

 SAGE researchmethods

Developing the Survey: Questions and Answers

In: Doing Surveys Online

By: Vera Toepoel

Pub. Date: 2017

Access Date: April 9, 2019

Publishing Company: SAGE Publications Ltd

City: 55 City Road

Print ISBN: 9781446249673

Online ISBN: 9781473967243

DOI: <https://dx.doi.org/10.4135/9781473967243>

Print pages: 19-38

© 2016 SAGE Publications Ltd All Rights Reserved.

This PDF has been generated from SAGE Research Methods. Please note that the pagination of the online version will vary from the pagination of the print book.

Developing the Survey: Questions and Answers

INTRODUCTORY CASE: Response options

Response categories in survey questions are often chosen on the basis of the knowledge or intuition of the researcher. Respondents use the response alternatives to determine the meaning of the question and use the frequency range suggested by the response alternatives as a frame of reference, extracting information about presumably common answers from the values stated in the scale.

In an experiment, Toepoel et al. (2009) used four questions to test if differences in difficulty of information processing influence response category effects. They used a low response scale, a high response scale and an open-ended question to test the effect of response options. Answers were dichotomized to compare results (answer options 1 to 5 in format A are similar to answer option 1 in format B).

Table 2.1 The effect of response options on answers to a question

Example response scale	A: Low response scale	B: High response scale	C: Open-ended
How many hours per day do you typically watch TV?			
1	½ hour or less	2½ hours or less	Open-ended question
2	½–1 hour	2½–3 hours	
3	1–1½ hours	3–3½ hours	
4	1½–2 hours	3½–4 hours	
5	2–2½ hours	4–4½ hours	
6	More than 2½ hours	More than 4½ hours	

Table 2.2 Frequencies of the results from different response formats

	Low response scale	High response scale	Open-ended
	X* or less	X* or less	X* or less
<i>Mundane and regular</i> Hours watching TV	78.0%	46.4%	47.9%
<i>Mundane and irregular</i> Birthday parties	74.4%	55.4%	60.6%
<i>Salient and regular</i> Visiting a hairdresser	84.7%	72.1%	81.5%
<i>Salient and irregular</i> Days on holiday	53.9%	46.6%	49.8%

*X = 2½ hours watching TV, 9 hours for visiting a hairdresser and 17 for birthday parties and days on holiday.

Answers differed significantly for hours watching TV: 22 per cent said they watched more than 2½ hours in the low format, compared to 54 per cent in the high format. Less difference was found for days on holiday, which is more distinct from memory and more salient.

The authors conclude that response scales have a significant effect on response formulation in questions that are difficult to process, whereas in easier questions (where responses are based on direct recall) the response scales have a smaller effect. They argue that an open-ended format is preferable in questions in which estimation strategies have to be used. If this type of answer format is not desirable (e.g. because of higher item non-response on open-ended answers), categories in closed questions have to be chosen with care and preferably tested in a pilot study.

2.1 Introduction

When writing a questionnaire you aim at a quality so high that valid and reliable answers to the research questions are more or less guaranteed. But how do you write good questions? How do you know that there are enough questions to cover your topic, and how do you put them into a structure that is helpful to the respondent? And what about response formats? These topics will be dealt with in this chapter.

Questionnaires should be developed and tested carefully before being used. The researcher should know:

- What questions to ask (only the relevant ones!),
- What form the questions should take (scale, categories, open-ended),
- How to word the questions,
- How to sequence the questions (interesting–personal).

Make sure you examine each question to ensure that it contributes to the research objectives and plan enough time to carefully develop your questionnaire. Let other people test it and revise it until you are confident that the questionnaire is okay.

2.2 Psychology of asking questions

Developing questions for a survey is a constant conversation between the researcher and the respondents, keeping in mind the key variables to be measured: while writing questions a researcher should always remember who the respondent is (can he/she answer the question?) and what the research question is (do the questions relate to the research objectives?). Tourangeau et al. (2000) have proposed a model of this response process. They divide the survey response process into four major components – comprehension of the question, retrieval of relevant information, use of that information to make a required judgement, and selection and reporting of an answer.

Comprehension refers to processes such as attending to the question and instructions, assigning a meaning to the question and identifying the information necessary to answer the question. Many response errors arise because respondents misunderstand the survey questions. They miss part of the question, miss instruction texts or simply do not understand the question because it is too vague or contains difficult words.

