

Cognitive Interviewing

Washington Group Extended Set Dar es Salaam, Tanzania

October 7 - 9, 2009

Goals for Question Evaluation:

- How do the respondents understand the survey question?
- Do respondents understand the survey question differently?
- Does the question mean the same in all the languages that it is asked?
- Does the question mean the same in all of the cultures that it is asked?

Goals for Question Evaluation:

- In processing a question, do all respondents recall information and form an answer the same way?
- What groups should be considered for comparability?
- Age? Education? Income? Gender? Health Status?

A good question is...

1. relevant to the research agenda

and

2. relevant to each potential respondent's experience and knowledge

Respondents...

- Serve as informants to their situation or experience
- Make sense of a question within the context of their own lives
- Do not know why they are being asked the question
- Do not use scientific or abstract concepts
- Can understand a question completely differently from the intent

Why Question Evaluation?

1. To fix problems

Ensure questions capture intended concept

Ensure that data will be comparable

- Translation problems
- Socio-cultural and economic-related differences

Why Question Evaluation?

- 2. To identify and document what the question measures
 - Not just what is wrong with the question
 - Identify non-problematic differences
 - Patterns of interpretation
 - Patterns of calculation, estimation, and forming answers
 - To support data users when conducting analysis of survey data

Good Questions=Question Evaluation

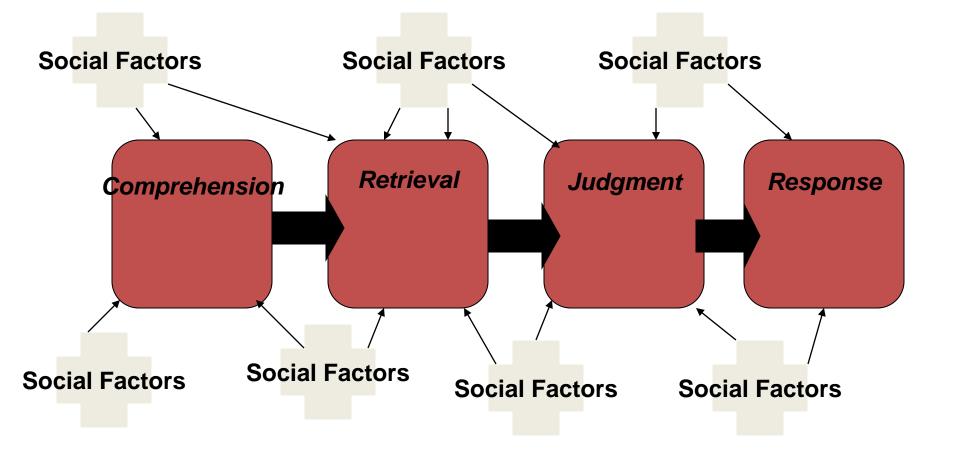
- Empirical study, Evidence-based
 Not opinion
- Cognitive Test
 - To understand the ways in which a question performs among different respondents

(Are there question design problems?)

- Field Test
 - To understand the extent to which the performance differs across respondents

(How big of a problem is it?)

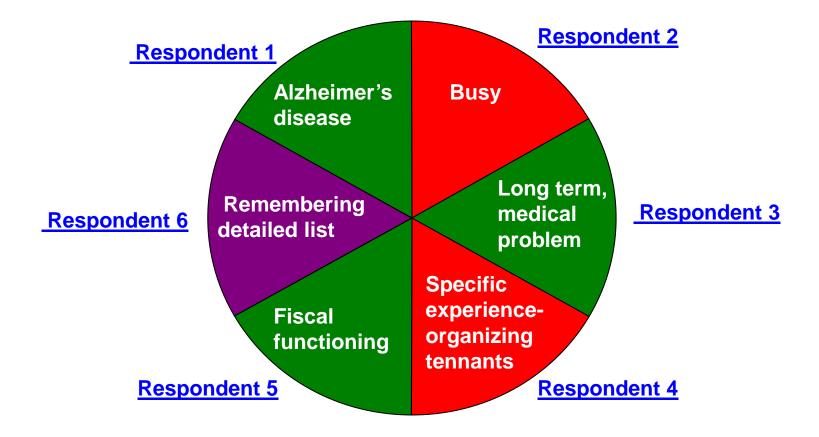
Question Response Process



Cognitive Interviews

- Designed to understand how respondents comprehend, retrieve, judge, respond to questions
- Through this examination, can identify
 - potential response errors
 - patterns of interpretation
- Provide insight into social-cultural factors that impact the response process

Overall, during the past 4 weeks, how much difficulty did you have with thinking clearly and solving daily problems?

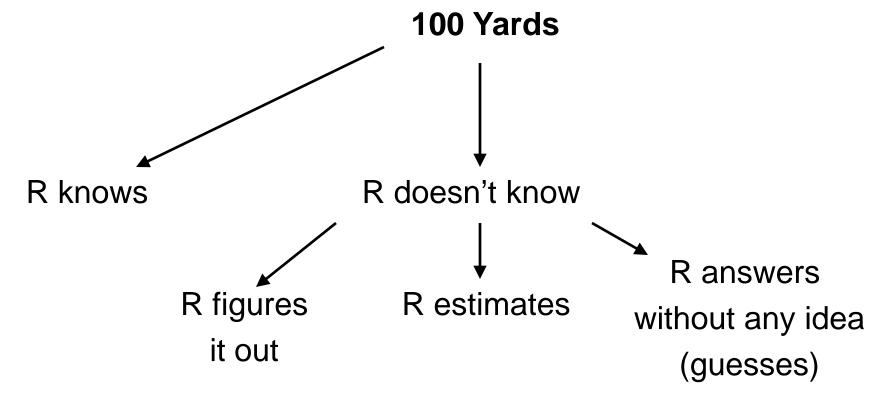


Analysis of Cognitive Interviews

- Identify patterns across respondents
 - Types of interpretations
 - Ways of forming an answer
 - Types of response problems or errors
- Compare that finding to the next interview
 Is it the same? If not, how is it different?
- Revelations from the comparisons are the cognitive interview findings

Example

Overall during the past four weeks, how much difficulty did you have with walking short distances, for example 100 yards/meters?



