

# Cognitive Interview Analysis for Validating Disability Measures

Kristen Miller

National Center for Health Statistics

# This Project

- Evaluate questions proposed for the WHO Model Disability Survey
- 60 Interviews conducted by QDRL/NCHS and ISR/U of M
- Disability Domains
  - Mobility
  - Seeing
  - Hearing
  - Cognition
  - Anxiety/Depression
  - Pain
  - Self-Care

# Disability Constructs/Measures

## Capacity

- “in the skin” ability

## Accommodation

- assistive devices, aides, environmental enhancements to improve performance

## Functioning

- Ability to perform activities

# Cog Study Questions:

1. Do the capacity and functioning questions capture the intended constructs?
2. Does section ordering impact construct collected?

## Version A

Environment

Assistive Devices/Aides

Functioning

Health Conditions

Capacity

## Version B

Health Conditions

Capacity

Assistive Devices/Aides

Environment

Functioning

# Analysis for construct validity

- Grounded theory approach
- Interview data consists of respondents' explanations of their answers
- Comparing across respondents, identify interpretive patterns
  - Basis of respondents' answers/construct(s) captured by question
- Use Q-Notes, on-line data entry and analysis tool for cognitive interview studies

# Pain Capacity

## Frequency

In the past 3 months, how often did you have pain? Would you say...

Never

Some Days

Most Days

Everyday

## Intensity

Thinking about the last time you had pain, how much pain did you have? Would you say...

A little

A lot

Somewhere in between

# Capacity

<b>Intensity</b> <b>Thinking about the last time you had pain,</b> <b>how much pain did you have?</b>	<b>Frequency</b> In the past 3 months, how often did you have pain?				
		Never	Some Days	Most Days	Every Day
	(Skipped)	Continuum=0			
	A Little		Continuum=1	Continuum=2	Continuum=2
	In Between		Continuum=2	Continuum=3	Continuum=3
	A Lot		Continuum=3	Continuum=4	Continuum=4

# Pain Functioning

Using the scale on show card X, how much of a problem is having pain for you?

No Problem

Extreme Problem

0

1

2

3

4

# Order of pain questions

## Version A

1. How much of a problem is having pain for you?
2. In the past 3 months, how often did you have pain?
3. Thinking about the last time you had pain, how much pain did you have?

## Version B

1. In the past 3 months, how often did you have pain?
2. Thinking about the last time you had pain, how much pain did you have?
3. How much of a problem is having pain for you?