Cognitive processing refers to the retrieval of relevant information. This information can come from long-term memory, or should be invented on the spot (online judgement). How well a respondent can search for relevant information depends on the difficulty of the question and the cognitive ability of the respondent. For example, a question referring to the average time spent in front of the television is very difficult to answer since there is no clear answer available from memory. Respondents have to use estimation strategies (on a typical day, I put the television on at 8.00 pm and watch till 11.00 pm, so that is about 3 hours a day). Sometimes television viewing is combined with other activities (e.g. cooking, online activities, etc.) so the event is not distinctive in the memory. In addition, the frequency of the event influences how well the event is present from memory. The more irregular and less salient a behaviour is, the more difficult it is for the respondent to retrieve a correct answer from memory. In addition to question difficulty, the cognitive ability of the respondent influences how well information is retrieved from memory. Literature suggests that people with low working memory capacity (e.g. lower educated people, older people) are more likely to produce less

accurate answers.

After retrieval of the relevant information, the respondent should use that information to make the required judgement. This opinion may be based on what is most easily brought to mind, stereotypes, schemes, etc. In addition, respondents may make erroneous inferences based on what is retrieved. Respondents can vary in their need for evaluation; some people like to state their opinion, others may show less evaluative effort in answering questions.

At the end, the respondent should select and report an answer. Even when a respondent has a clear answer in mind, it may not be clear how to report it. Response options may not cover the answer in mind. Or the answer in mind might not perfectly fit into one of the response categories. For example: where is the exact boundary between 'strongly agree' and 'agree'?

Respondents do not need to take all steps when answering a survey question. Many times respondents use shortcuts to arrive at an answer, with related response effects.

Table 2.3 Response effects

	What should happen	What could happen
Step 1: Comprehension	<ul style="list-style-type: none"> Attend to questions and instructions Represent logical form of question Identify question focus (information sought) Link key terms to relevant concepts 	<ul style="list-style-type: none"> Respondent's attention may wander during the interview and they may miss part of the instruction or question Terms may be unclear Question may be too complicated or vague
Step 2: Retrieval	<ul style="list-style-type: none"> Generate retrieval strategy and cues Retrieve specific, generic memories Fill in missing details 	<ul style="list-style-type: none"> Distinctiveness of events Fit between terms used in the question and the events' original encoding Number and quality of the cues in the question Source of the memory (direct experience versus second-hand knowledge)
Step 3: Judgement	<ul style="list-style-type: none"> Assess completeness and relevance from memories Draw inferences based on accessibility Integrate material retrieved 	<ul style="list-style-type: none"> Survey responses can shift dramatically in response to minor changes in question wording, order or even layout Respondents may base their attitudes on what's most easily brought to mind Respondents may use stereotypes and schemas

	<ul style="list-style-type: none"> • Make estimates based on partial retrieval 	
Step 4: Response	<ul style="list-style-type: none"> • Map judgement onto response category • Edit response 	<ul style="list-style-type: none"> • Boundary between 'strongly agree' and 'agree'? • Boundary between 'seldom' and 'often'? • A respondent's willingness/ease with saying 'don't know'

Source: Based on Tourangeau et al. (2000)

It is important to keep in mind the response process while writing questionnaires. Guidelines for writing survey questions for online surveys are more or less the same as for other self-administered modes of data collection. Questions must be self-explanatory (no interviewer present to explain), understandable, and answer categories should be suitable and mutually exclusive and exhaustive. In addition, online surveys have the advantage that visual and audio tools can be added (graphics, videos, sound), routing can be implemented (to skip unsuitable questions), the layout of the questionnaire can be personalized, and hard and soft checks can be built in (more about this in [Chapter 9](#)). Before we begin with writing the actual questions, we first have to define the research objectives.

Careful answers are the product of:

Step 1: Comprehension of the question

Respondent error: Misinterpret the question

Step 2: Retrieval of relevant information (cognitive processing)

Respondent error: Forget crucial information

Step 3: Use of information to make evaluation (generating an opinion)

Respondent error: Make erroneous inferences based on what is retrieved

Step 4: Selection and reporting of an answer (formatting the response)

Respondent error: Map answer onto an inappropriate response category

Mistakes can be made at any of these steps!

See Tourangeau et al. (2000)

Typical response effects

Acquiescence: tendency to agree.

Social desirability: need to present oneself in a favourable light.

Primacy effects: more easily selecting the first answer (note: primacy in Web surveys compared to, for example, recency in aural modes).