Washington Group Cognitive Test

• 10 countries:

Cambodia, Canada, Fiji, Kazakhstan, Maldives, Mongolia, Philippines, South Africa, Sri Lanka, United States

• 143 cognitive interviews

- Captured "the story" of how R answered the question
- Conducted in language of the respondent
- Interview notes translated into English
- Q-Notes:
 - New application, developed for this project
 - On-line data entry
 - Allows for fast, in-depth analysis

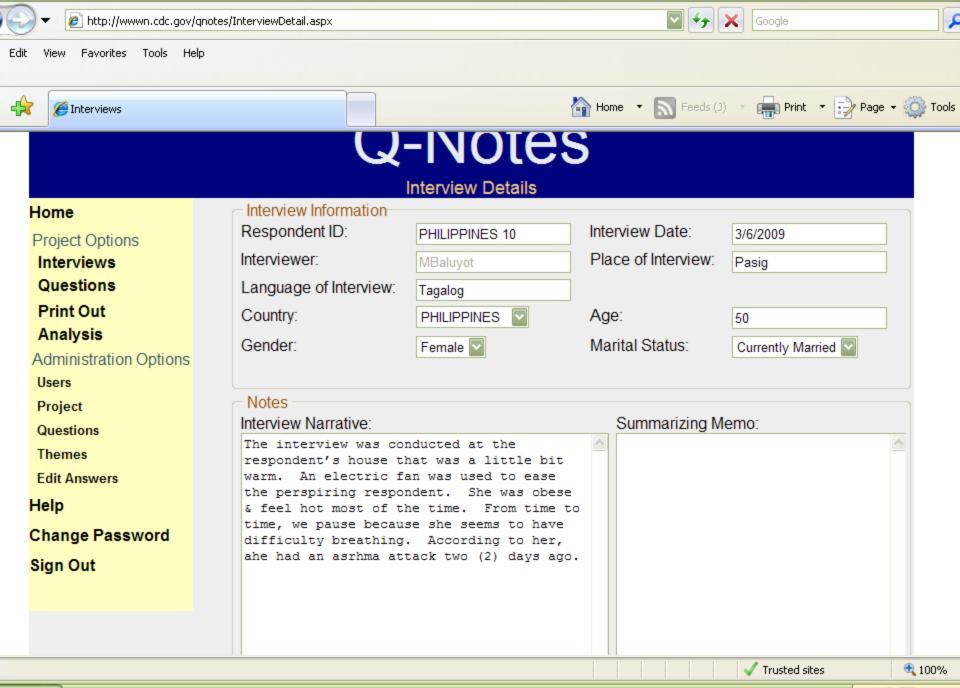
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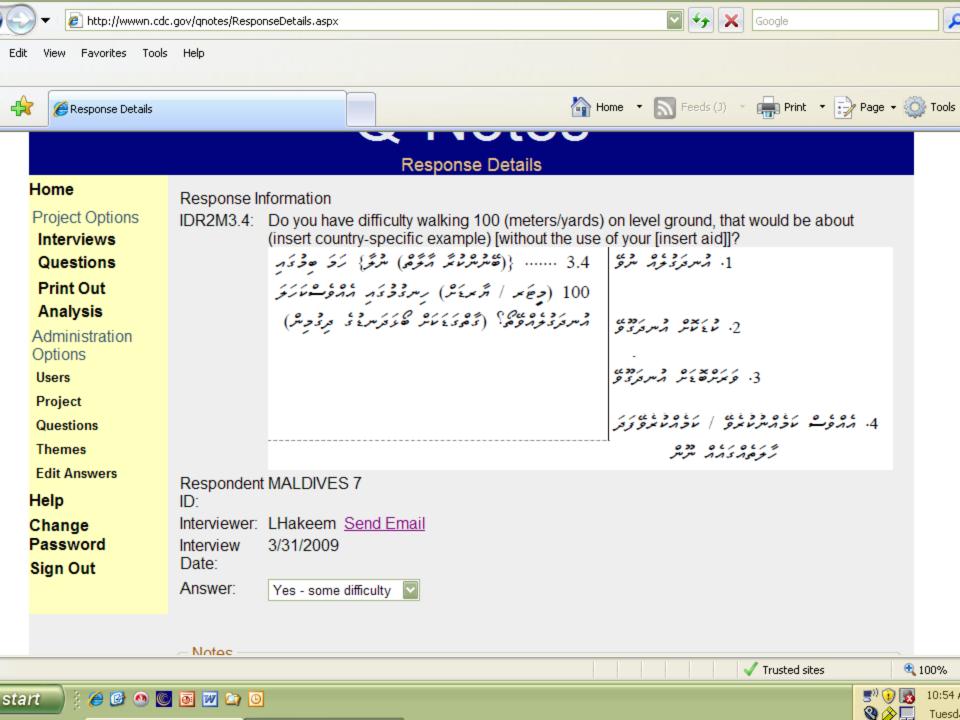






