We thank both Drs. Block and Willett for their thought-provoking responses to our paper. Block (1) and Willett (2) have drawn different conclusions from the reports published in this issue of the Journal. Block concludes that there is no such thing as “the food frequency questionnaire” and that the validity of these instruments varies, depending on a number of design and analyses characteristics. Willett, on the other hand, points out that the most important contribution of these reports on comparability is “to document the reproducibility of standardized dietary assessment methods across substantially different formats” (2, p. 1158). Although these appear to be contradictory conclusions, there is a sense in which both interpretations have validity. To some extent, the details of the questionnaire will determine the accuracy of point estimates and ability to rank individuals, but, as we have demonstrated in our study, instruments intended to capture total dietary intake can vary considerably both in format and content but will be similarly useful in predicting relations between diet and disease.

We agree with Block that since we compare three different types of food frequency questionnaires, using the terminology “lower estimates” rather than “underestimates” may be a more appropriate way of reporting our results. However, we also point out that there is considerable evidence that “gold standard” reference data, such as 24-hour recalls or food records, cannot be considered “truth” but are themselves prone to non-systematic individual biases that vary across population subgroups (3, 4).

We also concur with Block that estimates will be higher with increasing number of food items and that the absolute estimates of nutrients derived from fruits and vegetables using the Willett instrument are closer to those derived from our own instrument; to a large degree, this is a result of the higher number of fruit and vegetable items on the questionnaires. However, we are also impressed with how little the large difference in the number of food items in these food groups affects the energy-adjusted correlations for these nutrients. We need to point out that the reference questionnaire (Diet, Activity, and Reproductive Risks for Colon Cancer) does not query participants on 800 different food items but allows the researchers to code approximately 800 foods depending upon the respondent’s answer. The questionnaire is structured so that an interviewer asks about approximately 70 different food groups, and the respondent answers with the specific type of food he or she eats in that category. For some categories, a cue card listing all possible choices is given to aid recall.

Last, Block points out that although her questionnaire gives standard portion sizes and asks the respondent to indicate whether his or her portion size is smaller than, the same as, or larger than the portion size indicated on the questionnaire, the use of these responses is problematic. She recommends utilizing age- and sex-specific portion sizes derived from another database, since they will produce higher correlations with reference data. The impact on our results of using age- and sex-specific portion sizes may be limited, given the narrow age range of our sample. In addition, it seems illogical to present standard portion sizes on the questionnaire and then disregard them in the analyses. In his response, Willett presents an interesting discussion on the contribution that including portion sizes on food frequency questionnaires ultimately makes to our ability to estimate intake. He points out that this is a controversial topic, but he is almost certainly right when he concludes that the “presence or absence of questions on serving sizes [cannot] account for appreciable differences in validity within most groups of similar age and gender” (2, p. 1158).

Neither the Block nor Willett questionnaire is perfect, and both are continually undergoing revisions, particularly to account for temporal changes. However, both Block and Willett as researchers should be acknowledged for the outstanding contributions they have made to dietary assessment and the discovery of important diet-disease relations.
REFERENCES