

CHILD NUTRITION

Healthy eating habits begin in childhood and can affect a person's health throughout their lifetime. Poor dietary habits adopted during childhood may have lifelong consequences, as children and adolescents who are overweight and obese are at substantially increased risk of being overweight and obese as adults. Additionally, poor diet quality is associated with an increased risk of osteoporosis, hypertension, type 2 diabetes, cardiovascular disease, and dental caries.¹

The Healthy Eating Index-2010 (HEI-2010) is designed to measure dietary quality² and can be used to assess how well a population eats on average, compared to the recommendations outlined in the 2010 Dietary Guidelines for Americans. Nine of the 12 HEI-2010 components address adequate consumption of healthy foods. The remaining three components assess intake of foods that should be consumed in moderation: refined grains, sodium, and empty calories. In the table below, the HEI-2010 total and component scores are averages across all children, based on a 24-hour dietary recall.

In 2009–2010, the overall composite score for the HEI-2010 among children aged 2–11 years was 53 out of 100 points, where 100 points indicates a diet that aligns with the 2010 Dietary Guidelines for Americans. With regard to the nine components of dietary adequacy, children received 100 percent of the possible points for whole fruit intake and 96 percent for dairy. Children were least likely to consume adequate amounts of greens and beans with 18 and 22 percent, respectively, of possible points obtained (table

1). However, consumption of greens and beans was higher among female than male children (on average 20 versus 16 percent of points, respectively).

With regard to race and ethnicity, scores for individual HEI-2010 components varied, although the total HEI scores varied little between groups. Non-Hispanic White children were less likely than all other racial and ethnic groups to consume adequate amounts of greens and beans, meeting only 13 percent of possible points on average compared to about 25 percent for all other children (table 1). Conversely, non-Hispanic White and non-Hispanic children of other races were closer to consuming adequate amounts of seafood and plant proteins (48 and 62 percent of possible points, respectively) than non-Hispanic Black and Hispanic children (37 and 41 percent, respectively).

Similar differences in the consumption of seafood and plant proteins exist with regard to household income. Children in households with incomes of 200 percent or more of poverty consumed 55 percent of possible points, compared to 39 percent among children in households with incomes of less than 100 percent of poverty.

The overconsumption of refined grains, sodium, and empty calories was present across all racial and ethnic groups. Overall, the diet quality of children would be improved by increasing the consumption of whole grains, vegetables, seafood, and plant proteins; decreasing the consumption of sodium and empty calories; and increasing the relative proportions of mono- and poly-unsaturated to saturated fatty acids.

Table 1. Diet Quality Among Children Aged 2–11 as Measured by Healthy Eating Index (HEI-2010) Scores,* by Dietary Component and Race/Ethnicity, 2009–2010

Dietary Component	Overall Average	Non-Hispanic White	Non-Hispanic Black	Hispanic	Non-Hispanic Other Race
Total HEI-2010	53	52	52	54	53
Adequacy (higher score indicates higher consumption)					
Total fruit	91	86	88	98	97
Whole fruit	100	99	90	100	100
Total vegetables	40	38	38	44	41
Greens and beans	18	13	25	25	26
Whole grains	22	24	22	18	19
Dairy	96	100	74	94	89
Total protein foods	81	75	90	86	85
Seafood and plant proteins	46	48	37	41	62
Fatty acids	28	24	38	29	33
Moderation (higher score indicates lower consumption)					
Refined grains	44	45	47	40	35
Sodium	49	50	48	52	35
Empty calories	51	48	51	57	56

*In this table, all scores are shown as a percentage of possible points. Total HEI-2010 scores reflect overall dietary quality. For the adequacy components, higher scores reflect higher intakes and a score corresponding to 100 indicates that the standard was met or exceeded on average. For the moderation components, higher scores reflect lower intakes because lower intakes are more desirable and a score corresponding to 100 indicates that the standard was met. For all components, a higher score indicates a higher quality diet.

Data Sources

Table 1. Centers for Disease Control and Prevention, National Center for Health Statistics. National Health and Nutrition Examination Survey, 2009–2010. Data analyzed by the Maternal and Child Health Epidemiology and Statistics Program.

Endnotes

1. U.S. Department of Agriculture; U.S. Department of Health and Human Services. *Dietary Guidelines for Americans*, 7th edition. Washington, DC: Government Printing Office; 2010. Available at: <http://health.gov/dietaryguidelines/dga2010/dietaryguidelines2010.pdf>. Accessed September 30, 2014.
2. Guenther PM, Casavale KO, Reedy J, et al. Update of the Healthy Eating Index: HEI-2010. *Journal of the Academy of Nutrition and Dietetics*. April 2013;113(4):569–580.

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