onference of International Association for Time Use Research ïme is on my side"Rolling Stones

## New approaches of the 2009 Korean Time Use Survey

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While other papers deal with data from time use surveys for users or researchers, my paper focuses on introducing the KTUS(Korean Time Use Survey) as an official time use producer , especially new approaches of 2009 Korean Time Use Survey.


#### Abstract

This paper presents a major procedure related to methodological issues and new approaches of the 2009 Korean Time Use Survey (KTUS). The KTUS was conducted in 1999 and 2004 by the Korea National Statistical Office (KNSO) and will be conducted for the third time in 2009. The KNSO has employed new approaches for the 2009 KTUS such as inserting the item "with whom" with the main activities . By successfully testing questionnaires through a rehearsal survey, the " persons being together " has been applied to the survey. There are some differences between the 2004 and 2009 classification of activities. In consideration of seasonal effects, the KNSO conducted the survey once in the spring of 2009 and will conduct it again in the fall of the same year.


Also, the 2009 KTUS focuses on collecting women' s time of caring for their child,
especially under school age, by including not only direct care activities but also indirect ones like time spent with their child or taking their child along to activities because of a lack of an alternative supervisor. This report describes the design and implementation of the survey.

Keywords : main activities, seasonal effects, alternative supervisor

## 1. Introduction

The 2009 Korean Time Use Survey will be the third survey involved in collecting information on how Koreans spend their time. This survey is conducted every 5 years beginning in 1999. The purpose of the survey is to provide information on how Koreans spend their time and when they conduct certain behaviors. The results of the survey provide information for the evaluation of life style and quality of life of Koreans. Data on time spent on unpaid household work can be used to evaluate household work of women. Data on time spent on other various activities can be used in academic areas and public policies related to labor, welfare, culture, education, and transportation.

## 2. Description of the survey

### 2.1. Sample design

The sample for the Time Use Survey can be defined at four levels: a sample of enumeration districts(EDs), a sample of households, a sample of individuals and a sample
of diary days. EDs totaling 540 from the survey population and 15 households from each sampled ED were selected by the stratified sampling method and simple random sampling, respectively. Within each household, all household members aged 10 years or older were included in the sample of individuals. The diary days were pre-assigned according to the order in the household address file.

### 2.1.1. Sampling of the household and individuals

The sample frame for the Time Use Survey was drawn from the Social Survey household sample in which the present sample frame was derived from the 2005 Population and Housing Census using the systematic selection with probability proportional to size after ordering by 25 regional strata and subclass characteristics such as type of living quarters, ratio of farm household, ratio of persons aged 60 and over, etc. The 540 EDs were selected from the Social Survey household sample using the systematic sampling method after ordering by 25 regional strata and subclass such as type of living quarters, ratio of house owners, and ratio of employment. The 15 households were selected at random in each ED. The sample for 2009 Time Use Survey consists of approximately 21,000 individuals aged 10 years and over and 8,100 households from 540 EDs(according to the Population projections for Korea in 2009, the average number of household member aged 10 years and over is 2.6 persons per household).

### 2.1.2 Sampling of the diary days

The days to record activities in a time-diary were assigned as follows: first, 15 households in each Enumeration District (ED) were evenly divided into 5 groups by the order in the household file per ED (A to E; 3 households in each group) and then two days were assigned to record the activities of each group within the period of the survey. Also, Saturday and Sundays are twice of the other weekdays to estimate for weekdays, Saturday and Sunday. Here, we allowed respondents to change diary days between households if a household was not available for a group. The time use pattern might be affected by days, so each group must keep an identical number of households. Therefore, even diary dates could be exchanged with another household, as long as each group keeps 3 households within each ED.

| Group A |  | Group B |  | Group C |  | Group D |  | Group E |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9. 11 | 9.12 | 9. 13 | 9.14 | 9.15 | 9. 16 | 9.17 | 9.18 | 9. 19 | 9. 20 |
| Fri. | Sat. | Sun. | Mon. | Tue. | Wed. | Thu. | Fri. | Sat. | Sun. |
| 3 households |  | 3 households |  | 3 households |  | 3 households |  | 3 households |  |

All the household members aged 10 years and over were asked to keep the time-diary except those who were absent from their home during the entire survey period, had serious physical or mental defects. or were generally unable to keep a time-diary for themselves.

