

International Association for Time Use Research

Time Use: What's New in Methodology and Application Fields?

*Conference
Abstracts*

Rome, 27-29 October 2004

Istat - Italian National Statistical Institute

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Cheaper by the Dozen – Benefits of the Large Family for Domestic Work Time?

Kristiina Aalto, Johanna Varjonen

(National Consumer Research Centre Finland – Finland)

Intra-family distribution of resources is an important factor of family well-being. Different equivalence scales (e.g. consumer units) have been produced and used to adjust the economic resources of households with different characteristics. However, these studies ignore time as an intra-family resource. Time use as an element of household production can be examined taking into account the household size. In this presentation we will explore the economies of scales in domestic work. In our study we examine how the total domestic work time of the family is affected by the size and structure of the family, and what kind of economies of scale can be found. Particularly we focus on child care, food preparation, laundry and cleaning. Additionally, we examine how family size affects the mother's share of domestic work time. We analyse the Finnish time use data collected by Statistics Finland (1999-2000). For our study the individual-based data were reorganized into household based-data as the sum of the time use of family members. We will present some preliminary results. Firstly, the time for domestic work increases with family size, yet, in general, it decreases per family member. Secondly, the mother's share of housework time decreases with family size. Thirdly, the changes in time use vary by household task. Finally, we will discuss the importance of family size when analysing domestic work and its intra-family allocation.

**Comparing Time Across Time:
Patterns of Work and Housecare in Two Brazilian Cities**

Neuma Aguiar

(Universidade Federal de Minas Gerais - Brazil)

The paper compares the results of two time budget studies obtained within a period of thirty years, trying to depict changes of time use in two Brazilian cities. Adjusting for population composition in the different periods, the paper portrays the pattern of (remunerated) work intensification and the decrease of leisure across all social classes and genders. Urban Brazilians definitely look distinct from citizens of post-modern societies. On the other hand, given the reduction on the size of families the paper depicts the decrease of time consumed in domestic activities and child care. Given that these type of activities have been reduced, but that all intensified the patterns of work for a living, the sexual division of labor keeps unbalanced. A key variable for the sharpening of the sexual division of labor is the presence of young children in the household.

The paper is based on probability samples obtained in two metropolitan areas, thirty years apart and the code systems were regrouped to allow for comparisons.

The American Time Use Survey

Dorinda Allard

(Bureau of Labor Statistics - USA)

The newly released data files from the American Time Use Survey (ATUS) allow great flexibility in producing estimates of time use by Americans. ATUS surveys a sample of the US civilian non-institutional population age 15 and above about their activities, where they were, and who accompanied them on a given reference day. Daily activities are categorized according to a detailed coding lexicon. The ATUS files also contain detailed demographic information on respondents and all members of their households, as well as information on secondary child care and all trips that kept respondents away from their homes for at least two consecutive nights in the month prior to the reference day. The structure of the data files allows users to choose the characteristics upon which to produce estimates. For example, the data can be used to produce estimates of time spent on child care, work, and leisure by selected demographic characteristics. Weights have already been computed and are included on the files, allowing for greater ease of use.

Data Editing and Quality of Daily Diaries in the Italian Time Use Survey

Salvatore F. Allegra, Barbara Baldazzi, Silvano Vitaletti
(Istat, Italian National Statistical Institute - Italy)

In the Italian Time Use Survey, carried out by Istat (Italian National Statistical Institute) in 2002-2003, the coding process translates the sentences reported by the interviewed into codes, but association text-code is not a one to one easy linkage, because the respondents describe the activities performed using the common language. So, a process of data editing is requested in order to improve data quality. The possibility to use sentences (registered in the data entry) has definitely improved the data editing process.

The main questions to analyze concern:

- a) particular auxiliary codes used by codifiers to point out daily diary's problems;
- b) incompatibility between codes and codes and between codes and text;
- c) errors in the intervals' sequences.

