



The International School on Research Impact Assessment

Questionnaires

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Content

- Key learning objectives
- Introduction to survey research
- How to design a questionnaire
- Validity & reliability of surveys
- Key messages

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Key learning objectives

- To learn a set of good practices for constructing a questionnaire
- To learn about validity and reliability of questionnaires

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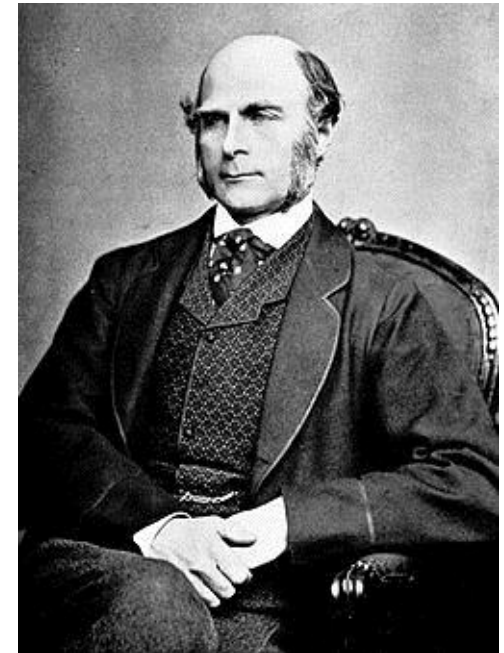
INTRODUCTION TO SURVEY RESEARCH





Survey

- Provide an overview of the current status of a particular programme or body of research
- Broad information rather than deep information
- Employed in a range of ways



Sir Francis Galton
(1822 -1911)



ADVANTAGES

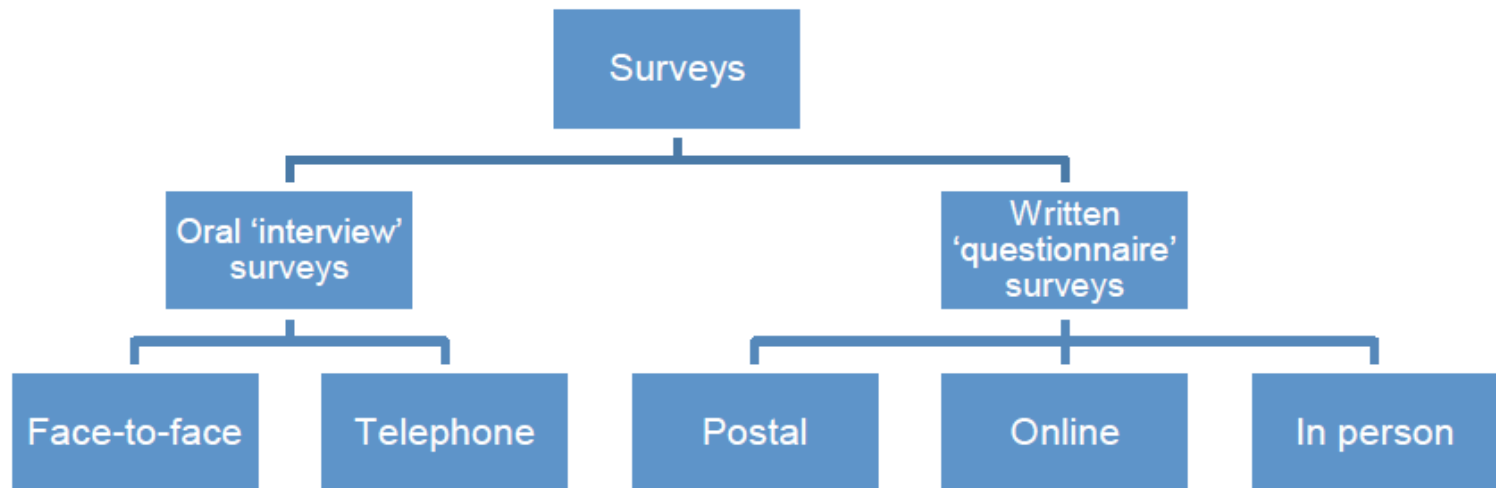
- Sampling
 - Generalizable
- Gather comparable information
- Cost
- Easy to administer and analyse
- Convenience

