

Many Americans Falsely Optimistic About Their Diets

Young Shim,
011-82-431-261-8764 (South Korea)
syoung@dragon.seowon.ac.kr

Jayachandran N. Variyam
202-694-5457
jvariya@ers.usda.gov

James Blaylock
202-694-5402
jblaylock@ers.usda.gov

Mounting evidence that diet can have profound and long-term effects on health has sparked concerns about the quality of Americans' diets. Many private and public campaigns have tried to educate the public about healthful diets. A key requirement for the success of these efforts is that individuals are able to assess their dietary quality accurately, a difficult requirement because it assumes that people know the kinds and amounts of nutrients in the foods they eat and what constitutes a healthful diet. Campaigns to promote healthful diets will be of no use if people falsely believe their diets are healthful enough.

A 1998 study by researchers with the U.S. Department of Agriculture's (USDA) Economic Research Service looked at people's perception of their dietary fat intake as compared with their actual intake of dietary fat. The study showed that a gap exists between actual and perceived dietary fat intakes. About 30 percent of the respondents in a 1989-91 sur-

vey mistakenly assessed their fat intake to be about the right level for a healthful diet.

We expand on that study to look at whether self-assessed overall diet quality differs from actual overall diet quality and for which population groups this gap is the largest. We used intake data and questionnaire responses for meal planners/preparers from two nationally representative USDA surveys—the 1989-90 Continuing Survey of Food Intakes by Individuals (CSFII) and its companion Diet and Health Knowledge Survey (DHKS). We used the 1989-90 surveys rather than the more recent 1994-96 surveys because only the 1989-90 surveys asked respondents to assess the overall quality of their diets. These surveys collect information on the food that people eat and their sociodemographic characteristics, and ask respondents about their nutrition knowledge, diet-health awareness, and attitudes about healthful eating.

We found that many people inaccurately assess their actual diets. About 42 percent of the respondents mistakenly believed their diets were more healthful than they were. These mistakenly optimistic people present a special problem for nutrition educators because they do not realize they are at risk from their unhealthy diets. Nutrition educa-

tion efforts targeted to these people first need to alert these optimists about their false perceptions and then help them assess their diets accurately.

Diets Were Scored and Rated

We measured the respondents' actual diet quality using the Healthy Eating Index (HEI). The HEI was developed by USDA's Center for Nutrition Policy and Promotion to measure how well a diet conforms to the recommendations of the *Dietary Guidelines for Americans* and the Food Guide Pyramid (see box). The index has a total possible score ranging from 0 to 100. The higher the score, the better the diet. "Good" diets carry a score above 80 points. A diet with a score of 51 to 80 "Needs Improvement," and a diet with a score below 51 points is considered "Poor." Three-fourths of the respondents' diets rated "Needs Improvement." Eleven to 12 percent of the respondents' diets were "Good," and 14 to 15 percent were "Poor."

Self-assessed diet quality was inferred from responses to the DHKS question: "In general, would you say the healthfulness of your diet is excellent, very good, good, fair, or poor?" We classified the respondents into six groups accord-

Shim is an associate professor with the Department of Family Resource Studies and Housing, Seowon University, South Korea. Variyam and Blaylock are agricultural economists with the Food and Rural Economics Division, Economic Research Service, USDA.

ing to their degree of accuracy in assessing their actual diet quality (table 1):

Extreme Optimists assessed their Poor diets as Excellent or Very Good;

Optimists assessed their Poor diets as Good or Fair or assessed their Needs Improvement diets as Excellent or Very Good;

Moderates correctly assessed their Needs Improvement diets as Good or Fair;

Pessimists assessed their Good diets as Poor;

Unhealthy Realists correctly assessed their Poor or Needs Improvement diets as Poor; and

Healthy Realists correctly assessed their Good diets as Excellent, Very Good, Good, or Fair.

