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# Experimental pre-test of the biographical questionnaire

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## Introduction

In 1998, the “Swiss Household Panel” was founded, supported by the Swiss national Foundation for scientific research, the University of Neuchatel, and the Swiss Federal Statistical Office. For this large-scale panel study, about 8000 persons in 5000 households were interviewed in the first wave and are again interviewed in yearly intervals, to assess changes in their living conditions, attitudes and beliefs. The interviews are done by telephone (CATI).

From the very start, it was planned to obtain, at a single occasion, additional information about the respondents life course prior to the panel study. A retrospective biographical questionnaire was developed for that purpose, asking about educational -, working -, and family history. This questionnaire was to be sent by mail. However, the main objective of a panel study is to obtain repeated measures and it therefore is crucial to keep the drop-out rate between interviewing waves as low as possible. It was feared that an extra mail questionnaire between two normal interviewing waves would burden the respondents and thus increase the drop-out.

In general, the drop-out rate of panels seems to be maximal at the second wave of interviewing and attain a stable rate from the third wave onwards (GSOEP, BHSP: personal communication). The biographical questionnaire was planned to be sent between two later waves for that reason. A pre-test was carried out to estimate the effect of the mailing of the biographical questionnaire on the response rates in the subsequent panel wave. In addition, the effect of combining the questionnaire with a special incentive<sup>1</sup> was evaluated. The effect of incentives on response rates has well been documented for cross-sectional studies. Less is known about the effect on drop-out rates in panel studies (Singer 1998).

In the pre-test described here, a sub-sample of the total panel was subjected to one of four experimental conditions: Biographical questionnaire in combination with a special incentive (1), biographical questionnaire without special incentive (2), no biographical questionnaire but a special incentive (3), no biographical questionnaire and no incentive (4). The incentive chosen was the announcement of a lottery in which sixteen cash prizes ranging from 500 to 10,000 CHF could be won.

## Method

### *Design*

Three effects were to be estimated in the pretest:

- The effect of an additional, biographic questionnaire on the response rates in the subsequent panel wave.
- The effect of combining the biographic questionnaire with an incentive (lottery) on the response rates in the subsequent panel wave.
- The effect of an incentive (lottery) on the return rates of the biographic questionnaire.

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<sup>1</sup> The incentive consisted in the announced participation in a lottery with cash prizes totalling 20,000 CHF (First prize: 10,000 CHF, 5 times 1,000 CHF and 10 times 500 CHF).

Four experimental conditions were designed (Table 1): Biographical questionnaire with announcement of a lottery (1), biographical questionnaire with no mention of a lottery (2), no biographical questionnaire but a letter announcing the lottery (3), no biographical questionnaire and no mention of a lottery (baseline: group 4).

**Table 1.** Design

	Announcement of lottery	No mention of lottery
Biographic	Group 1	Group 2
No biographic	Group 3	Group 4 (baseline)

### *Sample*

The sample unit in the Swiss Household Panel is the household. All persons 14 years and older presently living in the household are supposed to participate (eligible respondents).

A household is defined as "participating" when the composition of the household has been given by one of the eligible persons ("household grid"), a longer questionnaire about living conditions of the household as a whole has been filled in by one person ("household questionnaire") and at least one of the eligible members of the household has completed his/her personal interview ("individual questionnaire"). This is all done by telephone.

From all households thus defined as having "participated" in the second panel wave (n=4301), those with interviewing languages German and French were selected (n=4084)<sup>2</sup>. A random sample of 1200 from these 4084 households was drawn and randomly assigned to the four experimental conditions. Next, only members of these households that were 14 years or older were selected which resulted in 2523 persons in total, about 600 in each group<sup>3</sup>.

### **Questionnaire and field work**

The biographical questionnaire used in this (experiment) pre-test was a paper-and-pencil questionnaire of 14 pages, containing 18 questions about education, profession, jobs, civil status, household composition, nationality of grand-parents and political preference of parents. For most of these subjects, major changes had to be indicated with the year in which they occurred.

The questionnaires were sent by mail to each selected household with an accompanying letter mid-May 2001 asking to return the filled out questionnaire within 10 days. By June 5, a mail reminder including a new questionnaire was sent, followed by a telephone call by mid-June 2001. The mailing and follow-ups were

<sup>2</sup> Switzerland has three major languages: Swiss-German, French, and Italian. The Italian speaking households were excluded from the pretest sample.

<sup>3</sup> We expected, on the basis of other panel studies, the base-line drop-out rate between wave 2 and 3 to be about 5%. An increase of about 2% in drop-out was considered to be worth detecting for the panel. With group sizes of 600 we attain a reasonable probability of correctly detecting such an effect size in the sample.

carried out by the survey institute M.I.S. Trend in Lausanne, which also realizes the telephone interviews for the regular yearly panel waves.

## Results

### *Response in wave 3*

The response rates can be affected by a number of different kinds of non-response, such as invalid telephone numbers, household or person not attainable, language or health problems. We would not expect the mailing of the biographical questionnaire to increase these types of non-response. The most interesting type of non-response in this respect is the refusal rate, both on the household and the individual level. We therefore restrain the discussion below to the refusal rates as given in Table 2. The specification of the other types of non-response can be found in Appendix 1.