DISADVANTAGES

- Low-response rate
 - Non-answered questions
- Non-respondents
 - Characteristics
 - Reasons for refusals
- No control over who fills
- Depth of information gathered



Types of surveys & delivering



Guthrie S et al. (2013)



Conducting Survey Research

Steps:

1. Clarify purpose of the survey
2. Understand available resources
3. Decide on the delivery method
4. Design the questionnaire
5. Pilot test and revise
6. Prepare the sample
7. Train interviewers (if necessary)
8. Collect data
9. Process data (if necessary)
10. Analyse the results



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HOW TO DESIGN A QUESTIONNAIRE



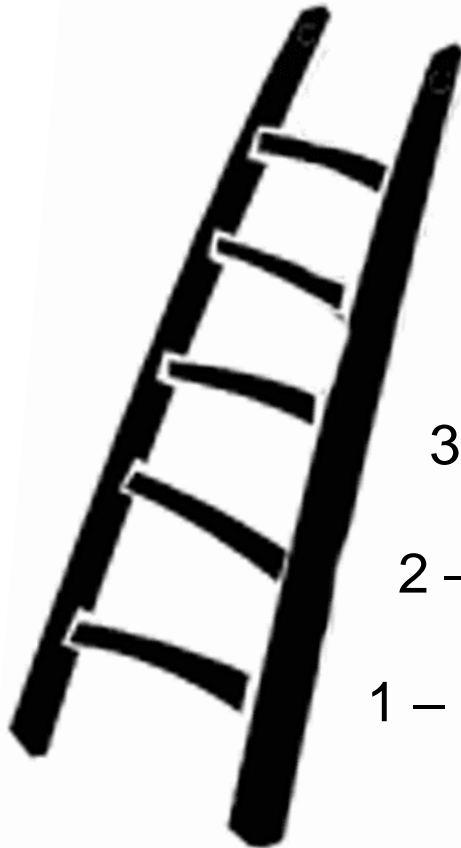


General comments

- Determine if an existing questionnaire can be used to collect the information you want
- Objectives in designing a questionnaire:
 - To maximize the proportion of subjects answering the questionnaire
 - To obtain accurate relevant information



5 key principles of questionnaire design



- 5 – Finalise the form & layout of the questionnaire
- 4 – Put the questions into an appropriate sequence
- 3 – Develop the response format
- 2 – Refine the question phrasing
- 1 – Make a draft listing of the questions



Question content



- Indicators answer your research objectives
 - List all the objectives
 - Ensure every question is integral to your intent
 - Framework(s)
- Ensure each question has an explicit rationale
- Does one topic warrant more than one question?



Question phrasing

One of the major difficulty in writing good questions is getting the correct wording



- Write straightforward direct language
 - Language of target group
- Use short and simple sentences
 - Include only one idea in each sentence
- Explain and illustrate difficult questions



Question phrasing

- Determine whether respondents will be able to answer accurately
 - Can the question be misunderstood?
 - Do respondents have the needed information?
 - Limitations of human memory





Question phrasing

Avoid...

- Double questions
- Questions containing double negatives
- Words like 'regularly', 'often', 'locally', ...
- Biased questions
- Overly personal or direct questions





Response format

Will the question elicit the type of response desired?

Open questions	Closed questions
Encourage respondents to explain their answers and reactions	Limit respondents' answers to the questionnaire
Elicit 'rich' qualitative data .	Elicit quantitative data
Encourage thought and freedom of expression	Can encourage 'mindless' replies
Take longer to answer and may put some people off	Are quick to answer and may improve your response rate
Are more difficult to analyse – responses can be misinterpreted	Are easy to 'code' and analyse



Closed questions

- Create all possible response categories
 - Missing 0 or 'none'
- Create categories or classes for approximate answers
- Add a catch-all word or phrase





Closed questions

- Ensure options are mutually exclusive

8. Can you estimate the proportion of your own time that is dedicated to dissemination related activities?

None

Less than 5% (*i.e.*, less than two hours a week)

