Probing & Response Difficulties in Web Surveys:

Self-Rated Health and Subjective Life Expectancy

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Survey-based Mortality Predictors

- **Self-rated health (SRH)**

  "Would you say your health is excellent,

    very good, good, fair or poor?"

- **Subjective life expectancy (SLE)**

  "What is the percent chance that you will live to be

    [TARGET AGE] or more?"

- Differential cognitive difficulties, at different stages of the cognitive response process

Known Measurement Issues

- Self-rated health (SRH)
  - Question order/context effects
  - Response category differential item functioning

- Subjective life expectancy (SLE)
  - Item nonresponse
  - Heaping

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This pilot study attempted to ….

- Assess the feasibility of using Amazon Mechanical Turk to recruit "true" Spanish speakers
    - Very biased; few "true" Spanish speakers, hard to obtain
    - 275 English iws, 88 Spanish iws (all bilingual; target=150)
    - Skewed young, white, college educated

- Implement randomized web survey experiments
    1. Question context of SRH
        - Without specific health conditions
        - Vs. Within specific health conditions
    2. Response scale of SRH
        - 5pt verbal scale: Excellent to poor
        - Vs. 100pt numeric scale: 0 to 100
    3. Order of SLE
        - Without expectation context (=within health context)
        - Vs. within expectation context

This pilot study attempted to ….

- Cognitively probe responses to SRH and SLE, retrospectively
  - How did you arrive at this answer?
  - What made you say "don't know"?

- Analyze time measures for response difficulty
  - Time to answer SRH, by question context and response scale
  - Time to answer SLE, by question context

Today, we will present:

- Experiments
    - 1. Context of SRH: Without vs. within specific health
    - 2. Response scale of SRH: 5pt verbal vs 100pt numeric
    - 3. Context of SLE: Without vs. within expectation context

- Time measures for difficulty
    - Excluding outliers (top 5 percentile)
    - By order, response scale (SRH only)

- Probing data - reasons for response (SRH, SLE)
    - By context, gender, age, education

SRH: Response Difficulty & Content

Results – 1. SRH time by scale and q context
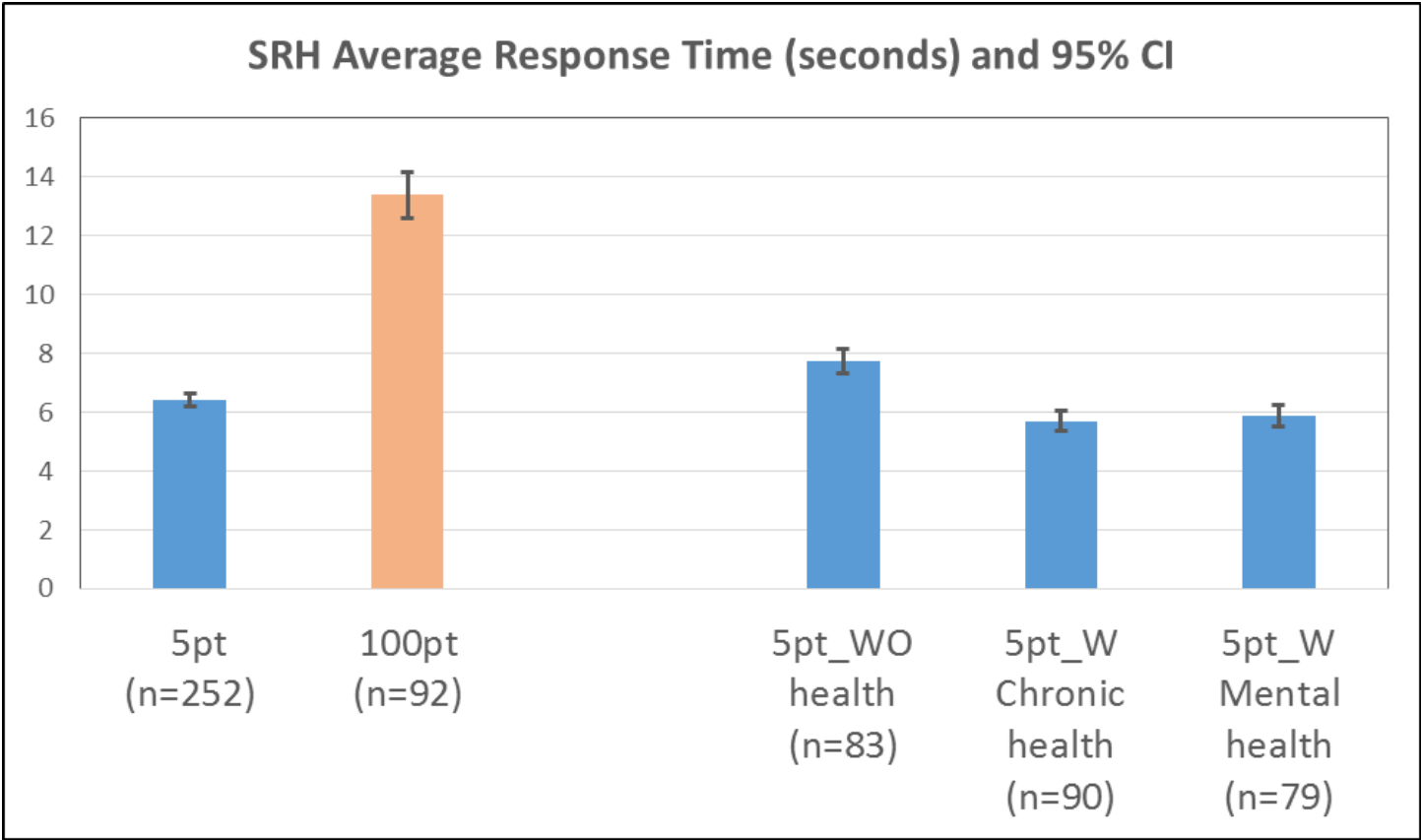
Results – 2. SRH probing

