

Discussion of Jon Krosnick's paper

Terry DeMaio (Census) and Stephanie Willson (NCHS)

These slides are released to inform interested parties and to encourage discussion. The views expressed are those of the authors and not necessarily those of the U.S. Census Bureau or National Center for Health Statistics.

Overview

- Talk about integration of other evaluation methodologies with experimentation
- Focus on difference in measurement challenges between subjective measurements and non-subjective measurements

Concept of Validity

- Non-subjective Measurements
 - Notion of “true value” applies
 - Validation could be determined by records
- Subjective Measurements
 - No “true value”
 - Validation requires some theoretical superstructure

Analytic Methods

- Test-retest reliability with repeated measures within the same survey instrument
- Criterion variables based on theory
- Latent variable covariance structure modeling
- Response latency

- Content reinterview survey

Content Reinterview Survey

- Second data collection
- Ask same questions to measure consistency
- Ask different questions to measure validity
- American Community Survey
 - Reliability measured for disability questions
 - Validity measured for employment status questions

Behavior Coding

- Comparison across treatment groups adds another perspective
- Example: research survey with experimental treatments
 - Used item nonresponse rates, response distributions, content reinterview, behavior coding
 - Person- vs household-level approach to data collection
 - Behavior coding showed that neither treatment was better than the other

Types of Issues Investigated

- Subjective measurement: branching of bipolar scales, question balance, acquiescence response bias
- All measurement: response order effects, social desirability bias, question wording
- Example: health insurance questions

Health Insurance Questions

- Systematic research to investigate:
 - Impact of length of reference period
 - Addition of insurance verification question
 - Question sequencing for public and private coverage
 - Order effects of asking about Medicare and Medicaid
 - Response options for health status and level of physical activity
 - New structure for questions about type of health plan
 - Different reference periods and question refinements

Subjective and factual questions combined

- Experiments with subjective and factual questions not mutually exclusive
- Example: health status measure in health insurance research

Size of Experimental Data Collection

- Small or large
- Depends on time and resources available

Questionnaire Design Experimental Research Survey (QDERS)

- Vehicle for researchers to expand on their methodological research interests
- Independent of ongoing production surveys
- RDD samples of 1,000-4,000 cases
- Topics: topic-based vs person based measurement of income, consent for linking survey data to admin records, measure of non-marital cohabitation

NCHS Experiments

- Collaboration with University of Massachusetts at Boston
- RDD samples of about 500 cases
- Focus on complex questions from federal health surveys

American Community Survey Content Test

- National sample of 30,000-60,000 cases
- Investigated:
 - new questions (marital history, field of bachelor's degree)
 - question revisions (disability, military service)
 - layout issues (precoded vs open-ended, matrix vs sequential design)

Context for Conducting Experiments

- Pairing methods with an eye toward optimizing their strengths & overcoming their weaknesses
 - Cognitive interviews
 - Experiments
- Example: NHIS supplement on Complementary and Alternative Medicine (CAM)

Original survey questions

Read to respondent: Some people use natural herbs (like St John's wort, Echinacea, garlic pills and cranberry pills) and other non-vitamin/non-mineral dietary supplements (like omega 3 fatty acids, amino acids, glucosamine and chondroitin) for a variety of health reasons. Some people drink an herbal tea to remedy a flu or cold. Others take a daily herb pill to help with a health condition or just to stay healthy.

HRB.1 Have you **EVER** used natural herbs or other non-vitamin/non-mineral dietary supplements for your own health or treatment?

