

## Adult Education Survey and Leisure Survey: Experiences from different mixed mode designs and incentives

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Statistics Finland has set a strategic goal to implement mixed mode in all household surveys. The Finnish Adult Education Survey (AES) and Leisure Survey were both conducted as mixed mode surveys, AES in January–June 2017 and Leisure Survey in October 2017–January 2018. Although they were both mixed mode surveys, they had a different approach concerning the design of the survey as well as incentives used.

The AES was a combination of two modes: web answering and face-to-face interviews were available for all respondents. Web was offered first, but was also available during the interviewing phase. A lottery of gift vouchers was used as an incentive.

The Leisure Survey is a national survey about the ways people pass their time outside work and studies. The 2017 survey was conducted using three modes altogether. The design of the survey depended on the age of the respondent: children 10–14 years and seniors over 74 years were all interviewed, and for respondents aged 15–74 the options were web and paper questionnaire. A small gift certificate for an online meal provider was offered to a group of web respondents as an incentive, while another group was informed that all answers participate in a lottery.

This paper will present the two designs and summarize the experiences. It will also discuss the effects of the incentives on response rates of different groups.

### Background of the Finnish Adult Education Survey

The Finnish AES is a combination of EU harmonized and national survey. The data collection was co-financed by the Ministry of Education and Culture, who is also a major user of the research data. With this financial cooperation Statistics Finland was able to do face-to-face (CAPI) interviews. The main reasons for using face-to-face instead of telephone interviews were the length of the questionnaire and the need to use answer cards as a visual aid.

Although face-to-face interviewing is considered in many ways the ideal method for lengthy questionnaires, it has some downsides as well. There is a group of respondents who prefer not to be interviewed face-to-face, so additional means of data collection have been used also before. In the previous AES in 2012 the data was collected with a combination of face-to-face and telephone interviews. Telephone interviewing was used as an additional mode: it offered as an alternative in case a respondent refused face-to-face interviewing. Altogether 15 % of the interviews in 2012 were done by telephone, and this alternative method was seen as a reason why the growing trend of the nonresponse rate was stopped; the response rate (age 18-64 years) rose from 65 % in 2006 to 67 % in 2012.

### Data collection in the AES 2017

In the AES 2017 the data collection method was changed once more. Following the strategic goal, web was offered as the first alternative for all AES respondents. At the same time, a new data collection system for mixed mode survey case management was being developed. The AES was the first survey to be conducted with the new system, which was recognized as a risk as the system was still under development.

The questionnaire of the AES (EU + national part) was considered to be very long for web answering. The broader content was essential for national use, so it could not be shortened very much. Therefore the content was adapted to the mode; the web questionnaire included only the EU harmonized part and the longer questionnaire was used in face-to-face interviews. In hindsight this turned out to be somewhat problematic because the high percentage of web answers: the national part barely had enough respondents to make a good data.

The data collection started with a three-week period of web data collection, during which two advance letters and one SMS reminder were sent to the respondents. This resulted fairly rapidly in a response rate of 23 percent. The original plan was to then close the web and continue with only face-to-face interviews. However, because of some technical problems the beginning of the interviewing phase was delayed. During the waiting period the web was kept open and one more SMS reminder was sent, but there was no significant add to the response rate. The fieldwork could finally start in the end of March – almost two months later than planned. Because of this delay, a decision was made to keep the web available also during the interviewing period. This way the interviewers could recommend web answering to those respondents who were reluctant to be interviewed face-to-face or if the interview could not be scheduled.

Web answering was experienced as fairly pleasant by most respondents despite of the lengthy questionnaire. According to the results of a short feedback survey, 68 percent of the respondents considered answering fluent. The main device used was a laptop or desktop computer, mobile phones or tablets were more infrequent in this survey. On the other hand, they were not encouraged with mobile links or other means of communication.

