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Iiris Niemi

The 1979 Time Use Study Method

HELSINKI 1983

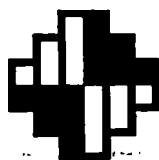


**Tilastokeskus
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Central Statistical Office of Finland**

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PREFACE

The first nationwide time-use study was conducted by the Central Statistical Office of Finland in 1979, and the results of the study have been published in the English and the Finnish languages¹⁾. Data tables have been published in two separate series in Finnish.

In an article for a Moscow journal of sociology, Iiris Niemi discusses the drawbacks emerging in the time-budget method and how these problems have been dealt with at the Central Statistical Office of Finland. The paper is also published in the English language to transmit the experiences gained in Finland to researchers in this field.

A time-use study performed in Norway in 1971-1972 yielded valuable information, which was utilized in the planning phase of the Central Statistical Office time-use study. We wish to convey our thanks for this assistance to Susan Lingsom.

The English translation is done by Jon Beasley.

Helsinki, February 11th, 1983

Olavi E. Niitamo

Georg Luther

1) Iiris Niemi - Salme Kiiski - Mirja Liikkanen,
Use of Time in Finland, 1979, Studies No. 65, Central Statistical
Office of Finland, Helsinki 1981

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LITERATURE

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1. Introduction

The time-budget method systematically records a person's activities during a specified period of time, generally for 24 hours. It examines the timing, duration, frequency and order of activities. Traditionally it focuses on what a human being does, where and with whom.

Data on the use of time are collected in diaries, in which either the interviewer or respondent reports all activities during the study period.

This method of data collection is laborious both for respondents and data analysts. Reporting problems encountered in the application of the method and approaches to these obstacles were considered to be important enough to be examined in chapters 2 - 5 of the report.

The use of time by the population has been investigated by means of the time-budget method in a number of countries. A brief, international comparison of data on the uses of time is provided in chapter 6 at the end of the report.

2. Method selection

The time-budget method employed in Finland 1979, is based on basic methodological solutions developed in an international time- use study project performed in the 1960s (see Szalai 1972). Experience obtained by the Central Statistical Office of Norway in time- use studies in 1971-72 has additionally been drawn upon. A test study performed in the spring of 1979 examining the methodological alternatives gave final shape to the time-budget diary. In time-budget studies, diaries are filled in both by respondents and interviewers.

Based on international research practices, four subfields were studied: primary activity, secondary activity, location of activity and time spent in company. Each of these subfields encountered measurement problems, which are individually dealt with here. Analysis is first focused on how time of the day is measured, as this will produce a fundamental impact upon every subfield.

Time has been measured in time-budget studies both by means of an open and an interval procedure. According to the open procedure, a respondent records in a diary the time an activity has begun and ended. In the interval procedure, the 24-hour day is broken down into 5 to 30-minute periods in which respondents report their activities. The open and the 10-minute interval procedures were compared in the pilot study, which revealed that diaries based on the interval system were more accurately filled in. Primary activities ($\bar{X}=24.5$) recorded in interval diaries ($N=187$) were greater in number than those ($\bar{X}=20.9$) in diaries based on the open procedure ($N=213$). This difference emerged in the oldest age group of 60 - 64-year olds. More than 20 activities were entered in 71 per cent of the interval diaries compared to only 30 per cent of the diaries using the open recording procedure. Because segmenting the day into 10-minute intervals set the framework for response accuracy, data on travels and school and job attendance were specified with greater precision. Noticeable individual discrepancies were observed in the accuracy of diaries using the open recording method, all the way from diaries including data reported in great detail to diaries with largely inaccurate records. Refining the structural content harmonized responses, so that respondents were able to identify themselves with the expectations held by researchers.

A pilot study carried out in Norway yielded similar results, except that more activities could be coded from diaries based on the open recording system than from those employing the interval procedure (Lingsom 1980). This can be explained by the fact that diary records were filled out during the revision phase by dividing the activities entered in diaries into subactivity classes. The revision and feed in of diary records based on the open recording method turned out to be more problematic due to inaccurate responses (e.g.

concerning the time of the day) than with records obtained from interval diaries.

According to the Norwegian study, no significant differences were observed between the results measured with these two systems. Consequently, different methods to measure the hour of the day pose no special problems in comparative research.