Satisficing: searching for the first option that seems appropriate, rather than evaluating each option individually before arriving at an answer (results in primacy effects).

2.3 From research objectives to constructs to questions

2.3.1 Research objectives

Before designing the survey, research objectives should be described. What do you want to find out by conducting the survey? What are the objectives of the survey? What is the survey's goal, and how can you obtain the results you want? The objectives of the survey determine whom you need to survey and what you need to ask. By making the objectives clear, you can determine whether it is possible to meet them and not be disappointed afterwards. Often researchers just start by writing down questions and find out after their data collection that their results do not warrant the conclusions they need to make because of a mismatch between research objectives and population, question and/or answer categories used.

Make sure that your research objectives are measurable and that they are in line with the format with which you choose to administer the survey. For example, if it is very important to reach every member of the population, and not everyone has access to the Internet, a Web survey might not be a very wise thing to do. It is a good idea to check your research objectives with your superiors or the people you work with to make sure that you are doing what they expect from you. You would not be the first researcher to do a survey and then, when presenting the final report, learn that you did not do exactly what they thought you would do. Getting feedback before starting the survey is absolutely essential.

Write down your research objectives and make them specific and clear. To write objectives, you can start with a general goal statement that begins with the word 'to' followed by an action verb, such as 'describe', 'explain', 'explore', 'identify', 'investigate', 'measure' or 'test' (Sue and Ritter, 2007).

Example research objective: The goal of this survey is to investigate whether there is a

difference between males and females with regard to personality traits.

2.3.2 Constructs

After you have defined your research objectives, you should translate them into one or more research questions. For example, if the research objective is to compare personality traits of both men and women, you can create several research questions evaluating different aspects of personality, for example, openness, conscientiousness, extraversion, agreeableness and neuroticism (big five personality traits). These aspects are referred to as **constructs**. A research question could be: Is there a difference between men and women in agreeableness? You can search in the literature to find scales measuring the big five personality traits. Ample literature is available on this subject, and other researchers have already operationalized these personality constructs into question items.

Survey fact: Many constructs are already tested and validated and available to others. For example, personality scales can be found at www.ipip.ori.org or www.yorku.ca/rokada/psyctest. In addition, many papers contain validated items for constructs, so a search through literature might be beneficial. In addition, note that many people have the same research questions as you have, and data may already be available. Secondary data are often available at reduced rates or even for free. See, for example, www.lissdata.nl, which contains a broad range of survey data (social, psychological, economic, political, etc.) in a longitudinal setting in a Dutch probability-based online panel and is available for free.

2.3.3 Questions

After you have decided which constructs you want to measure, you will need to translate these constructs into question items. You can probably find validated questions in the literature related to the subject. Keep in mind that you need several items to measure a single construct well (at least three). After you have found some existing question items measuring these constructs in literature, you have to decide if you need to add additional questions to your questionnaire. Can you obtain all the information needed to answer your research question from these constructs? Do you need additional questions? What about demographics such as gender, age, education, income or ethnicity? Especially for the last variables, there is ample literature available on how to measure these constructs best.

The goal of writing survey questions in online surveys is to develop a query that every potential respondent will interpret in the same way, be able to respond to accurately and be willing to answer (Dillman, 2007). Groves et al. (2009) argue that there are three distinct standards that all survey questions should meet:

1. **Content standards:** are the questions asking about the right things?
2. **Cognitive standards:** do respondents understand the questions consistently; do they have the information required to answer them; are they willing and able to formulate answers to the questions?
3. **Usability standards:** can respondents complete the questionnaire easily and as they were intended to?

Survey questions should be explicit, and natural sounding. Unlike normal conversation or scientific discourse, survey questions in online surveys must function without much opportunity for supplementary explanation (apart from the possibility of adding a hyperlink with additional instructions, and hard or soft checks). There are different types of questions.

Many questions ask about the date or the **duration** of an event. Tourangeau et al. (2000) distinguish four main types of temporal questions that appear in surveys:

1. Time-of-occurrence questions (e.g. on what date did you go to the dentist?),
2. Duration questions (how long did your visit take?),
3. Elapsed-time questions (how long since you last went to the dentist?),
4. Temporal frequency questions (how many times did you go to the dentist in 2014?).

