

Survey items in batteries

In the last chapter we discussed the forms that single survey items can take. However, in Chapter 4 we mentioned that researchers in the social sciences often bring items together in batteries. In that case the different survey items do not stand alone anymore but often are connected by one introduction, instruction, and one request for an answer and a set of answer categories. Since we treat each text unit that requires one response as a survey item, we have to give special attention to the definition of survey items of batteries. The problem is that the different survey items in a battery contain very different text components even though they are often assumed to be equal and treated the same.

What distinguishes batteries is the mode of data collection in which they have been placed. Therefore, we start this chapter with batteries that are used in oral interviews, followed by a discussion about batteries in mail surveys and finally batteries employed in computer-assisted-self-interview (CASI) are discussed. In each case we will discuss which components should be seen as belonging to each survey item. In the summary and discussion we also will give some recommendations.

We will discuss the different battery types, not because we think that batteries are a good tool for survey research, but because they are so popular. As we have indicated in Chapter 4, we think that the standard batteries of agree/disagree responses have done more harm than good for the social sciences. Having given our words of caution and advice, let us start with battery forms employed in oral interviews.

7.1 BATTERIES IN ORAL INTERVIEWS

Typical for batteries in oral interviews is that the interviewer reads the items for the respondent. Within this battery class there is a difference between the face-to-face interview with *show cards* containing information and the telephone interview, where show cards cannot be used. Let us start with an example of a battery without show cards. A typical example of an oral battery without show cards has been presented as oral battery 1.

In this example, information about the content is read first, and then a

request for an answer with implied “yes” or “no” answers is read. Next the interviewer has to read the first item, wait for the answer, present the next item, and so on. Hence, the introduction and the request are read only before the first survey item and then not anymore. As a consequence we assume that each survey item after the first one consists only of the statement (or stimulus) and the response categories.

Given the interview process we have suggested above, the information about the content and the request for an answer belong to the first item, while all other items consist only of a stimulus since the interviewer does not repeat the answer categories for each item. We think that this is formally correct even though it may not be in agreement with the intention of the original designer of the battery. Moreover, it may be that the introduction and the question retain a strong presence in the mind of the respondent when they are not repeated for each item.

Oral battery 1

There are different ways of attempting to bring about improvements or counteract deterioration within society.

During the last 12 months, have you done any of the following?
First READ OUT

| | Yes | No |
|---|-----|----|
| A. Contacted a politician | | |
| B. Contacted an association or organization | | |
| C. Contacted a national, regional, or local civil servant | | |
| D. Worked for a political party | | |
| E. Worked for a (political) action group | | |
| F. Worked for another organization or association | | |
| G. Worn or displayed a campaign badge/sticker | | |
| H. Signed a petition | | |
| I. Taken part in a public demonstration | | |
| J. Taken part in a strike | | |
| K. Boycotted certain products | | |

This kind of battery can be used only for very simple response categories as in this example. For more complex response categories the quality of the responses will improve if the respondent is provided with visual aids. Visual aids help the respondent in two ways: (1) to provide the response alternatives on a card so that they can answer each item consistently and (2) to provide the respondent with the statements. The latter method makes sense if the state-

ments are complex or for emphasis. We will give an example of both types from research practice.

In the following example presented in oral battery 2, the respondents are provided with information about the response alternatives on card D1. First we present the form provided to the interviewer and then card D1.

In this case the introduction and the question belong to the first item, and the next items all contain a stimulus and response categories because the respondents have these answer categories always in front of them.

Oral battery 2

CARD D1: Policies are decided at various different levels. Using this card, at which level do you think policies should be decided mainly about ...