### 2.2. Design of questionnaires and diaries

The 2009 Time Use Survey includes three parts : a Household Questionnaire for the
household representative, Individual Questionnaire for respondents 10 years old and over, and the Time-Diary.

### 2.2.1. The Household questionnaire and Individual questionnaire

The Household Questionnaire collected data on household characteristics including the type of occupancy, dwellings and floor space. The Individual Questionnaire collected data on individual characteristics including relationship to the head of the household, gender, age, caring for infant children, feelings about pressure of time, the gender roles, economic activity, side job, weekly working time, industry, occupation, employment status, monthly average of income, days-off, and subjective evaluation of time pressure and tiredness.

### 2.2.2. Time-Diary

In the Time-Diary, all of the household members aged 10 years and over were asked to record the main and simultaneous activities in the time diary which was structured in 10 minutes intervals for the designated two days. Afterwards, all of the self-recorded activities in the Time-Diary were coded into three-digit activity codes designating 143 different activity categories . The Time-Diary included the following main activity, with whom do you do the main activity, simultaneous activity, home or away from home and mode of transportation.

### 2.3. Classification of Activities

All of the activities are classified into 9 first-level categories, 50 mid-level categories, and 143 third-level categories.(see the appendix) In the first stage, the nine activity categories are developed and designated by the first digit of the activity code; in the second stage, the mid-level categorization is made within the boundary of the first-level categories and the second digit of the activity codes stands for the mid-level classification; lastly the mid-level categories are further classified into the more specified activity groups and the third digit of the activity codes stands for the third-level classification.

| < The 2-digit group > |  |
| :--- | :--- |
| 1 PERSONAL CARE ACTIVITIES | 6 VOLUNTARY WORK AND COMMUNITY |
| 11 Sleeping | PARTICIPATION |
| 12 Eating/drinking | 61 Helping/doing favors |
| 13 Personal hygiene | 62 Community participation |
| 14 Health care | 63 Unpaid voluntary work |
| 19 Personal care activity n.e.c |  |
|  | 7 SOCIAL LIFE / RECREATION AND LEISURE |
| 2 EMPLOYMENT RELATED ACTIVITIES | 71 Social activities |
| 21 Employed work/Self-employed work | 72 Attendance of free-time courses for adults |
| 22 Unpaid work in family business | 73 Mass media |
| 23 Unpaid work on family farm | 74 Religious activities |
| 24 Unpaid work in family garden | 75 Entertainment (as spectator) |
| 25 Job seeking | 76 Sport and outdoor activities |
| 26 Purchasing employment related goods | 77 Hobbies, games and other leisure activities |
| 29 Employment related activities n.e.c | 78 Purchasing social and leisure related goods |
|  | 79 Recreation and leisure n.e.c |
| 3 EDUCATION ACTIVITIES |  |
| 31 School/University | 8 TRAVEL (by purpose) |
| 32 Informal education | 811 Personal care |


| 33 Purchasing education related goods | 822 During work <br> 831 Education <br> 841 Domestic activities |
| :--- | :--- |
| 4 DOMESTIC ACTIVITIES | 851 Family care |
| 41 Food preparation/clean up | 861 Voluntary work and community participation |
| 42 Laundry and clothes care | 871 Social activity |
| 43 Cleaning dwelling and arrangements | 872 Attendance of free-time courses for adults |
| 44 Household upkeep | 873 Recreation and leisure n.e.c |
| 45 Purchasing domestic goods | 891 Other purpose |
| 46 Household management | 800 Waiting for a bus, train, etc. |
| 49 Domestic activities n.e.c | 9 OTHERS |
|  | 919 Filling in time use diary |
| 5 FAMILY CARE | 999 Others |
| 51 Preschool child care |  |
| 52 School child care |  |
| 53 Spouse care |  |
| 54 Parents care |  |
| 55 Family care n.e.c |  |

There are still some limitations in the Classification of Activities. Some activities do not have a clear classification within the three-digit groups.

In principle, activities are classified by their purpose. Therefore, we have some problems in collecting some information such as people's time of computer usage because of the purpose based classification system.

For example, using a computer for studying is classified as an education related activity, while using a computer for working is classified in the working activity group. However, purchases made on the computer are classified in the category which includes the purpose of purchasing and computer games are classified by leisure activity according to the principle of classification by purpose. Some activities related to computer usage can vary because the activities are classified independently, while other activities are not. Here, we can not calculate computer usage time.