Attitudinal questions ask about how a respondent feels towards a certain topic. For example: Do you think it should be possible for gay people to marry? Attitudes may rest on long-standing evaluations and beliefs about a topic, but the judgements themselves must often be created in response to a question (Tourangeau et al., 2000). In addition, attitudinal judgements are typically made in relation to some standard, making them very context-dependent. Asking the same attitudinal question in different questionnaires (contexts) may thus result in fairly different answers.

Behavioural questions refer to the frequency of a requested behaviour. As mentioned in the introductory case, they can be prone to response effects, especially memory effects. Behavioural questions ask respondents to remember events but also to use that information to make a summary judgement.

Knowledge questions refer to the knowledge a respondent has about a certain topic. For example, Have you ever heard about Animal Cops? Or: Do you know what campylobacter means? Answer categories are often quite simple, being yes/no or true/false. Knowledge questions are particularly sensitive to conditioning effects, respondents may learn from taking surveys, so you need to be very careful in using them in (online) panel studies.

For more information about question types and related response effects, see Tourangeau et al. (2000). Search in the literature to find out how others word similar questions.

Table 2.4 Example questions and possible response formats

	Example question	Example response format
--	------------------	-------------------------

Dates and durations	<ol style="list-style-type: none"> 1. On what date did you go to the dentist? 2. How long did your visit take? 3. How long since you last went to the dentist? 	<ol style="list-style-type: none"> 1. DD/MM/YYYY 2. ...minutes 3. Less than a month, one month to a half year, a half year to a year, more than a year
Attitudinal questions	<ol style="list-style-type: none"> 1. How satisfied or dissatisfied are you with this product? 2. How important do you find equal rights for gay couples? 3. How strongly do you oppose or support equal rights for gay couples? 	<ol style="list-style-type: none"> 1. Totally satisfied-totally dissatisfied 2. Very important-not at all important 3. Strongly oppose-strongly support
Behavioural questions	<ol style="list-style-type: none"> 1. How many times did you go on a holiday abroad in 2014? 2. How many times did you go to a cultural display in 2014? 3. How often do you brush your teeth? 	<ol style="list-style-type: none"> 1. ...number of times 2. Once, 2–3 times, 4–11 times, 12 or more 3. Always, often, seldom, rarely
Knowledge questions	<ol style="list-style-type: none"> 1. Do you know what campylobacter is? 2. Obama is the president of the USA? 	<ol style="list-style-type: none"> 1. Yes, no 2. True/false

When you think you have written all questions down, check whether every question measures an aspect of your research questions (delete questions that are redundant) and whether you can answer every research question with your responses. Then, when you think you have all the questions you need, you can proceed with choosing answer options, order of questions, introduction text, instructions, thank you message, etc.

Developing questions: Bottom-up or top-down?

There are two ways to develop your questions: bottom-up and **top-down**. Bottom-up writing or draft writing starts with writing down all the questions that you can come up with. Then you find the logic behind these questions and order them. Questions that are not needed or non-measurable are deleted. Top-down writing starts with defining all constructs

from theory. The constructs are then operationalized into questions or items. In academic research, top-down approaches are preferred because they promote searching for existing validated measurement instruments.

Survey tip: Use the same categories as measured by census bureaus (or other national statistical agencies) for demographic variables such as education or ethnicity so you can compute weights (see [Chapter 12](#)) in order to make your data (more) representative of your population.

How to decide which questions to use (see Czaja and Blair, 2005)

1. Does the item measure an aspect of the research question?
2. Does it provide information in conjunction with other items?
3. Will all respondents understand the question in the same way?
4. Do respondents have the information to answer the question?
5. Will respondents be willing to answer the question?
6. Can I use this question in my analysis?

Principles for writing survey questions (Dillman, 2007)

1. Choose simple over-specialized words.
2. Choose as few words as possible to pose the question.
3. Use complete sentences to ask questions.
4. Avoid vague quantifiers when more precise estimates can be obtained.
5. Avoid specificity that exceeds the respondent's potential for having an accurate, ready-made answer.
6. Use equal numbers of positive and negative categories for scalar questions.
7. Distinguish undecided from neutral by placement at the end of the scale.
8. Avoid bias from unequal comparisons.
9. State both sides of attitude scales in the question stems.
10. Eliminate check-all-that-apply question formats to reduce primacy effects.
11. Develop response categories that are mutually exclusive.
12. Use cognitive design techniques to improve recall.
13. Provide appropriate time referents.

