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## Asking sensitive information: an example with income

Income is commonly used to assess a person’s socio-economic position. However, questions on income are often associated with high non-response (Turrell 2000). In a survey of sexual practices, a sensitive topic in itself, the respondents identified total family income as the most sensitive and personal question of the entire survey (Laumann et al. 1994). Income is a complex concept, and, in addition, validity can be questionable and difficult to assess because of the lack of external sources. We present in this H&K aspects of survey and questionnaire design that can help asking sensitive questions in health surveys.

### Type of question:

- A close-category question increases response rate and, in the following study, seemed to provide more valid information.

Two income questions were tested in the Bus Santé survey (Morabia et al. 1997) during a month each. For a month, 80 participants responded to a close-category question. In the following month 110 responded to an open question requesting the exact amount. The question referred in both cases to the “total annual net income of all persons living in your household (remember to include all sources of income, e.g. ....)”. Participants were also asked the number of people depending on the previous income. Both questions were administered at the end of an interview during the partici-

pan’s visit to the centre. The participant was left alone while responding.

In the close-category question, 5% and 7.5% responded “I don’t know” and “I prefer not to answer”, respectively. These percentages increased to 25.5% and 11.8% in the open question. The close-category question obtained a fairly normal distribution of income while most participants reported income values in two categories in the open question (Fig. 1).

The close-category question obtained higher response rate and the income distribution seemed to represent better the true distribution in the population. However the validity of the two questions could not be assessed. Often, non-respondents belong to households at either the top or the bottom of the income distribution. Even when the participant is willing to provide this information, the question remains difficult, requiring additions of different sources of income and different contributors in the household. Giving an approximation with a range might be easier to respond than an exact number. The answers of a close-category question are influenced by the cut-off values chosen. Thus, great deal of thought should go in deciding these values.

### Question design:

- Provide a specific introduction for the sensitive questions explaining why this information is important for the study. In addition, acknowledge the sensitive nature

<b>Close-category question</b>		<b>Open question</b>
<input type="checkbox"/> 20000 or less	<input type="checkbox"/> 125001–150000	..... per month / per year
<input type="checkbox"/> 20001– 40000	<input type="checkbox"/> 150001–200000	(cross the non appropriate time)
<input type="checkbox"/> 40001– 60000	<input type="checkbox"/> 200001–300000	<input type="checkbox"/> I don’t know
<input type="checkbox"/> 60001– 80000	<input type="checkbox"/> More than 300000	<input type="checkbox"/> I prefer not to answer
<input type="checkbox"/> 80001–100000	<input type="checkbox"/> I don’t know	
<input type="checkbox"/> 100001–125000	<input type="checkbox"/> I prefer not to answer	