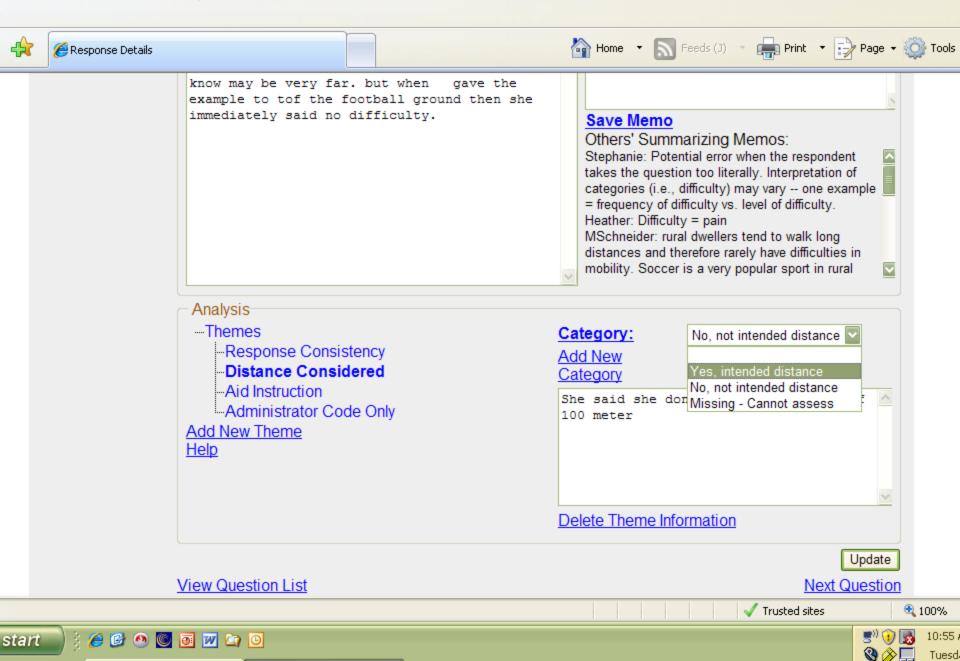


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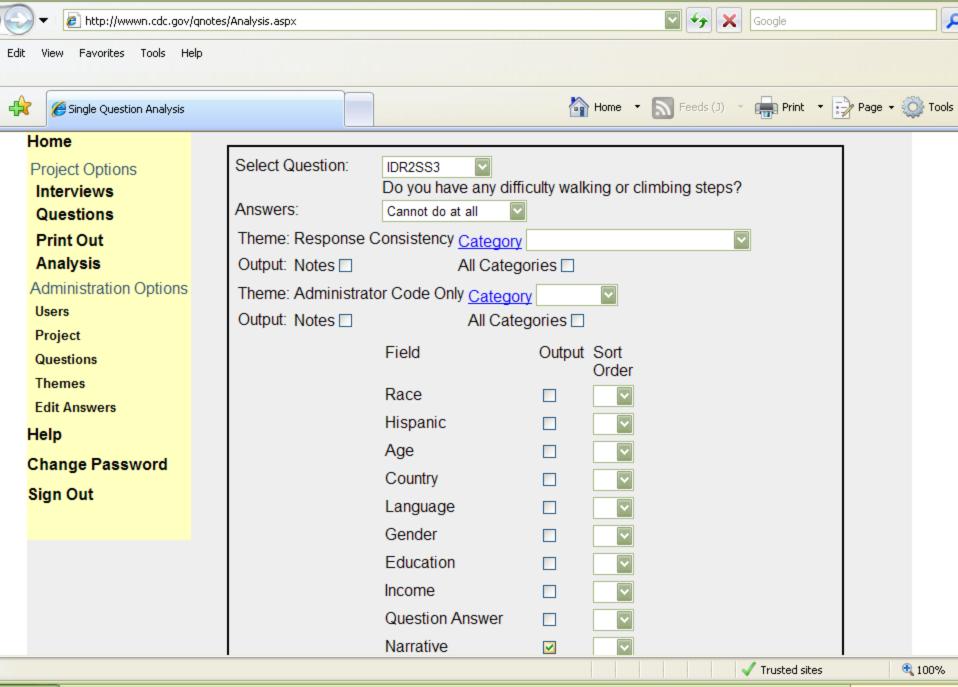
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		United States 18			

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- Based on empirical evidence
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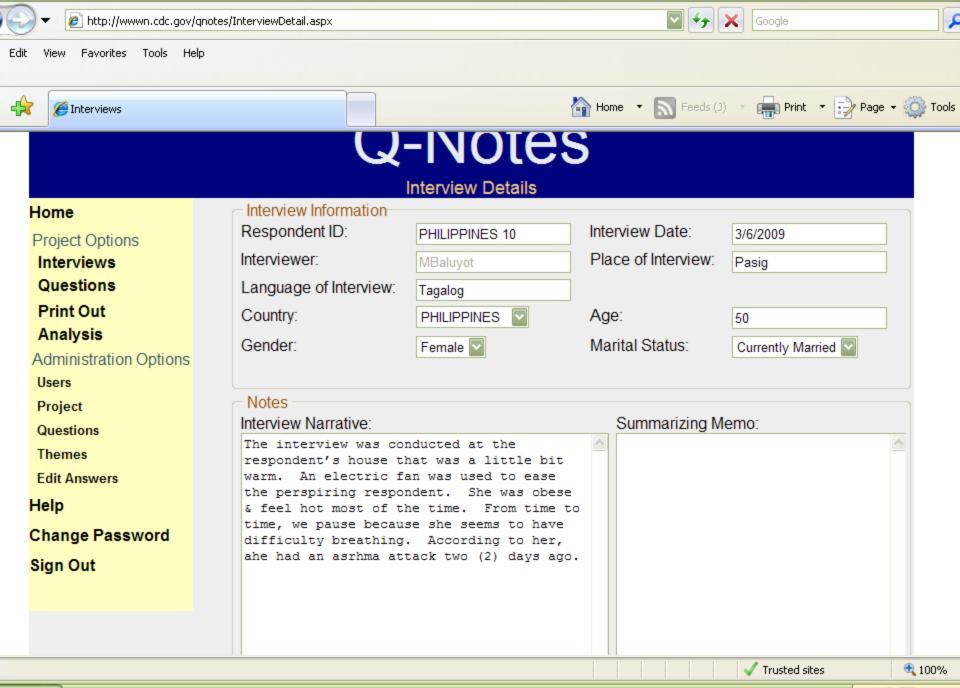
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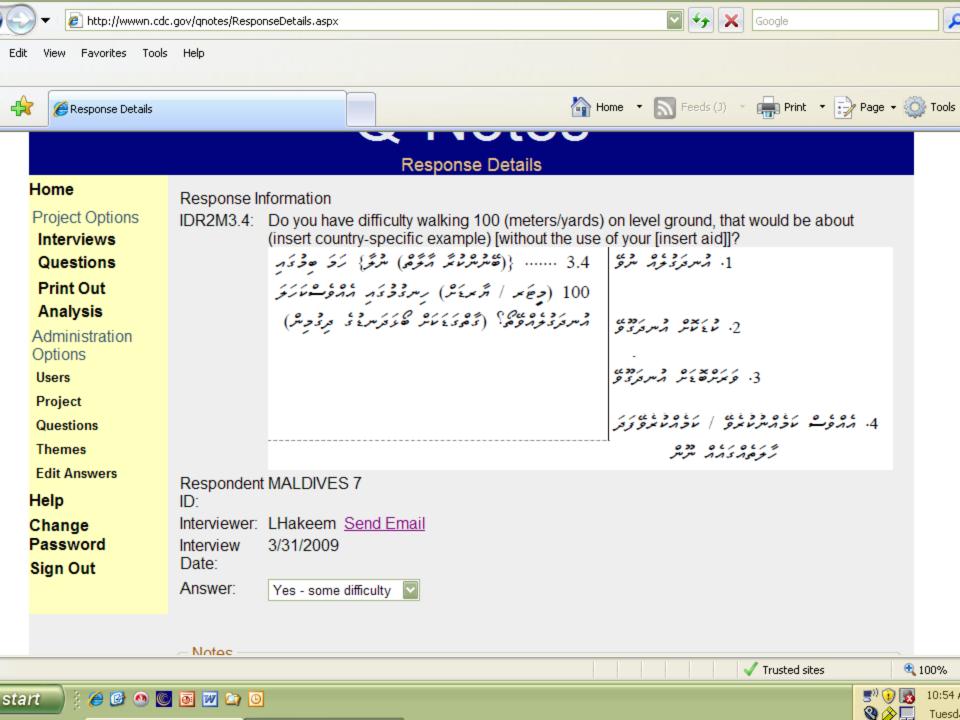