This paper shows methodological and contextual choices in order to build the process of data editing. In particular, it is focused on the analysis of techniques and deterministic rules adopted and on the analysis of imputation system to correct adequately the wrong codes, with reference to the entire diary.

Time Budget Studies in the Soviet Union (the 1920s-1930s)

Viktor Artemov, Olga Novokhatskaya
(Institute of Economics and Industrial Engineering of Siberian Branch
of Russian Academy of Sciences - Russia)

1. We continue our effort in examining the history of rise and development of time-use research. Now we consider a period when the Soviet Union was the pioneer and world leader in this field of applied studies. At the moment, we have discovered about 67 studies.
2. These studies provide information on the most diverse groups of the population based on their social and economic status, age and rank in leadership. They covered industrial workers, peasants, learning and working youth, scientists, professionals in different fields, members of the Communist Party and of the Young Communist League, and officials of a high rank. A number of studies elicit information on the time use by all adult members of families and by learners. Some inquiries are also devoted to territorial groups of population, that is, of cities and regions.
3. Practically all forms of survey organization and methods for collection of information on the time use known today and different periods of this collection them with using of different structures of time budget can be found in them.
4. These studies provided important authentic information on the time use and put forward suggestions on its application in social policy, determination of pay levels, organization of training and work activities and in management. The lines of analysis are clearly accentuated: comparative and dynamic.
5. On the basis of time budgets, social and demographic structure of the population and industrial structure of labor it is possible to trace on the real figures the changes that occurred in the structural time of the country in the 1920s-1930s and the systemic time of this period.

**Optimization of Leisure Time.
Where Has Gone the Dolce Farniente con niente ?**

Vincent Bagard

(Laboratoire d'Economie des Transports - France)

What is telling us microeconomics about the effect of a rise in productivity on the leisure? The allocation of leisure time on the long period seems to follow powerful but unknown economic strenghts. The re examination of the work/leisure standart model on the long run put in light the necessity for the leisure t time to see his yield (satisfaction per unit of time) rise compared to the monetary yield of work time. We investigate this question with the Becker model (1965) and revisite the analytic and theorical background of Linder's model. Two mains conclusions can be drawn:

- one the one hand, more short leisure times but intensives ones is a probable direction at least for the whole population which implies an increasing sequencing of activities.
- one the other hand, leisure activities are not undifferenciaded in the competition for the time available. Their "temporal market share" depends on the potential of utility of the goods they incorporate. These Analytical results are not infirmed by empirical findings.

Time Devoted to Child Care in France

Christine Barnet-Verzat, Olivia Ekert-Jaffé

(INED - France)

Using the 1998 survey of use of time for France, we aim at studying the time devoted to child care. We first describe the amount and timing of the tasks required by child care, and then propose a measure of the time cost of children . A problem of all of these measures is that it is difficult to assess what this means for the well-being of the couple: we need a criterion of welfare, that enables us to compare couples with and without children, in a constrained world. This criterion is here the couple's personal time (physiological plus leisure) when both spouses are working in the market. Using, selection bias techniques, we then compute the time cost of children according to the occupation of the mother. We find that this cost is around 50mn per day and per child aged 6-14, and increases by one and a half hour for younger children. This analysis is calibrates to take account of the gender of the parents refined; a wife in the labor force with 2 children only 8 hours per day for herself, whereas for a full time housewife, available time for self is much higher and does not depend on the number of children.

Be Together or Entertain Together? The Impact of Children on Couples' Synchronisation

Christine Baret-Verzat, Ariane Pailhé, Anne Solaz
(INED - France)

There is a growing literature on the synchronization of time between household members. It tends to show that in order to analyse interactions between spouses' timetables, it is not enough to study the length of the activities but it is also necessary to take their schedules into account (Hamermesh 2000, Van Velzen 2001, Hallberg 2002, Jenkins and Osberg 2003). Analyses of the impact of children on their parents' timetables generally show that children tend to reduce the time of leisure their parents can spend together. Desynchronization of parents' leisure may be analysed as an additional children's cost. Most of these studies do not use time use data, the distinction between leisure and domestic time is not available in their panel data. This assimilation of domestic and leisure time potentially overestimates the duration of synchronized leisure and misses the increase of domestic workload with the number of children.