14. Be sure each question is technically accurate.
15. Choose question wordings that allow essential comparisons to be made with previously collected data.
16. Avoid asking respondents to say yes in order to mean no.
17. Avoid double-barrelled questions (e.g. How satisfied are you with your pay and job conditions?).
18. Soften the impact of potentially objectionable questions.
19. Avoid asking respondents to make unnecessary calculations.

Survey fact: An organization wanted to monitor their brand awareness and conducted a longitudinal study in a panel. Their report showed an increase in brand awareness, but this was due to the fact that the same respondents answered the survey over and over again. They were measuring panel conditioning (learning effects) instead of brand awareness.

Pitfalls for questions

- **Asking for attitudes is implying that your respondents have one.** Example: In the past year, would you say that the crime situation in your town has become better, stayed the same or become worse?
- **Double-barrelled questions.** Example: Does your company provide training for new employees and retraining for existing staff?
- **Leading questions.** Example: Are you in favour of higher student grants, as they improve the quality of the educational system?
- **Sensitive questions.** Example: Have you ever stolen something?

Guidelines for writing research objectives:

1. Make research objectives specific and clear.
2. Make your research objectives measurable.
3. Make sure that a survey is suitable for measuring your research objectives.
4. Make sure that your superiors and/or clients (or anyone else involved) agree with the research objectives.

Guidelines for writing research questions

1. Write as many research questions as needed to fulfil your research objectives.
2. Make sure that your research questions are measurable.
3. Make sure that your research questions are answerable by your survey.
4. Make sure that your research questions match your research objectives (they need to both be of the same order: descriptive, predictive, etc.).

Guidelines for choosing constructs

1. Review the literature related to your topic. What constructs do they use?
2. How are the constructs measured (Which aspects are used? Which items are used?)
3. What is already available in terms of items (existing scales) and/or data?
4. How many items do you need in order to measure the constructs?

Guidelines for choosing questions

1. What questions do you need to answer your research questions?
2. Do you need to use independent, dependent and control variables? Which ones?
3. Make sure that you can tie every question in to one or more survey objectives.
4. Get advice from experts (methodologists *and* content experts).

2.4 Answer options

It is important that you think very carefully about how you offer response options to respondents since they determine how respondents interpret your question. In addition, the type of response options that you use determines your analysis strategy. In principle there are three types of answer options: **open-ended** (no answer choices provided), **close-ended ordered** and **close-ended unordered**.

2.4.1 Open-ended

Open-ended questions are questions for which no response options are provided. An advantage of open-ended questions is the fact that people have the ability to provide the information they want to provide without

being forced to answer within a particular option. In open-ended questions respondents can elaborate on their answers, which results in more in-depth interviewing. On the other hand, open-ended questions require more effort from respondents (they cannot rely on the information provided in answer categories), which results in higher item non-response (Griffith et al., 1999; Hurd et al., 1998), more people abandon the survey (Crawford et al., 2001) and unit non-response is also higher (Blumberg et al. 1974). In addition, it can require a lot of effort on the researcher's part to recode the open answers into a format that can be used for making analyses – especially in large datasets this can be very time-consuming. There are software applications available that can help in recoding the responses (e.g. STATPAC's Verbatim Blaster).

Open-ended items are preferable when the required form of the answer is quite obvious (e.g. what is your age?), when you want your respondent to elaborate on a topic (why do you think so?) or when it is difficult to provide a good set of response alternatives (What is your occupation?). When using open-ended questions, keep in mind that respondents often use round values, suggesting that their answers may not reflect exact underlying values.

2.4.2 Closed-ended ordered

Ordered response options are probably the most widely used measurement instrument in Web surveys. Many ordered response options are ordinal scale questions and follow an order starting at one pole, proceeding through intermediate options and ending at the other pole. These questions are presented in various ways in online surveys: answer categories can be presented in (one or more) columns, with labels for all categories or for the endpoint categories only, with radio buttons or an answer box, etc. It is well known that differences in layout can lead to substantial differences in responses (see Toepoel and Dillman, 2011; more about this in [Chapter 9](#)).

Close-ended questions with ordered response categories are most useful when one has a well-defined concept for which an evaluative response is wanted, unencumbered by thoughts of alternative or competing ideas (Dillman, 2007). Examples of scalar concepts are:

1. Strongly agree to strongly disagree,
2. Very favourable to very unfavourable,
3. Excellent to poor,
4. Extremely satisfied to extremely dissatisfied.