The classification by primary activity was based on 95 categories. This activity classification is taken from classification used in the study project headed by Szalai. Certain modifications were made, however. The inclusion of the rural population and children in the sample created certain demands. A classification was attempted that would place different population groups in an equal position. For example, gainful employment was to be defined uniformly. This meant that lunch hour had to be classified according to activity taking place during this hour, e.g. under dining or shopping, because independent farmers did not have lunch hours in the sense that salaried employees did.

The generally used activity classifications are problematic in that the nature of the activity itself and social interaction overlap. For instance the category "receiving friends or visiting friends" spans a number of various activities in addition to socializing per se, such as dining, housekeeping chores, watching television and even overnight lodging on weekend trips. This inconsistency was corrected by coding according to the activity concerned whenever activity other than socializing was engaged in the context of a visit. Thus "visiting" meant only conversation and unspecified socializing. Visiting hours were, however, measured by means of the code for location of activity.

Secondary activity refers to an activity taking place parallel to a primary activity (listening to radio while dining, etc.). As the number of secondary activities is not large, the classification method was tested in the diary. This confused respondents, however, when they were to specify a primary or secondary activity. The same activity was occasionally recorded .

as both activities, or noly a socondary activity was reported. For this reason secondary activity was requested by the open method. No reason existed at any rate to exclude secondary activity, because 93 per cent of respondents recorded in unclassified diaries at least one secondary activity, which in many cases assisted in classifying the primary activity listed. These data were not reliable, however, since secondary activity seemed to have been filled in only occasionally. Listening to radio, conversation, dining and handwork were in particular easily forgotten and thus not reported. Even though the time marking the beginning of an activity was filled in, the time it ended remained unclear.

No need was felt to inquire separately about the location of activity, as this information was available from activity data. This proved to be the case in the test study. The study coded location by means of the following classification:

1. at home
2. at work outside home
3. in another household
4. elsewhere outside home
5. on the way, on foot
6. " , by bicycle
7. " , by private motor vehicle
8. " , by public transport
9. " , by means unknown
9. location of activity unknown

Obtaining this detailed data required providing sufficiently fundamental instruction to respondents. Instructions on specifying the means of travel were especially stressed and, as a result, this information was entered for 94 per cent of travels.

The definition of time spent in company varies in different time-budget studies. It may refer to actual activity engaged in together or to time spent passively in the company of others. This study applied the latter definition in that it allowed specification of both time spent together with family members and the total time spent

with acquaintances, which did not appear in data on primary activity. The example of this means of measurement was taken from Norway. Time spent in the company of others was separately requested for each family member and for other persons by group, being relatives, coworkers/Schoolmates and acquaintances.

The pilot study requested time spent in the company of others both in an open and a classified format. No distinction between family members was possible on the basis of the open format in the coding phase; the classified format worked more effectively. Time spent in the company of others meant time spent together outside the home as well as time shared at home, except when a family member had retired to another room or to sleep for a relatively long period of time (more than an hour). The test study revealed that every third person filled in the column reserved for time spent together according to this definition. However, many reported only active involvement with each other, such as dining and watching television, as time spent in another's company. Careless entries leaving the duration of time spent in another's company unclear was another form of incorrect recording.

The pilot study showed that the classified method was here superior to the open procedure in measuring time spent in company and that, in order to obtain correct answers, respondents had to be instructed in filling in the time diary.

On the basis of the pilot study, a time-budget diary dividing the hours between 5.00 am and 12.00 am into 10-minute periods and between 12.00 am and 5.00 am into 30-minute periods was decided upon for application. Primary and secondary activity was requested using the open measurement method and time spent together resorting to the classified measurement system. Location of activity was coded employing the data referred to above.

The pilot study also examined the impact of the number of days studied on the accuracy of responses.

Table 1. Number of activity phases according to diary day.

| Number of activity phases | Diary day order | | |
|------------------------------|-----------------|----------|------|
| | 1st | 2nd % | 3rd |
| Fewer than 16 | 13 | 16 | 38 |
| 16 - 20 | 28 | 28 | 21 |
| 21 - 25 | 26 | 24 | 27 |
| 26 - 30 | 16 | 15 | 6 |
| 31 - 35 | 7 | 10 | 4 |
| 36 + | 10 | 7 | 4 |
| Total | 100 | 100 | 100 |
| | (179) | (169) | (52) |

Approximately the same number of primary activities were recorded on the first and second day, but on the third day this number fell sharply. The reliability of results apparently does not suffer from requesting on two successive days, but including more days in the study seems to erode motivation, which in turn has an effect on the quality of results and quite likely also raises the non-response rate.

