EFNEP
Building for the Future
2017 National Coordinators’ Conference
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Food and Physical Activity Behaviors Questionnaire
• Susan Baker, Colorado State University
• Karen Barale, Washington State University
• Deb Palmer-Keenan, Rutgers University
• Karen Franck, University of Tennessee
• Garry Auld, Colorado State University
Quality Evaluation

• Measures outcomes
• Determines if a program works
• Justifies program
• Requires tested tools
New Guideline

• Eat a variety of vegetables from all of the subgroups—dark green, red and orange, legumes (beans and peas), starchy, and other

• Consume less than 10 percent of calories per day from added sugars
New Guideline

• Adults should do at least 150 minutes a week of moderate-intensity, or 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination.
Why do we need a new tool?

• New research findings
• 2015 Dietary guidelines
• 2008 Physical Activity guidelines
Development Process

• Work over the past 8 years
• Domains/Core Areas
  – Nutrition (NC2169 Multistate Project)
  – Food Resource Management (FRM Workgroup)
  – Food Safety, Food Security, Physical Activity (Behavior Checklist Workgroup)
Content Analysis

• Confirm content or identify missing content as compared with national program guidelines or expert recommendations.

• 3 most widely used:
  – Eating Smart • Being Active (Colorado)
  – EFNEP Families Eating Smart and Moving More (North Carolina)
  – Healthy Food, Healthy Families (Texas)
Face Validity

• Measures if the participant understands the question in the same way and as it is intended
• Tested by cognitive interviews
Reliability and Validity?

• Reliability = consistency

• Validity means the questions asked measure the thing you are trying to measure.
Reliability and Validity?

• Reliability is tested first because:
  • You **CAN** have questions that are reliable but not valid; but,
  • You **CAN’T** have questions that are valid unless they are reliable.

Two important types of reliability to test
Reliability over Time

• Do you answer questions the same way each time someone asks you?

• If you do, in research we say the questions are reliable over time.
Test-Re-Test Reliability

Spearman's Correlations

Question No.

Dietary Quality
Food Safety
Food Security
Physical Activity
Food Res. Mgmt.
Test-Re-Test Reliability

Spearman's Correlations

- Dietary Quality
- Food Safety
- Food Security
- Physical Activity
- Food Res. Mgmt.

This one did REALLY well!

This one not so much (but it’s still pretty good).
Another Way to Look at the Same Data

Dietary Quality
Food Safety
Food Security
Physical Activity
Food Res. Mgmt.
## Internal Consistency

<table>
<thead>
<tr>
<th></th>
<th>Number of People Tested</th>
<th>Number of Items</th>
<th>Chronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dietary Quality</td>
<td>181</td>
<td>14</td>
<td>0.68</td>
</tr>
<tr>
<td>Food Safety</td>
<td>181</td>
<td>4</td>
<td>0.40</td>
</tr>
<tr>
<td>Food Security</td>
<td>181</td>
<td>2</td>
<td>NA</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>85</td>
<td>3</td>
<td>0.58</td>
</tr>
<tr>
<td>Food Resource Management</td>
<td>181</td>
<td>10</td>
<td>0.79</td>
</tr>
</tbody>
</table>
Criterion/Construct Validity

• Criterion
  – I exercise 150 minutes per week vs. accelerometer data

• Construct
  – I use a meat thermometer to check the temperature of meat vs. observed behavior during cooking demonstration
Criterion/Construct Validity Testing

All domains completed by December 2017.

- Food Security = USDA Household Food Security Questionnaire
- Nutrition = Dietary recall
- Physical Activity = Accelerometers
- Food Resource Management = Participant interviews
- Food Safety = Participant food preparation observations
Survey Format

• September 2017
• Access information sent via listserv
• Team members
  – Catalina Aragon
  – Kate Yerxa
  – Karen Barale
Survey Format

- Standardized layout
- Ability to add state logos and contact information
- In color or gray scale
Spanish Translation

- September 2017
- Deb Palmer-Keenan & Rutgers team to develop
  - Input from different ethnicities to provide translation that will meet the needs of different groups (Mexican, Cuban, Puerto Rican, etc.)
Final Reliability Testing

2018

• Test/retest reliability
Future Steps

• Testing of Spanish translation
• Continued revisions as DGA is revised
# Question Set

20 QUESTIONS— A DRAFT of the revised, scientifically tested Adult Behavior Checklist questions are shown below by core area. These questions will be used by the Expanded Food and Nutrition Education Program Program starting October 1, 2017.