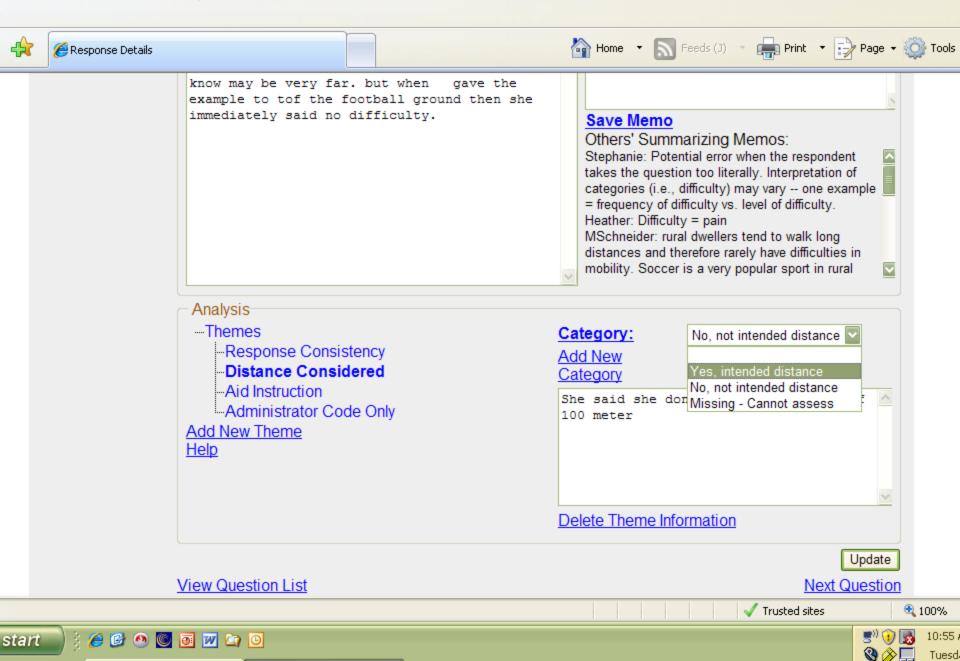


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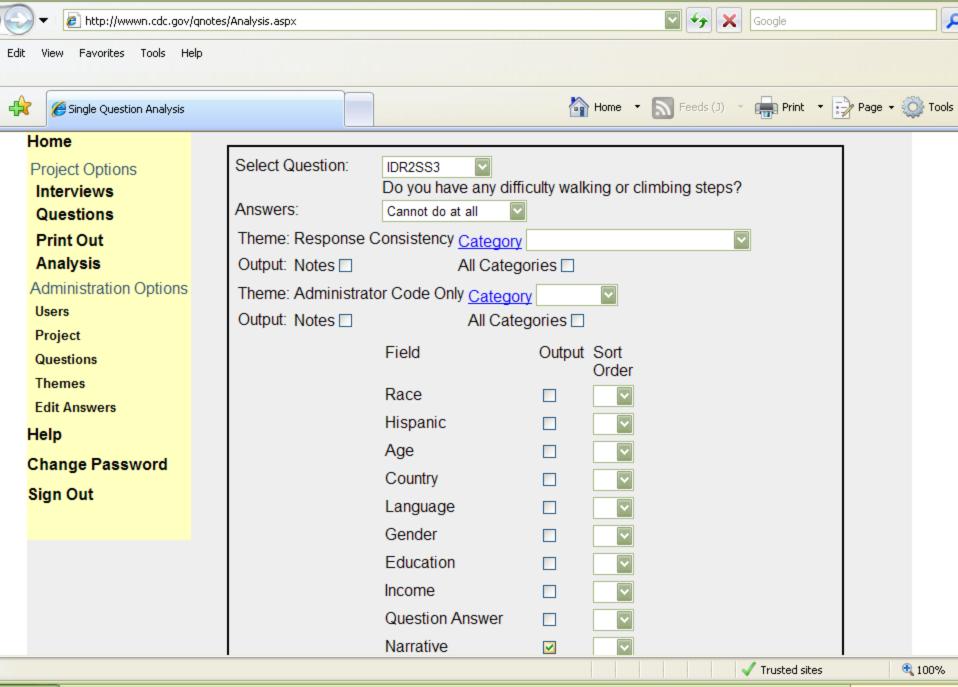
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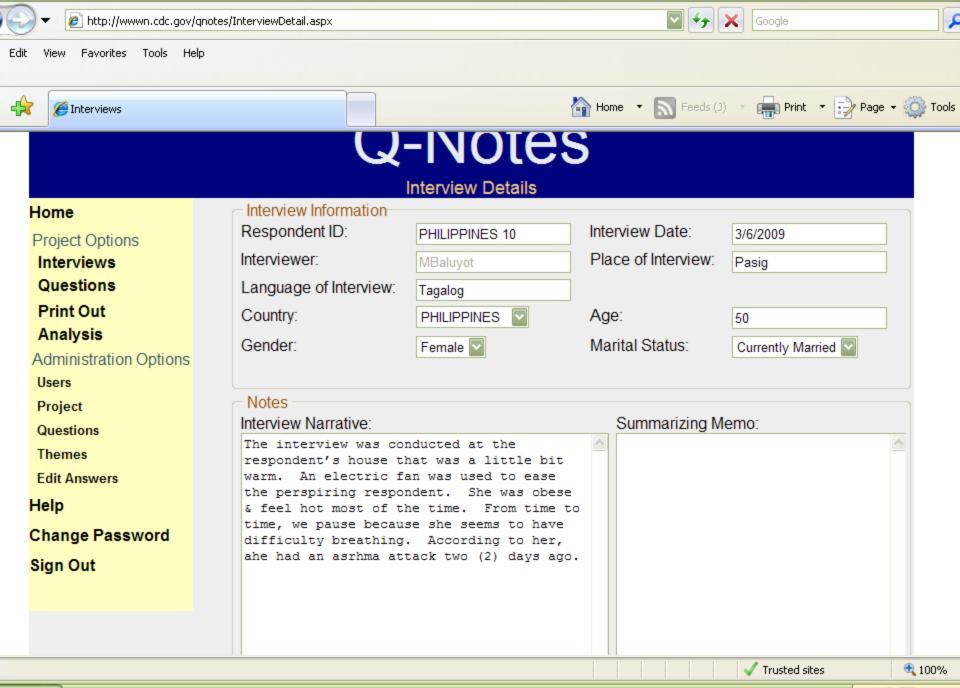