In this article, we study the impact of children on the parents' simultaneous leisure, excluding domestic time. The data comes from the French Timetables survey (INSEE 1998-99), which gives a description of one day activities every 10 minutes for both members of couple. The comparison of the spouses' timetables allows to measure synchronization of 2149 dual earners couples.

Using a multivariate regression (bivariate tobit), we shows that having children diminishes significantly the synchronisation of couples leisure . This effect is more pronounced for young children. To spare time, couples with children synchronise their domestic times but not enough to preserve common leisure.

Testing Sociological Hypotheses Through Time-Use Data. Some Results from a Research on Children

Carmen Belloni, Renzo Carriero
(University of Turin - Italy)

This paper focuses on the empirical results of a research on children (N=1400) aged 7-3. We studied the features of children's everyday life by means of time use data. We tested several hypothesis about time allocation among children, gender socialization, interaction/presence with adults and peers. Some of the findings:

1) Children's structured activities (courses and classes out of school) "crowd-out" discretionary play. We compared, in a given day, children who did structured activities and children who didn't. The former spent much less time playing than the latter (as measured by the percentage of play time over the residual waking time after school). Instead, the allocation of time to other activities (watching TV, doing homework, sleep) is not much affected by structured activities.

2) Gender socialization is transmitted by mothers and not by fathers as shown by the analysis of episodes of domestic labour performed with parents. However other hypothesis consistent with the model of the gendered socialization are not supported by the data.

3) Methodological remarks: time use data are particularly suitable to test specific behavioural hypothesis derived from sociological theory. Critical attention should be paid to the meaning of the time use categories; the meaning can be better understood using additional information (place, people) about activities.

Non-parental Child Care and Parental Time Pressure

Michael Bittman

(University of New South Wales - Australia)

The significance of the need to reconcile work and family is recognised by no lesser body than the OCED (2002; 2003). However, there very little research which studies the relationship between childcare arrangements (including mixed formal and informal care), hours of employment, patterns of paid work, the hours of domestic labour, and perceived time pressure, both for individuals and households. This paper will focus on (1) developing an index of work/family strain, incorporating time pressure, health and satisfaction measures; (2) describe how parents with different labour force status spend time with their children, and study the effects of non-parental care on these patterns; and (3) study the association between formal (e.g. childcare) and informal support (e.g. extended family) and achieving a successful balance between work and family.

Employed Caregivers in Australia

Michael Bittman

(University of New South Wales - Australia)

Work and caring compete for carers' time. Little is known about the difficulties of combining work with the care of adults or children with disabilities. Between 40 and 60 percent of Australian carers combine employment with caring responsibilities. The paper adopts a life-course perspective to study the effect of caring on income security, social participation and the health of employed carers. It makes innovative use of existing time-use data sources, in co-juncton with a new longitudinal survey data, supported by a specially designed program of qualitative research to study key transitions, possible workplace solutions and the effective provision of human services.

How Russian Students Use the Time

Olga Bolshakova

(Institute of Sociology Russian Academy of Science - Russia)

The process of Russian society transformation since 1990th involved every social stratum and group, including students. The difference in social stratification, income level, reforming of high education system, labor market, change in orientations and demand on various professions exert influence on the value system and life orientations of students and producing of new life strategies. The last one reflects in using of time. Thus time-budget use can be regarded as indicator of this transformation. So for getting such indicators we conducted the research of student time-budget use in Moscow and other Russian cities in 2002/2003. The time-budget data were used for analysis how factual behavior in various spheres of life (education, paid work, leisure) conformed with student value system and socio-economic conditions. Besides there was analyzed subjective opinions on various domains of everyday life, behavior motivation, satisfaction with time volume for some activities, satisfaction with time spending. Moreover there was opportunity to compare the results of this research with the other one, that was hold in the 1980th before Russian reforms were started. This comparison allowed to reveal transforming of relation to education, work, leisure activities and forming of new students strategies of adaptation to contemporary socio-economic condition in Russia.