Apart from the choice for a specific scalar question, a researcher has to decide how many choices (scale points) should be offered. For example, should you use a 5, 7, 9 or 11-point scale? And in addition and related to that choice: should you use **verbal labels** for all scale points (i.e. totally disagree, somewhat disagree, neither agree nor disagree, somewhat agree, totally agree), do you use numbers, and/or label only the endpoints of the scale (**polar point labels**)? In general, it is best to use verbal labels for all scalar points (see Toepoel and Dillman, 2011). And the fewer choices available, the easier the response process for respondents. However, often if you use few options (e.g. four or five) answers will cluster into a single

cell (e.g. strongly agree) limiting the analytical power of the question. If you can predict clustering to be a problem with your question, you may want to use a 7-point scale. Many researchers favour a 9- or 11-point scale from analytical perspectives, but since a survey is a constant conversation between respondent and researcher (where the first wants few response categories to ease the response process and the latter many for analytical purposes) I would suggest choosing a format in-between, for example, a 7-point scale. When choosing a 7-point scale (or more scale points), it is difficult to verbally label all answer options. In this case it is wise to verbally label only the endpoints and use **numerical labels** (e.g. 1 to 7) for all answer options, to avoid response effects (Toepoel and Dillman, 2011).

With ordered response options, some complexities in analysis arise. Do you compute average ratings, combine parts of the scale into high, medium and low categories, or do you use some threshold level (such as any rating greater than 7 on a 10-point scale)? And can you treat the data as interval or as ordinal (in other words, are the differences between scale points the same)? Note that most of the time, the significance of results in different types of test (e.g. for interval or ordinal data) is more or less the same.

With rating scales, the answers are subject to the effects of anchors and other contextual influences. For example, respondents may draw inferences about the distribution of the behaviour in question based on the response categories provided. A good example is the introductory case to this chapter, where people saw the middle category as representing the population average. People might be reluctant to select an answer from the extreme (I am not a heavy television viewer!) and select more often a middle option. In addition, respondents draw meaning from **non-verbal cues** such as numbers, colour, positioning and order as well. These additional cues should be kept to a minimum and chosen with care. Note that verbal cues overrule non-verbal cues (Toepoel and Couper, 2011).

Survey fact: Many researchers use answer options that do not fit question text, or answer options that are not symmetrical (e.g. very important, important, neutral, unimportant, irrelevant). Make sure your answer options are balanced and fit the question!

Heuristics for ordered response options

- **Positivity or leniency bias**

Respondents are reluctant to select the negative end of a scale.

- **Scale label effects**

Negative numbers are interpreted as implying more extreme judgements than low positive numbers.

- **Response contraction bias**

Respondents avoid extreme response categories.

- **Reference point effects**

Numbers may convey specific meanings that may encourage/discourage respondents from selecting a specific response option.

- **Scale range effects**

Range affects beliefs about the object being rated or the population distribution.

2.4.3 Closed-ended unordered

Unordered response options are normally an enumeration of categories, for example, a list of different types of sports, products, etc. Unordered response categories with a couple of answer options are often quite simple. But even this simple type of response format requires certain decisions: should you include a 'don't know' and/or 'won't tell' option? Whether you should include these non-substantive response options depends on your judgement about whether many respondents will be able or willing to answer simply by clicking one of the response alternatives offered. If you are uncertain that you have covered all answer possibilities, you can add an 'other', or 'other, namely' response option.

Choosing from among many categories is quite complex. [Figure 2.1](#) displays an average number of unordered response categories. But let's say you want to know which types of sports a respondent practises. You then would need a very long list with every sport available. This list may be offered in one single row, or in several rows. But regardless of the visual layout, a respondent may not be willing to read the entire list of sports.

Especially with unordered categories, the order in which the options are listed can affect the answer distributions. With a long list of unordered items, some respondents might not process each individual option optimally and rather opt for the first option that suffices. Choosing the first acceptable alternative instead of processing each item optimally is called '**satisficing**'. In order to avoid items in the first range of the list being selected more often, it is best to randomize the response categories. Good software packages allow you to do that.

Figure 2.1 Example of unordered response options

Please tell me which of the following foods you use on a daily basis?

? Milk products
? Meat
? Vegetables
? Bread
? Fruit
? Butter or oil

For a discussion and guidelines for which type of online answer format suits a question best, see [Chapter 9](#).

