crisp, Apple Cinnamon | 2 | 4 | 3 | 2 | 3 |
| HX | Oatmeal Crisp, Raisin | 2 | 3 | 3 | 2 | 3 |
| HY | Oatmeal Squares | 2 | 4 | 2 | 3 | 3 |
| HZ | Oatmeal Swirlers | 1 | 2 | 2 | 3 | 3 |
| IA | Oats, raw | 2 | 4 | 1 | 3 | 4 |
| IB | Oh's | 2 | 3 | 4 | 1 | 1 |
| IC | Oh's, Apple Cinnamon | 2 | 4 | 4 | 1 | 1 |
| ID | Oh's, Fruitangy | 2 | 4 | 4 | 1 | 1 |
| IE | Oh's, Honey Graham | 2 | 3 | 4 | 1 | 1 |
| IF | Old Wessex Irish Style Oatmeal | 1 | 2 | 1 | 2 | 2 |
| IG | Optimum Slim, Nature's Path | 2 | 2 | 2 | 4 | 4 |
| IH | Optimum, Nature's Path | 2 | 1 | 3 | 4 | 4 |
| II | Oreo O's Cereal | 2 | 2 | 4 | 1 | 2 |
| IJ | Peanut Butter Toast Crunch | 2 | 2 | 4 | 4 | 2 |
| IK | Polenta | 1 | 1 | 1 | 1 | 1 |
| IL | Product 19 | 2 | 2 | 2 | 1 | 2 |
| IM | Puffed Rice, Malt-O-Meal | 2 | 1 | 1 | 1 | 1 |
| IN | Puffed Wheat, Malt-O-Meal | 2 | 4 | 1 | 1 | 3 |
| IO | Quaker Dinosaur Eggs oatmeal | 1 | 2 | 2 | 3 | 3 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| IP | Quaker Fruit and Cream Oatmeal | 1 | 2 | 2 | 3 | 3 |
| IQ | Quaker Instant Grits, all flavors | 1 | 1 | 1 | 3 | 1 |
| IR | Quaker Multigrain Oatmeal | 1 | 2 | 1 | 1 | 3 |
| IS | Quaker Oatmeal Express | 1 | 2 | 2 | 3 | 3 |
| IT | Quaker Oatmeal Nutrition for Women | 1 | 2 | 1 | 2 | 2 |
| IU | Quaker Oatmeal Squares | 2 | 4 | 2 | 3 | 3 |
| IV | Quisp | 2 | 2 | 4 | 1 | 1 |
| IW | Raisin Bran Crunch | 2 | 2 | 3 | 2 | 3 |
| IX | Raisin Bran, Kellogg's | 2 | 3 | 2 | 3 | 4 |
| IY | Raisin Bran, Post | 2 | 3 | 2 | 3 | 4 |
| IZ | Raisin Nut Bran | 2 | 2 | 3 | 2 | 3 |
| JA | Raisin bran | 2 | 3 | 2 | 3 | 4 |
| JB | Reese's Peanut Butter Puffs | 2 | 3 | 4 | 4 | 2 |
| JC | Rice Krispies | 2 | 1 | 1 | 1 | 1 |
| JD | Rice Krispies, Frosted | 2 | 1 | 4 | 1 | 1 |
| JE | Rice Krispies, Treats Cereal | 2 | 1 | 3 | 1 | 1 |
| KN | Rice Krispies, Treats Cereal | 2 | 1 | 3 | 1 | 1 |
| JF | Rice bran, uncooked | 2 | 1 | 1 | 3 | 4 |
| JG | Rice cereal | 2 | 1 | 1 | 1 | 1 |
| JH | Rice flakes | 2 | 1 | 1 | 1 | 1 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| JI | Rice polishings | 2 | 1 | 1 | 3 | 4 |
| JJ | Rice, puffed | 2 | 1 | 1 | 1 | 1 |
| JK | Roman Meal | 1 | 2 | 1 | 1 | 2 |
| JL | Seven-grain Cereal | 1 | 2 | 1 | 1 | 3 |
| JN | Shredded Wheat | 2 | 4 | 1 | 2 | 4 |
| JO | Shredded Wheat 'N Bran | 2 | 4 | 1 | 2 | 4 |
| JP | Shredded Wheat Spoon Size | 2 | 4 | 1 | 2 | 4 |
| JQ | Shredded Wheat, 100% | 2 | 4 | 1 | 2 | 4 |
| JR | Shredded Wheat, Original | 2 | 4 | 1 | 2 | 4 |
| JS | Smacks | 2 | 3 | 4 | 1 | 2 |
| JT | Smart Start | 2 | 1 | 3 | 1 | 2 |
| JU | Smorz | 2 | 2 | 4 | 1 | 1 |