# Frequencies: Capacity questions

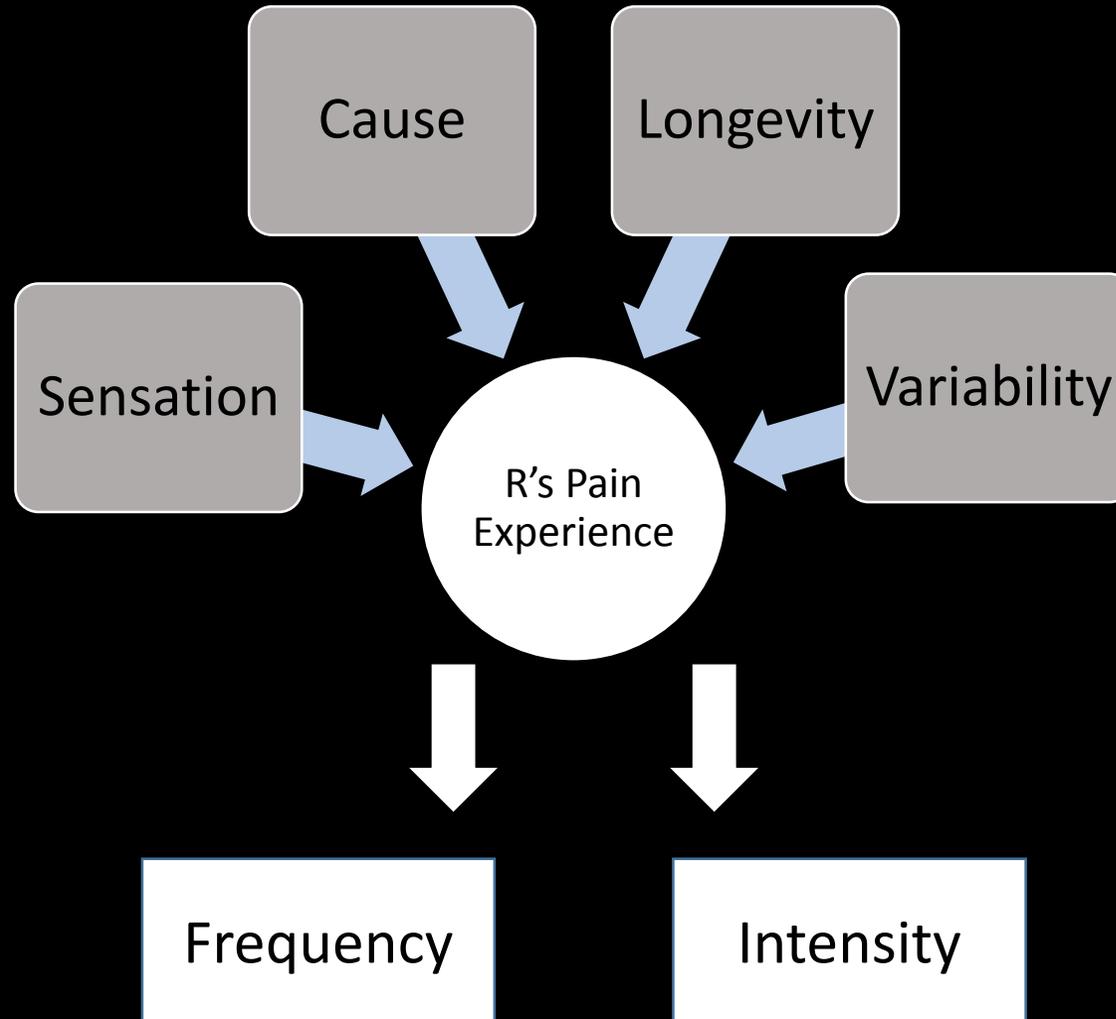
## Version A

Frequency by Intensity					Continuum Pain Score		
Thinking about the last time you had pain, how much pain did you have?	In the past 3 months, how often did you have pain?						
		Never	Some	Most	Every	0	7
	(Skipped)	7				1	5
	A Little		5	3	1	2	6
	Between		2	2	1	3	5
	A Lot		2	2	1	4	3

## Version B

Frequency by Intensity					Continuum Pain Score		
Thinking about the last time you had pain, how much pain did you have?	In the past 3 months, how often did you have pain?						
		Never	Some	Most	Every	0	7
	(Skipped)	7				1	5
	A Little		5	3	1	2	6
	Between		2	2	1	3	5
	A Lot		2	2	1	4	3

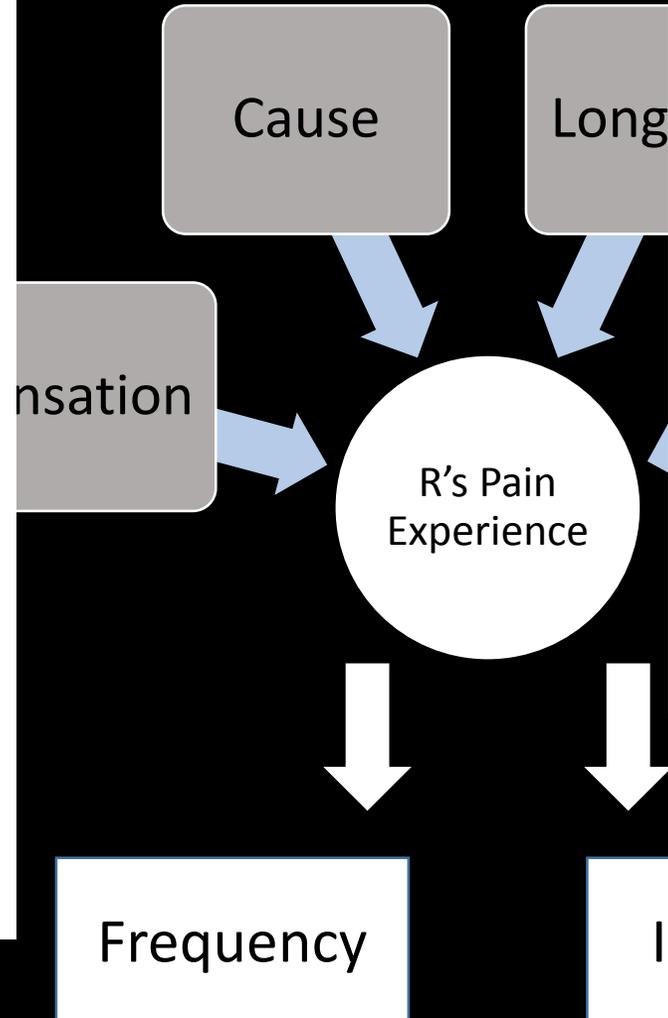
# Capacity Questions: Interpretive Patterns