(1) Yes (2) No

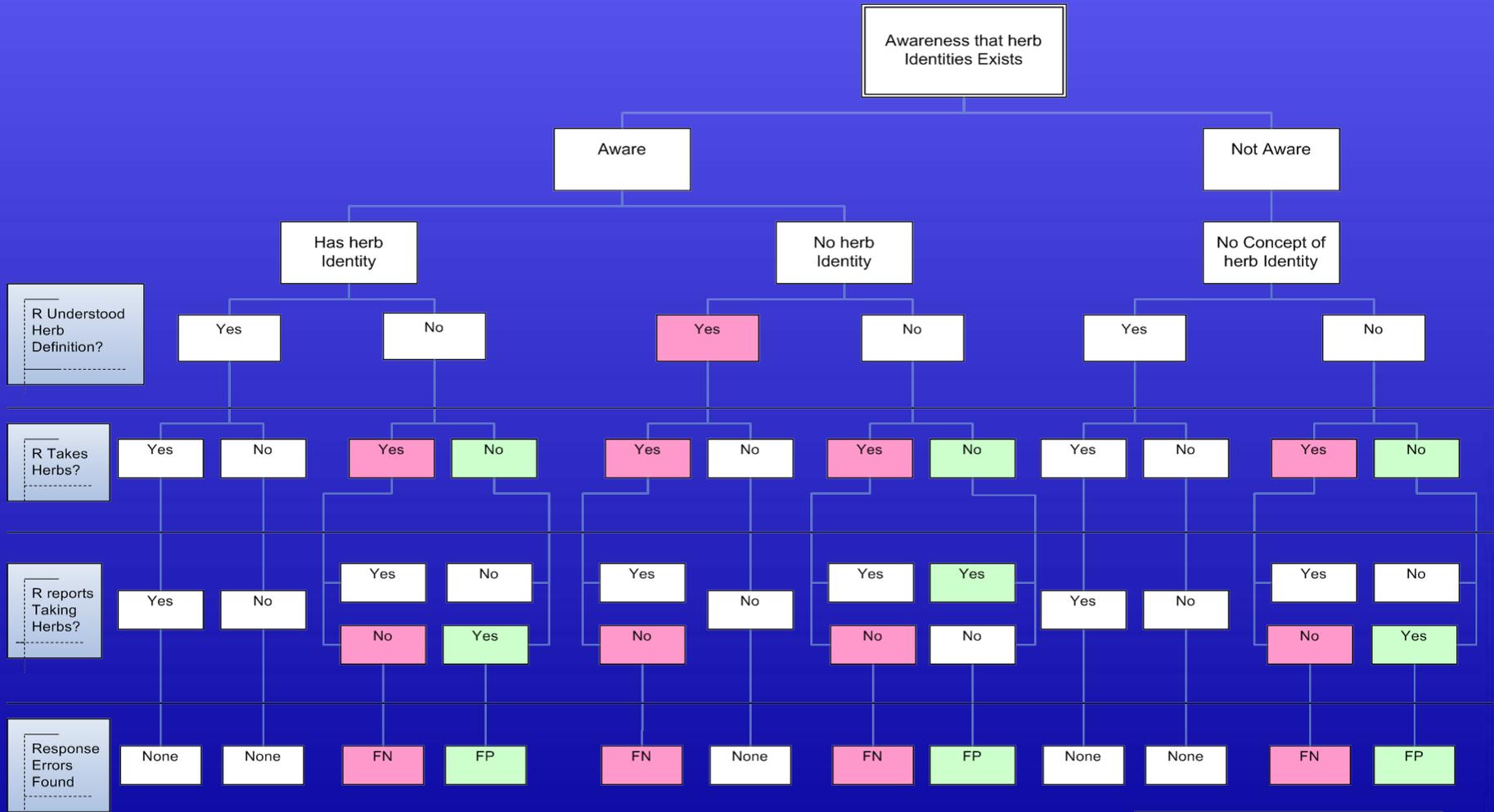
HRB.2 During the last 12 months have you used natural herbs or other non-vitamin/non-mineral dietary supplements for your own health or treatment?

(1) Yes (2) No

Instruction to Interviewer: SHOW HAND CARD

HRB.3 During the past 30 days did you take any of the herbs or other non-vitamin/non-mineral dietary supplements listed on this card? **[MARK ALL THAT APPLY]**

Figure 1: Model of Response Errors as a Function of the Intersection of Natural Herb Definitions & Self Concept



*FN=false negative FP=false positive

Final Version Used

Read to respondent: People take herbs and other non-vitamin supplements for a variety of reasons. By herbal supplement we mean pills, capsules or tablets that have been labeled as a dietary supplement. This does NOT include drinking herbal or green tea.

Instruction to Interviewer: SHOW HAND CARD

HRB.1 Have you EVER taken any herbal supplements listed on this card for your self?

(1) Yes (2) No

HRB.2 DURING THE PAST 12 MONTHS have you taken any herbal supplements listed on this card for your self?

(1) Yes (2) No

HRB.3 DURING THE PAST 30 DAYS did you take any herbal supplements?

(1) Yes (2) No

More Examples

- American Community Survey Content Test: Field of Bachelor's Degree
- Cognitive testing of three question versions: two precoded and one open-ended
- Issues:
 - How to fit people's major fields of study into precoded lists?
 - Mark all boxes?
 - Report more than one?

More Examples (cont'd)

- QDERS: finding out where people with multiple addresses should be counted in the census
- cognitive testing of “cycles” approach showed problems for people who have 3 or more residences or no regular pattern of travel
- developed and tested alternative “dates” approach

Conclusion

- Mixed-method approach to questionnaire design is better than either method used alone
- Allows us to understand what survey questions are actually measuring
- Approach should be used more often

Thank you!