Table 1
Some Americans Are Wishful Thinkers, and Others Fear the Worst About Their Diets

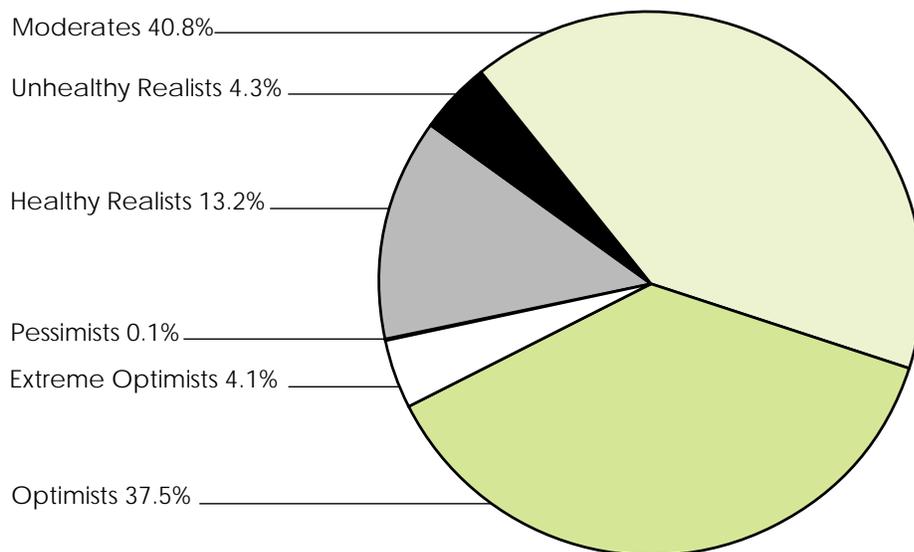
Respondent group	Perceived diet quality	Actual diet quality (HEI Score ¹)
<i>Ratings</i>		
Extreme Optimists	Excellent or very good	Poor (below 51)
Optimists	Good or fair	Poor (below 51)
	Excellent or very good	Needs improvement (51-80)
Moderates	Good or fair	Needs improvement (51-80)
Pessimists	Poor	Good (above 80)
Unhealthy Realists	Poor	Poor (below 51) or Needs improvement (51-80)
Healthy Realists	Excellent, very good, good, or fair	Good (above 80)

¹The Healthy Eating Index (HEI) is scored based on the nutritional quality of the respondent's actual diet; the higher the HEI, the better the diet.
Source: USDA's Economic Research Service.

Many Too Optimistic About Their Diets

Approximately 4 percent of the respondents were Extreme Optimists, and about 38 percent were Optimists (fig. 1). The average HEI score was 44 for the Extreme Optimists and 55 for the Optimists. These two groups need special attention from nutrition educators because they incorrectly perceive their diets to be more healthful than is correct. About 41 percent of total respondents were Moderates, correctly realizing that their diets (averaging an HEI score of 64) needed improvement. About 4 percent of respondents were Unhealthy Realists, with an average HEI score of 53. Unhealthy Realists know their diets are poor or need improvement. They and the Moderates may be successful targets for nutritional and dietary campaigns since they would be open to suggestions of ways to improve their diets.

Figure 1
More Than a Third of Those Surveyed Overestimated the Quality of Their Diets



Source: Computed by USDA's Economic Research Service from USDA's 1989-90 Continuing Survey of Food Intakes by Individuals (CSFII).

Not everyone's diet is in trouble. Thirteen percent of the survey respondents were Healthy Realists who correctly knew that their diets, averaging a HEI score of 85, were fine. Less than one percent of respondents, the Pessimists with their average HEI score of 83, incorrectly thought their healthful diets were not healthful enough. These two groups are not in need of dietary advice as they are already following sound nutrition practices.

Accuracy of Self-Assessment Varies By Sociodemographics

Men were more likely to be mistakenly optimistic about their diet quality than women. About 5 percent of male respondents were Extreme Optimists, assessing their actual Poor diets to be Excellent or Very Good (table 2). About 4 percent of female respondents were Extreme Optimists. Forty-five percent of

male respondents were Optimists, as opposed to 35 percent of female respondents.

Higher percentages of respondents who were less than 50 years old were Extreme Optimists. However, the percentages of respondents who were Optimists were higher for 30- to 49-year-olds and for 50- to 69-year-olds than those of other age groups. In particular, people between 30 and 49 years old were more likely to be either Extreme

Measuring Diet Quality: The Healthy Eating Index

The HEI measures overall diet quality by evaluating how an individual's diet stacks up to the 10 dietary recommendations in the *Dietary Guidelines for Americans* and the Food Guide Pyramid.