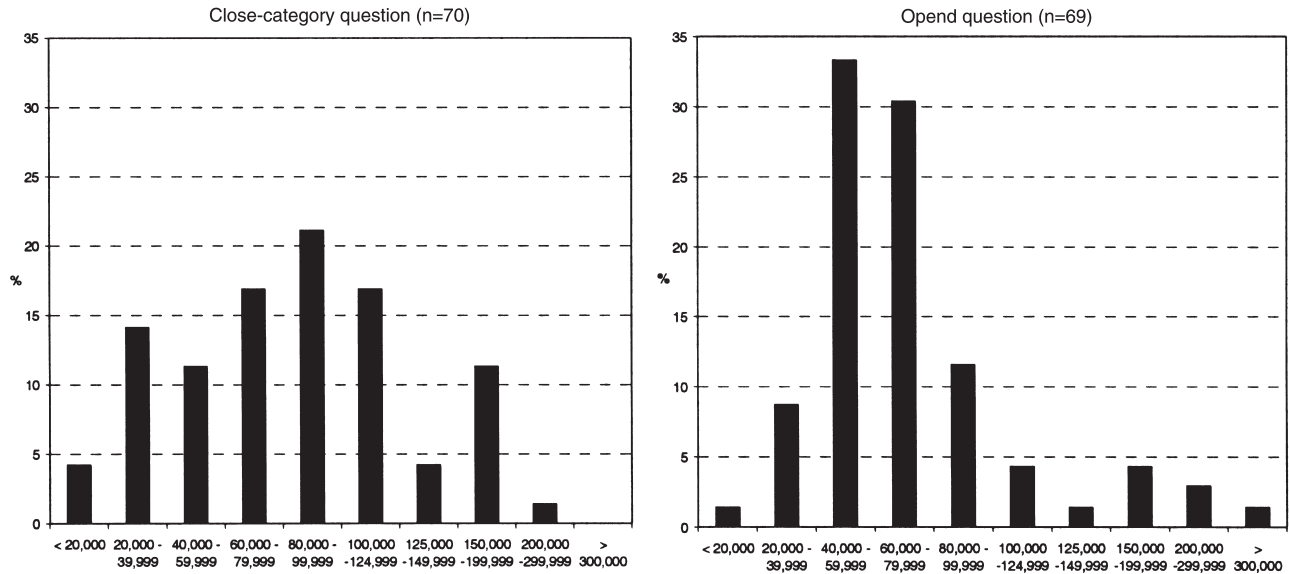


Figure 1 Distribution of net annual household income obtained in the close-category and the open question. Geneva, Switzerland, 2000.

of this information, re-stating how important is for the survey (“I know this is a sensitive question, but it is an important predictor of health ...”).

- Guarantee, once more, in the questions introduction that all information will remain confidential.
- Give choices among the responses that allow the participant to not respond to this particular question. If you use a computer-based method make sure you allow the participant to skip or leave the question incomplete (Baer et al. 2002).

**Order of the question in the questionnaire or interview:**

- Start with easy, warm up questions before getting to the sensitive ones. However, do not finish the interview or the questionnaire with the most sensitive information (i.e., don’t finish with the income question or with items like “My life is miserable”). Indeed, as a general rule, Dillman proposes to start a questionnaire with the most relevant questions to the topic of the survey, topic that probably attracted the person to participate in the first place (Dillmann 2000). Socio-demographic and less relevant questions, in the participant’s view, will appear at the end, allowing to ask the sensitive information just before those.
- In a self-responded questionnaire there is always the risk that the participant does not return the questionnaire precisely because he/she does not feel comfortable with the type of information being asked. It is very im-

portant to have optional answers allowing to skip this question.

- In an interview, it is particularly important that the participant feels comfortable with the interviewer. Warm-up, interesting questions are even more crucial since the participant cannot skip being asked.
- The interviewer can leave the participant alone to respond with confidentiality while remaining available for help.

**Administration method:**

- Face-to-face interviews obtain the worse participation rate followed by telephone interview, mailed self-responded questionnaire and, finally, computer assisted self-interviewing (Turrell 2000). The latter is the preferred method among young people (Turner et al. 1998) but it is also reported to increase participation rates and validity across all ages when dealing with sensitive information.
- Develop a specific administration method which blinds the interviewer about the answer given by the participant. For example, the card system uses a series of cards with different codes assigned to the answers of each card. Each card has also a code. The participant chooses one card and gives the code of the card and the code of the answer, which is specific to that card. The interviewer will not be able to identify the specific range of income that was reported.
- Multistage design: combining an open followed by a close-category question increases the overall response

rate to the income questions. This procedure is used in the Health Interview Survey in Belgium.

In the 2001 Health Interview Survey in Belgium a multi-stage approach is used to obtain information income as follows. A brief explanation of what is meant by "total available income" at the household level, is followed by a question on the number of persons contributing to the available income (monthly). This question reminds the respondent to include all members of the household when reporting the income in the next question.

The first question on income is an open type requesting the exact amount. For those who hesitate or are unable to respond, a second question follows asking to indicate their income category. The income categories used are quite narrow (categories of € 250) resulting in a rather long list (ranging from less than € 500 to more than € 5000). To facilitate response, an intermediate question was used to distinguish households above or below a monthly income of € 2000. The participant receives a card with the correspondent half of categories. This avoids unease and a negative impression to

persons living in households with low income. The participant willing to answer this question ticks the appropriate category.

On the 5 530 households who participated in the Health Interview Survey 2001, 4 291 households gave their exact income (22.4% of non-response). Among those who did not want or were unable to provide the exact income, 558 indicated an income category, resulting in an overall non-response of 12.3% (681 participants with missing income).

#### Questions:

1. How many persons of the household contribute to the total available income of your household?
2. How much per month is the total available income of your household? If this income changes monthly, please give a mean income.  
(Interviewer) You find it difficult to answer this question. The next question is easier to answer.
3. Is this income higher than € 2.000? (yes, no)
4. Can you indicate which code best reflects your income? (two cards with income categories)

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