Time and Money - Are They Substitutes?

Jens Bonke, Mette Deding, Mette Lausten

(Danish National Institute of Social Research - Denmark)

One of the fundamentals in economic theory is the trade-off between consumption and leisure. Consumption possibilities depend on both earned and non-earned income (money income) and the value of household production. In this paper, we investigate the distribution of time and money for Danish wage earners, where time is leisure time and money is extended income, i.e. the sum of money income and the value of household production. The possible substitution between time and money implies that individuals being rich in one dimension are likely to be poor in the other dimension, i.e. individuals are classified as either time-rich/money-poor or money-rich/time-poor. We distinguish between men and women, because there are potential differences in their substitution possibilities. Furthermore, we include satisfaction measures in order to analyse whether there is a relation between the possible substitution between time and money and the satisfaction with time and money, respectively. The data are from the Danish Time-Use Surveys 1987 and 2001, merged with register data.

Time Use and Stress

Jens Bonke, Frederik Gerstoft
(Danish National Institute of Social research - Denmark)

Work-related stress is a significant problem and represents a major challenge to occupational health within western countries. Besides work days lost due to sickness, injury and disability individual welfare suffers from stress. The paper addresses the stress-problem by exercising data from the Danish Time Use Survey, which includes self-reported stress information. By distinguishing between socio-economic and time-related factors within a logistic regression model we find that higher-educated and married women, and women with flexible working hours, and overtime for both sexes imply high odd ratios of sometime feeling stressed, while higher-education and old age are major determinants of severe work-related stress problems for men whereas having pre-school children and working in the evenings influence women's stress-level negatively.

Local Time Policies in Europe

Jean-Yves Boulin
(IRIS, University Paris Dauphine - France)

Policies that focus on the organisation and relationships between the different social times are getting an increasing relevance in several European countries from a double point of view: they are a way to improve the quality of life of the citizens and are viewed as a transversal democratic process. Their grounds lie on everyday life problems to which the citizens and working people are confronted: particularly among them those who are combining several daily routine tasks (women, dual earner and single households). Changes in the nature and content of work as well as in the duration and organisation of working time have foster these time policies on the forefront. Additional to these changes in the working time organisation, other economic, social and cultural changes tend to raise questions about the social organisation of time inherited from the industrial/fordist conception of time. Two main social synchronisms linked to the fordist compromise have lost their rationale : the synchronisation through the succession of activities and the synchronisation through the gender social division of time.

This increasing desynchronisation of time structures and the growing difficulty to coordinate the different social times from an individual as well as from a collective point of view are at the ground of the local time policies. The main issue borne by these policies is the individual and collective mastery over time that is one of the conditions of the accessibility to different services and social activities which may prevent from social exclusion. This leads to the necessity to think out the different social times and their relations in a global and transversal way. There is a need to think collectively about these new relations and the building up of new social synchronisms.

The main issue of the local time policies is to think out the relationship between the different social times and to establish a collective process of regulation of the new ways to manage the different time structures at the local level. If the traditional social partners have a role to play in this process, and actually they have a prominent one at the firm and/or industry levels, these policies tend to involve other actors in this process: collective authorities, citizens' associations, NGOs etc.

In our contribution we will first assess some of the reasons why the issue of time, and particularly the issue of the relationships between the different social times is pushed on the forefront. We will particularly assess that the economic, social and cultural changes tend to erode the borders between working time and the other social times and the basis

of the industrial/fordist social organisation of time. In a second part, based on several surveys completed at the European level and on our own involvement in the implementation of such a process in different French cities, we will present an overview of the local time policies in Europe : their main principles, their main issues and topics, the methods and institutions developed, their fields of application. We will acknowledge, based on examples, that these policies trigger a shift from a monochronic time/space conception to a polychronic one.