- Overall 701 descriptors reported
- Top 5 descriptors of SRH response content
    - Presence/absence of illness (35.4%)
    - Health behaviors (30.8%)
    - Health service use (10.8%)
    - Feelings (7.1%)
    - Demographic/societal reasons (7.1%)

Results – 2. SRH probing by q context

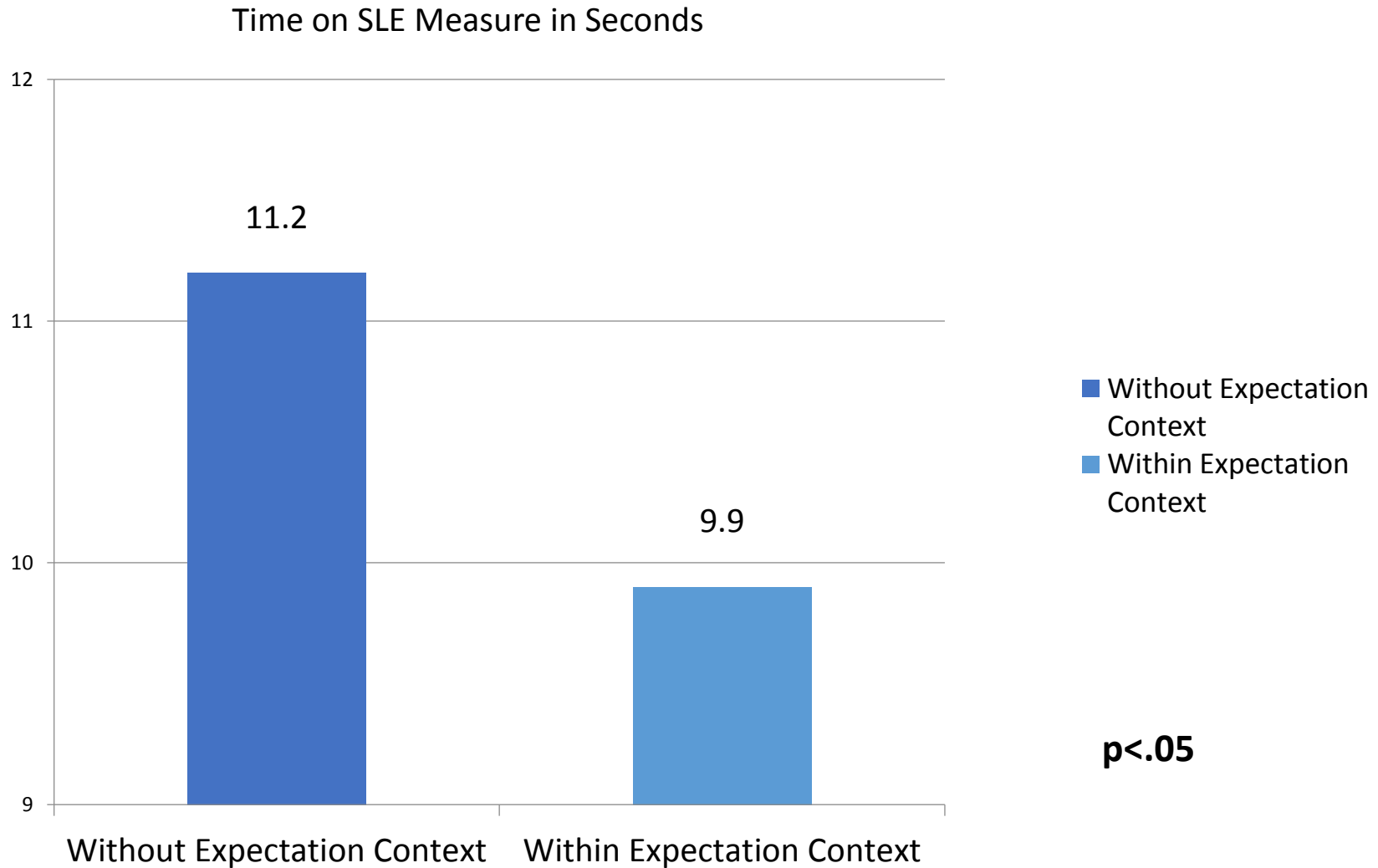| WITHOUT Health Context		WITHIN Health Context	
1. Presence of illness	32.7%	1. Presence of illness	38.3%
2. Health behaviors	31.3%	2. Health behaviors	30.3%
3. Demographic/Societal	9.3%	3. Health service use	13.1%
4. Health service use	8.8%	4. Feelings	7.7%
5. Feelings	6.6%	5. Demographic/Societal	4.7%