## Diet Quality (DQ) (n=6)

<table>
<thead>
<tr>
<th>Question</th>
<th>Response Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) How many times a day do you eat fruit?</td>
<td>I rarely eat fruit</td>
</tr>
<tr>
<td></td>
<td>Less than 1 time a day (a couple times a week)</td>
</tr>
<tr>
<td></td>
<td>1 time a day</td>
</tr>
<tr>
<td></td>
<td>2 times a day</td>
</tr>
<tr>
<td></td>
<td>3 times a day</td>
</tr>
<tr>
<td></td>
<td>4 or more times a day</td>
</tr>
<tr>
<td>Examples of fruits are apples, bananas, oranges, grapes, raisins, melon and berries. Include fresh, frozen, dried, or canned fruit. Do not include juice.</td>
<td></td>
</tr>
<tr>
<td>2) How many times a day do you eat vegetables?</td>
<td>I rarely eat vegetables</td>
</tr>
<tr>
<td></td>
<td>Less than 1 time a day (a couple of times a week)</td>
</tr>
<tr>
<td></td>
<td>1 time a day</td>
</tr>
<tr>
<td></td>
<td>2 times a day</td>
</tr>
<tr>
<td></td>
<td>3 times a day</td>
</tr>
<tr>
<td></td>
<td>4 or more times a day</td>
</tr>
<tr>
<td>Examples of vegetables are green salad, corn, green beans, carrots, potatoes, greens, and squash. Include fresh, canned and frozen vegetables. Do not count french fries, potato chips, or rice.</td>
<td></td>
</tr>
<tr>
<td>3) Over the last week, how many days did you eat red and orange vegetables?</td>
<td>I did not eat red and orange vegetables</td>
</tr>
<tr>
<td></td>
<td>1 day a week</td>
</tr>
<tr>
<td></td>
<td>2 days a week</td>
</tr>
<tr>
<td></td>
<td>3 days a week</td>
</tr>
<tr>
<td></td>
<td>4 days a week</td>
</tr>
<tr>
<td></td>
<td>5 days a week</td>
</tr>
<tr>
<td></td>
<td>6 or 7 days a week</td>
</tr>
<tr>
<td>Examples of red and orange vegetables are apples, carrots, tomatoes, red bell peppers, and other dark red and orange vegetables. Do not count processed or canned vegetables.</td>
<td></td>
</tr>
</tbody>
</table>
Conclusions

• EFNEP...
• ...USDA’s Flagship program
• ...Largest direct nutrition education program
  – Almost 4 million adult participants since 1968
• EFNEP 50\textsuperscript{th} Anniversary!!!!

• Would be a very good time to strengthen the evidence base
• We might all “KNOW” EFNEP makes positive impacts on participants and educators, **BUT**

• Evidence not as strong as it could or should be
Remind you that...

• Come October, you’ll be using a new tool
• New tool more extensively tested than current BCL
• Content reflects 2015 DGA, including physical activity, and the most current research on food safety, FRM, food security
Tested with EFNEP’s 3 primary racial/ethnic groups & in all geographic regions
Evaluation not STATIC

Research

Revised Evaluation

Recommendations /Guidelines

Revised curricula

EFNEP
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Types of Validity

- Content
- Face
- Criterion/Construct

Valid Tools

Evaluation

Program
Literature helps establish the evidence base!


Literature helps establish the evidence base!


• Luick, BR, and Guenther, PM. (2014). The quality of diets reported by Expanded Food and Nutrition Education Program participants in the Mountain Region in 2011 when exiting the program was higher than when entering. FASEB Journal. 28:273.8.


Others being drafted or planned
• When combining data across 76 programs, must have confidence that everyone is using the same tool and same data collection protocols!

• Given extensive testing, imperative that programs DO NOT CHANGE the WORDING!
• To improve programs, should strengthen best practices in all facets of program.
  - Design
  - Implementation
  - Training
  - Evaluation

Strong evaluation strengthens the evidence base and helps protect the program’s future.
Current Researchers

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• Garry Auld
• Susan Baker
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• Nancy Betts
• Karen Franck

• Cheng Li’
• Janet Mullins
• Erin Murray
• Nicole Owens
• Debra Palmer-Keenan
• Kate Yerxa
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- Jennifer Walsh
- Mary Wilson
NC2169 Multi-State Research Project

- Catalina Aragon
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- Susan Baker
- Karen Barale
- Nancy Betts
- Linda Boeckner
- Carrie Durward
- Karen Franck
- Patricia Guenther
- Scottie Misner
- Janet Mullins
- Beth Olson
- Nicole Owens
- Deb Palmer-Keenan
- Sandy Proctor
- Mary Kay Wardlaw
- Kate Yerxa
- Dave Weatherspoon

Helen Chipman, Program Liaison
Thank you!

• To researchers and programs who
  – Participated in research
  – Volunteered for data collection
  – National office
Questions

• Susan Baker
• Karen Barale
• Deb Palmer-Keenan
• Karen Franck
• Garry Auld