The Elderly: Trade Offs between Economic and Social Capital

Koen Breedveld, Mirjam de Klerk, Joep de Hart

(Social and Cultural Planning Office - Netherlands)

In the Netherlands, as in many other countries, the ageing of the population has stimulated debates over retirement-ages. Having workers stay in the workforce longer would be good for the economy, it is believed. This economic view largely ignores the fact that stimulating older people to continue working, might also mean that they have less time available for participation in unpaid, but socially relevant activities like voluntary work, informal help and looking after grand children. If that would indeed be the case, then the economic advantages of increased labor participation by the elderly would be offset by negative costs in terms of decreases in social capital.

In this paper, we will investigate if there is indeed a trade off between the elderly's contribution to economic and social capital. More precisely, we will answer the question to what extent participation in and time spent on paid work is associated with decreases in participation in and time spent on 'social involvement' (voluntary work, informal help, looking after grand children). In addition to this, we will briefly investigate different relevant theoretical perspectives. The outcomes suggest that there is indeed a negative relationship between 'economic' and 'social time', although the relationship is by no means linear and certainly not one-on-one. This leaves plenty of room for debating the desirability and necessity of having older people stay on the workforce longer.

The Taylorisation of Family Time: an Effective Strategy in the Struggle to 'Manage' Work and Life?

Peter Brown

(Griffith University - Australia)

Penny Warner-Smith

(University of Newcastle - Australia)

Research suggests that perceptions of time pressure are increasing and are particularly acute in households where both parents combine paid work with household and caring responsibilities. What specific strategies do working parents use to 'manage' the three-way juggling act of 'his' job, 'her' job, and family responsibilities, while still finding time for leisure and civic contribution? This question was addressed in a series of focus groups conducted in 2003 that are part of a larger study investigating issues of work/life balance in dual-earner households in Australia. In reviewing the range of strategies used to 'manage' competing demands on parental and family time (see companion paper, Warner-Smith and Brown), our data lend support to Arlie Hochschild's observation in *The Time Bind* (1997, pp. 45-46) that family time has taken on an 'industrial tone', is succumbing to 'a cult of efficiency previously associated with the workplace', and is linked to Taylor's idea of scientific management. Use of task lists, work rosters and travel itineraries (often displayed on the family fridge), as well as the deliberate scheduling of 'quality' family time and outsourcing of domestic services related to children's leisure activities, family entertainment and food, bear testimony to the ways in which time is often micro-managed in the interests of efficiency but with what effect? We question the effectiveness of such strategies in promoting work/life balance in the context of debates about the impact of hurried lifestyles on personal relationships, parental satisfaction and family integration.

Spending Time and Money Within the Household

Martin Browning, Mette Gørtz

(University of Copenhagen - Denmark)

In this paper, we focus on the intra household allocation of private consumption and the intra household allocation of "pure" leisure (total time excluding total working hours in the market and at home). The traditional unitary household model would predict that an uneven intra household distribution of private consumption reflects that the person having the largest share of consumption also gets the smallest share of leisure. Thus, differences in the intra household distribution of consumption and leisure reflects differences in the two spouses' preferences for consumption and leisure. Therefore, given the unitary framework, we would expect that e.g. the wife's share of consumption is negatively correlated with her share of leisure. However, if we observe that the wife's share of consumption is positively correlated with her share of leisure, then we might explain this as reflecting that the wife has more "power" in the household. In this case, the mechanisms behind the intra household allocation is best described by a collective model framework. In the paper we explore and develop a theoretical framework for analysing the mechanisms of intra household allocation of time and money, and we test our model on a Danish time use data set for 2001.