The first five HEI components measure the extent to which a person's diet conforms to the Food Guide Pyramid serving recommendations for the grain, vegetable, fruit, milk, and meat groups. For each of these five food-group components of the HEI, an individual's diet is assigned a score between 0 and 10. Those consuming the recommended number of servings received a maximum score of 10 (a score of zero was assigned for any food group where no items from that food group were eaten). Intermediate scores were given for intakes between the two limits, calculated proportionately to the number of servings consumed. For example, if the recommended number of servings for the grain group was eight and an individual consumed four servings of grain products, then the person would receive a score of 5 points (half of 10) for the grain component of his or her HEI.

HEI components 6 through 10 measure the extent to which a person's diet conforms to the Dietary Guidelines recommendations for total fat, saturated fat, cholesterol, sodium, and variety. An individual's

diet was assigned a score between 0 and 10 for these components as well. The scores for fat and saturated fat were related to their consumption in proportion to total food energy (calories). Fat intakes less than or equal to 30 percent of total calories were given a score of 10. The score declines to zero when the proportion of fat to total calories was 45 percent or more. Intakes between 30 and 45 percent were scored proportionately. Saturated fat intakes of less than 10 percent of total calories received a score of 10, while zero points were given for saturated fat intakes of 15 percent or more of calories. Scores were proportionately given for fat intakes between 10 percent and 15 percent of total calories.

Scores for cholesterol and sodium were given based of milligrams consumed in the diet. A score of 10 was given for cholesterol intakes less than or equal to 300 milligrams daily. Zero points were given for intakes at or over 450 milligrams. For sodium, the maximum score (10) meant intake was less than or equal to 2,400 milligrams. A zero score was given for sodium intakes at 4,800 milligrams or higher. Intermediate scores for cholesterol and sodium intakes between the two cutoff points were given proportionately.

Dietary variety was assessed by totaling the number of "different" foods eaten in amounts sufficient to

contribute at least half of a serving in one or more of the five pyramid food groups. Food mixtures were broken into their component ingredients and assigned to relevant food groups. Similar foods, such as two different forms of potatoes or two different forms of white bread, were grouped together and counted only once in measuring the score for variety. A maximum score of 10 was awarded if 16 or more different food items were consumed over a 3-day period. A score of zero was given if six or fewer distinct food items were consumed. Intermediate scores were awarded proportionately for consumption between the cutoffs.

Complete details on the construction of HEI can be found in the USDA's Center for Nutrition Policy and Promotion publication *The Healthy Eating Index*, CNPP-1, October 1995.



Optimists or Optimists. This indicates not only that many respondents in this age group eat unhealthy diets, but also that they do not realize what they eat in terms of healthfulness. Respondents over the age of 70 had a more accurate sense of the healthfulness of their diets.

There was little difference between the percentage of Blacks and the percentage of Whites who were extremely optimistic or optimistic about their diet quality. However, the percentages of other races—including Asian, Pacific Islander, Aleut, Eskimo, and

American Indian—that were Extreme Optimists or Optimists were lower than for Blacks and Whites.

The share of Hispanics who assessed inaccurately their Poor diets to be Excellent or Very Good was greater than that of non-

Table 2
Consumer Self-Assessment of Diets by Sociodemographic Characteristics

Characteristic	Extreme Optimists	Optimists	Moderates	Unhealthy Realists	Healthy Realists	Pessimists
<i>Percent</i>						
Sex:						
Male	5.4	45.3	37.3	6.3	5.7	0
Female	3.8	35.2	41.8	3.7	15.3	0.1
Age:						
< 30	6.9	32.4	50.2	7.1	3.4	0
30-49	5.1	41.6	40.6	4.6	8.2	0
50-69	1.7	38.5	34.3	3.7	21.6	.2
> 70	2.0	27.8	40.4	1.2	28.2	.4
Race:						
White	4.3	37.6	39.7	3.9	14.5	.1
Black	3.6	40.2	44.8	8.1	3.2	0
Other	1.0	25.4	57.8	1.8	13.4	.6
Ethnic origin:						
Hispanic	9.5	37.3	36.6	5.1	11.5	0
Non-Hispanic	3.8	37.5	41.1	4.3	13.3	.1
Percentage of the poverty threshold: ¹						
< 131	3.5	35.3	44.1	6.7	10.0	.4
131-250	6.2	32.6	43.9	3.7	13.1	.4
251-500	3.8	37.2	41.3	3.8	13.7	.1
> 500	3.3	44.0	34.5	2.9	15.2	0
Education:						
High school	4.6	33.5	43.9	4.7	13.1	.1
College	3.7	41.2	37.1	4.5	13.6	0
Post college	2.9	49.8	32.7	1.7	12.7	.3
Smoking now:						
Yes	6.5	42.8	38.8	7.7	4.1	.1
No	4.5	34.5	35.4	6.3	19.2	0
Weight: ²						
Overweight	4.7	35.4	42.6	5.8	11.3	.1
Else	3.6	39.6	39.2	3.0	14.6	.1

¹Poverty threshold was \$13,359 for a family of four in 1990.