Survey fact: Typically, ‘don’t know’ options are coded as 8 (or 88) and refusals as 9 (or 99).

2.5 Ordering of the questions

As mentioned earlier in this chapter, a questionnaire is a constant conversation between the researcher and the respondent. It typically evolves in accordance with societal norms for conversations. Each question should logically follow on from the previous question (sometimes helped by question introductory texts). Jumping quickly between topics means that answers are less likely to be well thought out, as new topics evoke top-of-the-head responses (Dillman, 2007). Question topics and questions are generally grouped in a way *from most salient and interesting to least salient/interesting* to the respondent. This is based on evidence that response and drop-out rates vary by questionnaire topic. In addition, question order should take into account what the respondent has been told in advance about answering the survey. Normally, a strong argument is offered in an advance letter or introduction text for answering the questionnaire. It is important that early in the questionnaire questions should relate to what the respondent was told about the questionnaire. The beginning to a questionnaire is partly a matter of meeting respondent expectations and partly a matter of identifying questions that the respondent will find interesting. Dillman (2007) argues that one should not begin by asking a series of disjointed demographic questions (respondents will not see the relevance to the topic) nor should you include a long series of abstract attitudinal scales. Also, try to start with general questions before you ask specific questions (changing the order often results in different answers since respondents take the answer to the specific question into account while answering the general question).

Objectionable questions are placed near the end of the questionnaire, since at that point the respondent is less likely to quit and some questions may seem less objectionable in light of previous questions already answered. Questions that many people object to answering include those about ethnicity, income, undesirable behaviour, religion and political preference.

It is desirable to group together questions that have a similar set-up, for example similar answer categories.

In addition, try to keep scalar questions on the same number of scalar points and in the same order (e.g. positive to negative) to avoid confusion.

Survey fact: No single question is more crucial than the first one. Make the first question appealing to everyone, easy, interesting and related to the survey purpose (topic).

2.6 Introduction to the questionnaire and thank you message

When respondents are contacted to do the survey they must be given enough information about the survey to induce their cooperation. This is necessary even when there has been prior notification about the survey. This survey introduction serves multiple purposes. It provides a short preface to the survey. This tells the respondent the subject of the survey, the purpose of the study and the institution (sponsor) the survey is being carried out for. In addition, it should provide sufficient information to satisfy the needs of informed consent. And, of course, it should enhance participation.

Response rates in the last couple of years have declined drastically (partly due to over-surveying of the population). Therefore, it has become even more important to convince potential respondents that the survey is important enough for them to invest their personal time and effort. Questions a respondent can have and hence that should be dealt with in the introduction text of the survey include:

1. What is the study about?
2. Who is conducting it?
3. Why is the study important?
4. Why (and how) was I (the respondent) selected?
5. What will be done with the study results?
6. Are my answers dealt with confidentially?
7. How long will it take me to complete the survey?
8. What's in it for me?

In addition (or in contrast) to answering all these questions in the introduction text, the introduction should also be short and to the point. Long introduction texts scare respondents off and will probably result in low response rates.

Figure 2.2 Example of an introduction text to a survey in the Leisure Panel

Social Integration and Leisure

This survey contains questions about social integration and leisure. This questionnaire is developed by researchers from Tilburg University. Completing the questionnaire takes about ten minutes.

There are no right or wrong answers. The researchers are interested in your behaviour and opinions.

Data will be treated confidentially. Results will be reported on an aggregated level without any identification possible.

You can click 'start' to begin.

The survey length should also be kept to a minimum. Five to 10 minutes is best, but obviously that is not possible for every study.

Always place a short thank you message at the end of the survey.

Figure 2.3 Example of a thank you message

Thank you for filling out our survey. If you want to get updates about the results, please send an email to V.Toepoel@uu.nl

2.7 Pretesting the questionnaire

There are different methods to systematically review (**pretest**) questions before putting them into the field. In **expert reviews**, experts review the questions to assess whether the content of the questions is measuring the intended concepts, and/or whether the questions meet the content, cognitive and usability standards mentioned above. The advantage of expert review lies in the researcher's perspective of what the users of the data need in order to meet the analytic objectives of the survey. It does not assess how the respondent sees and interprets the questions, however. In **focus groups**, the questionnaire is more or less pretested in a group discussion with members of the target population. It is a rather efficient way to gain insights into the evaluation of several potential respondents, but is not the best method for investigating how individuals process specific questions. In **cognitive interviews**, the questionnaire is administered in an individual interview, which probes to learn how the respondents understand the question and attempts to learn how they formulate their answers. In a **pilot study**, the questionnaire is pretested in a small subset of the intended population using the same mode of data collection as in the actual study. This is the best way to find out how instruments and field procedures work under realistic conditions (Groves et al., 2009).

