



ADAPTIVE HEALTH BEHAVIOR INVENTORY (AHBI) ADMINISTRATION

This article describes the requirements and procedures recommended for using Adaptive Health Behavior Inventory (AHBI) on a stand-alone basis, or when incorporated into surveys to be administered by telephone, mail, self-administered, or through personal interviewing.

Respondent Characteristics

AHBI was developed for an adult population over the age of 18 within the United States. The original sample targeted major metropolitan statistical areas over rural areas. Since that original study the AHBI has been validated in urban, suburban and rural areas in the United States. The AHBI measures are written at the third-grade level. Any adult with unimpaired cognitive function should be able to interpret the measures and give a response. Additional requirements include intact executive functions including attention, sensorimotor function, perception, intact semantic memory, and language abilities. The AHBI was designed in English, but translations into both Spanish and Chinese have proved successful at assessing goal-directed response to specific situations based on correlational and factor analytic studies.

Response Scaling

The AHBI uses Likert-type scaling with end points of "strongly agree" and "strongly disagree". Identifying a respondent's dominant PATH is accomplished through the evaluation of the numeric scores assigned to each response as follows:

<u>Response</u>		<u>Codes</u>
strongly disagree	= 1	
somewhat disagree	= 2	
neutral (neither agrees nor disagrees)	= 3	
somewhat agree	= 4	
strongly agree	= 5	
no answer given	= any single digit number, excluding 1-5 or a blank.	

DATA RECEIVED FOR PATH ANALYSIS MUST FOLLOW THIS RESPONSE CODING FORMAT.



Ranking of Data Collection Methodologies

The data collection methodology will have an impact on the counts of the PATH obtained and dominant PATH assignment. Both experimentation and experience have shown the following data collection methodologies, in terms of minimizing the “no pattern” outcome, can be ranked as follows:

Methodology

In-person, Self-Administered	Excellent
In-person, Interviewer-Assisted	Excellent/Very Good
Interactive Voice Response (IVR)	Excellent/Very Good
Telephone Interview	Very Good
Web-based survey	Fair
Mail Survey (AHBI alone)	Fair
Mail Survey (AHBI items appended to others)	Fair

Retaking the AHBI

After completing the AHBI, respondents *should not* take the inventory again unless a significant amount of time (e.g., at least two weeks) has passed. An individual’s dominant PATH is a latent, unconscious pattern. As a person reads the AHBI statements and their meaning is primed (*i.e., non-consciously stimulated*), he or she self-reflects to determine the accuracy of the statements in terms of each person’s subjective sense of self. Due to priming effects, a person’s first answer is likely the most accurate.

The reliability of the AHBI in correctly diagnosing an individual's dominant PATH depends on capturing the initial the level of agreement or disagreement with the described actions, behaviors, or perceptions in each AHBI statement. Allowing respondents to take the AHBI again too soon provides opportunities to change answers based on what they would like to do versus their first implicit reaction. Thus, the first time a respondent answers the AHBI is generally the most accurate.

In-person, Self-Administered

With an interviewer or moderator present, respondents will complete the AHBI with better thought and care, and are less likely to read ahead and let earlier or later questions potentially bias their answers. This generally results in fewer “neutral” or “don’t know” responses, a lower rate of dishonest response, and a



decrease in random answers. This yields a higher likelihood of accurately identifying a respondent's dominant PATH and reduced probability of a "no pattern" outcome (typically in the 9% to 11% range).

In-person, Interviewer-Assisted

When an interviewer or moderator *reads* the AHBI measures to adults, the AHBI is generally completed with better thought and care. Adults will respond to the AHBI statements individually and without knowledge of the other statements. This eliminates some potential for biases as noted above. Also, because respondents are not frequently offered the "neutral" response, they tend to give fewer "don't know" or "neutral" answers and fewer random answers. The likelihood of dishonest response is also lower. The benefit is a higher likelihood of identifying a respondent's dominant PATH with fewer respondents receiving the "no pattern" outcome.