3. Sample and data collection

Persons from 10 to 64 years of age were selected as the population. Persons under the age of ten were excluded, because the method required filling in diaries by oneself. The inclusion of 65 - 74-year olds was deliberated in the preliminary survey phase. Information obtained from other time-budget studies has shown, however, that the non-response rate rises in this particular age group, since only the healthiest in this group respond. Reducing the non-response rate would have required the collection of time-use data through interviews, which would have added to planning and data collection costs. The upper age limit was therefore set at 64.

A large sample was required in order to allow comparisons of different population groups. The population of the study consisted of persons from 10 to 64 years of age, excluding those permanently or temporarily institutionalized (in hospitals, prisons, military service). Random selection was drawn from Central Register of Population employed to obtain the sample from people living in the Interview Division¹⁾ master sample area, consisting of 182 municipalities. The sample size was 7 355.

Material for the time-budget study was collected in the context of a manpower survey conducted by the Central Statistical Office in September–November 1979. Background data on respondents, such as employment, family and housing, were requested in interview visits. Some of the background data were obtained in a manpower survey form and some on a separate form designed for the time-budget study.

An interviewer left a time diary for a respondent to fill in data concerning the time use. Interviewers also left instructions on making entries in these diaries.

Respondents kept time diary records for two successive days. The first weekday was selected by lot, and the interview was timed as closely as possible to take place on the day respondents began to keep diary records. Time diaries were distributed in advance for different weekdays so that the same number of diaries were issued on each day. They were returned to interviewers mainly by post, and some had to be picked up. Interviews were performed by 154 statistical interviewers.

1) The network of Central Statistical Office interviewers is nationwide. In 1979, interviews were limited to the master sample area but are nowadays conducted in every municipality. Today the number of interviewers has risen to over 200. Most are women interviewing on a regular basis. Data are collected annually e.g. on the labour force and household income distribution.

Altogether 6 057 persons duly filled in the time diaries. Net non-response was 17.6 per cent, of which 13.8 per cent did not consent to participate, 3.2 per cent were not contacted and 0.6 per cent of the diaries were rejected.

Most respondents filled in records for both days, yielding data from 12 057 days totally.

Respondents were compared to the population statistics at the end of 1979 in order to assess the representativeness of material. The following results were obtained.

Table 2. Respondents by sex and age in comparison to demographic data

Both sexes

| Age | Response | Population on 31.12.1979 | Difference |
|-----|----------|-----------------------------|------------|
|-----|----------|-----------------------------|------------|

| | | | |
|-------|--------|--------|---------|
| 10-24 | 33,1 % | 31,4 % | + 1,7 % |
|-------|--------|--------|---------|

| | | | |
|-------|--------|--------|---------|
| 25-44 | 39,2 % | 40,3 % | - 1,1 % |
|-------|--------|--------|---------|

| | | | |
|-------|--------|--------|---------|
| 45-64 | 27,7 % | 28,3 % | - 0,6 % |
|-------|--------|--------|---------|

| | | | |
|-------|-------|-------|--|
| Total | 100 % | 100 % | |
|-------|-------|-------|--|

| Men | Response | Population on 31.12.1979 | Difference |
|-----|----------|-----------------------------|------------|
|-----|----------|-----------------------------|------------|

| | | | |
|-------|--------|--------|---------|
| 10-24 | 33,7 % | 32,3 % | + 1,4 % |
|-------|--------|--------|---------|

| | | | |
|-------|--------|--------|---------|
| 25-44 | 40,0 % | 41,4 % | - 1,4 % |
|-------|--------|--------|---------|

| | | | |
|-------|--------|--------|-------|
| 45-64 | 26,3 % | 26,3 % | 0,0 % |
|-------|--------|--------|-------|

| | | | |
|-------|-------|-------|--|
| Total | 100 % | 100 % | |
|-------|-------|-------|--|

| Women | Response | Population on 31.12.1979 | Difference |
|-------|----------|-----------------------------|------------|
|-------|----------|-----------------------------|------------|

| | | | |
|-------|--------|--------|---------|
| 10-24 | 32,7 % | 30,6 % | + 2,1 % |
|-------|--------|--------|---------|

| | | | |
|-------|--------|--------|---------|
| 25-44 | 38,4 % | 39,1 % | - 0,7 % |
|-------|--------|--------|---------|

| | | | |
|-------|--------|--------|---------|
| 45-64 | 28,9 % | 30,3 % | - 1,4 % |
|-------|--------|--------|---------|

| | | | |
|-------|-------|-------|--|
| Total | 100 % | 100 % | |
|-------|-------|-------|--|

Willingness to respond proportionally declined with age. The response rate for the youngest, or the 10-14-year olds, was 95 per cent against 77 per cent for the oldest age group. Women were more conscientious in filling in diaries than men (women 84 %, men 80 %).