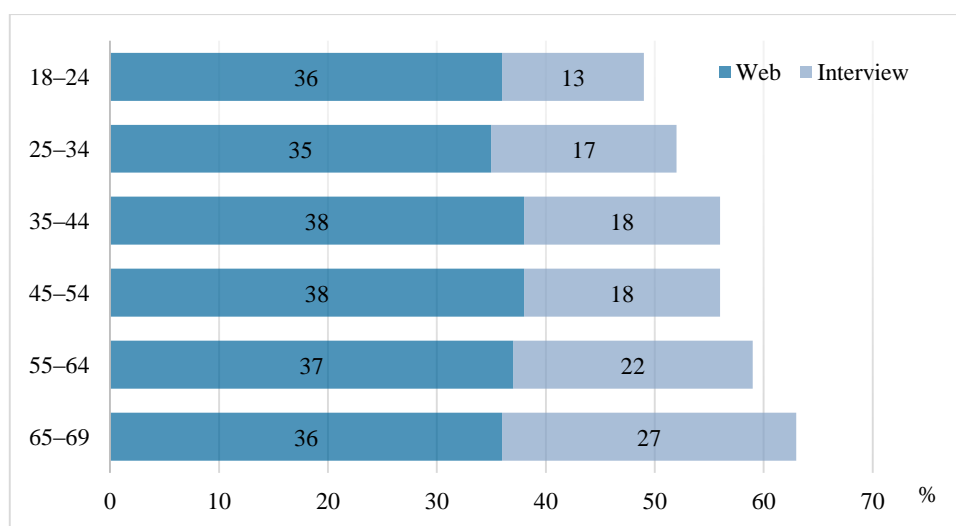
### Response rate in web and interview modes

The changes in the data collection strategy together with the long data collection period resulted in an exceptionally high share of web answers in the AES. Ultimately 65 percent of all answers were collected in web, when previous web and mixed mode pilot surveys had resulted in the average of 30 percent.

The overall response rate in AES 2017 (18-64 years) was 56 percent, a little higher with women (58 %) than men (54 %). The same small difference between genders exists by data collection mode, but in general gender doesn't seem to be a significant factor.

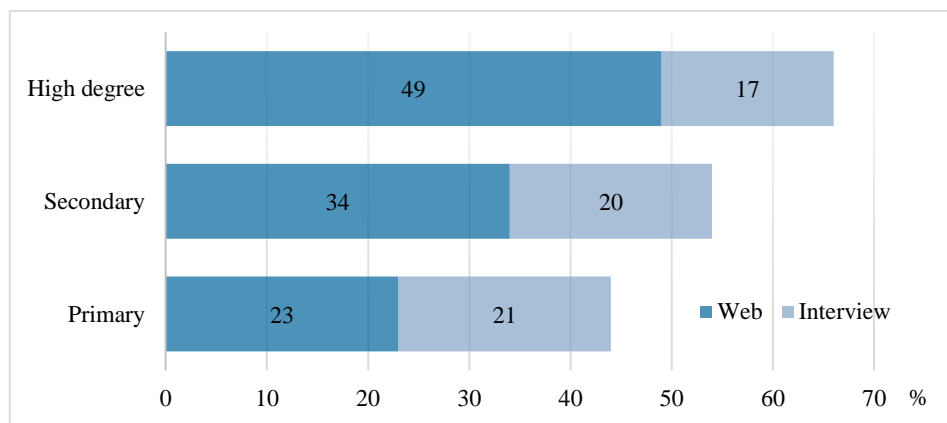
It is a common presumption that mainly younger people like to answer in web mode. In the AES 2017 this was not the case; web answering was just as common in all age groups (figure 1). However, face-to-face interviewing was significantly more common in older than younger age groups and this seems to be the reason why the response rate was overall higher. One conclusion could be that supplementing web with face-to-face interviews leads to a more biased data according to age.

Figure 1: Response rate by age and data collection mode, Adult Education Survey 2017



Higher education level is in correlation with higher response rate in general, and this is even more so in the AES (figure 2). One important factor is presumably the subject of the survey; education is more interesting to educated people. But in addition to the response rate, education level had an impact on the preferred mode of data collection; nearly half of the people who answered in web but less than a third of the interviewed respondents had a high degree education.

Figure 2: Response rate by level of education and data collection mode, Adult Education Survey 2017



According to the results of the AES 2017, participation in adult education was lower than in 2012. The results also seemed to differ quite a lot between modes: the web respondents reported less participation than those who were interviewed, even though they had higher education level. Together with the very high percentage of web answers, this was worrying information. On the other hand, the overall characteristics of the respondents vs. non-respondents had not changed, and participation had fallen also in the interviewed group. There is no way of confirming mode effects with data analysis, but it is possible that web answering is quicker and does not encourage to reflect on all possible forms of education.

### Leisure Survey: a combination of three data collection modes

The Leisure Survey is a national survey which is conducted every 10-15 years since the 1970's. Previously the only data collection mode has been face-to-face interviewing. The survey is quite comprehensive and the average duration of the interviews has been around one hour to 90 minutes. On the other hand, the questions about leisure time, hobbies and societal participation are fairly easy and pleasant for the respondent.