### 2.4. Overall process of the survey

### 2.4.1 Administrative procedures

In the beginning of the planning stage of the survey, we have several group meetings with experts from the KNSO as well as public/private sector consultants in Korea. Then we create a questionnaire, print all materials related to the survey, and prepare PR matters and gifts for respondents(approximately $\$ 10$ per person)

### 2.4.2 Field procedures

Since the survey is conducted at every local branch(approximately 50), we train the supervisors from every local office at a single location. Afterwards, the educated supervisors train the part-time interviewers at their branch offices who were hired for the survey.

All trained interviewers visit the households prior to the time-diary date to explain the survey, confirm their cooperation and give them a gift for their participation(\$13 for head of household, plus $\$ 5$ for every other household member who completed the diaries). There are two methods to collect data from each respondent. We collect information from each respondent with a face-to-face interview for the Household and Individual Questionnaire whereas it is self-recorded in the time-diary.

After completing the questionnaire, all interviewers code activities, edit, and input data into programmed system .

### 2.4.3 Data processing

Inputted data and questionnaires are sent to headquarters so as to re-edit the data by central analyst. Lastly data processing is done and the results of the survey are provided in the following year.

## 3. New approaches of the 2009 KTUS

The third Time Use Survey in Korea has undergone a several changes to meet the new demands.

### 3.1 Methodological issues

In consideration of the various seasonal effects during the year, the KNSO conducted the survey once in spring of 2009 and is conducting it again in the fall at the same year.

We determined that two observations a year on time usage provides an acceptable average for the entire year. Selection of the survey period and duration of the survey are also very important in accurately representing. In the 2009 KTUS, spring and September were selected as representative months of the year.

### 3.2 Questionnaire

The 2009 Time Use Survey included the phrase "with whom" in the time diary with the activities to assist in fully understanding the main activities.

We defined "with whom" as other person(s) contributed to the same responsibility for the main activity.

We divided the "with whom" categories as follows: alone, child aged under 7, spouse, other family or relatives, other(exclude unknown, audience, etc)

There are some limitations and problems in deciding the definition of "with whom". For example, At church or in a meeting, do we include the audience or crowd? Also, in the work place do we consider the work with others as" with whom" even though employed work separately at their desk without meeting.

To consider the correct use of categories "with whom", we need to limit its use to major activities including 4. housework, 5. caring, 6. participants \& volunteering, and 7. leisure.

### 3.3 Classification of activities

We developed our own classification of activities in 1999 with consideration to our cultural heritage and the present trends such as the increasing usage of computers and related technologies. We also followed the guidelines from the proposal of EUROSTAT and the UNSD. There are 9 main groups, 50 2-digit groups and 143 3-digit groups in 2009.

The difference between the 2004 and 2009 classification of activities are in the 3-digit
groups. To incorporate new activities, the KNSO further divided the 3-digit group from 137 in 2004 into 143 in 2009.

For example, 260 purchasing employment related goods is divided by 261 purchasing employment related goods through off-line methods(visiting store) and 262 purchasing employment related goods through on-line methods(Internet, home shopping, etc). Also, it was applied in the same way to 330 . purchasing education related goods and 780 leisure activities related goods.

As there are many kinds of outlets for media in leisure activities, we clarified the new medium's groups, for example, $\operatorname{PMP}($ Portable Multimedia Player) and DMB (Digital Multimedia Broadcasting). For 737 Internet surfing, the KNSO breaks it down into 737 Internet surfing for information and 738 other Internet use(Homepage, Blog management ) according to the purpose of internet use.

To calculate women's time spent caring for their children under school age, we focused on time spent supervising children. The reason behind this is that supervising children and passive child care might have been under-reported in the previous survey. Time spent supervising children would have to be obtained as a secondary activity to the main activities, such as doing housework, watching television, or meeting friend. So the KNSO included both direct care activities and indirect ones such as time for taking their child along to activities because of a lack of alternative supervisor.

As computer usage is increasing, we separately classify shopping for 2. Employment, 3. Study, and 7. Social life, recreation and leisure as shopping via the Internet and offline methods(4.Domestic activities related to shopping has already been separated as online and offline in the previous survey)

We do not separate the "pet care" activity as its own 3-digit group but the activity is included in the category of 443 other home maintenance within 44 . household upkeep.