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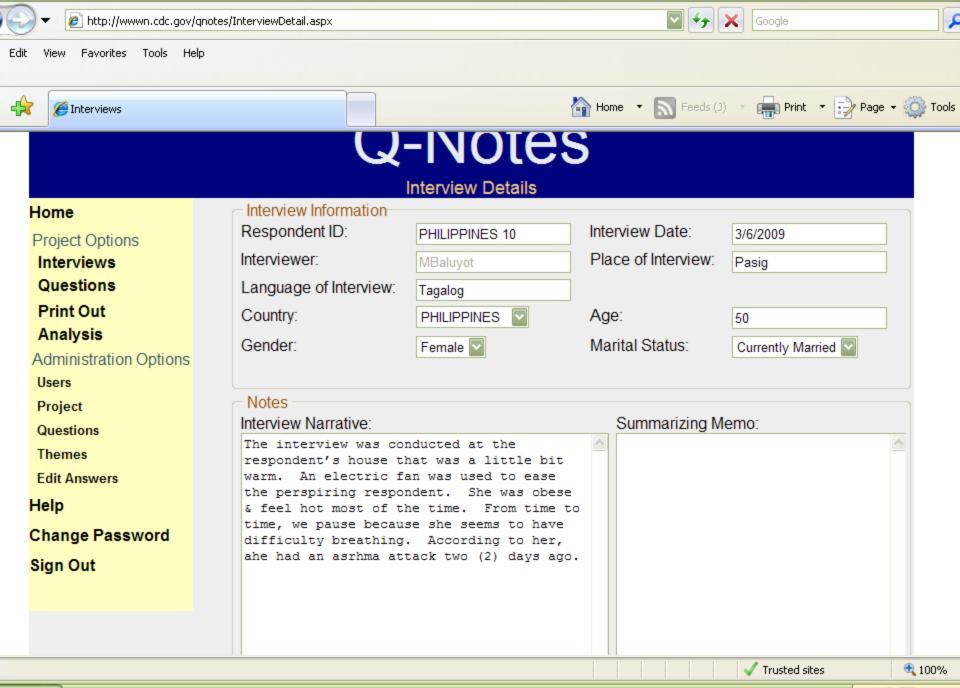
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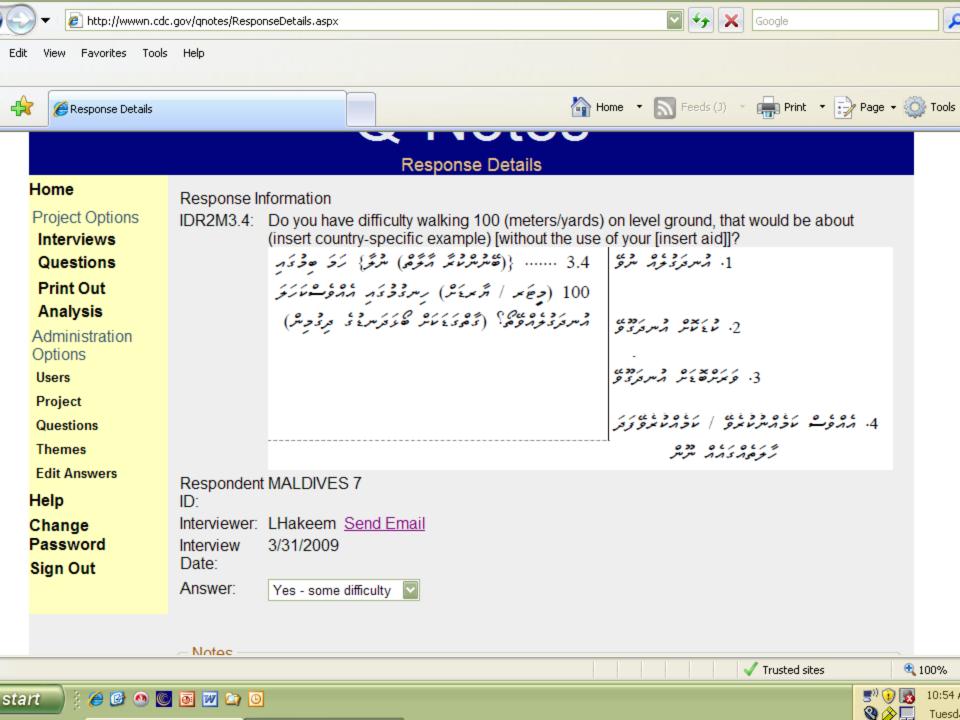






