

Questionnaire Design

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Overview

- Mode of administration
- Questionnaire design
- Question wording
- Response options
- Question ordering
- Enhancing response rate

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First Principle

You are trying to find the answer to a question

Therefore, you cannot assume anything
(Including the abilities of the respondent)

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Second Principle

Is a questionnaire the correct method for your study

- Does the answer exist already?
- Do you know enough about the topic to know what to ask?
- Does a validated questionnaire for this

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Second Principle

Reasons why a questionnaire may be inappropriate

Problem

- Defined sample
- Behaviour
- Special needs group

Alternative

- Cross-sectional
- Direct observation
- Qualitative study

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General Principles

Clear research question

- Attributes
- Behaviour
- Beliefs
- Attitudes

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General Principles

Selection of sample

Power calculation

- Related to previously published response rates

Questionnaire selection

- Bespoke or published questionnaire

Careful pilot survey with debriefing

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General Principles

- Unidimensional
- No differential item functioning
- Targeted
- Reliable
- Valid
-

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General Principles

Study design

- e.g. number of contacts
- Promote inclusiveness and identity in study

Database and data entry

Ensuring confidentiality (anonymity)

- Data Protection Act

Dissemination of results

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Mode of Administration

- Postal
- Telephone
- Face-to-face interview
- Drop-off (FITD)
- (E-mail and Internet)

Dillman 1978

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Postal Advantages

- Cheapest form of survey administration
- Can cover large numbers of respondents
- Can be centrally administered
- Allows respondents to complete survey at their own pace

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Postal Disadvantages

- Unpredictable response rate
- Item non-response rate
- Certain groups may be under-represented
- Cannot be certain of respondent's

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Telephone Advantages

- Cheaper than face-to-face interviewing
- Can be performed centrally
- Can be used for respondents with impaired literacy or vision
- Item response higher than for postal
- Facilitates computer assisted administration - one less data entry

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Telephone Disadvantages

- Requires respondents to have telephones and be able to use them
- Hearing and language barriers
- Not being able to contact respondents
- Cannot be certain of respondent's identity

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Interview Advantages

- Most personal form of survey
- Interviewer can travel to respondents
- Interviewer can provide assistance
- Identity of respondent can be confirmed
- Computer assisted interviewing may be used

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Interview Disadvantages

- Most expensive form of survey
- Requires trained interviewers
- Interviewer safety to be considered
- Personal nature of interview may affect reporting of socially sensitive nature

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Administration Summary

	<i>Postal</i>	<i>Telephone</i>	<i>Interview</i>
<i>Coverage</i>	Good	Variable	Good
<i>Cost</i>	+	++	+++
<i>Staff training</i>	No	Yes	Yes
<i>Response rate</i>	Moderate	Good	Excellent
<i>“Issues”</i>	Good	Moderate	Moderate
<i>Computer</i>	No	Yes	Yes

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Questionnaire Design

Overall design

- A4 size
 - Booklet
 - Front and back covers
 - Consistent layout (across all literature)
 - From general to specific questions
- Salant and Dillman 1994

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Questionnaire Design

Cover letter

- Separate to questionnaire
- A4 size
- Explanation of study
- Reasons for importance of study
- Contact details of researchers
- Consistent with overall layout

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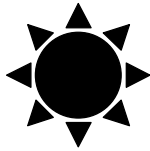
Questionnaire Design

Front cover

- Logical title
- Logo or emblem of study sponsor
- Contact details of study

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Judging the Effects of Rehabilitation



Please return your completed questionnaire
in the enclosed envelope to:
The Rehabilitation Department
National Hospital
Queen Square
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Questionnaire Design

Back cover

- Expression of appreciation
- Unlined comments box
- Return address for questionnaire

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Thank you for taking the time to complete this questionnaire.
Your assistance in providing this information is very much
appreciated. If there is anything else you would like to tell us
please do so in the space provided below.