The KNSO need to separate the "pet care" activity from the present category such as other countries since the population that owns pets is increasing in Korea.
4. Response distribution from the survey in spring, 2009

O Collection rate by ED(member of household)

- Collection rate of 2009 was higher than that of 2004 with $1.0 \%$ p gap
- Collection rate was higher in ordinary ED than that in apartment ED

| ED | Total | Under 10 <br> years old | 10 years old <br> and over | Collect | Impossi <br> ble | Refuse | Collection rate <br> (exclude <br> impossible) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 11,407 | 1,205 | 10,202 | 10,004 | 129 | 69 | 99.3 |
| Ordinary | 5,667 | 454 | 5,213 | 5,119 | 68 | 26 | 99.5 |


| Apartment | 5,740 | 751 | 4,989 | 4,885 | 61 | 43 | 99.1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Collection rate: $94.7 \%$ in 1999, $98.3 \%$ in 2004

O Dist. by household characteristic

- By number of households, those with 2 members were surveyed more than households with 1 member.

- By type of dwellings, apartment EDs were more surveyed than any other types of dwellings.

|  | Number of households |  |  |  | Rate(\%) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Detached | APT | Others | Detached | APT | Others |
|  | 4,045 | 1,586 | 1,881 | 578 | 39.2 | 46.5 | 14.3 |
| ※2005 <br> Population <br> Census | $15,887,128$ | $7,064,128$ | $6,628,993$ | $2,194,007$ | 44.5 | 41.7 | 13.8 |

O Dist. by household members' characteristics

- By gender, women were slightly more surveyed at 52.0\% than men, and those in their 20's are somewhat less surveyed than other age classes.
< Gender >

|  | respondents(person) |  |  | rate(\%) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | men | women | men | women |


|  | 10,004 | 4,800 | 5,204 | 48.0 | 52.0 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ※ 2009 <br> Population <br> projections | $48,746,693$ | $24,481,480$ | $24,265,213$ | 50.2 | 49.8 |

< Age >

|  | respondents(person) |  |  |  |  |  |  | rate(\%) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total* | 10's | 20's | 30's | 40's | 50's | 60+ | 10's | 20's | 30's | 40's | 50's | 60+ |
|  | 10,004 | 1,791 | 1,277 | 1,717 | 1,974 | 1,424 | 1,821 | 17.9 | 12.8 | 17.2 | 19.7 | 14.2 | 18.2 |
| $※ 2009$ <br> Population projections (thousands) | 43,839 | 6,623 | 7,015 | 8,185 | 8,371 | 6,351 | 7,293 | 15.1 | 16.0 | 18.7 | 19.1 | 14.5 | 16.6 |

*Total: 10 years old and over
< Marital status >

|  | respondents(person) |  |  |  |  |  | rate(\%) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | not <br> married | with <br> spouse | bereave <br> ment | divorce | not <br> married | with <br> spouse | bereave <br> ment | divorce |  |
|  | 10,004 | 3,202 | 5,825 | 693 | 284 | 32.0 | 58.2 | 6.9 | 2.8 |  |
| ※ 2005 <br> Population <br> Census <br> (thousands) | 38,055 | 11,479 | 22,557 | 2,880 | 1,140 | 30.2 | 59.3 | 7.6 | 3.0 |  |

O Number of episodes per day

- Average number of episodes per day slightly increased in 2009

|  | Total | Men | Women |
| :---: | :---: | :---: | :---: |
|  | 33 | 31 | 34 |
| $※ 1999$ | 25 | - | - |
| $※ 2004$ | 31 |  |  |

## 5. Conclusion and suggestions

The KNSO carried out the time use survey once a year in 1999 and 2004. In 2009, the KNSO pursued a new trial for conducting the survey twice a year to more fully represent people's time use patterns during the entire year. In order to nullify the seasonal effect in the future, we need to carry out the survey four times a year or even perhaps 12 times to accurately represent the time use of people throughout the whole year.

The KNSO classified several further activities to properly reflect our life patterns. However, limitation exist in classifying some activities. We need to clarify some categories for new trends in activities, for example, the use of PC and Internet.

