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## Using diaries in social research

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Biographers, historians and literary scholars have long considered diary documents to be of major importance for telling history. More recently, sociologists have taken seriously the idea of using personal documents to construct pictures of social reality from the actors' perspective (see Plummer's 1983 book *Documents of Life*). In contrast to these 'journal' type of accounts, diaries are used as research instruments to collect detailed information about behaviour, events and other aspects of individuals' daily lives.

Self-completion diaries have a number of advantages over other data collections methods. First, diaries can provide a reliable alternative to the traditional interview method for events that are difficult to recall accurately or that are easily forgotten. Second, like other self-completion methods, diaries can help to overcome the problems associated with collecting sensitive information by personal interview. Finally, they can be used to supplement interview data to provide a rich source of information on respondents' behaviour and experiences on a daily basis. The 'diary + diary interview method' where the diary keeping period is followed by an interview asking detailed questions about the diary entries is considered to be one of the most reliable methods of obtaining information.

The following discussion is largely concerned with fairly 'structured' diaries, as opposed to free text diaries, and with those where events or behaviour are recorded as they occur ('tomorrow diaries', rather than 'yesterday' or retrospective diaries).

### The subject matter of diary surveys

A popular topic of investigation for economists, market researchers, and more recently sociologists, has been the way in which people spend their time. Accounts of time use can tell us much about quality of life, social and economic well-being and patterns of leisure and work. The 'time-budget' schedule, pioneered by Sorokin in the 1930s (Sorokin & Berger 1938) involved respondents keeping a detailed log of how they allocated their time during the day. More qualitative studies have used a "standard day" diary which focuses on a typical day in the life of an individual from a particular group or community.

One of the most fruitful time-budget endeavours, initiated in the mid 60s, has been the Multinational Time Budget Time Use Project (Szalai 1972). Its aim was to provide a set of procedures and guidance on how to collect and analyse time-use data so that valid cross-national comparisons could be made. This group has contributed much to our knowledge of time budget methodology, and for researchers wishing to conduct their own survey into time use, writings published by this group should be their first port of call (Harvey 1990). The BBC Daily Life surveys are also a well-known source of time budget data documenting radio and television audience behaviour (BBC 1984).

Two other major areas where diaries are often used are consumer expenditure and transport planning research. For example, the U.K. Family Expenditure Survey (OPCS) uses diaries to collect data for the National Accounts and to provide weights for the Retail Price Index. In the National Travel Survey (OPCS) respondents record information about all journeys made over a specified time period in a diary. Other topics covered using diary methods are social networks, health, illness and associated behaviour, diet and nutrition, social work and other areas of social policy, clinical psychology and family therapy, crime behaviour, alcohol consumption and drug usage, and sexual behaviour (see references for examples). Diaries are also increasingly being used in market research.

### Using diaries in surveys

Diary surveys often use a personal interview to collect additional background information about the household and sometimes about behaviour or events of interest that the diary will not capture (such as large items of expenditure for consumer expenditure surveys). A placing interview is important for explaining the diary keeping procedures to the respondent and a concluding interview may be used to check on the completeness of the recorded entries. Often retrospective estimates of the behaviour occurring over the diary period are collected at the final interview.

### Diary design and format

Diaries may be open format, allowing respondents to record activities and events in their own words, or they can be highly structured where all activities are pre-categorised. An obvious advantage of the free format is that it allows for greater opportunity to recode and analyse the data. However, the labour intensive work required to prepare and make sense of the data may render it unrealistic for projects lacking time and resources, or where the sample is large. Although the design of a diary will depend on the detailed requirement of the topic under study, there

are certain design aspects which are common to most. Below are a set of guidelines recommended for anyone thinking about designing a diary. They are by no means definitive and readers should consult existing examples of protocols (see references). Furthermore, the amount of piloting required to perfect the diary format should not be under-estimated.

1. An A4 booklet of about 5 to 20 pages is desirable, depending on the nature of the diary. Disappointing as it might seem, most respondents do not carry their diaries around with them.
2. The inside cover page should contain a clear set of instructions on how to complete the diary. This should stress the importance of recording events as soon as possible after they occur and how the respondent should try not to let the diary keeping influence their behaviour.
3. A model example of a correctly completed diary should feature on the second page.
4. Depending on how long a period the diary will cover, each page denoting either a week, a day of the week or a 24 hour period or less. Pages should be clearly ruled up as a calendar with prominent headings and enough space to enter all the desired information (such as what the respondent was doing, at what time, where, who with and how they felt at the time, and so on).
5. Checklists of the items, events or behaviour to help jog the diary keeper's memory should be printed somewhere fairly prominent. Very long lists should be avoided since they may be off-putting and confusing to respondents. For a structured time budget diary, an exhaustive list of all possible relevant activities should be listed together with the appropriate codes. Where more than one type of activity is to be entered, that is, primary and secondary (or background) activities, guidance should be given on how to deal with "competing" or multiple activities.
6. There should be an explanation of what is meant by the unit of observation, such as a "session", an "event" or a "fixed time block". Where respondents are given more freedom in naming their activities and the activities are to be coded later, it is important to give strict guidelines on what type of behaviour to include, what definitely to exclude and the level of detail required. Time budget diaries without fixed time blocks should include columns for start and finish times for activities.
7. Appropriate terminology or lists of activities should be designed to meet the needs of the sample under study, and if necessary, different versions of the diary should be used for different groups.
8. Following the diary pages it is useful to include a simple set of questions for the respondent to complete, asking, among other things, whether the diary keeping period was atypical in any way compared to usual daily life. It is also good practice to include a page at the end asking for the respondents' own comments and clarifications of any peculiarities relating to their entries. Even if these remarks will not be systematically analysed, they may prove helpful at the editing or coding stage.