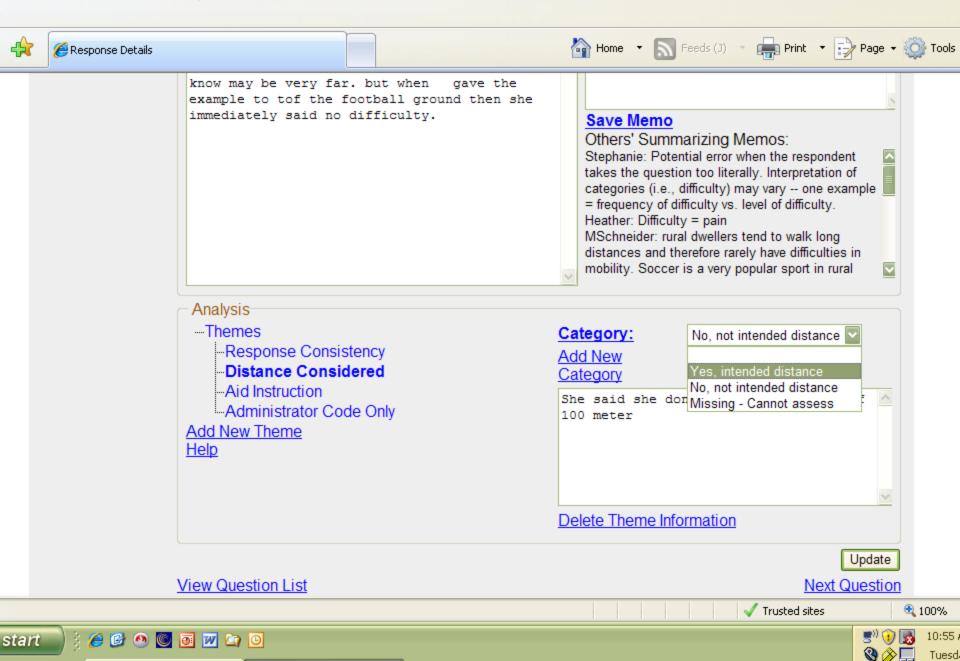


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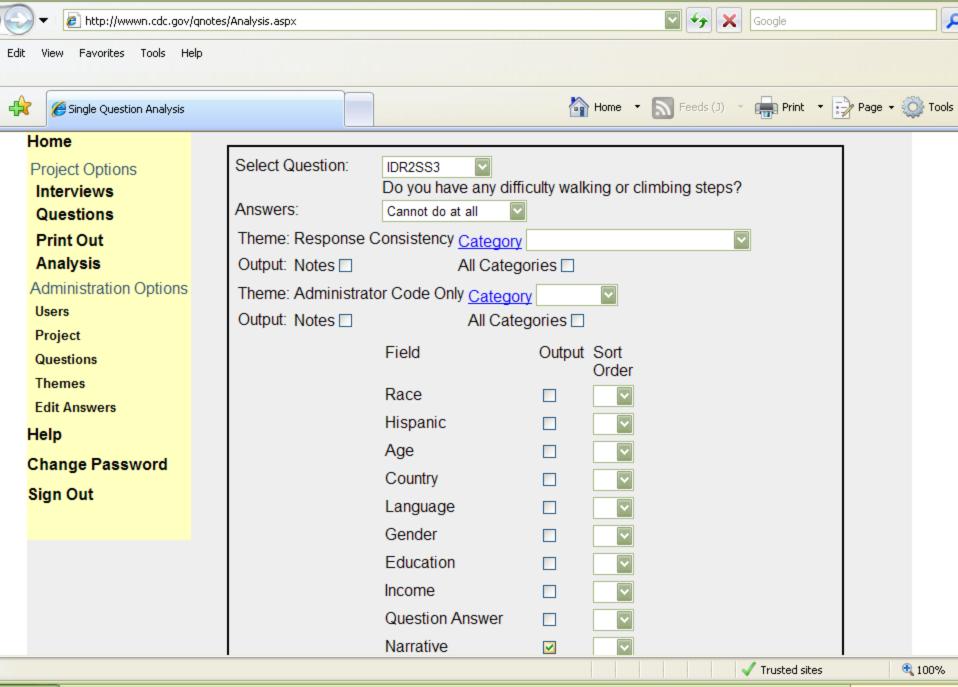
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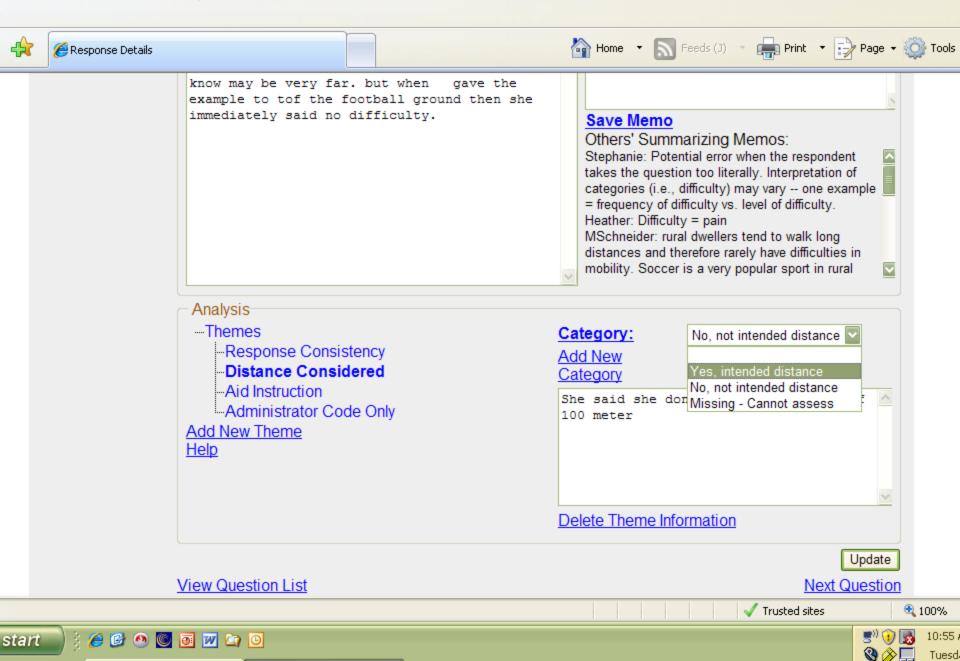
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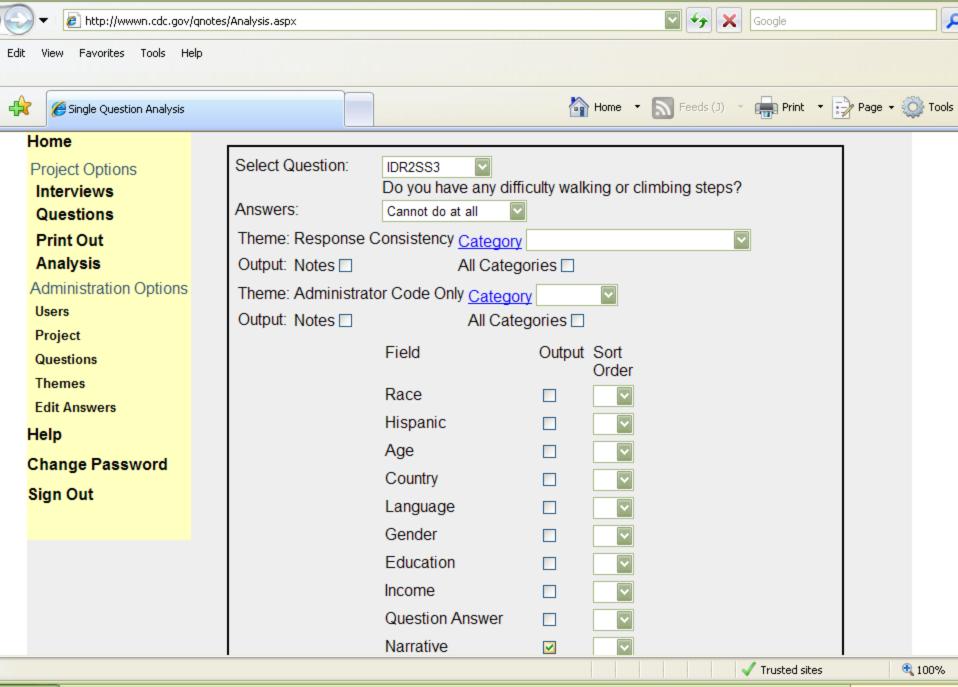
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UPPER BODY

Lifting and Picking Up

Upper Body-Lifting Questions

- Do you have difficulty raising a 2 liter jug of water from waist to eye level?
- Do you use any aids or equipment or receive help with lifting?
 - If Yes: What types of aids, equipment or assistance do you use?
 - Do you have difficulty raising a 2 liter jug of water from waist to eye level even when using your aid?

Assistive Device

- Respondents had difficulty thinking about the use of an aid for lifting
- Varied conceptualizations of what to count as an aid
 - Primarily, others' assistance
 - Using a grabber to reach things off a high shelf
 - Having their body be lifted from bed to wheel chair

Assistive Device

- These conceptualizations then made for confusion in the next jug question.
 - If it is others' assistance, they would not have a problem because the other person is accomplishing the activity
 - The grabber is irrelevant because it would not be used in this situation
 - Assistance lifting out of bed didn't pertain at all