To get the optimal sample for the time use survey, we have to consider the inclusion of household's characteristics such as the number of families in a strata for sampling. It would be more effective to include a household's characteristics in sampling instead of considering them after stratifying for weight which has been applied to the 2009 survey.

For the non-response sample, we take the substitute method, which means if a household refuses to answer questions, we substitute another household neighborhood within the same ED. Therefore, we have over a $98 \%$ collecting rate for questionnaires. This collecting rate is very different from the response rate, so we have to prepare a solution for the non-response treatment in future.

Expert groups involved in the international classification for time-use activities need to further discuss the development of an international standard for the Classification of Activities for comparison between countries.

To overcome the problem and to develop the survey, the KNSO have to study the survey and improve it constantly. Thus, we are now considering the option of conducting the survey every 3 years instead of every 5 years.

After releasing the data for 2009, the KNSO will hold Time Use Research seminar for further analysis in time use. The KNSO will encourage users not only to analyze further time use data but also to provide some idea for the future survey's development. In the future, we would like to hold an international conference to share the information concerning time use research with the international community.

## Appendix

- Results of 2004


## How did Koreans spend their time in 2004?

1. Time Use of People Aged 10 and Over

People aged 10 and over spent 10 hours and 34 minutes per day, which occupied 44
percent out of each day, on personal indispensable activities such as sleeping, eating, and washing. This figure increased by 16 minutes from 1999.

People aged 10 and over spent 8 hours and 13 minutes per day, which accounted for 34 percent out of each day, on obligatory activities such as paid work, household care, study, and commute. This figure fell by 29 minutes from 1999.

- They spent 3 hours and 26 minutes on paid work. household care accounted for 1 hour and 52 minutes. They spent 1 hour and 14 minutes on study.

People aged 10 and over spent 5 hours and 13 minutes a day on leisure, which accounted for 22 percent out of each day. This figure grew by 12 minutes from 1999.
(Unit : hours: minute)

|  | All |  |  | Men |  |  | Women |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2004 | 1999 | rate | 2004 | 1999 | rate | 2004 | 1999 | rate |
| * Indispensable act. | 10:34 | 10:18 | 0:16 | 10:35 | 10:18 | 0:17 | 10:34 | 10:18 | 0:16 |
| Sleeping | 7:49 | 7:47 | 0:02 | 7:52 | 7:51 | 0:01 | 7:47 | 7:44 | 0:03 |
| Eating | 1:37 | 1:33 | 0:04 | 1:39 | 1:34 | 0:05 | 1:35 | 1:32 | 0:03 |
| Others | 1:08 | 0:58 | $0: 10$ | 1:04 | 0:53 | 0:11 | 1:12 | 1:01 | 0:11 |
| * Obligatory act. | 8:13 | 8:41 | -0:29 | 8:01 | 8:27 | -0:26 | 8:24 | 8:55 | -0:31 |
| Paid work | 3:26 | 3:43 | -0:17 | 4:20 | 4:39 | -0:19 | 2:34 | 2:47 | -0:13 |
| Household care | 1:52 | 1:56 | -0:04 | 0:32 | 0:28 | 0:04 | 3:11 | 3:21 | -0:10 |
| Study | 1:14 | 1:28 | -0:14 | 1:19 | 1:34 | -0:15 | 1:09 | 1:22 | -0:13 |
| Commute | 1:40 | 1:35 | $0: 05$ | 1:51 | 1:46 | 0:05 | 1:30 | 1:24 | 0:06 |
| * Leisure | 5:13 | 5:01 | 0:12 | 5:24 | 5:14 | 0:10 | 5:03 | 4:47 | 0:15 |
| Mass media | 2:19 | 2:23 | -0:04 | 2:22 | 2:29 | -0:07 | 2:16 | 2:18 | -0:02 |
| Social act. | 0:52 | 0:53 | -0:01 | 0:47 | 0:48 | -0:01 | 0:56 | 0:57 | -0:01 |
| Hobbies and games | 0:59 | 0:52 | 0:07 | 1:14 | 1:04 | 0:10 | 0:45 | 0:40 | 0:05 |
| Others | 1:03 | 0:52 | $0: 11$ | 1:01 | 0:54 | 0:07 | 1:06 | 0:52 | 0:14 |