More accurate data on the response structure were obtained for the 11.1 per cent responding to the manpower survey but who did not keep diaries. Persons on disability pensions refused to keep diaries relatively more frequently and the employed least frequently.

The majority of the diaries, or 65 per cent, were filled in October, 17 per cent in September and 18 per cent in November. Thus results describe the use of time by the population mostly in October. According to a time-budget study conducted in Norway, time use in October - November approached the average time use for the entire year (The Time Budget Survey 1971-21, vol. I, 48-49).

Each day of the week is evenly represented in the material, the share being 14-15 per cent.

The working method adopted by interviewers was a major factor reducing the non-response rate in this study based on respondents' volunteering. A one-day course mainly focusing on motivation was arranged for interviewers, underscoring the importance of the study. As a result interviewers urged respondents to keep as accurate records of their activity as was called for. In Norway for instance, the non-response rate in the 1971-72 studies was as high as 42 per cent. This was a result of not only inadequate interviewer training but also the nature of the selection method for study days. Days were specified according to date, which added to the number of persons not contacted. For diary records the Finnish study listed in advance only weekdays but not the exact week. Diaries were kept on the weekdays concerned following an interview.

4. Differences in response set between population groups

Data entered in diaries varied somewhat in detail by sex, age and education.

| | Number of activity periods |
|---|----------------------------|
| Total | 28,0 |
| Men | 25,1 |
| Women | 30,6 |
| Age: | |
| 10 - 24 yrs | 26,0 |
| 25 - 44 yrs | 29,1 |
| 45 - 64 yrs | 28,6 |
| Education: | |
| Less than primary school | 27,0 |
| Primary school | 28,1 |
| Junior secondary school, or comprehensive school | 28,3 |
| Matriculated | 30,0 |

An activity period refers to the period of time in which a primary or secondary activity remains unchanged. Women entered more activities in diaries than men, as did middle-aged persons when compared to youth. As the level of general education of a respondent rose, activities were reported in greater detail. In addition to the nature of response, the reason for this may lie in a different structure of time use, for example, by men and women. A considerably rougher classification was applied to gainful employment than to domestic work. Gainful employment was not specified according to the nature of work (except in agriculture), whereas a fairly refined classification was applied to describe domestic work. As a consequence, the number of activity periods was higher for persons performing much domestic work than for those who were engaged in long hours of gainful employment. This may partially explain the fact that women recorded an average of 22 per cent more activity periods than men.

The manner in which children responded deviated from those of other respondent groups. The intent was to record the activities of respondents in interval diaries during a specific 10-minute time period. Children, however, experienced the change from one activity to the next as so important that they often entered such turning points in diaries, such as "I went out", "I came home", that did not actually reveal any activity.

The oldest respondents listed activities regarded as important, but which took up after all less than the largest share of a 10-minute time period. Such activities were

- I woke up my husband,
- I let the dog out,
- I turned off the lights, and
- I locked the door.

Taking medicine was also frequently logged in diaries, although it is an activity generally taking only a short time.

5. Coding and storing material

Diaries were shekced and coded at the Central Statistical Office. The pilot study indicated that coding performed by interviewers would have incurred too great a cost without achieving the standard required. It would have been next to impossible to teach a uniform coding method to interviewers living all over the country.

A coding group consisting of eleven persons was set up for the time-budget study. A labour input of two man years was drawn upon to record the 12 000 time-use days and check through the 6 000 interview forms.

A uniform coding method remained an elusive aim. It was unexpectedly difficult to interprete the verbal responses consistently, although the first few days were entirely devoted to training.

Individual training was continued throughout the recording phase. Study results would have remained unreliable to a degree without the aid of the systematic follow-up of coding processes. The training phase was followed by a period of careless mistakes, like confusing the most commonly used codes for sleeping and dining. It was not until this period was passed that coding was performed without any more serious mistakes.