Telephone Interview

The AHBI is very effectively administered over the telephone either as a stand-alone assessment or as part of a larger questionnaire. The telephone interview has all the advantages cited for in-person, interviewer-assisted data collection, in terms of reliability and low rates of "no pattern" (often in the ranges from 11% to 14%). There is also a lower rate of dishonest response (see below under Mail Surveys).

Interactive Voice Response (IVR)

The AHBI is very effectively administered via interactive voice response (IVR). A well-designed IVR system with flexible adaptation has all the advantages of the telephone interviewing terms of reliability and low rates of "no pattern" (often in the ranges from 11% to 14%). There is also a lower rate of dishonest response (see below under Mail Surveys).

Web-based Survey

Using the AHBI on the web is an efficient means of administering the AHBI to adults who are frequent users of the web. However, those adults who do not frequent the web or infrequently use the web to access health information tend to be underrepresented in online surveys. Web-based surveys generally underestimate the number of adults dominated by Critically Discerning, Health Contented, and Traditionalist PATH. Likewise, web-based surveys tend to over-estimate the



number of adults dominated by the Wisely Frugal, Healthcare Driven, Independently Healthy, and Naturalist PATH. In addition, the lack of an “interviewer” reduces the accountability of respondents to the assessment process. This can impair a respondent’s attentiveness to the AHBI statements and reduce the likelihood that people thoughtfully respond to the AHBI items. This results a greater probability of less accurate response, a higher rate of random answers, and a higher rate of respondents with the “no pattern” outcome.

The AHBI is also sensitive to *dishonest* response. *Dishonest response* is where respondents intentionally do not give honest answers. This is a potential additional weakness of web-based surveys. Telephone follow-up studies conducted with “no pattern” respondents identified through mail surveying revealed that a dominant PATH can be found in 80 percent of these adults. Typically, the largest share of these previously “no pattern” respondents come from the Critically Discerning and Health Contented PATH. These adults have higher distrust or typically don’t care about health or healthcare, and for these reasons their responses to web-based surveys suffer. If a web-based survey methodology is being used, be aware the “no pattern” rate may be high.

Where financially feasible, it is recommended that mail survey respondents identified with “no pattern” be followed up with a telephone interview.

Mail Survey

The mail survey is the *least* effective way to collect accurate AHBI response data. There are several reasons for this. The typical problems with mail surveys is higher rates of unanswered questions or a higher volume of “don’t know” responses. Both increase the probability respondents identified as “no pattern”, leading to “no pattern” rates as high as 24 to 30 percent. In addition, the lack of an “interviewer” reduces the accountability of respondents to the assessment process. This can impair a respondent’s attentiveness to the AHBI statements and reduce the likelihood of respondents thoughtfully responding to the AHBI items. The result is a greater probability of less accurate response, a higher rate of random answers, and a higher rate of respondents with the “no pattern” outcome.

The AHBI is also sensitive to *dishonest* response. *Dishonest response* is where the respondent intentionally does not give honest answers or fail to express their true responses. This is a second weakness of the mail survey. Telephone follow-up



studies conducted with “no pattern” respondents identified through mail surveying have revealed that a dominant PATH can be found in 80 percent of these adults. Typically, the largest share of these previously “no pattern” respondents come from the Critically Discerning and Health Contented PATH. These adults have higher distrust or typically don’t care about health or healthcare, and for these reasons their responses via mail surveys suffers. If a mail survey methodology must be used, where financially feasible, it is recommended that mail survey respondents identified with “no pattern” be followed up with a telephone interview.

The Setting of In-person, Self-Administered

When given to an individual, surroundings should allow him or her to complete the Inventory without serious distraction. Before completing the Inventory, subjects can be given the following brief introduction:

“This short questionnaire is designed to help us gain a better understanding of your everyday health-related behaviors, habits, and belief. There are no wrong or right answers. Each statement describes a health attitude, behavior or priority that you may agree or disagree with. As you read each statement, use the number scale (or check the box under the appropriate category) to record your level of agreement or disagreement with it. Your first impression is usually the most accurate.