2. Comparison of time use by gender in 2004

- People aged 10 and over spent 7 hours and 49 minutes per day on sleeping
- 7 hours and 52 minutes for men and 7 hours and 47 minutes for women
- People aged 10 and over spent 3 hours and 26 minutes on paid work.
- 4 hours and 20 minutes for men and 2 hours and 34 minutes for women
- People aged 10 and over spent 1 hours and 52 minutes on household care.
- 32 minutes for men and 3 hours and 11 minutes for women
- People aged 10 and over spent 1 hour and 14 minutes on study.
- 1 hours and 19 minutes for men and 1 hours and 9 minutes for women
- People aged 10 and over spent 59 minutes in a day on hobbies, games and other leisure activities
- 1 hours and 14 minutes for men and 45 minutes for women

There were some differences between men and women: men were more likely than woman to spend time in paid work and leisure activities and conversely women were more likely than men to spend time on household care such as domestic work and caring for children.

Time spent on main activities by gender, 2004

|  | All | Men | Women |
| :---: | :---: | :---: | :---: |
| Sleeping | $7: 49$ | $7: 52$ | $7: 47$ |
| Employment activities | $3: 26$ | $4: 20$ | $2: 34$ |
| Domestic activities | $1: 52$ | $0: 32$ | $3: 11$ |
| Education activities | $1: 14$ | $1: 19$ | $1: 09$ |
| Travel | $1: 40$ | $1: 51$ | $1: 30$ |
| Mass media | $2: 19$ | $2: 22$ | $2: 16$ |
| Hobbies, games and other leisure | $0: 59$ | $1: 14$ | $0: 45$ |



- Map of Korea with KNSO's local branch offices

- Facts about Korea

| Location | Territory | Population | Life expectancy <br> (years old) | GNI per <br> capita | GDP <br> growth rate |
| :--- | :--- | :---: | :---: | :---: | :---: |
| Located at the crossroads of |  | 48.75 million | Males 76.1 | \$19,231 | $2.2 \%(2008$ |
| Northeast Asia, between <br> Japan, the Russian Far East <br> and China | $223,098 \mathrm{~km}^{2}$ | (2009,population <br> projections | Females <br> $82.7(2007)$ | $(2008)$ | ) |

ACTIVITY CLASSIFICATION: 2009 Korea Time Use Survey
(9 first-level, 50 mid-level, 143 third-level)

## 1 PERSONAL CARE ACTIVITIES

11 Sleeping

## 111 Sleeping

112 Nap

12 Eating/drinking
121 Eating a meal with family
122 Eating alone
123 Eating a meal with other persons
124 Eating a snack or drinking a non-alcoholic beverage

13 Personal hygiene
131 Personal hygiene (ex. Washing, showering, shaving, using the toilet, etc.)
132 Dressing, make-up (ex. Getting ready to go out, skin, hair preparations, etc.)
133 Purchasing personal care services

14 Health care
141 Personal medical care
142 Purchasing medical care service
143 Rest because of illness

19 Personal care activity n.e.c
199 Personal care activity n.e.c

## 2 EMPLOYMENT RELATED ACTIVITIES

21 Employed work/Self-employed work
211 Main job
212 Other jobs
213 Breaks
214 Training
215 Work brought home
216 Employed work/Self-employed work n.e.c.

22 Unpaid work in family business
220 Unpaid work in family business

23 Unpaid work on family farm
230 Unpaid work on family farm

24 Unpaid work in family garden
240 Unpaid work in family garden (ex. Gathering nuts, mushrooms, not for sale)

25 Job seeking
250 Job seeking

26 Purchasing employment related goods
261 Purchasing employment related goods, through off-line(visiting store)
262 Purchasing employment related goods, through on-line(Internet, TV home shopping, etc)

29 Employment related activities n.e.c
299 Employment related activities n.e.c

## 3 EDUCATION ACTIVITIES

31 School/University
311 Classes and lectures
312 Breaks
313 Self study at school (ex. Self study before, after or between classes)
314 School/University events during class time (ex. School excursion, Field day)
319 School/University activities n.e.c

32 Informal education
321 Study at informal institutions
322 Homework
329 Informal education n.e.c.

33 Purchasing education related goods
331 Purchasing education related goods, through off-line(visiting store)
332 Purchasing education related goods, through on-line(Internet, TV home shopping, etc)