The observation was made in the context of coding that respondents entered primary activities most accurately and that identifying secondary activities varied among respondents by sex and education.

| | A minimum of one secondary activity |
|---|--|
| Total | 88,4 % |
| Men | 85,0 % |
| Women | 91,6 % |
| Less than primary school | 72,3 % |
| Primary school | 88,0 |
| Junior secondary school, or comprehensive school | 93,3 % |
| Matriculated | 93,7 % |

Women entered secondary activities in diaries more frequently than men, and the same phenomenon was observed as the level of general education rose. These differences did not appear between persons living in urban centres and those residing in rural areas.

Time spent in the company of others was reported unsystematically. Particularly the duration of this form of time use was indistinctly reported in many diaries. For this reason, time spent in another's company was later coded not according to the hour but insted by

taking into account the total hours per day spent with different family members, relatives, coworkers/schoolmates and other associates only from those diaries yielding the most reliable data.

The reliability of data on time spent in another's company was studied by comparing the hours spent together with a spouse reported by men and women. According to the study, women spent an average of 5 hours and 43 minutes and men 5 hours and 31 minutes with their spouses. Being fairly insignificant, a discrepancy of 12 minutes constitutes systematic error.

Table 3. Time spent in spouse's company reported by men and women according to status of employment. Hours and minutes per day.

| WIFE | HUSBAND | | | |
|--------------|------------------------|---------------------|------------------------|---------------------|
| | Employed | | Not employed | |
| | Response by husband | Response by wife | Response by husband | Response by wife |
| Employed | 5.13 | 5.21 | 6.15 | 5.17 |
| Not employed | 5.15 | 6.18 | 8.25 | 7.48 |
| N | 2271 | 2690 | 923 | 627 |

Employment is standardized for both spouses in the table. An examination of the respondent's background reveals that spouses not employed have independently of sex systematically reported a greater portion of time spent together in diaries than those employed. Thus the conclusion may be drawn that the measurement method applied in the study generates systematic error, which in turn causes erroneous interpretations in the comparison of different population groups.

The material was stored on the basis of activity periods. The time of day was stored in cases when primary or secondary activity or location of activity had altered. Duration of activity was not stored but was instead computed by machine. Computer processing turned out to be time-consuming and more

laborious than the processing of ordinary survey material. A large number of basic tables were run at the Central Statistical Office with the aim to contribute to drawing up various specific studies. Copies of ADP tapes are also available for research use.

6. International comparison of the structure of time use

The nature of the time-budget method provides the opportunity to draw international comparisons. Minor methodological differences erect no great obstacle to making these comparisons. An international time-use study project headed by Szalai at the end of the 1960s produced a uniform framework for time-use classifications, allowing rough comparisons of classification in particular.

The comparison here introduces studies conducted around the world from the mid-1970s to beginning of the 1980s. The structures of time use in Finland, Norway, Switzerland, Great Britain, Hungary, Poland, the United States and Japan are dealt with. These studies involved entire population of each country, while the age distribution applied in samples varied. Data were mainly collected through time-budget diaries filled in by respondents. In Hungary, Poland and Japan, interviewers requested data on the use of time on the day preceding the interview. The studies were performed by the central statistical offices in Norway, Switzerland, Poland and Hungary. In Britain and Japan these studies were integrated with ongoing projects conducted by broadcasting companies, while in the United States universities bore responsibility for such studies. Sample sizes ranged from 1 500 to 68 000 (Japan) and non-response rates from 18 to 51 per cent. Information was requested from each respondent on one day only in the USA, on two days in Switzerland and Finland, on two or three days in Norway, on six days in Japan and for one week in Britain.

1 In addition to the basic report (Niemi-Kiiski-Liikkanen, Use of time in Finland, Central Statistical Office of Finland, Studies No. 65, Helsinki 1981), the tables were published in two duplications: Use of Time in Finland in 1979, Appendix I: Basic tables on activity classification levels III and II and Appendix II: Specific tables: daily rhythm, secondary activity, location of activity, time spent in another's company, domestic work, cross hours worked, free time.

In Hungary, time-use structure was investigated for each person at 90-day intervals, or four times altogether. From data collected in Hungary, only that concerning autumn were included in the comparison. Studies in Switzerland and Poland applied to the entire year, while the remainder of the studies pertained only to a single autumn or winter. The following examination is restricted to the structure of time use by the employed population, because differences in samples pose some difficulty when the analysis is extended over the entire population.