Results – 2. SRH probing by demographics

Female (m=335)		Male (n=366)	
Illness	38%	Hlth behavior	34%
Hlth behavior	28%	Illness	33%
Service use	12%	Service use	10%
Feelings	7%	Demographic	8%
Demographic	7%	Feelings	7%

Less Than College (n=371)		College Grad (n=330)	
Illness	36%	Illness	34%
Hlth behavior	31%	Hlth behavior	30%
Service use	10%	Service use	12%
Feelings	6%	Feelings	9%
Gen. health	5%	Demographics	7%

18-25 yrs (n=194)		26-35 yrs (n=214)		36-45 yrs (n=123)		46+ yrs (n=170)	
Hlth behavior	36%	Hlth behavior	35%	Illness	40%	Illness	34%
Illness	35%	Illness	34%	Hlth behavior	28%	Hlth behavior	22%
Service use	11%	Service use	12%	Service use	9%	Feelings	12%
Demographics	6%	Demographics	7%	Feelings	8%	Service use	11%
Feelings	5%	Feelings	5%	General	6%	Demographics	9%

Turning to SLE…

Results – 3. SLE time by q context

Time on SLE Measure in Seconds

Without Expectation Context — Within Expectation Context

p<.05

Results – 4. SLE probing

- Overall, 600 unique descriptors reported
- Top descriptors of SLE response content
    - Family history (19.7%)
    - Health behaviors (17.3%)
    - Health, general comment (15.7%)
    - Inability to know (15%)
    - Demographic/societal reasons (9.7%)
    - Absence/presence of illness (6.7%)
    - Deterministic (6.7%)

Results – 4. SLE probing by q context

WITHOUT Expectation Context (WITHIN Health Context)		WITHIN Expectation Context	
1. Family longevity history	21.7%	1. Health behaviors	17.7%
2. Health behaviors	16.9%	2. Family longevity history	17.7%
3. Health, general comment	14.6%	**3. Inability to know**	**17.0%**
4. Inability to know	**12.9%**	4. Health, general comment	16.7%
5. Societal/Demographic	10.5%	5. Societal/Demographic	8.9%

Results – 4. SLE probing by demographics

Female (n=286)		Male (n=314)	
Family history	23%	Hlth behavior	18%
Hlth behavior	16%	Family history	16%
Gen. health	15%	Gen. health	16%
Inability to know	13%	Inability to know	16%
Deterministic	8%	Societal/dem	12%

Less than College (n=329)		College Grad (n=271)	
Family history	19%	Family history	21%
Health behaviors	18%	Health behaviors	16%
Inability to know	16%	Gen. health	16%
Gen. health	16%	Inability to know	14%
Societal/dem	8%	Societal/dem	11%

18-25 (n=175)		26-35 (n=179)		36-45 (n=112)		46+ (n=134)	
Health behaviors	19%	Family history	21%	Family history	16%	Family history	25%
Gen. health	17%	Inability to know	18%	Health behaviors	15%	Gen. health	16%
Family history	17%	Health behaviors	18%	Inability to know	13%	Health behaviors	15%
Inability to know	17%	Gen. health	16%	Societal/dem	13%	Societal/dem	10%
Societal/dem	11%	Deterministic	7%	Illness	11%	Inability to know	10%

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Conclusions and next steps

- SLE and SRH are similarly used as mortality predictors, but differ in terms of:
  - Reasons for response / frame of reference
  - Response difficulty
  - Potential context effects

- For cross-cultural studies
  - Differences in reasons for response / frame of reference
  - Differences in response difficulty
  - Potential interactions with question contexts

Conclusions and next steps

- MTurk did not prove to be a good source of quick-turnaround pilot data across language and culture, but did illustrate the basic trends we expected

- Next step: Similar manipulations in the GESIS Internet Survey across five countries

Thank you!

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