4 DOMESTIC ACTIVITIES

## 41 Food preparation/cleanup

411 Cooking meals, setting table
412 Clearing table, washing dishes
413 Preparing food for later use

42 Laundry and clothes care
421 Washing and hanging
422 Folding and putting clothes into/from the wardrobe
423 Ironing/care of clothes and shoes
424 Purchasing clothes care services
425 Clothes making

43 Cleaning dwelling and arrangements
431 Arranging and tidying items inside the house
432 Cleaning dwelling (ex. Dusting, vacuuming, washing floors, etc.)
433 Cleaning yard, veranda, garage (ex. cleaning windows, packing for a trip)

44 Household upkeep
441 Home/equipment repairs
442 Vehicle maintenance
443 Other home maintenance (ex. Disinfecting the house, tending plants/pets)
444 Purchasing Home/equipment repairs services
445 Purchasing Vehicle maintenance services
446 Purchasing Other home maintenance services(ex. Disinfecting the house, tending plants/pets)

45 Purchasing domestic goods
451 Purchasing daily necessities/groceries, through off-line(visiting store)
452 Purchasing durable consumer goods, through off-line(visiting store)
453 Purchasing daily necessities/groceries, through on-line(Internet, TV home shopping, etc)
454 Purchasing durable consumer goods, through on-line(Internet, TV home shopping, etc)

46 Household management
461 Keeping household accounts

462 Planning and arranging, budgeting
463 Administrative service(Visiting bank, municipal authorities, post office, etc.)

49 Domestic activities n.e.c
499 Domestic activities n.e.c

## 5 FAMILY CARE

51 Preschool child care
511 Physical care of preschool children
512 Reading
513 playing
514 Nursing
519 Preschool child care n.e.c

52 School child care
521 Physical care of school children (ex. Preparing children for school.)
522 Teaching the child (ex. Helping with homework, guiding and playing, etc.)
523 Visiting school (ex. Attending parent-teacher meetings, etc.)
524 Nursing
529 School child care n.e.c

53 Spouse care
531 Nursing
539 Spouse care n.e.c

54 Parents care
541 Nursing
549 Parents care n.e.c

55 Family care n.e.c(ex. Relatives care)
551 Nursing
559 Family care n.e.c

## 6 VOLUNTARY WORK AND COMMUNITY PARTICIPATION

61 Helping/doing favors for friends, neighbors (ex. Except for family)
611 Helping Employment related activities
612 Helping Domestic activities
613 Helping/doing favors n.e.c

62 Community participation
621 Civic obligations, ceremonies
621 Voluntary community participation

63 Unpaid voluntary work
631 Voluntary work for national or local events
632 Voluntary work for school or kindergarten children
633 Voluntary work for the handicapped or the aged, etc.
634 Rural communities, natural disaster relief activities
639 Unpaid voluntary work n.e.c

## 7 SOCIAL LIFE / RECREATION AND LEISURE

71 Social activities
711 Telephone conversations
e.g.) Conversations with members of the family, friends, relatives, etc.

712 Social activities and conversations with members of the family, relatives
e.g.) Parties, visits, participating in family ceremonies, etc.

713 Social activities and conversations with friends, neighbors
e.g.) social activities with people other than family and relatives

714 Social activities using Internet (internet chatting, e-mail)
715 Visiting a family grave/cutting the weeds around a grave
719 Social activity n.e.c

72 Attendance of free-time courses for adults
721 Language
722 Computer related

723 Courses for a qualifying examination/employment examination
724 Hobby related
729 Attendance at free time study and courses n.e.c

73 Mass media
731 Reading newspapers
732 Reading magazines
733 Watching TV
734 Video, DVD, PMP, DMB
735 Listening to radio
736 Listening to records/CDs/Tapes/MP3
737 Accessing internet
738 Accessing internet n.e.c(Blog an Personal Homepage management, etc)

## 74 Religious activities

741 Activities practiced alone or with family(ex. Praying, reading bible at home)
742 Religious services (ex. Visiting church, temple for worship, etc.)
743 Religious activities n.e.c

75 Entertainment (as spectator)
751 Movies/cinema (ex. Watching a movie at a cinema, not home)
752 Concert/theatre
753 Museum/exhibition
754 Sports event
759 Entertainment (as spectator) n.e.c