# Capacity Questions: Interpretive

## Patterns

R: Some days... back pain primarily. Also I have acid reflux... Both would be discomfort and the back would be more painful than the acid reflux. The acid reflux would be sharper pain because of the way it come up on you.... Some days. I would say at least 3 to 4 days a week.... every other day.



R: A little... the back. Lower back pain...related to standing or walking too much. It's not intense pain. It's not unbearable. It's a pain that I know that would go away if I rest or lie down or lay in a comfortable chair. I know it's there I'm aware of [it] but I try not to take any medication to alleviate the pain or anything like that. Because I know it's going to go away. If it lasts too long I'll do something about it but that hasn't happened.

Frequency

Intensity

# Order effects: Capacity questions

- Comparing patterns across versions
  - No differences across versions
  - Similar patterns of interpretation

## Version A

Environment  
Assistive Devices/Aides  
Functioning  
Health Conditions  
Capacity

## Version B

Health Conditions  
Capacity  
Assistive Devices/Aides  
Environment  
Functioning

# Frequencies: Functioning question

**Version A**

0 No Problem	7
1	8
2	6
3	4
4 Extreme Problem	5

**Version B**

0 No Problem	11
1	7
2	2
3	4
4 Extreme Problem	4

# Functioning Question: 3 Interpretative Patterns

## Performance

- Respondent bases answer on the type and amount of activities impacted by pain.

## Capacity

- Respondent bases answer on the intensity or frequency of pain.
- Respondent does not consider activities impacted by pain.

## Acceptance

- Respondent bases answer on their perceived ability to accept or cope with pain.
- Respondent does not consider the amount or frequency of pain.
- Respondent does not consider impact on activities.

# Order effects: Functioning question

- Same patterns of interpretation
- Different rates

	<b>Version A</b>	<b>Version B</b>
<b>Capacity</b>	50% (13)	37% (10)
<b>Performance</b>	26% (7)	40% (11)
<b>Acceptance</b>	23% (6)	22% (6)
<b>Total</b>	26	27

# Order of pain questions

## Version A

1. How much of a problem is having pain for you?
2. In the past 3 months, how often did you have pain?
3. Thinking about the last time you had pain, how much pain did you have?

## Version B

1. In the past 3 months, how often did you have pain?
2. Thinking about the last time you had pain, how much pain did you have?
3. How much of a problem is having pain for you?

### Version A: Capacity by functioning

Functioning: How much of a problem is having pain for you?	Capacity Pain Score:					
		0	1	2	3	4
	0	C		P		
	1	P P A	C C	C A	C	
	2		C	A	C C	C
	3			C	P	C
	4	A	A		C	P

### Version B: Capacity by functioning

Functioning: How much of a problem is having pain for you?	Capacity Pain Score:					
		0	1	2	3	4
	0	C C	P P P	P A		A A
	1		C C P A	C A P		
	2				P	
	3				C P	
	4			P	C P	

# Conclude

- Theme analysis is a good way to study construct validity
- Study can be designed to examine validity in different contexts (in this case in different ordering)
  - But also, different modes, languages, populations

## Performance

R answered 4. “Does that get in the way of doing the things you want to do? Absolutely. Pain gets in the way of everything. Had to stop working back in 2008 - don't get to see friends or relatives as much as I want - friends and family in San Diego.”

“No problem because even though I have occasional pain... I’m thinking my back. It doesn’t prevent me from going about my daily activities.”

# Acceptance

R answers 4. “Well I don’t have pain. When a pain occurs it’s an extreme problem, a number 4.”

R answers 0. “I just think that pain is a part of living - just accept it....Is it a problem? No. If I could choose, I would choose no pain.... I could choose to stop the pain [by choosing] to stop living. But I don't choose to stop living. I think that living is pain for me right now, so it's no problem.

# Capacity

R answers 4. "I hurt all the time. I wake up in pain. I hurt sitting at work. I hurt now. I'm never without pain."

R answers 3. "It could be worse, but it's very painful."