Between 5 and 10%

Between 10 and 20%

Between 20 and 30%

Between 30 and 40%

Between 40 and 50%

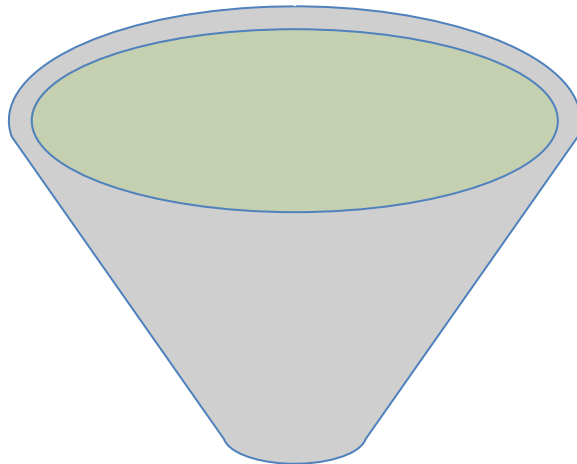
More than 50%

Wilson PM et al. (2010)



The funnel approach to question order

Broad or general questions



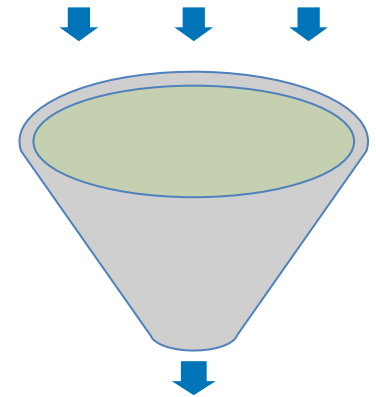
Narrow or specific questions

- Start with easy, non-threatening questions
- Put more difficult, threatening questions near the end



Question order

- Put the most important questions in first half of questionnaire



Comparison 70. More relevant questions first vs. last

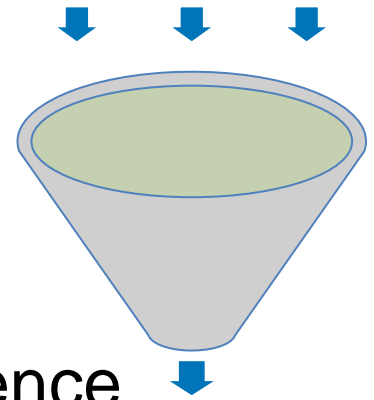
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 First response	1	5817	Odds Ratio (M-H, Random, 95% CI)	1.28 [1.15, 1.42]
2 Final response	1	5817	Odds Ratio (M-H, Random, 95% CI)	1.23 [1.10, 1.37]

Edwards PJ et al. (2009)



Question order

- Go from closed to open questions
- Move logically from one to the next
- Group the questions in logical sequence
- Put demographic and personal questions at the end





Form & layout

- Length
- Appearance
 - Don't want it to look too cluttered
 - Neat, attractive and convenient
 - Introduction and closing
- Instructions (or cover letter)
- Headings and numbering





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VALIDITY & RELIABILITY OF SURVEYS





Internal Validity

- Quality assurance
 - Suitable design
 - Design to control the errors (protocol, questionnaire, manual...)
 - Pilot test
- Quality control
 - Fieldwork monitoring
 - Evaluate the quality of the survey data

External Validity

- Generalizability
- Representativeness of sample, setting and procedures
- Comparing the results with another measure



Reliability

- Internal consistency: homogeneity
- Test-retest: reproducibility

Table 1 The tool's reliability indicators

Domain	Cronbach's alpha	Intra class correlation
The research question	0.79	0.94
Knowledge production	0.70	0.87
Knowledge transfer	0.86	0.90
Promoting the use of evidence	0.27	0.48

Gholami J et al. (2011)



Key messages

- The best questionnaires are constantly edited and refined until finally they have clear questions and instructions, laid out in a logical order
- Appropriate questionnaire design is essential to obtain valid responses to questions





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“It is not every question
that deserves an answer”

Publius Syrus
(roman, 1st century B.C.)



Thanks!

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