When the 2017 survey was being planned, it was clear that face-to-face interviews could no longer be applied because of the high costs. Telephone interviews were not considered as an option for such a long interview, so the decision was made to pilot a combination of web and postal query. A pilot test with a sample of 1 000 persons was conducted in 2016, and some additional testing was performed with the youngest (10-14 years) and oldest (75 years or over, no upper limit) age groups. The results of the pilot test were promising: a response rate of almost 50 % was reached using only self-administered questionnaires.

While the self-administered questionnaires worked quite well with the adults, the youngest and oldest respondents had difficulties. Reasons differed between the two groups and were not all related to the mode. Web answering was technically easy for the children, but they needed help with understanding the basic meaning of the questions and the concepts. For example, concepts like 'everyday life' and 'hobbies' were not at all clear or uniformly understood. With the elderly respondents the major problems had to do with cognitive skills and sensory challenges, for example seeing or hitting the correct alternative. They are also less familiar with computers and smartphones as a tool for answering. Based on these experiences three modes were used in the final data collection in 2017 to avoid high nonresponse rates and errors.

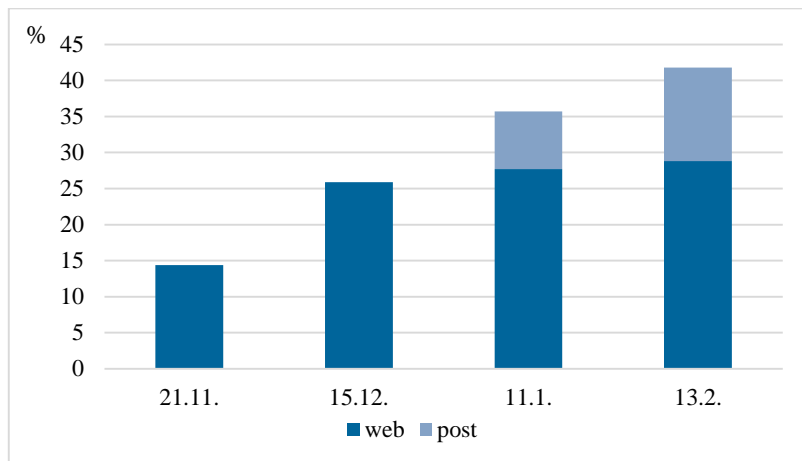
### Data collection and response rates in the Leisure Survey

Because the data collection mode used for the major group of respondents did not include any interviews, it was possible to use a fairly large sample of 16 000 persons (previously the sample size has been around 5 000). 2 350 persons were included in the interviewed sub-sample: 750 10-14 year-olds and 1 600 seniors aged 75 or over. The data collection period lasted for four months from October 2017 to February 2018.

The web group (15-74 years) was approached with four advance letters and one e-mail reminder altogether. The paper questionnaire was sent to non-respondents with the 3<sup>rd</sup> and 4<sup>th</sup> letter. All the rounds resulted in the rise of the response rate, although the web response rate did not rise significantly after the 2<sup>nd</sup> round (figure 3). Based on this, using web only would not have resulted in a total response rate of more than 30 percent. On the

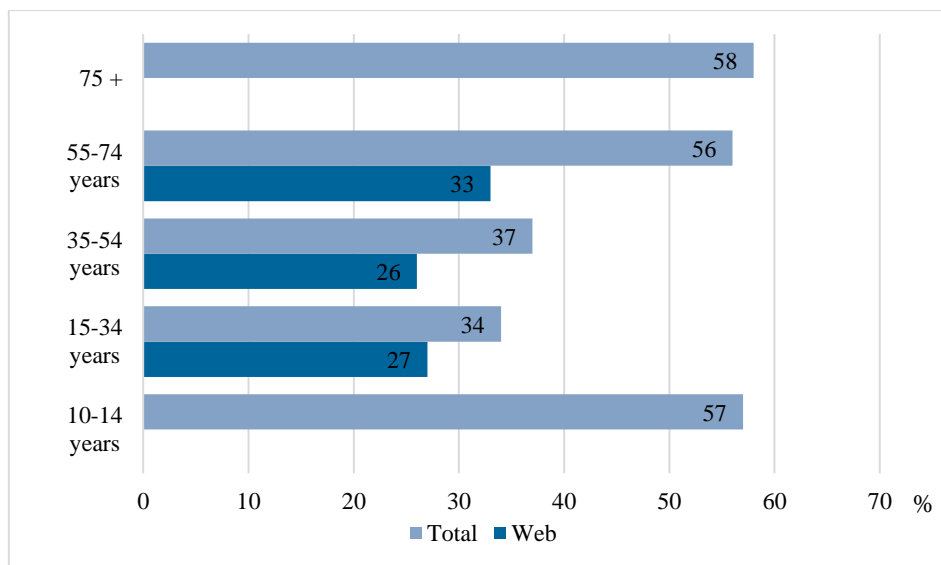
other hand, sending out paper questionnaires tends to encourage using them instead of web. This is why it may be smart to send them only later in the process, even though this might annoy some respondents.