READ OUT AND CODE ONE ON EACH LINE

| | International level | European level | National level | Regional or local level | (DK) |
|---|---------------------|----------------|----------------|-------------------------|------|
| D1 ... protecting the environment | 1 | 2 | 3 | 4 | |
| D2 ... fighting against organized crime | 1 | 2 | 3 | 4 | |
| D3 ... agriculture | 1 | 2 | 3 | 4 | |
| D4 ... defense | 1 | 2 | 3 | 4 | |
| D5 ... social welfare | 1 | 2 | 3 | 4 | |
| D6 ... aid to developing countries | 1 | 2 | 3 | 4 | |
| D7 ... immigration and refugees | 1 | 2 | 3 | 4 | |
| D8 ... interest rates | 1 | 2 | 3 | 4 | |

Card D1

| |
|-------------------------|
| Card D 1 |
| International level |
| European level |
| National level |
| Regional or local level |

If the answer categories are simple but the statements are complex or important, the content of the card can be changed. The next example, oral battery 3, demonstrates this point. First we present the card for the respondents and after that the form provided to the interviewer.

In this case the response alternatives are rather simple but the researcher wants the respondents to carefully consider the different possible situations and therefore the show card presents the different conditions that have to be evaluated. All the information before the first item belongs to the first item, while the second to the last item contains the statement because the response alternatives are not repeated.

CARD for oral battery 3

The woman got pregnant because she was raped.

The woman got pregnant even though she used a contraceptive pill.

The woman got pregnant although there are already enough children in the family.

Oral battery 3

An issue often discussed nowadays is abortion. By abortion we understand the purposeful termination of a pregnancy.

On this card some circumstances are indicated under which an abortion might be carried out.

Could you tell me for each circumstance mentioned on the card whether you think that an abortion is permissible?

READ OUT

| | Permissible | Not permissible |
|--|-------------|-----------------|
| The woman got pregnant because she was raped. | | |
| The woman got pregnant even though she used a contraceptive pill. | | |
| The woman got pregnant although there are already enough children in the family. | | |

It is even possible that both the stimuli and the answer categories are provided on a show card. An example is given (oral battery 4). The first form is the interviewer version of the battery. Card K2 contains the same information for the respondents. In this case the show card (K2) contains the stimuli as well as the response alternatives. For item A the introduction to the question, the request for an answer and the answer categories belong to the survey item. Items B–G consist of the stimulus and the response categories.

Oral battery 4

Looking at card K2, how important is each of these things in your life?

First ... READ OUT

| | Not important at all | | | | | | | | | | Very (Don't important know) | | | | | | | | | | | | | | | |
|---------------------------------|-------------------------|----|----|----|----|----|----|----|----|----|--------------------------------|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| A...family? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 88 | | | | | | | | | | | | | | |
| B...friends? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 88 | | | | | | | | | | | | | | |
| C...leisure time? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 88 | | | | | | | | | | | | | | |
| D...politics? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 88 | | | | | | | | | | | | | | |
| E...work? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 88 | | | | | | | | | | | | | | |
| F...religion? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 88 | | | | | | | | | | | | | | |
| G...voluntary organizations? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 88 | | | | | | | | | | | | | | |

Card K2

| | Not important at all | | | | | | | | | | Very important | | | | | | | | | | | | | | | |
|---------------------------------|-------------------------|----|----|----|----|----|----|----|----|----|-------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| A...family? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | | | | | | | | | | | | | | | |
| B...friends? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | | | | | | | | | | | | | | | |
| C...leisure time? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | | | | | | | | | | | | | | | |
| D...politics? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | | | | | | | | | | | | | | | |
| E...work? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | | | | | | | | | | | | | | | |
| F...religion? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | | | | | | | | | | | | | | | |
| G...voluntary organizations? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | | | | | | | | | | | | | | | |

7.2 BATTERIES IN MAIL SURVEYS

Batteries are also used in mail surveys. We provide common structures of this type in the examples below starting with mail battery 1.

The difference between the mail battery and the oral battery is that the respondents have to do all the work themselves. They have to read the question, the first survey item, and the answer categories. Then they have to fill in an answer and read the next statement and look for a proper answer again. Hence, the question is read only before the first survey item and then not again. As a consequence we assume that each survey item after the first one consists of the statement (or stimulus) and the response categories.