²Weight status was declared by the respondents.

Source: Computed by USDA's Economic Research Service from USDA's 1989-90 Continuing Survey of Food Intakes by Individuals.

Hispanics, 10 percent and 4 percent, respectively. However, there was little difference between Hispanics and non-Hispanics for the optimists group.

Respondents' accuracy in self-assessing their diets tended to increase with income level for the Healthy Realists. However, for Moderates, this was reversed. The percentage of Optimists was smallest for respondents with incomes between 131 and 250 percent of the poverty threshold and largest for respondents with the highest incomes.

As expected, our analysis found that people's mistaken optimism about the quality of their diets decreased with formal education, at least for the Extreme Optimists. Respondents with more years of formal education generally have

greater access to magazines and newspapers and, therefore, may have more nutrition information, enabling them to assess their actual diet quality levels more accurately. However, surprisingly, accuracy in self-assessment of diets for the Optimists decreased with education. That is, respondents with higher levels of formal education were more likely to assess their Poor diets as Good or Fair or their Needs Improvement diets as Excellent or Very Good.

Interestingly, many of the richer and more highly educated respondents had a falsely optimistic view of their diets. Perhaps this is because they think they know more about nutrition than they do. Higher incomes may allow them to eat more expensive, fatty, and sugary foods. Or perhaps the more wealthy

and highly educated place a high value on their time, choosing less nutritious convenience foods or foods prepared away from home in place of home cooked meals.

Smokers and nonsmokers differed little in the percentage found to be extremely optimistic about their diet quality. However, smokers were more likely to be optimistic in their assessment of their diets than nonsmokers.

Expectedly, the percentage of Extreme Optimists was higher among respondents who considered themselves overweight than among all other respondents—5 percent versus 4 percent. However, only 35 percent of the admittedly overweight respondents were Optimists versus 40 percent of respondents who did not consider themselves to be overweight.

Table 3
Consumer Self-Assessment of Diet by Attitudes on Diet and Health

Attitude	Extreme Optimists	Optimists	Moderates	Unhealthy Realists	Healthy Realists	Pessimists
<i>Percent</i>						
How important is maintaining a desirable weight to you:						
Very important	3.6	41.0	36.0	4.8	14.5	0.1
Others	4.8	33.3	46.4	3.8	11.5	0
The things I eat and drink now are healthy so there is no reason for me to make changes:						
Strongly agree	3.4	44.1	26.7	3.0	22.6	.2
Others	4.3	36.4	43.2	4.6	11.4	.1
What you eat can make a big difference in your chance of getting a disease, like heart disease or cancer:						
Strongly disagree	1.6	37.2	33.7	6.8	20.7	0
Others	4.3	37.7	40.9	4.3	12.9	.1
How important is nutrition to you when you shop for food:						
Very important	4.5	43.0	33.2	3.3	15.8	.2
Others	3.7	30.2	50.8	5.8	9.6	0

Source: Computed by USDA's Economic Research Service from USDA's 1989-90 Diet and Health Knowledge Survey.

Accuracy Also Varies by Attitudes on Diet and Health

People's attitudes about diet and health influence their dietary behavior. Linking these attitudes, such as awareness of the link between diet and health, with respondents' accuracy in self-assessing their diets can allow nutrition educators to see which groups need the most nutrition guidance.

Besides the question about perceived overall diet quality, the DHKS also asked a series of questions about nutrition knowledge, attitudes, and diet-health awareness. We analyzed how the six groups responded to those questions and whether any patterns emerged.

Fewer respondents who thought maintaining a desirable weight was very important were Extreme Optimists than other respondents, about 4 percent versus 5 percent (table 3). About 41 percent of the respondents who thought maintaining a desirable weight was very important were Optimists versus 33 percent of other respondents. Those people who thought maintaining their weight was important optimistically believed that they were eating a diet to accomplish that.