Interpretations of Lifting

- Most considered lifting from waist up to eye level
- However, some respondents with knee or back problems thought of lifting an item from the floor and stated that they would have some difficulty.
- Evidence that respondents are evaluating their functional ability; Respondents clarified 'I would need to use both hands' or 'I could do it with my one arm."

Weight/2-Liter Jug

- Much evidence that 2-liter works well when respondents think of 2-liter soda bottles (relatively consistent across countries)
- Still some evidence of not knowing weight (those not thinking of soda bottle)

Cognitive Interview Data

Respondent Interpretation of 2-Liter Weight

Soda/Water	Other Valid		Not Code-
Bottle	Example		able
23% (18)	30% (23)	9% (7)	39% (30)

N = 78

N = 78	Bottle	Other Example	Did Not Know	Not Code- able
Cambodia (14)	1	7	0	6
Canada (8)	3	1	2	2
Fiji (2)	0	0	0	2
Kazakhstan (9)	1	3	0	5
Maldives (17)	8	3	2	4
Mongolia (3)	0	0	0	3
Philippines (7)	2	3	0	2
South Africa (4)	0	0	2	2
Sri Lanka (2)	0	0	0	2
United States (13)	3	6	1	3

N = 78	Bottle	Other Example	Did Not Know	
Men (30)	23.3% (7)	47% (14)	0	
Women (48)	22.9% (11)	18.6% (9)	14.6% (7)	

N = 78	Not Code- able
Men (30)	30% (9)
Women (48)	70% (21)

Upper Body-Picking Up Questions

Do you use any aids or equipment or receive help when using your hands or fingers?