Summary

Developing a survey is an iterative process. The survey is a conversation between a researcher and a

respondent. Questions should be chosen with care (not too few and not too many) and the wording of the question should be unambiguous and clear. Look into the literature on the topic and carefully write down your research objectives, research questions, constructs that you use, and question and answer categories needed. Answer options should be chosen with care. They should be mutually exclusive and exhaustive in the case of closed questions, and a respondent should be able to provide any answer he/she can come up with in the options offered. The questionnaire should start with an interesting and easy question, related to the topic of the survey. Every question should follow logically from the previous one (sometimes helped with introductory texts) and difficult questions should be placed near the end of the questionnaire, as well as demographical questions. A good questionnaire is always pretested and has a short and motivating introduction text and thank you message.

Key terms

Acquiescence
Attitudinal question
Behavioural question
Bottom-up
Close-ended ordered
Close-ended unordered
Cognitive interview
Cognitive processing
Cognitive standards
Comprehension
Constructs
Content standards
Duration
Expert review
Focus groups
Knowledge question
Non-verbal cues
Numerical labels
Open-ended
Pilot study
Polar point labels
Positivity bias
Pretest
Primacy effects
Reference point effect
Response contraction bias

Satisficing
Scale label effect
Scale range effect
Social desirability
Top down
Usability standards
Verbal labels

Exercises

1. Name different types of questions and give examples.
2. What type of answer categories can be distinguished? When do you use which type?
3. Discuss five possible response effects.
4. What order should questions take?
5. What is the difference between bottom-up and top-down question writing?
6. To what standards should a question be written?
7. How can you pretest your questionnaire?

References

- Blumberg, H., Fuller, C. and Hare, P.** (1974) 'Response rates in postal surveys', *Public Opinion Quarterly*, 38: 113–23.
- Crawford, S., Couper, M. and Lamias, M.** (2001) 'Web surveys: Perceptions of burden', *Social Science Computer Review*, 19: 146–162.
- Czaja, R. and Blair, J.** (2005) *Designing Surveys. A Guide to Decisions and Procedures*. London: Sage.
- Dillman, D.A.** (2007) *Mail and Internet Surveys. The Tailored Design Method*. Hoboken, NJ: John Wiley and Sons, Inc. (For more information about how to implement surveys)
- Griffith, L., Cook, D., Guyatt, G. and Charles, D.** (1999) 'Comparison of open and closed questionnaire formats in obtaining demographic information from Canadian general internists', *Journal of Clinical Epidemiology*, 52: 997–1005.
- Groves, R., Fowler, F., Couper, M., Lepkowski, J., Singer, E. and Tourangeau, R.** (2009) *Survey Methodology*. Hoboken, NJ: John Wiley and Sons, Inc. (For more information about general survey methods)
- Hurd, M., McFadden, D., Chand, H., Gan, L., Merrill, A. and Roberts, M.** (1998) 'Consumption and savings balances of the elderly: Experimental evidence on survey response bias', in **D. Wise** (ed.), *Frontiers in the Economics of Aging*. Chicago, IL: University of Chicago Press, pp. 353–87.

Sue, V. and Ritter, L. (2007) *Conducting Online Surveys*. London: Sage.

Toepoel, V. and Couper, M. (2011) 'Can verbal instructions counteract visual context effects in web surveys', *Public Opinion Quarterly*, 75 (1): 1–18.

Toepoel, V. and Dillman, D. (2011) 'How visual design affects the interpretability of survey questions', in **Das, M., Ester, P. and Kaczmirek, L.** (eds), *Social and Behavioral Research and the Internet*. New York: Routledge, pp. 165–90.

Toepoel, V., Vis, C., Das, M. and van Soest, A. (2009) 'Design of web questionnaires. An information-processing perspective for the effect of response categories', *Sociological Methods and Research*, 37: 371–92.

Tourangeau, R., Rips, L. and Rasinski, K. (2000) *The Psychology of Survey Response*. New York: Cambridge University Press. (For more information about the psychology of answering questions)

<http://dx.doi.org/10.4135/9781473967243.n2>