**Women, Men and Free Time:
do the Facts Really Speak for Themselves?**

Valerie Bryson

(University of Huddersfield - United Kingdom)

Some leading time-use researchers have argued that time diary data can provide evidence to refute two commonly held beliefs: that people in western societies are increasingly 'pressed for time' and that women have less free time than men. They find that diary data show an overall rise in leisure, and argue that this has been obscured by a reversal of the previous class-based pattern, so that long hours today are disproportionately worked by educated professional couples, who have projected their concerns onto society as a whole. They also argue that women and men have roughly the same amount of free time.

This paper draws on other writers to suggest that the 'facts' are less clear than this implies. It asks why some researchers are using the data to make strong claims, and argues for a much more tentative and open-ended approach.

Eldercare – What we Know and What we don't Know

Bernard H. Casey

(Cass Business School and London School of Economics - United Kingdom)

A frequent theme of presentations to IATUR is the sexual division of labour and the role of women in domestic activities. At a number of conferences, particular attention has been paid to childcare. Much less researched has been the involvement of either men or women in eldercare – providing help to an elderly parent or spouse. However, it is well known that this is as equally pressing burden on adults and particularly on women.

The extent of the elder care burden is difficult to obtain from time use diaries. There are three reasons for this. First, whilst activities relating to childcare are directly identified, those relating to elder care are often subsumed under the broader category that includes them without identifying for whom the task is being performed. Second, eldercare activities can be secondary activities and only the primary activity is recorded. Third, even where care for other than a child is identified, care for the elderly and other adults – such as those with disabilities – is normally conflated.

The proposed paper will review work analysing time use for eldercare. It will draw from the few studies that have made use of time use budget data. It will also draw upon more studies of informal care giving carried out by national statistical agencies and other bodies that have sought to quantify inputs in terms of hours spent.

The paper will look at eldercare activities and their gender distribution. It will also attempt to comment upon the costs of informal care giving. This can be measured in terms of the productive capacity lost to the economy because of non-participation in paid work and in terms of the costs of performing the specific tasks undertaken if these were supplied from the labour market.

Korean Women's Social Advancement and Changes in Their Time Use Patterns

Kwang Yung Choo

(Seoul National University - South Korea)

Time-use patterns differ according to culture, class, and gender. This paper is to describe changes in Korean women's time-use patterns with their social advancement in the last three decades.

Korean women had basically been confined to their homes until the early 1970s when the country was an agriculture-based traditional society.

With the rapid industrialization and modernization since the 1970s, the country's GDP has increased more than 55 times, and women's status social participation have greatly improved. For example, women's employment rate was only 28.6% in 1970, but the figure in 2000 is 60.8%.

The birth rate was 4.53 per fertile women in 1970, but was 1.47 in 2000. The rate of divorce, a social taboo until the 1960s, is currently one of the highest in the world.

With the heightened women's status, Equal-Employment Act, Anti-Sexual Harassment Act and the other laws have been enacted to reduce discrimination against females.

Will this social advancement in Korea be reflected in their time-use patterns?

Or conversely, do changes in women's time-use patterns reflect their changed social status and activities?

Unlike in the Western advanced societies where social change had been more gradual, the Korean data are believed to shed much light on these questions.

This paper will delve into these questions, utilizing Korea's time-use studies data since 1981.

Time-Budget Analysis in Time-Space Mobility Studies. Results of an Empirical Research in the Metropolitan Area of Milan

Matteo Colleoni

(University of Milan Bicocca - Italy)

The paper dedicates itself to the sociological interpretation of data resulting from research conducted during 2003 by Francesca Zajczyk and Matteo Colleoni of the Sociology and Social Research Department of the University of Milan Bicocca on spatio-temporal mobility profiles of a sample of 800 subjects resident or residing in the north-eastern metropolitan area of Milan (northern districts of Milan and neighbouring areas of Cinisello Balsamo, Bresso, Sesto San Giovanni and Cologno Monzese).