Table 4 reveals that men do on the average longer hours of work than women in all countries surveyed. The longest hours, or about 47-50 hours weekly, were worked in Japan, Poland and Hungary. This was due to the fact that the majority of persons in Japan and Poland had a 6-day working week. Thus commuting between job and home also took more time there than in other countries studied. The working week for Hungarian men also came to 47 hours, although the changeover to a 5-day working week was made when the study was being conducted. The weekly hours worked were the shortest for Finnish men, or 41 hours per week, with only minor differences when compared to the weekly hours worked by British, Swiss and American men. The least time spent commuting to and from the job was spent in Finland.

Japanese, Polish and Hungarian women had the longest working week (42 hours). Elsewhere the average weekly working time for women stood at 30 hours. In Switzerland and the USA, the average time used by women for gainful employment equaled that used by Finnish women. The shortest workweek is among women in Norway and Britain.

Viewed internationally, large differences were noted for time used for domestic work. In all countries women spend more time on domestic work than men. Polish and Norwegian women do the most hours of domestic work weekly (33-34 hours). Time used by Finnish women for domestic work is approximately on the same plane as the number of hours of domestic work done by women in Great Britain and the USA. The amount of domestic work varies more for men than for women. The fewest hours of domestic work (4 hours/week) were recorded for Japanese men and the most (16 hours/week) for Norwegian men.

Table 4. Time budgets of the employed in different countries by sex. Hours per week

| | Finland -79 | | Norway -80/81 | | Switzerland -79/80 | | Great Britain -74 | | Hungary -76/77 | | Poland -76 ²⁾ | | USA -75 | | Japan -80 | |
|--|-------------|------------|---------------|------------|--------------------|------------|-------------------|------------|-----------------|-----------------|--------------------------|------------|------------|------------|-----------|------------|
| | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
| Gainful employment | 41 | 34 | 42 | 25 | 43 | 33 | 42 | 27 | 47 | 37 | 53 | 46 | 43 | 32 | 49 | 42 |
| Travels to job | 3 | 3 | 2 | 2 | 4 | 4 | 4 | 4 | 4 ¹⁾ | 3 ¹⁾ | | | 5 | 3 | 7 | 5 |
| Domestic work (Total hours worked) | 14 (58) | 26 (63) | 16 (60) | 33 (60) | 5 (52) | 19 (56) | 9 (55) | 25 (56) | 11 (62) | 29 (69) | 15 (68) | 34 (80) | 11 (59) | 25 (60) | 4 (60) | 22 (69) |
| Sleeping | 57 | 58 | 54 | 54 | 62 | 62 | 55 | 57 | 57 | 57 | | | 55 | 58 | 56 | 53 |
| Meals | 10 | 9 | 8 | 8 | 13 | 12 | 9 | 9 | 9 | 8 | 67 | 66 | 7 | 7 | 10 | 10 |
| Other personal needs | 5 | 5 | 6 | 7 | 4 | 5 | 8 | 10 | 7 | 7 | | | 8 | 9 | 7 | 9 |
| Free time (incl. studies and education) Total | 38 | 33 | 40 | 39 | 37 | 33 | 41 | 36 | 33 | 27 | 33 | 22 | 39 | 34 | 35 | 27 |
| - Education | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | .. | .. | 2 | 1 | 0 | 1 |
| - Activity in organizations, religious activities, sport events, cinema, theatre | 2 | 1 | 2 | 1 | 3 | 2 | 5 | 4 | 1 | 1 | 2 | 1 | 5 | 5 | 3 | 3 |
| - Sports activity, outdoor activity | 4 | 2 | 3 | 3 | 2 | 1 | 2 | 1 | 2 | 1 | .. | .. | 2 | 1 | 2 | 1 |
| - Socializing (with family members and acquaintances, visits to restaurants and cafés) | 8 | 8 | 12 | 14 | 5 | 7 | 6 | 7 | 5 | 4 | 4 | 4 | 6 | 8 | 3 | 3 |
| - Reading | 5 | 5 | 5 | 5 | 4 | 3 | 2 | 1 | 4 | 2 | 4 | 2 | 4 | 4 | 5 | 2 |
| - Hobbies (handicrafts, artistic and technical hobbies, group and solitary games, gambling) | 1 | 3 | 2 | 2 | 3 | 3 | 1 | 2 | 1 | 2 | 1 | 0 | 1 | 1 | 2 | 1 |
| - Watching television | 10 | 7 | 9 | 7 | 9 | 7 | 17 | 13 | 10 | 9 | 14 | 9 | 15 | 11 | 13 | 10 |
| - Listening to radio and music | 1 | 0 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| - Resting | 3 | 3 | 1 | 1 | .. | .. | 4 | 4 | 3 | 2 | 3 | 1 | 1 | 1 | 4 | 4 |
| - Travelling | 3 | 3 | 3 | 3 | 4 | 4 | 2 | 2 | 4 ¹⁾ | 4 ¹⁾ | .. | .. | 3 | 2 | 2 | 2 |
| - Unspecified | 0 | 0 | 0 | 1 | 4 | 3 | 0 | 1 | 1 | 1 | 5 | 4 | 0 | 0 | | |
| Total | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 |

