

# **The Development and Testing of the Behavior Checklist Questions for the EFNEP Evaluation/Reporting System**

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## **Original 15 Question Checklist (used from 1993 to 1997)**

### **Validity**

Domains were defined and questions were selected that applied to each domain, which provided content validity. An expert panel representing potential stakeholders reviewed the questions and provided feedback. Through focus groups, the questions were worded and re-worded to elicit the information needed.

### **Reliability**

Statistical testing of data provided from several states piloting the checklist was done. Cronbach's alpha was used to refine the instrument, taking out items that brought down the internal reliability for some of the question clusters. Pre- and post-means and frequencies for the control and treatment groups were reviewed to look at difficulty and discrimination.

### **Overall Purpose and Goals of the Behavior Checklist**

- To evaluate key food and nutrition-related behaviors that could not be evaluated using the 24-hour recall and other questions already included in the ERS system.
- To be sufficiently brief so that the burden on both the homemakers and paraprofessionals would not discourage its use.
- To provide information that would meet the needs and interests of key stakeholders.

### **Steps Undertaken in the Development of the Checklist**

- After the need was identified, a subcommittee was formed to work on the development of a food behavior checklist.
- A questionnaire was sent to all states, to assess what they felt were needed indicators for a national reporting system. In addition, all states were asked to send behavior checklist instruments already in use to the EFNEP National Program Leader.
- The Checklist subcommittee reviewed instruments sent by all the states and other resources, such as the NFCS Diet and Health Knowledge Survey. The committee felt that using indicators that were the same or comparable to others being used nationwide would be especially valuable. Four domains of indicators were identified, and items thought to best tap into domains were selected or created. The domains were as follows:

Homemaker will improve diet quality;  
Homemaker will improve management of food resources;  
Homemaker will improve food handling practices and food preparation skills;  
Homemaker will increase mastery of living situation/self-esteem

Besides relevance to the domains, criteria for the selection of indicators included such issues as: How measurable is the behavior? How well does the item serve as an indicator for the objective? Draft 1 of the checklist was sent to all ERS committee members.

- The subcommittee worked on refining the draft instrument, using input from the total committee. The checklist was revised and the next draft sent to EFNEP Coordinators in all states, for review and comment.
- Volumes of feedback was received (from 50 EFNEP Coordinators and others), and a comprehensive summary was sent to subcommittee members.
- A draft of the checklist was sent to all members of the ES/USDA Impact Indicators Committee for feedback, to provide an opportunity for coordination. Feedback was received. A draft was also sent to the National Program Leader for Program and Staff Development, USDA. More feedback was received.
- The subcommittee held a conference call, and determined a need for more input from key people, to help in the assimilation of comments. A summary of feedback from all sources was prepared, and a panel of experts was identified and recruited. (These experts are listed in the Acknowledgments section of the ERS User's Guide.) Both the comments summary and a draft of the checklist were sent to these individuals for review, and a face-to-face meeting was arranged in Washington, D.C., to discuss their recommendations.
- The Expert Panel met in Washington for one full day. First, broad concerns about the instrument were discussed, then the panel discussed the checklist item by item. Many changes were made, and it was determined that focus groups of homemakers would be helpful, to give input on the wording of some items. Discussion on the possible inclusion of food sufficiency questions from NHANES and/or the FRAC Community Childhood Hunger Identification Project (CCHIP) studies was also held. A revised list of questions was generated for testing in focus groups, together with questions for further exploration.
- For questions about lowering fat and eating more whole grain foods, (previously "How often do you choose or prepare food to be low in fat? How often do you eat foods made from whole grains [like whole wheat breads or cereals, or brown rice]?") there was a strong recommendation by the Expert Panel that the checklist be more specific. Since the total number of questions was limited, however, a comprehensive list of key food-related behaviors for each of these two practices was developed so they could be tested to

determine which behaviors best discriminated in identifying fat reduction/whole grain consumption practices. Resources used in the preparation of these lists included behavior assessment instruments used in other states, instruments published in the literature, and other instruments such as Gladys Block's Simplified Fat Screener.