Mail battery 1

For each statement, could you tell me, which answer seems to fit your situation ?

| | | | | | |
|---|---------------------|-----------------------|--------------------|--------------------------|------------------------|
| My financial situation has improved over the past year. | Agree strongly 1 | Agree moderately 2 | In the middle 3 | Disagree moderately 4 | Disagree strongly 5 |
| | | | | | |
| My carrier prospects have improved the past year. | | | | | |
| My relational problems has worsened over the past year. | | | | | |

A slightly more complex battery is presented in mail battery 2. The battery begins with an introduction or an information regarding the content, after which the request for an answer with answer categories is given, followed by the statements.

Mail battery 2

Here are some statements about our society.

| | | |
|---|-------|----------|
| Do you agree or disagree with the following statements? | | |
| People in our society still have great ideals. | Agree | Disagree |
| | | |
| The government should improve gun control. | | |
| Most of our citizens are interested only in making money. | | |

In this case an introduction and the question are given before the first survey item. As we have suggested above, we assume that these two belong to the first item while the next item consists of only a statement and answer categories. In the next example (mail battery 3) the complexity of the battery is increased by adding other components.

This battery starts with information about the content, then a request for an answer with embedded answers follows. Next a request for an answer without answer categories is provided. However this is not the real request for an

answer because the answer categories don't match with the answer categories suggested later. Furthermore, the next sentence is also a request for an answer. The former request should be seen as an introduction, and the latter question is the real request for an answer. The first item and the answer categories that follow are presented in a table. As we mentioned previously, we assume that the first item contains all the information including the item, while the second and subsequent items consist only of the statement plus their answer categories.

Mail battery 3

There are different ways people can express their disapproval about the measures of authorities.

I will mention some to you, and then indicate then whether you approve of them or not. How much do you approve or disapprove of this action ?

| | | | | |
|---|--------------------|---------|------------|-----------------------|
| At a school some teachers are in danger of loosing their jobs. They therefore organize a strike without the approval of the trade union. | Approve completely | Approve | Disapprove | Disapprove completely |
| Suppose that people are against a new law and therefore they occupy the Parliament in order to hamper the work of the representatives. | | | | |
| Suppose that the government had decided to increase the number of pupils in the classes of elementary school. Some teachers don't accept this and threaten to go on strike. | | | | |

A thoroughly developed and tested mail battery is the *choice questionnaire*. This procedure has been developed to collect a *well-considered opinion* of the respondent (Saris et al. 1984; Neijens 1987; Bütchi 1997). The reason for this development was that it was realized that people may understand a question, like the one about the policy of the WTO, after an explanation is given. However, this does not mean that they have a well-informed opinion about it (Converse 1964). Saris et al. (1984) suggested the use of a procedure called the *choice questionnaire* to collect a well-considered public opinion. Typical for the choice questionnaire is that respondents are provided with arguments on

paper both in favor and against the choice they have to make. The procedure is rather elaborate and cannot be shown in detail here, for more information we refer the reader to Neijens (1987). The problem mentioned in Chapter 6, about the free trade policy of the WTO, was developed in line with the choice questionnaire approach as presented in Table 7.1.

Table 7.1: An illustration of a simple choice questionnaire

The possible consequences of the reduction of the protection of national products and the promotion of free trade in the whole world are presented below.

Please, evaluate the following consequences of this policy by first determining whether a consequence is an advantage or a disadvantage and consequently evaluate the size of the advantage or disadvantage with a number, where a neither large nor small advantage or disadvantage is 400.

| How large is the advantage or disadvantage of the following: | Advantage neither large nor small=400 | Disadvantage neither large nor small=400 |
|---|--|---|
| The bankruptcy of some local companies in some underdeveloped countries | | |
| The investments of international companies | | |
| More efficiency in the companies so that they can compete internationally, etc. | | |

In order to regulate world trade, an organization of the UN, called WTO, develops rules for world trade.

To reduce the protection of countries of their own products and to promote free trade in the whole world.

