

What does “#\$\$%
mean, to you



I have no “#\$\$% idea

Are Cognitive Testing Results Reliable? Further Explanation and Discussion

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Plan for today's seminar

- As an 'orienting point,' I will present my ***methodological brief*** from AAPOR, 2010/Chicago
- We will discuss the implications
- We will expand the discussion to issues of reliability / agreement / usefulness, ***interactively***
- We will attempt to determine what types of ***research*** or ***documentation*** would help us

(Methodological Brief from AAPOR/Chicago)

Are Cognitive Testing Results Reliable?



Research Question: Are the Results of Cognitive Interviewing Reliable?

- **FACT:** Cognitive testing to pretest/evaluate survey questionnaires is widespread
- **PROBLEM:** We don't know if independent practitioners/labs testing the **same** questionnaire would come to the **same** conclusions
- **APPROACH:** So, I conducted an empirical study to investigate this issue, with:
 - Paul Han, Melissa Miller, NCI
 - Kerry Levin, Martha Kudela, Westat
 - Kristen Miller, Stephanie Willson, Karen Whitaker, NCHS
 - Elaine Zahnd, Public Health Institute

NCI / Westat / NCHS / Public Health Institute Parallel Cognitive Interviewing Study

- Functioning of the tested questionnaire [*Perception of breast/prostate cancer risk*] was *unknown*, in advance
- Four “Labs” conducted *parallel testing* of the [self-administered] questionnaire across *multiple cultural/linguistic groups* (148 interviews, in English, Spanish, Chinese, Korean)
- We determined whether the written results and recommendations were *similar* between groups/labs, or wildly different

Number of Cognitive Interviews, by Lab and by Language

	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

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16. Things I do that affect my risk of breast cancer...	1.....	2.....	3.....	4.....	5.....

Cognitive Protocol was Semi-Structured: Interviewers were allowed latitude in probing

- Overall- how easy or difficult was this to fill out? Would you say very easy, somewhat easy, somewhat difficult, or very difficult?
- Did it seem like the questions were asking about different things, or did they seem to be very similar to one another?
- Which, if any, items seemed similar (or different)?
- Do you think people might find any of the items too personal? [IF YES] Could you say more about that?
- These questions asked you about (prostate/breast) cancer – Describe in your own words what this is.
- When you were responding to the questions, were you thinking about a particular time period?

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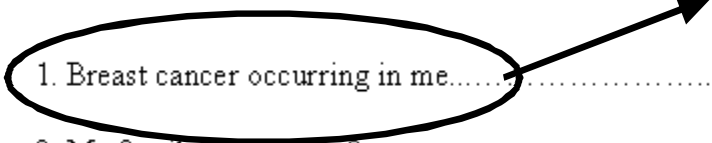
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How likely this is?

How much this has occurred?

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



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"It would do *Very much* to my body"
"I have *Somewhat* of a chance of dying from breast cancer"



Results: This finding occurred for ALL labs, ALL populations

- Summary notes from **every** Lab-by-Language group combination revealed a consistent theme:
 - *The questionnaire approach did not measure perceptions of degree of ‘Concern’ about (X), because the critical element of Concern was very often ignored*
- In NO case was this predicted prior to cognitive testing
- Constitutes evidence of reliability of independent (uncoordinated) cognitive interviewing tests
- *I argue that the critical issue is: “Under what conditions are C.I. results reliable, and what do we need to do to enhance those conditions?”*

DC-AAPOR: Further discussion point Is it convincing to have 'reliability'?

- **The “I could have told you that” argument:**
 - *Of course cog testers all found the problem, because it's obvious before the fact*
 - *Any competent q'aire designer would have predicted it*
 - *So, YOUR researchers are just incompetent*
- **Defenses:**
 - **Practical:** *Given that we're so dumb, it's good we do C.I...*
 - **Philosophical:** *Yes, we may 'know' (suspect) problem, but C.I. can be confirmatory, as well as diagnostic*
 - **Empirical:** *Design study with emphasis on up-front problem prediction, to discount this possibility*



DC-AAPOR: Further discussion point What do we mean by 'reliability'?

- Reliability ***within project*** -- From round to round
- Reliable ***within organization*** – using similar methods
- Reliable ***between organizations*** – when sampling, method are ***controlled***
- Reliable ***between organizations*** – when sampling, method are ***uncontrolled***

AAPOR project used this approach

DC-AAPOR: Further discussion point What is it, exactly, that's 'reliable'?

- **Measurement of outcome: What does it mean to 'agree' across results/labs?**
 - (1) Which items have problems (*identification*)
 - (2) What is it that's wrong? (*diagnosis*)
- **Rothgeb et al: Studied both elements:**
 - (1) Labs agreed on problematic items
 - (2) There was low agreement concerning *what* was wrong
- **Is this a sign of failure?**
 - What if multiple labs are right? (*Vessel inspection metaphor*)
 - What is the correct model/metaphor? (*Journal review?*)
- **What type of research/documentation will resolve these issues?**