Figure 3. The response rate in web and paper modes during the data collection period, Leisure Survey 2017



Face-to-face interviews worked well with children and seniors and resulted in a response rate of 57 to 58 percent (figure 4). However, the response rate was as high in the age group 55-74 years, even though they used self-administered questionnaires. This supports previous findings; people aged 55 or more are more eager to participate in general.

Figure 4. Response rates (total and web) by age, Leisure Survey 2017



Results by age, sex and education level are not surprising in general. Women were more active to answer in all age groups except the seniors over 75 years. Older age groups had a higher response rate than younger ones. However, further multivariate analysis (by Juhani Saari) revealed that the effect of age was manifested mainly together with level of education: it affected response rates more in younger than older age groups. In table 1 below the colour represents the level of the response rate: higher rates are highlighted with green and lower ones with red colour.

The biggest risk groups regarding non-response were younger (men) with low education level. Other variables that affected the response rates were size of household, sex and native language. The results of the analysis were used in the calibration of the weights, so that the final data was representative enough in all necessary groups.

Table 1. Response rate by sex, age group and level of education, Leisure Survey 2017

Age group	Men			Women		
	Primary education	Secondary education	High degree education	Primary education	Secondary education	High degree education
10-14	54			60		
15-19	30			46		
20-24	22	28	67	32	40	86
25-29	17	25	36	19	37	47
30-34	13	27	46	17	33	43
35-39	8	21	48	24	24	44
40-44	21	29	40	31	28	48
45-49	24	32	42	22	35	48
50-54	25	34	43	30	46	58
55-59	32	44	46	38	47	55
60-64	39	46	61	47	61	72
65-69	56	54	74	52	60	73
70-74	51	64	66	57	59	72
Main sub-sample, all	31	34	50	41	43	55
Seniors 75 +	57	65	72	51	58	72

### Experiments with incentives

Different incentives were tried out in these two surveys with the hope to increase the response rate and encourage people to use web as the channel. In the AES the sample was divided into two groups in order to find out if the probability to win in the lottery affects the willingness to answer. The lottery prize was a gift certificate of 300 euros to major supermarket chains. Respondents in group A were offered a lottery with 4 gift certificates, while group B were offered only 2 similar certificates. The result was that the response rate was identical in the two groups. So based on this we can conclude that the probability to win in the lottery had no effect. But because no control group was used in this experiment it is not possible to estimate the effect of the lottery in general.

A similar lottery was used also in the Leisure Survey pilot test, and the results were that it encouraged the active groups to answer even more, but did not help with the more challenging ones. While this could lead to higher response rate in general, there is a risk of an even more biased data. Therefore the aim was to test smaller incentives this time. The group chosen for the test were 18-44 year-old respondents without high degree education. The group (ca. 3 500 people) was further divided in two sub-groups: Group 1 were offered a lottery of 30 supermarket gift certificates à 50 euros, group 2 were offered an SMS discount code of 3 euros to an online meal provider (Pizza Online).

According to a preliminary analysis, neither of the incentives increased the probability to answer in general. The small meal provider discount even seemed to lower the response rate, especially with women. The lottery was a better option and seemed to encourage some groups (e.g. women with secondary education). The respondents were also asked to give feedback about the incentives, and many mentioned that the meal discount was too small or not useful to them.

### Conclusions: what have we learned from these surveys?

1. Do not modify the content according to mode, this may lead to non-sufficient data in some parts.
2. Pay attention to questionnaire design, especially with questions that require a lot of recalling, like participation in education.
3. The shift from face-to-face interviews to self-administered questionnaires is possible and will save costs considerably. However, it may be necessary to offer support or other modes to some groups (e.g. children, elderly people).
4. We have not yet found an incentive that works. In the near future, we should focus on developing information based incentives, such as ‘test results’ based on statistical data. More generally, making the importance of statistics and statistical data collection known in the society may help to create a better data collection climate.