As expected, people who rated their diets as Excellent to Fair were more likely to agree with the statement, "The things I eat and drink now are healthy so there is no reason for me to make changes." Forty-eight percent of the respondents who agreed strongly that no changes were needed to their diets were Extreme Optimists or Optimists while 41 percent of the respondents who did not agree strongly with that statement were Extreme Optimists or Optimists.

Respondents who strongly disagreed with the statement, "What you eat makes a big difference in your chance of getting a disease, like heart disease or cancer," were



Many richer, more highly educated survey respondents perceived their diets as much more healthful than in actuality. Higher incomes may permit them to purchase more expensive, fatty, and sugary foods, or they may eat out more often, choosing foods that are less healthful than home-cooked meals.

Credit: PhotoDisc

less likely to be Moderates than respondents who did not strongly disagree with the statement. However, there was little difference in the Optimists.

Respondents who consider nutrition to be very important in food shopping were more likely to be Extreme Optimists and Optimists (5 percent and 43 percent, respectively), compared with 4 percent and 30 percent of other respondents.

Nutrition Messages May Need a Redesign

According to our analysis, there is a clear gap between many people's self-assessment of their diets and their actual diet quality. In particular, we found that males, people between 30 and 49 years of age, Hispanics, wealthier individuals, and those with more formal schooling have a greater tendency to be falsely optimistic about the quality of their diets. The respondents who inaccurately assessed their diets, the

Extreme Optimists and the Optimists, may consist largely of people who have intentions of maintaining a healthful diet but misunderstand the nutrition and diet information available to them.

Our analysis points out the challenges facing successful nutrition guidance and policies. People who assess their diets inaccurately are unaware that their diets may be detrimental to their health. They have no motivation to change their diets unless they realize their false perceptions on dietary quality. They may be more willing to follow nutritional advice if they realize their misjudgement. Thus, effective nutrition education and guidance must get these falsely optimistic consumers to look at what they are eating and at the specifics of their nutrition gaps or excesses. Then these people may be better able to use nutrition advice to improve their diets.

The Extreme Optimists and Optimists may also consist of peo-

ple heavily influenced by tastes or preferences in making food choices. Tasty food often contains more sugar, fat, or saturated fat, which are not healthful. Some cultural preferences for foods, such as deep fried foods or fattier meats or cream sauces, may date to a time when nutrition knowledge was less complete. People who choose foods based on tastes and preferences over nutrition may not realize the weaknesses in their diets.

The Moderates, who assessed their Needs Improvement diets as Good or Fair, and the Unhealthy Realists, who correctly assessed their Poor or Needs Improvement diets as Poor, may have problems choosing healthful diets because of limited incomes, limited time available to prepare food, or unwillingness to change their food choices.

Dietary perceptions and habits interact and are slow to change. When people believe that their diets are healthful enough, or if attributes, such as convenience and taste,

are more important to people than nutritional quality, then it is very difficult to get them to change their dietary habits.

However, the introduction of nutrition labeling and advertising rules and regulations are a step in the right direction toward helping consumers make smart food choices. The "Nutrition Facts" label, which became mandatory in 1994, lists the content of calories, fat, saturated fat, and cholesterol (in addition to other nutrients) in each serving of most packaged food items. Studies indicate that the Nutrition Facts label has generally enhanced consumers' ability to make informed nutritional decisions.

Meat and poultry labeling and the health claims that are permitted in food advertising have also changed. For example, whole oat grain foods that contain at least 0.75 grams of soluble fiber per serving and that are low in saturated fat and cholesterol can claim that they may reduce the risk of heart disease, when part of a diet low in saturated fat and

cholesterol. A growing body of evidence suggests that health claims by food producers and manufacturers have significant potential to increase consumer awareness of diet-health issues and to improve consumer dietary choices, especially for groups not well reached by Government-sponsored promotion activities. Therefore, the overall diet quality of the population may improve if food advertising with accurate health claims reaches consumers who are falsely optimistic about their diets.

References

- Bishow, J., J. Blaylock, and J.N. Variyam. "Matching Perception and Reality in Our Diets." *FoodReview*, Economic Research Service, U.S. Department of Agriculture, Vol. 21, Issue 2, May-August 1998, pp. 16-20.
- U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. *The Healthy Eating Index*, CNPP-1. October 1995. ■