### **Data quality and response rates**

In addition to the types of errors encountered in all survey methods, diaries are especially prone to errors arising from respondent conditioning, incomplete recording of information and under-reporting, inadequate recall, insufficient cooperation and sample selection bias.

**Diary keeping period:** The period over which a diary is to be kept needs to be long enough to capture the behaviour or events of interest without jeopardising successful completion by imposing an overly burdensome task. The OPCS National Travel Survey and the Adult Dietary Survey use seven day diaries, while the UK Family Expenditure Survey uses a fourteen day recording period. For collecting time-use data, anything from one to three day diaries may be used. Household expenditure surveys usually place diaries on specific days to ensure an even coverage across the week and distribute their field work over the year to ensure seasonal variation in earnings and spending is captured.

**Reporting errors:** In household expenditure surveys it is routinely found that the first day and first week of diary keeping shows higher reporting of expenditure than the following days. This is also observed for other types of behaviour and the effects are generally termed "first day effects". They may be due to respondents changing their behaviour as a result of keeping the diary (conditioning), or becoming less conscientious than when they started the diary. Recall errors may also extend to 'tomorrow' diaries. Respondents often write down their entries at the end of a day and only a small minority are diligent (and perhaps obsessive!) diary keepers who carry their diary with them at all times. Expenditure surveys find that an intermediate visit from an interviewer during the diary keeping period helps preserve 'good' diary keeping to the end of the period.

**Literacy:** All methods that involve self-completion of information demand that the respondent has a reasonable standard of literacy. Thus the diary sample and the data may be biased towards the population of competent diary keepers.

**Participation:** The best response rates for diary surveys are achieved when diary keepers are recruited on a face-to-face basis, rather than by post. Personal collection of diaries also allows any problems in the completed diary to be sorted out on the spot. Success may also depend on the quality of interviewing staff who should be highly motivated, competent and well-briefed. Appealing to respondent's altruistic nature, reassuring them of confidentiality and offering incentives are thought to influence co-operation in diary surveys. The FES gives a 10 pound postal order for completion of their fourteen day diary and other surveys offer lottery tickets or small promotional items.

### **Coding, editing and processing**

The amount of work required to process a diary depends largely on how structured it is. For many large scale diary surveys, part of the editing and coding process is done by the interviewer while still in the field. Following this is an intensive editing procedure which includes checking entries against information collected in the personal interview. For unstructured diaries, involving coding of verbatim entries, the processing can be very labour intensive, in much the same way as it is for processing qualitative interview transcripts. Using highly trained coders and a rigorous unambiguous coding scheme is very important particularly where there is no clear demarcation of events or behaviour in the diary entries. Clearly, a well designed diary with a coherent pre-coding system should cut down on the degree of editing and coding.

### **Relative cost of diary surveys**

The diary method is generally more expensive than the personal interview, and personal placement and pick-up visits are more costly than postal administration. For the majority of OPCS diary surveys, interviewers usually make at least two visits and are often expected to spend time checking the diary with the respondent. If the diary is unstructured, intensive editing and coding will push up the costs. However, these costs must be balanced against the superiority of the diary method in obtaining more accurate data, particularly where the recall method gives poor results. The ratio of costs for diaries compared with recall time budgets are of the order of three or four to one (Juster & Stafford 1985).

### **Computer software for processing and analysis**

Probably the least developed area relating to the diary method is the computer storage and analysis of diary data. One of the problems of developing software for processing and manipulating diary data is the complexity and bulk of the information collected. Although computer assisted methods may help to reduce the amount of manual preparatory work, there are few packages and most of them are custom built to suit

the specifics of a particular project. Time-budget researchers are probably the most advanced group of users of machine readable diary data and the structure of these data allows them to use traditional statistical packages for analysis. More recently, methods of analysis based on algorithms for searching for patterns of behaviour in diary data are being used (Coxon 1991). Software development is certainly an area which merits future attention. For textual diaries, qualitative software packages such as The ETHNOGRAPH can be used to code them in the same way as interview transcripts (Fielding & Lee 1991).

