

**READABILITY AND COMPREHENSION  
OF COMMONLY USED SURVEYS BY  
MINORITY ELDERLY**



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## Outline

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- I. Background and Objective
- II. Methods
- III. Results
- IV. Conclusions

## Background

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- **Number of people over 65 is growing.**
  - Percent of minorities over 65 will increase from 17% in 2002 to 28% by 2030.\*
- **Minority elderly comprise 68% of all elderly living in poverty.**
- **Patient reported information is an essential component of the total health evaluation of populations.**
  - Patient surveys are only useful if respondents comprehend what they are being asked.

\* US Dept. of Health and Human Services; ACL – Aging\_Statistics.2013

## Background

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- **Two important aspects of health for the elderly are depressive symptoms and physical function.**
- **Two commonly used survey measures:**
  - Geriatric depression scale (GDS)
  - PROMIS® (Patient-Reported Outcomes Measurement Information System) physical functioning scale
- **Paucity of information about how well these measures are understood by minority elders.**

## Background - Scales

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- Geriatric Depression Scale
- Extensive support for its validity and reliability
- 30 items
  - ✦ *Do you feel happy most of the time?*
    - Yes; No

## Background - Scales

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- PROMIS Physical Functioning –
- Relatively new instrument developed using IRT - enhances precision and efficiency of administration
- 124 items
  - ✦ *Are you able to do chores such as vacuuming or yard work?*
    - Without any difficulty; With a little difficulty; With some difficulty; With much difficulty; Unable to do

## Objective

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To evaluate how well understood these two survey measures are by African American and Latino elderly.

## Methods - Readability

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Readability at item level

Flesch-Kincaid (F-K)

