How do we Know Cognitive Interviewing is Any Good?

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Done by… who?

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Who is 'we'?

Good for… what?

Differing perspectives/ Standards of Evidence

1) **"We don't need to prove anything, because cognitive interviewing is based on [fill]"**

   Where [fill] =

   (a) Cognitive Theory (*e.g. Tourangeau model*)

   (b) Qualitative Research Methodology

   I don't think it's that easy…

2) **So - we need to collect a body of empirical evidence to demonstrate method [reliability/validity/effectiveness]**

   Ok… how?

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Developing a Framework for Evaluation
Wish I'd thought of that…

- **Willis (2005) *Cognitive Interviewing: A Tool for Improving Questionnaire Design:***

  (unlucky?) Chapter 13: Evaluation of Cognitive Interviewing Techniques -

  ➤ **First, what evaluation question are we asking?**

    Groves (1996): *'How Do We Know What We Think They Think Is Really What They Think?'*

    Nisbett and Wilson (1977*):   'Telling More Than We Know'*

  ### *Are we really trying to be mind readers?*

    No! – We want to know *how survey questions function*, and we probe to get information relevant to that question

Models for the evaluation of cognitive interviewing (Willis, 2005)

A) <u>Within-method evaluation</u>:

    Model 1) Demonstration of question improvement: Are questions improved by cognitive testing?

    Model 2) Criterion validation: Are known problems found through cognitive testing?

    Model 3) External validation: Are cognitive interviewing results replicated in the field environment?

    Model 4) Reliability/Consistency analysis: Do independent cognitive tests, laboratories, or approaches identify the same problems?

    Model 5) Process evaluation: Are cognitive interviewing results useful in the broad scheme of survey development?

B) <u>Between-method evaluation</u>:

Are the problems found in cognitive interviewing similar to those found by other pretesting methods?

Evaluation Model 1: Are questions improved by cog testing?

From Willis (2005): Linguistic Analysis of questionnaire, pre- and post-cognitive interviewing

	Long sentences	Big words	Average number words/sentence	Sentence complexity index (0-100)	Flesch-Kincaid reading level
Initial Draft	10	53	28.5	83	13.1
Recommended Draft	2	43	23.3	65	10.9

Looks good! End of story… (?)

Evaluation Model 1:
Are questions improved by cog testing?

- **Problem:**

  Conrad & Blair (1996); Willis et al. (1999):

  If questions are improved, may be because designers are good at what they do. Who says we need cognitive interviewing?

  Willis (2005):

  Conversely, if questions are *not* improved, maybe the designers are (drunk / lazy / no good…)

  Difficult to separate (a) the *process* from (b) the *staff incorporating it* –

  "Cognitive testing doesn't improve survey questions – questionnaire designers improve survey questions"

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- **So, we focus on *finding* problems, rather than *fixing* them**

  Conrad & Blair have made some progress here: *Embed 'bad' questions – do we find them?*

- **Challenges:**

  ➢ **Difficult to identify 'known bad questions' from the point of view of a response error model**

  ➢ **Assumes that 'finding problems' is our goal – what if we instead are interested in:**

  (a) The tradeoffs associated with use of a particular question for a particular purpose (Beatty)

  (b) What a question 'captures' (Miller)

Evaluation Model 3:
External validity: Do C.I. findings extend to 'the field'?

Version 1: On a typical day, how much time do you spend doing strenuous physical activities such as lifting, pushing, or pulling?

Version 2: (a) On a typical day, do you spend any time doing strenuous physical activities such as lifting, pushing, or pulling?

(b)   **IF YES: ask Version 1**

Prediction: For reports of 0, Version 1 < Version 2

	0	<1	1-4	5+
FIELD PRETEST (n=78)				
Version 1	**32%**	**32%**	**35%**	**0%**
Version 2	**72%**	**18%**	**10%**	**0%**

- **Doesn't 'prove' that the question is good/bad – but I like this approach**

Evaluation Model 4:
Reliability: Do independent C.I. tests reveal similar results?

Five labs conducted interviews using own probing style, analysis procedures:

	English	**Spanish**	**Chinese**	**Korean**	**TOTAL**
NCI	16	9	0	0	25
Westat	18	36	9	9	72
NCHS	15	0	0	0	15
PHI	18	0	0	18	36
TOTAL	67	45	9	27	148

SECTION A

Please circle the single number (on a scale from 1 to 5) that best describes **how concerned you feel right now** about the following things:
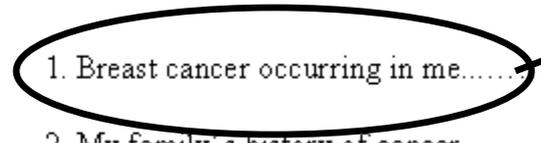
FEELINGS OF CONCERN NOW

	Not at all	Hardly	Somewhat	Very much	Extremely
1. Breast cancer occurring in me............................	1	2	3	4	5
2. My family's history of cancer............................	1	2	3	4	5
3. What I can do to prevent breast cancer................	1	2	3	4	5
4. Breast cancer hiding silently in my body..............	1	2	3	4	5
5. Not being able to avoid getting breast cancer.........	1	2	3	4	5
6. How I would feel if I had breast cancer................	1	2	3	4	5
7. My chances of getting breast cancer in the future...	1	2	3	4	5
8. Getting breast cancer without my knowing it.........	1	2	3	4	5
9. Finding out if I have breast cancer.....................	1	2	3	4	5
10. What I can do to detect breast cancer early.........	1	2	3	4	5
11. Inheriting cancer from my "genes"....................	1	2	3	4	5
12. What having breast cancer would do to my body	1	2	3	4	5
13. Symptoms or signs of breast cancer in me.........	1	2	3	4	5
14. My chances of dying of breast cancer................	1	2	3	4	5
15. How I would deal with breast cancer if I got it....	1	2	3	4	5
16. Things I do that affect my risk of breast cancer...	1	2	3	4	5

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8. Getting breast cancer without my knowing it........   1............2............3............4............5

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12. W

13. S

14. My chances of dying of breast cancer...............   1............2............3............4............5

15. How I would deal with breast cancer if I got it....   1............2............3............4............5

How likely this is?

How much this has occurred?

Something else? (other than "*How concerned I am*")

Bottom line: Everybody found the same thing – results were very reliable

Summary: Is C.I. any good?

- **This is amenable to empirical research**

- **There's no single evaluation model that uniquely addresses the question**

- **QUEST members might consider how to collaborate in order to:**

    (a) Develop evaluation models, criteria

    (b) Do fun, interesting, useful, publishable stuff