

Questionnaires for research-based data collection

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Content

- Why me?
- Qualitative vs Quantitative
- How to construct questionnaires
- Paper vs web
- Physical activity study



Medical Epidemiology

- Up to 390.000 respondents (so far)
- Up to 2000 questions per survey
- Response time of several hours
- 80% incomplete answered
- Cost of approximately 500 SEK per respondent

EpiQCenter



- Founded 2010
- Packaged survey instruments to researchers, institutions and companies

Questionnaire construction

- Rip,
- mix,
- test.

Why testing questions?

- Do the respondent understand the question or do we demand too much?
- Increase the respondents motivation
- Decrease misunderstandings (wording)
- Decrease the internal missing data
- Decrease the total missing data

Constructing a questionnaire

- Define the variable
- Don't include questions that may be nice to pose
- Ambiguity
- Knowledge questions
- Assumptions
- One thing at a time
- Leading questions
- Careful with hypothetical and retrospective questions
- Be concrete
- Ordering effects
- Think about possible mix of methods already when constructing the questions.

Piloting test

- Test give deep information
- Pilot test
- n=200 distribute to 20-30 respondents and complement with interviews
- Respondents
 - Maximize the differences
 - Expert reviewers

Piloting the questionnaire

- How long did it take to complete?
- Were the instructions clear?
- Were any of the questions unclear or ambiguous? If so, which and why?
- Did you object to answering any of the questions?
- In your opinion, has any major topic been omitted?
- Was the layout of the questionnaire clear/attractive?
- Any comments?

Different ways to test

- Special probes
- Experiment
- Think-aloud
- Paraphrasing by respondent
- Code the respondents behaviour
 - The respondent stop
 - The respondent ask for clarification
 - Gives non-relevant answers
 - Can't or will not give an answer

Disadvantages with web surveys

- Uneven distribution of respondents (age, economy, education)
- Reading from screen more demanding
- Demands computer and skills
- Layout cannot be controlled
- Higher initial cost
- Lower answering frequency
- Technical difficulties (power, network)

Advantages with web surveys

- Low marginal cost
- Immediate digital storage
- Immediate evaluation of answers
- Individual adaptation
- Logic reduces the number of questions
- Minimal manual handling
- Reduced carbon footprint
- New types of studies
- Immediate individual feedback

Respondent selection

	Advantages	Disadvantages	Representative?
Closest friends	Low cost	Too few Anonymity	
Web site link/ mass distribution	Low cost	Too many	
Internal in organization	Low cost, Many resp.	Anonymity	
Panel	Low cost, Many resp.	Time to create and maintain	
Random population sample	Many resp.	Initial cost Screen size/ resolution	

Excercise helps!

Highest group of physical activity (53-114 MET-hours per day)
IRR of 0.7 (95% CI, 0.6-0.9)

What is a METhour?

$\text{MET} = \text{kcal} / (\text{kg body mass} * \text{h})$

At rest ≈ 21 METh/day

Couch potato ≈ 27 METh/day

1h excercise ≈ 30 METh/day

Conclusions

Physical Activity reduce risk of URTI

Web surveys can be used with excellent compliance with
intense contact

Web surveys can facilitate new methods of data collection

For demos, see

<http://www.csc.kth.se/~balter/webdemos.html>

Fondell E., Trolle Lagerros Y., Sundberg C. J., Lekander M., Bälter O., Rothman K: J., Bälter K.. The Effect of Physical Activity and Perceived Stress on Self-reported Upper Respiratory Tract Infection (Medicine & Science in Sports & Exercise, February 2011).