| JV | Special K | 2 | 1 | 1 | 2 | 1 |
| JW | Special K Fruit & Yogurt | 2 | 2 | 2 | 2 | 2 |
| JX | Special K Low Carb Lifestyle Protein Plus | 2 | 1 | 1 | 2 | 1 |
| JY | Special K Red Berries | 2 | 1 | 1 | 2 | 1 |
| JZ | Special K Vanilla Almond | 2 | 2 | 3 | 2 | 2 |
| KA | Strawberry Squares | 2 | 4 | 2 | 2 | 3 |
| KB | Sun Country 100% Natural Granola, with Almonds | 2 | 4 | 2 | 3 | 2 |
| KC | Sweet Crunch | 2 | 2 | 4 | 1 | 1 |
| KD | Sweet Puffs | 2 | 3 | 4 | 1 | 2 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| KE | Tasteeos | 2 | 4 | 1 | 4 | 4 |
| KF | Toasted Cinnamon Twists, Malt-O-Meal | 2 | 2 | 3 | 4 | 2 |
| KG | Toasted Oatmeal Cereal | 2 | 4 | 1 | 4 | 4 |
| KH | Toasted Oatmeal, Honey Nut | 2 | 3 | 3 | 4 | 2 |
| KI | Toasted oat cereal | 2 | 4 | 1 | 4 | 4 |
| KJ | Toasties | 2 | 1 | 1 | 1 | 2 |
| KK | Toasty O's, Apple Cinnamon, Malt-O-Meal | 2 | 1 | 4 | 4 | 2 |
| KL | Toasty O's, Honey and Nut, Malt-O-Meal | 2 | 2 | 3 | 4 | 3 |
| KM | Toasty O's, Malt-O-Meal | 2 | 1 | 1 | 4 | 4 |
| KO | Tootie Fruities, Malt-O-Meal | 2 | 3 | 4 | 4 | 1 |
| KP | Total | 2 | 4 | 2 | 4 | 3 |
| KQ | Total Brown Sugar & Oats | 2 | 3 | 3 | 4 | 3 |
| KR | Total Corn Flakes | 2 | 1 | 1 | 4 | 1 |
| KS | Total Instant Oatmeal | 1 | 2 | 2 | 3 | 3 |
| KT | Total Raisin Bran | 2 | 1 | 3 | 4 | 3 |
| KU | Trix | 2 | 1 | 4 | 3 | 2 |
| KV | Trix, Reduced Sugar | 2 | 1 | 3 | 4 | 2 |
| KW | Uncle Sam's Hi Fiber Cereal | 2 | 4 | 1 | 3 | 4 |
| KX | Under Cover Bears | 1 | 2 | 2 | 3 | 3 |
| KY | Waffle Crisp | 2 | 3 | 3 | 1 | 1 |

# DSQ: EARLIER METHOD

| cchoice | cname | hotcold (1=hot; 2=cold) | ntile classification of whole grain density (whgnt) | ntile classification of added sugars density (sugnt) | ntile classification of calcium density (calcnt) | ntile classification of fiber density (fibnt) |
|---|---|---|---|---|---|---|
| KZ | Weetabix Whole Wheat Cereal | 2 | 4 | 1 | 3 | 4 |
| LA | Wheat Hearts | 1 | 2 | 1 | 1 | 2 |
| LB | Wheat bran, unprocessed (miller's bran) | 2 | 1 | 1 | 3 | 4 |
| LC | Wheat cereal | 1 | 2 | 1 | 1 | 2 |
| LD | Wheat germ | 2 | 1 | 1 | 2 | 4 |
| LE | Wheat germ, with sugar and honey | 2 | 1 | 1 | 3 | 4 |
| LF | Wheat, puffed | 2 | 4 | 1 | 1 | 3 |
| LG | Wheat, puffed, presweetened with sugar | 2 | 3 | 4 | 1 | 1 |
| LH | Wheatena | 1 | 2 | 1 | 1 | 2 |
| LI | Wheaties | 2 | 4 | 2 | 3 | 4 |
| LJ | Wheaties Energy Crunch | 2 | 2 | 3 | 2 | 3 |
| LK | Wheaties Raisin Bran | 2 | 3 | 2 | 3 | 4 |
| LL | Whole wheat cereal | 1 | 2 | 1 | 1 | 2 |
| LM | Whole wheat, cracked | 2 | 4 | 1 | 2 | 4 |
| LN | Zoom | 1 | 2 | 1 | 1 | 2 |