Are you, in favor or against free trade in the world?
0 against 1 in favor

The table shows that the respondents are provided with information about the choice they have to make. This information is provided in the form of questions concerning evaluations of consequences for the possible options. In this example, only one option has been discussed; however, the option that no free trade policy is introduced could be treated in the same way. People are asked to give numeric evaluations of the size of the possible advantages and disadvantages because in this way it is possible to get a total of the advantages and disadvantages for each option and to make a choice on the basis of these total evaluations of the options.

Saris et al. (1984) and Neijens (1987) have demonstrated that with this approach the final choice of the respondents was consistent with their judgments for approximately 70% of the cases. On the other hand, the consistency was around 30% if the judgments were asked after the choice was made without

the information provided by this approach. We conclude that the information aids in creating a well-informed choice. The choice questionnaire is discussed here because it is a very elaborate procedure to provide the respondents with information before they are asked to make their choice. This approach differs from the previously discussed batteries of survey questions because all battery items were prepared for the final choice. However, most of the time the items are supposed to measure different aspects of an object and are not aimed at preparation for a later judgment.

The final result of choice questionnaires can be very different from that of the naive opinion of the respondent without the given information. Therefore, the choice questionnaire should be used only to measure well-informed opinion and not to measure naive opinions that are based mainly on the first ideas that come to the mind of the respondent (Zaller 1992).

7.3 BATTERIES IN CASI

In the early development of computer assisted data collection, the computer-assisted-self-interviewing (CASI) mode often contained a series of identical requests for an answer, and answer categories for a series of stimuli or statements. Typical for such series of survey items is that the formulation is exactly the same for each item and that only one introduction with other possible components is given before the first survey item is mentioned. The items are treated equally because the interview programs use substitution procedures. An example of such an instruction to an interview program could look as follows:

```
#Casibattery 10 1
# item 1
healthcare
#item 2
social services
#item 3

# item 10
social security
#
#Question with 5 answer categories
What is your opinion about our "S"?
1. Very satisfactory
2. Satisfactory
3. Neither satisfactory nor unsatisfactory
4. Unsatisfactory
5. Very unsatisfactory.
```

The first line indicates that this battery consists of 10 stimuli and only 1 question; then follow the 10 stimuli and after that the request follows with the answer categories. In the request “S” is mentioned, which is substituted by the different stimuli or statements in the presentation of the questions to the respondents. Using this interview program the following computer screens will be presented:

Screen 1 of CASI battery 1

What is your opinion about our health care?

1. Very satisfactory
2. Satisfactory
3. Neither satisfactory nor unsatisfactory
4. Unsatisfactory
5. Very unsatisfactory.

Screen 2 of CASI battery 1

What is your opinion about our social services?

1. Very satisfactory
2. Satisfactory
3. Neither satisfactory nor unsatisfactory
4. Unsatisfactory
5. Very unsatisfactory.

Screen 10 of CASI battery 1

What is your opinion about our social security?

1. Very satisfactory
2. Satisfactory
3. Neither satisfactory nor unsatisfactory
4. Unsatisfactory
5. Very unsatisfactory.

In contrast to the previous batteries, all survey items contain exactly the same information and therefore have the same complexity.

This kind of battery has been used not only for stimuli but also for statements as the next example shows. The screens of CASI battery 2 look as follows:

Screen 1 of CASI battery 2

Which of the following statements is true or false?

The European Monetary Union will be governed by a government composed of all participant nations.

- Is this true or false ?
1. True
 2. False

Screen 2 of CASI battery 2

The language of the European government will be French.

- Is this true or false ?
1. True
 2. False

Screen 3 of CASI battery 2

There is one difference with battery 1, namely, that before the first item an introduction (in question form) is presented (screen 1 of CASI battery 2). Although the introduction is aimed at all items, it will be read only once before the first items. Therefore, we have decided that in this case only the first item has an introduction and the other items have no introduction.

Both examples are very simple. Far more complex examples can be found in the research literature. In CASI battery 3 we provide an example of a rather complex case.

Screen 1 of CASI battery 3

We would like to ask you how serious you find some illnesses. You can indicate the seriousness of the illnesses with a number between 0 and 100, where 100 means very serious and 0 means not at all serious. Thus, the more serious the illness, the larger the number.

