

Examination of Disparities Between
Responses to Short Set Questions and
Extended Questions: With Emphasis
on Those Reporting Unable

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Viet Nam Question

- At the Kampala meeting a question was raised by the Viet Nam delegate about the disparities in responses between the WG short set question and the extended questions used in the testing protocols.
- Of particular concern was the disparity we could call False Negatives. This is the situation when the response to the WG question is **No Difficulty**, but the response to at least one of the follow up questions is **UNABLE**.

Volunteered Analysis

- Analysis of the NHIS to investigate this issue was volunteered.
- Data Source:
 - National Health Interview Survey, 2002
 - Analysis of a set of questions on vision
 - Stratified random sample representing the US population
 - Used the sampled adult population of 31,044

Questions on Vision

- Washington Group question equivalent (almost)
 - Do you have trouble seeing, even when wearing glasses or contact lenses?
 - Yes – 3,089
 - No – 27,955
 - Refused, not ascertained, don't know
 - Are you blind or unable to see at all?
 - Yes - 124
 - No – 2,963
 - Refused, not ascertained, don't know

Extended Questions

- Even when wearing glasses or contact lenses, because of your eyesight, how difficult is it for you to read ordinary print in newspapers?*
- Not at all difficult – 26,416
- Only a little difficult – 1,795
- Somewhat difficult – 1,848
- Very difficult - 419
- Can't do at all - 153
- Do not do this activity - 160
- Refused, not ascertained, don't know - 129

*Not asked of persons who indicated they were blind

Extended Questions (continued)

- Even when wearing glasses or contact lenses, because of your eyesight, how difficult is it for you
 - To do work or hobbies that require you to see well up close such as cooking, sewing, fixing things around the house or using hand tools?
 - To go down steps, stairs or curbs in dim light or at night?
 - To drive during daytime in familiar places?
 - To notice objects off to the side while you are walking along?
 - To find something on a crowded shelf?

Other Questions

- Respondents were asked if they had ever been told by a doctor or other health professional that they had:
 - Diabetic retinopathy
 - Cataracts
 - Glaucoma
 - Macular degeneration
- Respondents were asked about the receipt of rehabilitation for eye injuries or disease and also about the use of devices to assist with vision problems.

Analysis

- Crosstabs
 - Examined the relationship of each extended question to the general question, including indications of diseases of the eye.
- Cross Frequencies
 - Examined question answers on all questions in situations that would appear to reflect false negatives
- Regressions
 - Though hampered by multicollinearity explored relative contribution of extended questions

Vision Limitations or Blindness Associated with Specifically Identified Eye Diseases

Vision Limits	No Eye Disease	One or more of 4 Eye diseases	Totals
No Limits	25425 93.0%	2530 68.4%	27,955 90.0%
Yes Limits	1881 6.9%	1084 29.3%	2,965 9.5%
Blind	40 0.01%	84 2.3%	124 0.4%
Totals	27,346 88.1%	3,698 11.9%	31,044

Proportion of Those Who have Difficulties Reading Who Also Report Having Vision Limitations

Vision Limits	No Diff Reading	Diff Reading	Unable	Don't Do	Totals
No Limits	95.0%	63.4%	24.8%	71.2%	27,955 90.4%
Yes Limits	5.0%	36.6%	75.2%	28.3%	2,965 9.6%
Totals	26,545 85.8%	4,062 13.1%	153 0.5%	160 0.5%	30,920 100%

Results – What Proportion of Respondents Who Report “UNABLE” Also Report Visual Limits

Visual Limits	Read	Close Work	Steps	Drive	Peripheral	Shelf
No Limits	24.8%	28%	42%	42.5%	31.6%	38.6%
Yes Limits	75.2%	72%	58%	57.5%	68.4%	61.4%

Proportion of Persons Indicating Vision Limitations Who Give the Various Answers on Reading Difficulty

Difficulty Reading	No Limits	Yes Limits	Totals
No difficulty	90.2%	44.4%	26,545 85.8%
Difficulty	9.2%	50.2%	4,062 13.1%
Unable	0.14%	3.9%	153 0.49%
Don't Do	0.41%	1.5%	160 0.52%
Totals	27,955 90.4%	2,965 9.6%	30,920 100%

Results – What Proportion of Persons with Visual Limitations Report Being UNABLE on Each Extended Question

Extended Question	No Vision Limits	Yes Vision Limits	Totals
Read	0.14%	3.9%	153
Close Work	0.13%	3.2%	132
Steps	0.20%	3.2%	131
Drive	0.23%	3.0%	153
Peripheral	0.09%	1.8%	79
Shelf	0.08%	1.2%	57

What About the Cumulative Effects of Difficulties on Several or All of the Extended Questions

Visual Limits	0	1	2	3	4	5	6
No Limits	86.6	5.1*	2.3*	1.0*	0.4*	0.4*	4.1*
Yes Limits	33.2**	15.9	15.4	10.3	6.9	8.0	10.2

*Are these all false negatives? **Are these false positives?

What Do Answer Patterns Show?

- The answer pattern that identified some difficulty on **all** the extended questions seems to not fit.
- We examined the answer patterns for all the questions for the group reporting positive answers on six questions. There were 1147 who had indicated no visual limitation and 304 who had indicated a visual limitation. Both were larger numbers than for the preceding two categories (those indicating some level of difficulty on 4 or 5 of the extended questions).

Answer Patterns for Respondents who Reported Difficulty on 6 Extended Questions

Visual Limits	Only a little difficulty	Mixed-a little and somewhat	Only somewhat	Mixed – more serious
No - Limits 1147	8.7%	5.2%	82.1%	8.4%
Yes – Limits 304	16.1%	19.1%	20.7%	44.1%

Regressions –Odds Ratios

Variable	Point Estimate	Significance
Age 18-44 vs 65+	0.719	<.0001
Age 45-64 vs 65+	1.039	<.0001
Sex	1.254	<.0001
Educ	0.990	0.0002
Read	4.505	<.0001
Close work	1.916	<.0001
Steps	1.922	<.0001
Drive	1.084	0.1054
Peripheral	0.690	0.0004
Shelf	0.631	<.0001
Rehab	2.668	0.0131
Equip	21.220	<.0001

Discussion

- 13.4% of respondents do not report vision problems in general but do respond to extended questions.
- Possible explanations:
 - Some questions reflect possible overlap of physical and visual limits.
 - Steps question
 - Driving question
 - Some respondents may show greater tolerance for difficulty – less willingness to indicate difficulty.
 - Need to check for age differences false negative responses

Further Discussion

- Respondents generally can be assumed to have two functioning eyes. Conditions that affect eyes may be present in only one eye. We are not asking specifically for a single eye, but for an overall effect. So, while one eye may have peripheral vision limitations overall effect with other eye is less limiting.

Further Analysis

- Have not exhausted all the avenues of analysis on this topic.
 - Need to examine the following:
 - Control for other functional limitations
 - Control for eye diseases captured in survey
 - Examine within age context
 - Further elaboration of answer patterns and examination of characteristics of respondents who report the different patterns