- Focus group leaders were recruited to provide feedback on the resulting draft (focus group version). In selecting focus group leaders, people who would add to the representativeness of the diversity of EFNEP clientele and those with experience/expertise in focus group methodologies were considered. (A list of participating states is given in the ERS User's Guide Acknowledgments.) The leaders were sent a draft of focus group questions.
- Focus group leaders held a conference call and decided to revise procedures and questions for the focus groups. It was decided to delay the focus groups until after the next full ERS committee meeting.
- Focus group leaders received checklists and final testing procedures, and conducted their focus groups. Transcripts were sent to the committee's Evaluation Specialist for analysis.
- The checklist was tested for reading level, and was found to be at the 6th grade level.
- The Evaluation Specialist submitted a "Focus Group Interview Preliminary Summary of Results", which was discussed at length by the Checklist Subcommittee and became the basis for the next draft. This draft was intentionally lengthy to provide test data for discriminating among the variables and selecting the most meaningful indicators.
- Instructions were prepared for the pilot test, and sent to all seven participating states. Both treatment and control groups were included. Although there was only 2 - 2 1/2 months in which to do a pre- and post-test, the committee felt that this was acceptable, as changes are more difficult to show in a shorter time period than in a longer period.
- Analysis of the pilot test was completed by the Evaluation Specialist and Program Specialist in Virginia. Statistical analyses on the pilot survey data included:

Cronbach alpha analysis (internal reliability) of items within questions pertaining to preparation methods, fat, salt, and food selection. These were used to eliminate questions which did not add to the reliability of the scale.

Comparison of pre- and post- means for control and treatment groups.

Crosstabs of pre- and post- frequencies for control and experimental groups.

- In general, the means comparison and crosstabs indicated positive change in the experimental group on all items and slight positive changes in the control group on most items. The analyses provided some additional help in trying to determine which items to keep in the instrument and which ones to drop. After extensive discussions, the following decisions were made:

Drop questions regarding fat and fiber because the nutrient analysis component of the program provides data on these. Keep questions regarding salt, however, because there is no other source of practice data.

Throughout the development of the instrument, questions related to food handling and food safety were very difficult. The committee worked on several versions of questions related to cross contamination, cleanliness (including hand-washing), proper food storage (temperature, containers, length of time), and proper thawing, and other practices. However, for a variety of reasons, only the question about leaving meats and dairy foods out for more than two hours made it through all tests. Therefore, the committee decided to add a question about thawing foods.

- Additional changes were made to lower the literacy level.
- Another review of the items was made, to be sure the four domains were still represented.
- The reading level of the revised instrument was tested again and found to still be at the 6th grade level.

NOTE: The committee at several points during the development of the Behavior Checklist recommended guidelines and training in the use of this instrument. In this way, the paraprofessionals could provide examples or clarifications to statements in a consistent manner. A protocol could also provide an appropriate introduction to the survey, so the reasons for the questions could be explained. The subcommittee, however, did not have sufficient time to prepare such a protocol.

## **Revised 10 Question Checklist ( in use from 1997 to present)**

The 15 question instrument described above was incorporated into the EFNEP Evaluation/Reporting System (ERS) as an optional component. In the first year of use, 29 out of 48 states who used the ERS choose to use the Behavior Checklist, a 60 % use rate. The summary of data from the checklist gave very impressive results of the changes that occur as a result of EFNEP nutrition education programming. These results were shared with Congress, other agencies and at national meetings. [In FY 97, 41 of 51 states (80%) using the reporting system provided data on the checklist results.]

While the instrument was generally successful, some states raised concerns about specific questions on the checklist. For example, one question asked clients whether they ever had to cut the size of their children's meals because there was not enough food. This question has been asked on other national surveys measuring hunger and food security. The questions raised concerns for some clients who were afraid that a positive response could indicate neglect, and cause problems with social services. Two additional questions were an attempt to measure locus of control, but seemed to cause some confusion for clients, and did not show much difference between entry and exit. The final issue was a concern about how to answer questions that ask about children when the client is a pregnant woman with no other children.

A working group primarily made up of representatives of states that were not using the checklist proposed a new instrument to replace the existing one. This new instrument needed to undergo focus group and pilot testing and comparisons between the existing checklist and the proposed revision. However, only a limited amount of testing was done, and it was not sufficient to warrant replacement of the existing checklist. No focus group interviews were held with clients to assure that they would understand the questions. To accommodate the concerns raised, and to streamline the instrument, selected modifications were made: all questions were put into the same format, questions were grouped by domain to ease in respondent frame of reference, and the locus of control and questions about children going hungry were dropped from the core list. All dropped questions, as well as all questions recommended by the work group but not used in the core set, were added to the Master Question Database. This database can be used to select up to 15 additional questions at the option of the state or county.

The revised 10 question instrument was released in 1996, but was not used in most states until 1997, when a new release of the Evaluation/Reporting System software (version 3.3) was released that could accommodate the changes.