$$F-K = (0.39 \times ASL) + (11.8 \times ASW) - 15.59$$

ASL = average sentence length

ASW = average number of syllables per word

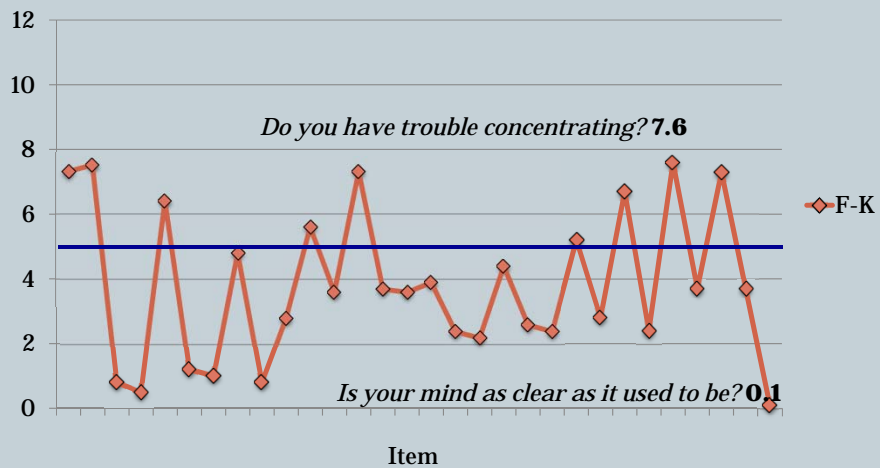
## Methods – Cognitive Interviews

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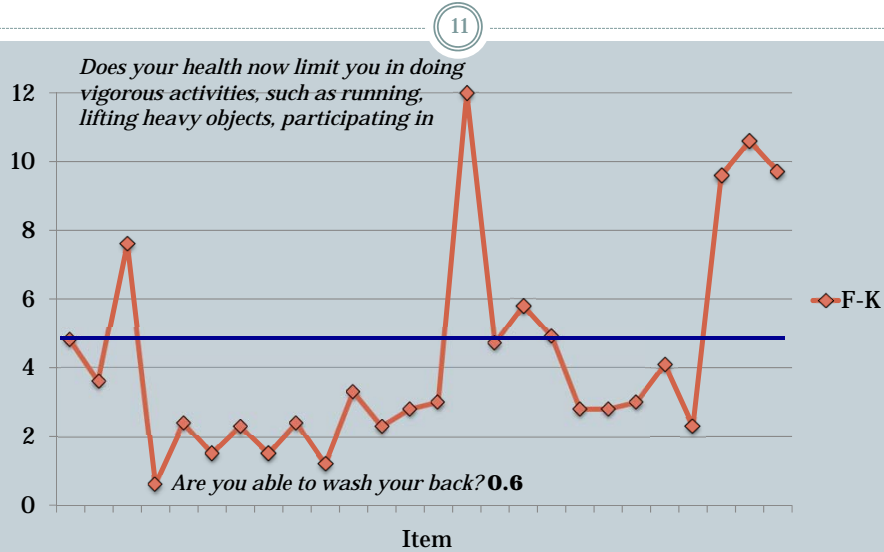
- Cognitive Interviews
  - 30 individuals in 3 locations serving South and East Los Angeles.
    - mean age=76 (range 65-92)
    - 60% female
    - 37% had 6 or less years of formal education
    - 17% could not read 1 or both questionnaires
  - Retrospective probes in random order of questionnaires.

## Geriatric Depression Scale - Readability

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## Physical Function - Readability



## Geriatric Depression Scale – Scores and Missing Data

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- Mean score 6.1 (normal) with range 0-22
- 14% of all possible responses were missing
  - ❖ Do you feel full of energy?
  - ❖ Do you often feel downhearted and blue?
  - ❖ Do you often get restless and fidgety?

## PROMIS Physical Function – Scores and Missing Data

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- Mean score 40 (limitations in PF) with range 25-63
- 13% of all possible responses were missing
  - ❖ Does your health now limit you in doing vigorous activities, such as running, lifting heavy objects, participating in strenuous sports?
  - ❖ Does your health now limit you in bending, kneeling, or stooping?
  - ❖ Do your health now limit you in walking more than a mile (1.6 km)?

## Geriatric Depression Scale – Cognitive Interviews

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- Participants commented: “Items were short and clear.”
- “YES/NO” were not sufficient response options for many (20 – 67%) who suggested adding options like “sometimes” or “most of the times.”

## Geriatric Depression Scale – Cognitive Interviews

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### Potentially confusing items:

- *Do you think that most people are better off than you are?*  
Many participants were unsure if this item referred only to finances, or to health, or in general.

### Item needing more response options:

- *Are you in good spirits most of the time?*

## PROMIS Physical Function – Cognitive Interviews

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- Several items were considered long and confusing.
- Items that started with “Does your health limit you....” were answered “Not at all” or “Very little” by some people who commented they cannot do these activities at all or very seldom.
  - ✦ *Does your health now limit you in doing moderate work around the house like vacuuming, sweeping floors or carrying in groceries?*  
*Not at all; Very little; Somewhat; Quite a lot; Cannot do.*



## PROMIS Physical Function – Cognitive Interviews

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Items that were sometimes not appropriately understood:

- *Does your health now limit you in walking more than a mile?*

Relatively easy to understand, but most participants gave wrong examples of a mile.

- *Are you able to go for a walk of at least 15 minutes?*

One participant who answered “With a little difficulty” commented: “yes, I can but stopping several times to rest, I can walk 15 minutes.”

## PROMIS Physical Function – Cognitive Interviews

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Items that were sometimes not appropriately answered because of the use of physical aids.

- *Are you able to run errands and shop?*

*Without any difficulty; With a little difficulty; With some difficulty; With much difficulty; Unable to do.*

- One person said: “Yes, with help of a walker with a little basket, and buying just 1 or 2 items, I can go shopping for groceries.” after responding “With a little difficulty.”

## Conclusions

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- **Minority elderly may not interpret items in the Geriatric Depression Scale or PROMIS Physical Function in the way intended.**
- **Surveys need to be developed ensuring that this population can read and understand all items correctly.**
- **Surveys that are not culturally or linguistically sensitive may fail to truly capture the needs and conditions of particular communities.**

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