1) Estimate 2) Employed excluding agriculture and forestry

The equality realized in domestic work can be studied by means of the comparison: $\frac{\text{time used by women for domestic work}}{\text{time used by men for domestic work}}$.

The ratio varies by country in the following manner:

| | Domestic work |
|---------------|--------------------|
| | Employed women/men |
| Finland | 1,9 |
| Norway | 2,1 |
| Poland | 2,2 |
| USA | 2,3 |
| Hungary | 2,6 |
| Great Britain | 2,8 |
| Switzerland | 3,8 |
| Japan | 5,5 |

In Finland, time used by women for domestic work rises to nearly twice the amount of time men spend on it. Yet equality between the sexes with regard to domestic work is most advanced in Finland when compared to the other countries studied.

Inequality in domestic work is the most apparent in Japan, where the employed women do five times as much domestic work as men. In Switzerland the time spent on domestic work by women amounts to nearly fourfold of that used by men. Women's participation in work in these countries is focused on life cycles involving fewer household duties. In Switzerland for instance, time used for gainful employment by the 25 - 29-year-old age group falls to under one-half when compared with the group of 20 - 24-year olds.

Total time used for gainful employment and domestic work is higher in all countries for employed women than for men. Polish women (80 hrs) and Hungarian women (74 hrs) carry the heaviest burden, as they use more time weekly than for instance Finnish women both for gainful employment and for domestic work.

Swiss men burden themselves the least (52 hours), because of the little time used for domestic work.

Only minor cultural differences emerged in the time used for sleeping. The Swiss constitute an exception in the sense that they devote more time than others to sleeping. Swiss also spend more time than others on dining, up to even 30 per cent more when compared to Finns. The Poles have less time than others for personal needs.

The long hours of work in Japan, Poland and Hungary are mirrored in the scarcity of free time. Men have in every country more free time than women.

The structure of free time reveals a number of interesting features. Television viewing is a dominant free-time activity in all countries. The greater amount of free time enjoyed by men is manifest in more hours used for watching television. The share of time spent watching television is a good 20 per cent of free time in Finland, Norway and Switzerland, while it exceeds 30 per cent of free time both for men and women in other countries.

Television is watched the most by the inhabitants of Great Britain, Poland, the USA and Japan. Men in England may use as many as 17 hours weekly for television, which is 41 per cent of their total free time. The large number of viewing hours in Great Britain and Japan may partly result from the fact that in these countries the studies are performed by radio and television companies. This effect may in the end be insignificant as viewing hours in Poland and the USA are nearly the same.

Norwegians use plenty of their free time for socializing. As much as one-third of the free time of Norwegians is used for socializing, while an average of one-fifth is adequate for persons in other countries. Socializing takes up more time than the average in Finland as well. Outdoor and sports activities and reading are particularly popular in Norway and Finland.

In summary, certain general features are distinguishable in the structure of time use. The average hours for gainful employment used by men vary only slightly, or between 41 and 50 hours weekly. Time used for sleeping is nearly constant, with the exception of the Swiss. Compared to men, women use less time for gainful employment but more for domestic work. The total number of hours worked by women are longer than those put in by men, and consequently women enjoy less actual free time.

Notable differences exist between different countries, however, apparent in the time used by men for domestic work, watching television and socializing.

Differences in the structure of time use will be examined in fuller detail in joint comparative studies involving Finland as well. A joint project with the central statistical office of Hungary has to date witnessed greatest progress. A comparative study concerning the use of free time by the urban population is a planned project between the Soviet Union and Finland.