### Archiving diary data

In spite of the abundance of data derived from diary surveys across a wide range of disciplines, little is available to other researchers for secondary analysis (further analysis of data already collected). This is perhaps not surprising given that the budget for many diary surveys does not extend to systematic processing of the data. Since diary surveys rarely have a remit which requires them to archive their data, there are only a limited number held in the British Data Archive at Essex University (see references below). Many diary surveys are small scale investigative studies that have been carried out with very specific aims in mind. For these less structured diaries, for which a common coding scheme is neither feasible, nor possibly desirable, an answer to public access is to deposit the original survey documents in an archive. This kind of data bank gives the researcher access to original diary documents allowing them to make use of the data in ways to suit their own research strategy. However, the ethics of making personal documents public (even if in the limited academic sense) have to be considered. The Mass Observation Archive holds hundreds of original diaries relating to contemporary experiences and events collected in Britain during the Second World War (See the references to Autobiographical research below).

### References

The following is a partial list of useful references on diaries, intended to give the reader an introduction to the literature in their area of interest.

#### Time budget diaries

BBC (1984) *Daily Life in the 1980s*. London: BBC.

Gershuny, J.I. et al. (1986) 'Time Budgets: A preliminary analysis of a national survey' *Quarterly Journal of Social Research*, 2, 1

Harvey, A.S. (1990) *Guidelines for Time Use Data Collection*, Working paper No. 5, General Social Survey, Statistics Canada.

Juster, T. & Stafford, F.P. (eds) (1985) *Time, Goods and Well-being*, Ann Arbor: Institute for Social Research, University of Michigan.

Szalai, A. et al. (eds) (1972) *The Use of Time*, The Hague, Netherlands: Mouton.

Sorokin, P.A. & Berger, C.Q. (1938) *Time Budgets of Human Behaviour*, Cambridge Massachusetts: Harvard University Press.

*Household and Consumer Expenditure Surveys*

Redpath, R. (1991) "Memory problems in Family Budget Surveys: I. Diaries", *Survey Methodology Bulletin*, OPCS, July 1990, London: HMSO.

Silberstein, A.R. & Scott, S. (1991) "Expenditure Diary Surveys and their Associated errors", in P. Biemer, R.M. Groves, L.E. Lyberg, N.A. Mathiowetz & S. Sudman (eds) (1991) *Measurement Errors in Surveys*, New York: Wiley.

#### Example of other types of diaries

Health diaries: Verbrugge, L.M. (1980) "Health diaries", *Medical Care*, 18:73-95.

Child Psychology: Douglas, J.W.B., Lawson, A., Cooper, J.E & Cooper, J. (1968) "Family interaction and the activities of young children", *Journal of Child Psychology and Psychiatry*, 9:157-171.

Travel Diaries: Butcher, R. & Eldridge, J. (1990) "The Use of Diaries in Data Collection", *The Statistician*, 1990,: 25-41.

Dietary and Nutritional diaries: Gregory, J. (1990) "The Adult Dietary Survey", *Survey Methodology Bulletin*, OPCS, July 1990, London: HMSO; OPCS, *The National Food Survey*.

Sexual behaviour: Coxon, A.P.M., Davies, P.M. & T.J. McManus (1990) *Project Sigma, Longitudinal Study of the Sexual Behaviour of Homosexual males under the impact of AIDS: A Final Report to the Department of Health, Project Sigma Working Papers*, Southbank Polytechnic, London: Project Sigma.

Alcohol consumption: Hilton, M.E. (1989) "A comparison of a prospective diary and two summary recall techniques for recording alcohol consumption", *British Journal of Addiction*, 1989, 84: 1085-1092.

#### Diaries as "Documents of Life"

Plummer, K. (1983) *Documents of Life*, Allen & Unwin: London.

Fothergill, R.A. (1974) *Private Chronicles: A Study of English Diaries*, London: Oxford University Press.

#### Autobiographical Research using Diaries:

Special Edition on Autobiography in *Sociology* (1993), *Sociology*, February. Articles by D. Sheridan and L. Stanley.

*Analysis and Computer Issues*

Fielding, N. & Lee, R.M. (eds) (1991) *Using Computers in Qualitative Research*, Sage.

Coxon, A.P.M. (1991) "The structure of sexual behaviour", Research paper, ESRC Research Centre, University of Essex.

#### Archived Diary Data

The ESRC Data Archive at Essex University hold:

The National Travel Surveys (OPCS, 1972 -1986).

The BBC Daily Life Survey (BBC, 1984).

The "Dietary and Nutritional Survey of British Adults" (OPCS, 1986)

"Smoking amongst Secondary School Children (OPCS, 1990).

A collection of data from 40 time budget surveys from 19 countries, held in comparable form, is available from Professor Jay Geshuny at Essex.

#### The Diaries Initiative at the University of Essex

A Diaries Working Group was set up at Essex in early 1991 by Professor Tony Coxon and Louise Corti in order to bring together researchers interested in the diary method. The Diaries Initiative at Essex organised sessions in the 1993 British Sociological Association (BSA) Annual Conference on issues in relation to substantive and methodological aspects of diary research. Both forums have facilitated widespread discussion and interest particularly from those planning diary projects themselves. An edited collection and source of reference on diary methods should appear in the near future.

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