76 Sport and outdoor activities
761 Walking
762 Climbing/Hiking
763 Exercise for personal fitness (ex. Aerobics, yoga, swimming, etc.)
764 Other sports (ex. football, badminton, bowling, surfing, etc.)
765 Driving/Sightseeing (ex. Driving for pleasure, looking at views, etc.)
766 Outdoor activities n.e.c(ex. Fishing, camping, visiting an amusement park)

77 Hobbies, games and other leisure activities
771 Reading books
772 Computer games
773 Playing/gambling (ex. Playing with toys, playing cards, etc.)
774 Hobbies/arts/crafts
775 Drinking alcohol/Singing at a commercial singing establishment
776 Smoking
777 Resting (ex. Doing nothing)

78 Purchasing Social life/ Recreation and Leisure related
781 Purchasing Social life/ Recreation and Leisure related, through off-line(visiting store)
782 Purchasing Social life/ Recreation and Leisure related, through on-line(Internet, TV home shopping, etc)

79 Recreation and leisure n.e.c
799 Recreation and leisure n.e.c

8 TRAVEL (by purpose)

811 Personal care
821 Commuting
822 During work
831 Education
841 Domestic activities
851 Family care
861 Voluntary work and community participation
871 Social activity
872 Attendance of free-time courses for adults
873 Recreation and leisure
891 Other purpose
800 Waiting for a bus, train, etc.

9 OTHERS

919 Filling in time use diary
999 Others

## [Person with whom]

1 Alone
2 Spouse
3 Preschool child
4 Other family and relatives
5 Others

## [LOCATION]

0 Outside home (ex. Workplace, school, other person's home, etc.)
1 Home

## [MODE OF TRAVEL]

2 Travelling on foot
3 Travelling by urban bus
4 Travelling by subway
5 Travelling by taxi
6 Travelling by passenger car
7 Travelling by bicycle, motorcycle, commuter bus, school bus, etc.
8 Travelling by train, suburban bus, long-distance bus
9 Others (ex. Truck, cultivator, airplane, boat, etc.)
2009. 8.10

|  | Korea | U.S. | Japan | UK | Canada | Australia | France | Germany | Netherlands |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Title | Time Use Survey | American Time Use Survey | Survey on Time Use and Leisure Activities | The Time Use Survey | General Social Survey-Time Use | Time Use Survey | Time Use Survey | Time Use Survey | mini-TUS(Tim <br> e Use Survey) |
| Org. | KNSO <br> (Korea National Statistical Office) | Census Bureau | Statistics Bureau | ONS (Office for National Statistics) | Statistics Canada | ABS <br> (Australian Bureau of Statistics) | INSEE (Institut National de la Statistique et des Etudes Economiques) | Statistisches <br> Bundesamt <br> Deutschland | Statistics Netherlands |
| History | since 1999 | 2003 | 1976 | 1995 | 1985 | 1992 | 1966 | 1991 | 1987 |
| Period | Every 5 years | Monthly | Every 5 years | Every 5 years | Every 5 years | Every 5 years | - | Every 10 years | Every 10 years |
| latest released | 2004 | 2008 | 2006 | 2005 | 2005 | 2006 | 1999 | 2001 | 1997 |
| Coverage | 10 years old and over | 15 years old and over | 10 years old and over | 8 years old and over | 15 years old and over | 15years old and over | 15-60 | 10years old and over | 12years old and over |
| Sample size | 8,100households (about 21,000 persons) | 12,250 persons | 80,000households | 5,000diaries | 19,597persons | 3,870households | - | 12,000persons | 50,000persons |
| Mode of collection | $\begin{gathered} \text { face-to-face } \\ \text { interview \& } \\ \text { self-recorded } \end{gathered}$ | CATI | Self-recorded | face-to-face interview \& self-recorded | CATI | $\begin{gathered} \text { face-to-face } \\ \text { interview \& } \\ \text { self-recorded } \end{gathered}$ | $\begin{gathered} \text { face-to-face } \\ \text { interview \& } \\ \text { self-recorded } \end{gathered}$ | - | $\begin{gathered} \text { face-to-face } \\ \text { interview \& } \\ \text { self-recorded } \end{gathered}$ |
| Diary days | 2days every 10 min . after-coded diary | 1 day every 15 min . | conduct both pre-coded and after-coded 2days | 1day every 10min. | 1 day every 5min. | 2 days every 5min. | 7 days | 3days every 10min. | 1 day every 5min. |