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ACTIVITY CLASSIFICATION

- 1. Work
 - 01 Work in main occupation
 - 02 Work in secondary occupation
 - 03-06 Agriculture and forestry on own property
 - 03 Plant cultivation
 - 04 Care of livestock
 - 05 Forestry
 - 06 Other work on own property or unspecified
 - 07 Other time in connection to work
 - 08 Journey to work
- 2. House work
 - 09 Cooking
 - 10 Baking, preservation
 - 11 Dish-washing
 - 12 House-cleaning
 - 13 Laundry work and ironing
 - 14 Dressmaking
 - 15 Care of clothes and footwear
 - 16 Heating and water maintenance
 - 17 Home repairs and construction
 - 18 Care of lot and animals
 - 19 Repair of vehicles
 - 20 Help to adult family member
 - 21 Help to other households
 - 22 Other house work or unspecified
 - 23 Travels associated with house work
- 3. Care of children
 - 24 Child care and help of children
 - 25 Reading and playing with children
 - 26 Taking children outdoors
 - 27 Other child care
 - 28 Travels associated with child care

4. Purchase of goods and services

- 29 Shopping
- 30 Services, offices
- 31 Medical care of children
- 32 Health care of self or adult family member
- 33 Unspecified
- 34 Travels associated with 29-33

5. Personal needs

- 35 Night sleep (essential)
- 36 Day time sleep
- 37 Meals and snacks
- 38 Personal hygiene and dressing
- 39 Sauna
- 40 In bed when ill
- 41 Other personal needs
- 42 Travels associated with personal needs

6. Education

- 43 Studying at school
- 44 Studying at home
- 45 Travelling to and from school
- 46 Leisure-time study at home
- 47 Leisure-time study outside the home
- 48 Travels associated with leisure-time study
- 49 Unspecified studies

LEISURE

7. Participation activities

- 50 Participation in organizations excl. religious
- 51 Religious activities
- 52 Travels associated with participation activities

8. Sport and outdoor recreation

- 53 Walking
- 54 Active sport, unorganized
- 55 Active sport, organized
- 56 Hunting, fishing, picking mushrooms
- 57 Unspecified sport
- 58 Travels associated with sport

9. Entertainment

- 59 Sports events
- 60 Cinema
- 61 Theatre, concert, museum, art exhibition
- 62 Library
- 63 Other entertainment
- 64 Travels associated with entertainment

10. Reading

- 65 Reading newspapers
- 66 Reading magazines, journals
- 67 Reading books
- 68 Unspecified reading

11. Radio and television

- 69 Listening to radio
- 70 Watching television

12. Socializing

- 71-72 Socializing with family
 - 71 Socializing with children
 - 72 Socializing with other family members
- 73 Visiting friends
- 74 Socializing with friends at home
- 75 Socializing with friends outdoors
- 76 Telephone conversations
- 77 Restaurant visits, dances
- 78 Café visits
- 79 Other socializing
- 80 Travels associated with socializing

13. Hobby

- 81 Handicraft
- 82 Artistic hobbies
- 83 Technical hobbies, collections
- 84 Social games
- 85 Games alone
- 86 Games with money
- 87 Records, cassettes
- 88 Letter writing and reading
- 89 Other hobbies
- 90 Travels associated with hobbies

14. Other forms of leisure

- 91 Resting
- 92 Travels associated with several activities (longer trips)
- 93 Going for drives
- 94 Unspecified leisure

99. Unspecified

MERGED CLASSIFICATION

- | | |
|-------------------|---|
| 1. Work | 01 Work (01-06) |
| | 02 Other time in connection to work (07) |
| | 03 Journey to work (08) |
| 2. House work | 04 Household work (09-16) |
| | 05 Maintenance (17-19) |
| | 06 Other house work (20-22) |
| | 07 Care of children (24-27) |
| | 08 Purchase of goods and services (29-33) |
| | 09 Travels associated with house work (23, 28, 34) |
| 3. Personal needs | |
| | 10 Sleep (35, 36) |
| | 11 Meals (37) |
| | 12 Personal hygiene etc. (38-42) |
| 4. Education | 13 Studying (43, 44, 49) |
| | 14 Travelling to and from school (45) |
| | 15 Leisure-time study (46-48) |
| 5. Leisure | 16 Participation in organizations (50-51) |
| | 17 Sport and outdoor recreation (53-57) |
| | 18 Entertainment and culture (59-63) |
| | 19 Reading (65-68) |
| | 20 Radio (69) |
| | 21 Television (70) |
| | 22 Socializing with family (71, 72) |
| | 23 Socializing with friends (73-79) |
| | 24 Hobbies (81-89) |
| | 25 Other leisure (91, 94) |
| | 26 Travels associated with leisure (52, 58, 64, 80, 90, 92, 93) |
| 6. Unspecified | 27 Unspecified (99) |

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