INFLUENCES OF SURVEY TIMING ON THE ACCURACY OF ESTIMATES OF NATURE-BASED RECREATION ACTIVITY

Introduction
Data obtained through retrospective surveys is subject to various kinds of recall bias. They can cause respondents to either over-estimate or underestimate participation.

There are at least two main sources of recall error: First, forgetting the recreation event is most likely in connection with events that are recalled from distant outdoor event history. Secondly, in telescoping, the actual event is remembered but the date of the event is inaccurate.

Total survey error = Sampling error + Nonsampling error e.g. recall error

The purpose of this study is to find out how the length of recall period defined as the time that has elapsed from the target of measurement to the time of the survey is related to responses to shuttle crops can vary considerably. In this context, also the differences in participation information between different seasons is analyzed.

Methods
Participation per se and frequency of participation were analysed with 10 seasonal outdoor activities: Berry picking, mushroom picking, cross-country skiing, ice fishing, lure fishing, moose hunting, wildfowl hunting, swimming and boating.

The existence and magnitude of recall biases were studied by comparing the data on outdoor recreation participation received after different recall periods. The following recall periods were used: 0 (measured during the season), 1-2, 3-4, 5-6 and over 6 months after the season. To eliminate the effect of year-to-year variability the study of recall biases were made by each season separately. Models used here were binary logistic regression and negative binomial regression.

Data
- Finnish outdoor recreation survey (LVVI)
- Data collection: between August 1998 and May 2000
- A random sample of Finns aged range 15-74
- CATI (computer assisted telephone interview)
- Response rate 84%, 10,651 respondents
- Questions were focused on participation in outdoor recreation activities during the immediately preceding 12 month period.
- All calendar months were equally represented.

Results
Five of the ten activities studied here reflected recall biases or seasonal variation in participation estimates: berry picking, mushroom picking, lure fishing, swimming and sunbathing.

The results of this study show that those responding after a lengthier response lag were more likely to overestimate than underestimate their participation in an activity. Results of this study also indicate that differences in the measurements in different years can be accounted for by different annual circumstances such as weather conditions.

However no clear year-to-year seasonal variation or recall bias was observed in cross-country skiing, ice fishing, elk hunting, wildfowl hunting and boating.

Similar to the results for participation in mushroom picking, swimming and sunbathing, the frequency of participation in these activities varied between seasons.

Conclusions
It worth controlling the effect of recall biases in survey design. The quality of the collected data naturally determines the validity of conclusions and prognosis made on the basis of the data.

- In a survey which is designed to collect information on various outdoor activities that are more or less related to different seasons, collecting data every month improves the quality of the data by guaranteeing that all activity seasons are equally represented.

- If the recall period is shorter than 12 months, the survey of winter activities should be conducted as soon as possible after the winter season and for summer activities right after the summer season.

- The availability of year-to-year seasonal data would decrease the risk of bias caused by annual variations in weather conditions and quality of crops. The suggestion is that data should cover at least two winter and summer seasons.