Thank you for your help

Please return your completed questionnaire in the envelope provided to:
Dr Rory O'Connor
Rehabilitation Group (Box 113)
National Hospital
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Questionnaire Design

Rationale

- Promotes identity of study
- Improves response rate
- Potentially sensitive questions not seen

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Questionnaire Design

Formatting

- 12 point sans serif font
- 14 point for visually impaired respondents
- Double spaced
- White paper
- Or, tone-on-tone

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Questionnaire Design

1. How old are you?

- Under 25 26-34 35-44
 45-54 55-64 65+

2. Where do you live?

- North east North west
 South east South west
 Midlands East Anglia

Question Wording

Acceptability of questions must be high

- Non-ambiguous
- Linguistically relevant
- Culturally relevant
- Sensitive issues need consideration with careful piloting of the questions

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Question Wording

Neutral terms are best in questions

- “How often do you exercise?”

Rather than

- “Do you take a lot of exercise?”

Certainly not

- “Exercise is very good for you. Do you

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Question Wording

No double-barrelled questions

- Do you have pain or discomfort when walking or standing?

This encompasses 4 different scenarios

Respondents may not be sure what you want to know

You may not be sure what they mean

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Question Wording

Suitable time-scale

- Preferable to specify times rather than “often”, “frequently” or “commonly”
- Need to be careful with retrospective times
- Different events may be remembered differentially

Appropriate question to time as well

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Response Wording

Closed

- Socially less acceptable questions

Closed-plus-other

- May be useful in pilot

Open

- Richer source of data (handwriting)

In general start with closed and then open

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Response Options

- Categorical
- Continuous
 - VAS, adjectival, Likert, semantic differential
- Comparative
 - Thurstone, Guttman
- Econometric

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Response Options

Vertical for categorical

- Male
- Female

Horizontal for continuous

- Agree
- No opinion
- Disagree

Headings horizontal

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Response Options

Tick box or numbered?

Formatted for optical reader

- If not using optical reader then numbers are as acceptable and easier to code

Vertical for categorical

- 1) Male
- 2) Female

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Response Options

However best to have consistent instructions throughout questionnaire

Put instructions in different typeface

- **Bold** or larger font

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Response Categories

How many hours of TV do you watch each day?

- Less than 1/2 an hour
- About 1 hour
- About 2 hours
- 3 or more hours
- Less than 2 hours
- 2 to 4 hours
- 4 to 6 hours
- More than 6 hours

These response categories will give

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Response Ordering

Respondents may answer all questions in the same way - “yea-saying”

This can be overcome by alternating positive and negative responses

- e.g. Hospital Anxiety and Depression Scale
Zigmond and Snaith 1979

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Question Ordering

- Personal details towards end
- Published questionnaires cannot be changed without invalidating them
- Random order generally not necessary
 - Respondents move back and forward

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Question Ordering

“Threatening” questions in bespoke questionnaires can be problematic

- May consider phrasing it in third person
- e.g. some people... or people say...
- Or “building-up” to the difficult topic
- However, this increases the length of the questionnaire

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Enhancing Response Rate

Why is a high response rate important

- Adequate confidence in results
- Generalisability of results to other groups
- Decreased response rate introduces bias

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Enhancing Response Rate

Timing of survey

- Some evidence for early week posting
- Avoid December and summer holidays
- Best months are January to March

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Tailored Design Method™

1. Pre-notification letter
2. Questionnaire + letter + S(tamped)AE
 - 7 days after pre-notification
3. Thank you letter (postcard)
 - 10 days after questionnaire
4. Repeat questionnaire + letter + SAE
 - 3 weeks after original questionnaire

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Enhancing Response Rate

Other options to enhance response rate

- Personalising literature
- Telephoning after second questionnaire
- Recorded post

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Incentives

- Monetary better than non-monetary
- Little benefit from promised incentives
O'Connor 2006
- May produce lower quality results
- Considered unethical by most healthcare research bodies

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Conclusion

- Good design of questions, responses and questionnaire improves response rate
- High response rate reduces bias and improves generalisability of the results
- These principles should be incorporated into future studies

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For Further Information

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