Procedures for In-Person, Interviewer-Assisted

In this situation, an interviewer reads the AHBI to the respondent and records his or her answers on a blank AHBI form or in a software application. The interviewer should administer the AHBI using the following steps:

- 1) Interviewers should read the introductory statement before asking the AHBI. The interviewer should then read each AHBI statement using the *exact wording*. AHBI statements can be, but need not be, rotated, except for Q20 (see below).
- 2) After reading each statement, the interviewer should first ask the respondent if they “agree” or “disagree” with it. Second, the interviewer should ask if they agree or disagree “strongly” or “somewhat” or “a little” or a lot” depending on the form of the AHBI used.



3) The interviewer should record the respondent's answer by circling the appropriate numeric response as indicated on the Inventory (e.g., "5" for "strongly agree" or "agree a lot").

4) If the respondent is confused or asks for clarification of an AHBI statement, the interviewer should not paraphrase or interpret the statement for the respondent. The interviewer's response should be:

"I can only read the statement to you as written. Please respond to the statement in whatever way it means to you. Remember, there are no right or wrong answers."

5) Each AHBI statement should not be read more than *three times* to the respondent. If the respondent cannot or will not indicate their agreement or disagreement with any statement, then just code the question as a non-response after the third reading (i.e., leave blank or circle "3" for "neutral").

The interpretation of the AHBI statements, or their use in assessment, does not depend on the psychological processes or cognitive functions of any individual or professional administering the questionnaire to a subject, except with respect to their ability to read the questions in the appropriate language and correctly code the responses given. The AHBI can be self-administered and does not depend on an examiner.

Procedures for Telephone Interviewing

Length. Administration of the AHBI by telephone requires approximately four minutes of interviewing time.

Placement. The recommended placement of AHBI measures is at the very beginning of a study. There are two positive reasons for placing the AHBI measures at the beginning of a survey: 1) participants answer the inventory measures fresh and un-fatigued and 2) the inventory measures activate working memory of the participant's goal-directed actions and patterns of behavior contributing to more honest responses to the other questions.



Interviewer Instructions:

- 1) Interviewers should read the introductory statement before asking the AHBI. The interviewer should then read each AHBI statement using the exact wording.
- 2) After reading each statement, the interviewer should first ask the respondent if they “agree” or “disagree” with it. Second, the interviewer should ask if they agree or disagree “strongly” or “somewhat” or “a little” or “a lot” depending on the form of the Inventory being used.
- 3) The interviewer should record the respondent’s answer by circling the appropriate numeric response as indicated on the Inventory (e.g., “5” for “strongly agree” or “agree a lot”).
- 4) If the respondent is confused or asks for clarification of the question, the interviewer should not paraphrase or interpret the statement for the respondent. The interviewer’s response should be:

“I can only read the statement to you as it is written. Please respond to the statement in whatever way it means to you. Remember, there are no right or wrong answers.”
- 5) Each AHBI statement should not be read more than three times to the respondent. If the respondent cannot or will not indicate their agreement or disagreement with any statement, then just code the question as a non-response after the third reading.

Mail Survey Design

Print Size. When used in a mail survey format, the AHBI content should not be printed in smaller than 10 point-type. Printing in smaller type to keep things to “one page” or to include other items on the AHBI decreases response and increases the odds of a “no pattern” outcome. The optimum size of print for the AHBI is 14-point font, but 12-point is sufficient.

Integrating AHBI Into Other Questionnaire Instruments. The AHBI measures can be



easily attached or integrated into existing health-related mail surveys (such as the SF11 Health Status Assessment or as an enhancement of an HRA) if the formats as suggested in this manual, including the print point-sizes, are maintained. Reducing font point-size to “make it fit” will decrease response rate and the quality of responses

Complexity Verses Simplicity/Print-Size Versus Pages. It is generally better to produce a mail survey questionnaire with larger font and many pages, than it is to produce one with smaller font and fewer pages. It will cost slightly more to produce a simpler looking multi-page questionnaire, but the quality of the responses received will be superior. Research has demonstrated that adults respond better to questionnaires that are easier to read and that look simple, even if they are many pages long. Trying to keep a questionnaire to 2 or 3 pages by shrinking the font size and cramming in many items increases the complexity of the appearance. This complexity decreases both the quality and level of response to the instrument. All these factors work against good measurement, especially with respect to collecting AHBI response data.