If Yes: What types of aids, equipment or assistance do you use?

Do you have difficulty using your hands and fingers, such as picking up small objects, for example, a button or pencil, or opening or closing containers or bottles [even when using your aid]?

Upper Body Findings

Finger Question

- Interpretations
 - Primarily use of fingers—as is intended
 - But some evidence of picking things off the floor
 - Vision problems
- Evidence that respondents are evaluating their functional ability-- being able to do it with only one hand
- Aid for the finger question primarily included help from others

Upper Body Embedded Questions

- How old were you when the difficulty lifting began?
- Is your difficulty lifting due to a health problem or something else?
- Does your difficulty lifting limit your ability to carry out daily activities?
- Does your difficulty lifting limit your ability to carry out other activities that are not part of your day-to-day life?

Upper Body Embedded Set Findings

- No difference in phenomena captured as daily and non-daily activities
- Non-health problems were really health problems; using as a screener would screen out too many
- Tedious

(*Same findings in all domains)

Summary of Upper Body Cognitive Findings

- Relatively consistent interpretation of lifting and picking up, with some exceptions
- Assistive device clause creates some confusion
- 2-liter weight maybe more problematic for women
- Embedded set is problematic

Revisions for Field Test Questionnaire

<u>Assistive device</u>: removed from this domain

<u>2-liter weight</u>: revised question to explicitly mention soda bottle

Interpretation:

Lifting up: bottle inserted into question to indicate drinking

Picking up: added follow up question to determine extent

<u>Impact questions:</u> revised (*for all domains)

Upper Body Field Test

Do you have difficulty raising a 2 liter bottle of water or soda from waist to eye level?

Do you have difficulty using your hands and fingers, such as picking up small objects, for example, a button or pencil, or opening or closing containers or bottles?

In answering this last question, were you thinking about bending down to pick up an object from the floor, picking up an object from a table, or something else?

Upper Body Field Test

How old were you when the difficulty lifting or using your hands and fingers began?

How much does your difficulty lifting or using your hands and fingers limit your ability to carry out daily activities?

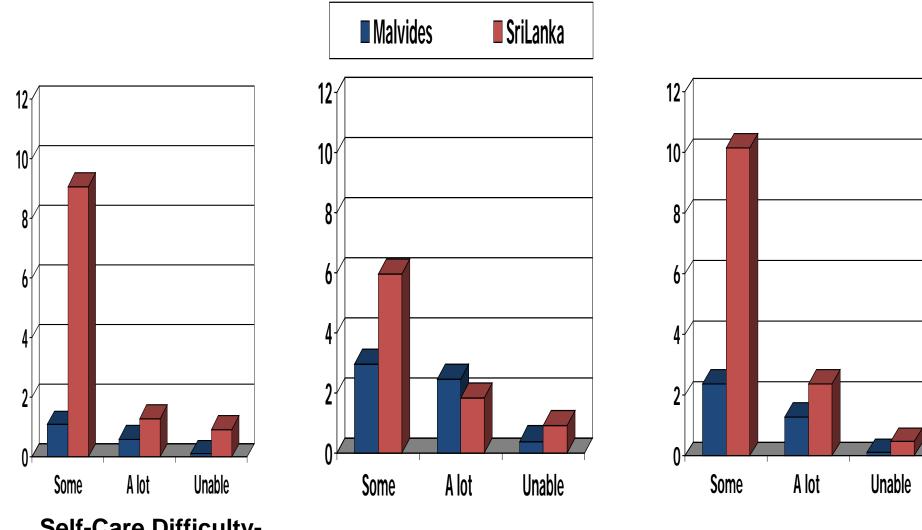
Upper Body Field Test

Which of the following activities, if any, are you unable to do, or find it hard to do, because of your difficulty lifting or using your hands and fingers?

Working to support you or your family? Working outside the home to earn an income? Going to school or achieving your education goals? Participating in leisure or social activities? Getting out with friends or family? Doing household chores such as cooking and cleaning? Using transportation to get to places you want to go? Participating in religious activities? Participating in community gatherings?

Field Test Data

Country Prevalence



Self-Care Difficulty-Short set question

Lifting Difficulty

Picking Up Difficulty

Field Test Data: Picking up from floor or table vs. Difficulty using fingers

		No – no Difficulty	Yes – some difficulty	Yes – a lot of difficulty	Cannot do	Country Percentage	
Floor	Maldives	217	5	5	0	25.6%	
	Sri Lanka	124	22	6	1	41%	
Table	Maldives	217	7	3	0	25.6%	
	Sri Lanka	4	4	0	0	2.1%	
Else	Maldives	<u>⊿ 22</u>	6	∠ }	0	<u>⊿</u> 8.8%	
	Sri Lanka	111	79	19	3	56.8%	
Maldives N=886; Missing Cases=123 Sri Lanka N=373; Missing Cases=716							

Field Test Data:

		Do you have difficulty walking or climbing stairs?					
Picking up from floor,		No – no Difficulty	Yes – some difficulty	Yes – a lot of difficulty	Cannot do		
table or something	Floor	69.7%	17.4%	12%	.8%		
else	Table	73.6%	13.2%	12.8%	, ⁴ ,9%		
	Else	70.5%	19%	10.2%	.3%		
					N=1246		

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Mongolia's Experiences