The experimental condition only has effects on the refusals on the household level, and not on the refusals of individual members of the households to fill in their personal questionnaire once the household grid had been done (table 2). The grid refusal rate of group 1 is not significantly different from the grid refusal rate in the control group (group 4, difference of 2%,  $p>0.10$ ). Hence, sending the biographical questionnaire in combination with the announcement of a lottery keeps the refusal rates to a normal level. The grid refusal rate of group 2, however, is somewhat higher (difference with group 4 is 3%,  $p=0.06$ ), that is: Sending the biographical questionnaire without a lottery announcement could increase the refusals on the household level. A lottery announcement in general seems to lower the refusal rates: Both groups to whom the lottery was announced have 4%-5% lower grid refusal rates than the groups with no such announcement (compare group 1 with 2, and group 3 with 4. Both differences are significant).

On the individual level, there is almost no effect. Group 2, who got the biographical questionnaire with no announcement of the lottery amazingly has the lowest individual refusal rate of all groups<sup>4</sup>. However, this is most probably a random effect, since the refusal rate does not significantly differ from that in group 4, the control group.

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<sup>4</sup> The individual rates include only individuals in households that have completed the household grid.

**Table 2.** Refusal rates by experimental group.

Group	Biographic questionnaire		No biographic questionnaire		Total
	Announce lottery (1)	No announce lottery (2)	Announce lottery (3)	No announce lottery (4)	
<b>Result W3</b>					
<b>Grid refusal</b>	3%	8%	1%	5%	4%
<b>Individual refusal</b>	7%	4%	7%	6%	6%
<b>Response + other non-response</b>	90%	89%	92%	89%	90%
<b>Total</b>	651 100%	616 100%	622 100%	634 100%	2523 100%

Pearson chi-square=38.569, df=6, p<0.05.

### *Return of biographical questionnaire*

Further analyses shows, that the announcement of the lottery increases the response rate on the biographical questionnaire very slightly (table 3, difference of 5% between group 1 and 2, p<0.10).

**Table 3.** Return of biographical questionnaire by experimental group.

Group	Biographic quest		Total
	Announce lottery (1)	No announce lottery (2)	
<b>Result Pretest</b>			
<b>No response</b>	30%	35%	32%
<b>Response</b>	70%	65%	68%
<b>Total</b>	651 100%	616 100%	1267

Pearson chi-square=3.321, df=1, p=0.068.

## **Summary and conclusion**

The experimental pre-test of the biographical questionnaire shows that the administration of the biographical questionnaire in combination with an announcement of the participation in the lottery tends to improve the participation rates for the biographical questionnaire slightly. Furthermore, the announcement of the lottery slightly enhances the participation rate of households in the subsequent wave.

- The in-between waves administration of a written biographical questionnaire does not dramatically lower the response rates to the subsequent CATI interview wave. The estimated negative impact makes up for 2 to

3 percent of additional households lost (e.g. 100 households and 200 individual interviews are lost considering that some 3,500 households remain to be addressed between wave 3 and wave 4).

- The response rate for the written biographical questionnaire was 68% on the average (70% with the lottery announcement and 65% without such an announcement). Therefore, the lottery improves the response rate by five percent.

In conclusion, it can be safely recommended that the administration of the written biographical questionnaire to the remaining panel households will not jeopardize household participation in future waves. Furthermore, the results of the experiment indicate that the announcement of the lottery does contribute to keeping the response rates in future waves at a normal level. However, given the modest contribution in terms of number of households, the decision to apply a lottery as an incentive will also need to take budgetary considerations and the trade-off between costs and benefits into account.

## References

Singer, Eleanor (1998). Incentives for Survey Participation: Research on Intended and Unintended Consequences. Second Annual Wildenmann Lecture. *ZUMA-Nachrichten*, 22 (42), 7-29.

## Appendix 1. Specification of different types of non-response

Table . Response and Non-response in detail.

Group	Biographic quest		No biographic quest		Total
	Announce lottery (1)	No announce lottery (2)	Announce lottery (3)	No announce lottery (4)	
Result W3					
<b>No Grid:</b>					
<b>Refusal grid</b>	3%	8%	1%	5%	4%
Pending grid	3%	4%	2%	2%	3%
Invalid number	2%	0%	0%	2%	1%
Missing grid status	5%	4%	4%	3%	4%
<b>Grid complete:</b>					
<b>Ind refusal</b>	7%	4%	7%	6%	6%
Ind pending	7%	7%	6%	7%	7%
Ind problems	1%	2%	2%	2%	2%
Missing ind status	8%	8%	10%	7%	8%
Proxy	1%	2%	1%	1%	1%
Ind quest complete	62%	61%	67%	64%	64%
<b>Total</b>	651 100%	616 100%	622 100%	634 100%	2523 100%

Pearson chi-square=83.572, df=27, p<0.05.