Motivation for choosing the place lies in the interest of finding out the way in which the profound territorial and functional transformations that have happened in the last few years have influenced the everyday lifestyles and mobility of the inhabitants. Focusing on daily life is supported theoretically by the desire to describe the micro successions and the associated micros of the use of spatio-temporality; attention, instead, being paid to the integrated spatio-temporal dimension is justified by the need to contextualize behaviour that is too often described in atemporal and aterritorial terms.

The research was conducted through the compilation, on the part of the sample individual, of a daily spatio-temporal diary (by telephone interview), paying attention to the day of the week, to daily times (with temporal detail of ten minutes minimum), to places (functional and geographical), to others present, to the purpose and the means by which the movements were carried out.

Data analysis was done by creating two categories of indicators:

- indicators of associated mobility temporals (duration, frequency, fragmentation);
- indicators of daily mobility rhythms (profiles, synchronisation and desynchronisation).

A Validation of the Koebel & Helbling Conjecture on Travel Time and Human Energy

Eric Cornelis, Céline Gobeaux, Jean-Paul Hubert, Philippe Toint
(GRT, FUNDP – Belgium)

Analysts of the temporal logic of daily mobility have paid great attention to Zahavi's conjecture about constant travel time budgets: in front of the opportunity to spare time because of faster transport means, people generally prefer to make longer trips to profit of more remote opportunities, and their average daily transport travel time remains the same. However constant average time-budget over time and also space does not mean that every one spends the same time travelling. Time use and mobility surveys show that daily travel time is quite skewed an indicator, that it is dependant of the age and of the means of transport used by the persons.

A new hypothesis can be used to go beyond Zahavis' conjecture. It was proposed recently by Koelbl and Helbing, on the basis of UK data. They found that while average journey times differs according to the main mode of transport used, they nevertheless remain constant for each mode over the study period. They also found that the human energy required for these daily trips for each mode of transport follows the same law of maximum entropy. When testing this hypothesis on Belgian data, we have found that they remarkably follow the very same maximum entropy law as the UK data, and that the travel time differences due to transport means are also very much reduced when travel time is converted into human energy.

An Equal Load? Time-diary Evidence on the "Second Shift" and Shared Parenting

Lyn Criag
(Social Policy Research Centre - Australia)

There are divergent opinions on how modern households manage the requirements of paid and unpaid work. One view is that although increasing numbers of women are participating in paid employment, they are retaining responsibility for unpaid domestic labour and are working a "second shift" to meet the accumulation of demands upon them. An opposing view is that currently men and women spend a broadly equal time in total (paid and unpaid) work and that there is also gender convergence in task allocation to employment and domestic labour. In particular, it is suggested that men are becoming more involved in the care of children, and are sharing parenting responsibilities with women. The Australian Bureau of Statistics Time Use Survey 1997 sampled over 4000 randomly selected households. Based on respondents keeping a record of their daily activity in a time-diary, the survey gives accurate information about simultaneous activities, types of childcare performed, the start and finish time of activities, and the company present. Using these detailed and comprehensive data, this paper sheds new empirical light on whether women are shouldering a double burden and on the extent to which mothers and fathers' parenting roles are similar in either absolute or relative terms.

**Choosing between His Time and Her Time?
The Market Work Gap and Housework Gap of Danish Couples**

Mette Deding, Mette Lausten

(Danish National Institute of Social Research - Denmark)

Adding everything together, Danish men and women work about the same during a day. However, while the men do the major share of the market work, the women do the major share of the non-market work. In this paper, we investigate the interaction between the different time use activities in Danish couples. The analysis is based on the Danish Time Use Survey from 2001 from which we have detailed time use information for both spouses. We investigate time used by each spouse on market work and non-market work, as well as the determinants of the time gaps, i.e. the difference in spouses' time use. A large share of the non-market work consists of childcare, which may be structurally differently from ordinary housework. We investigate this hypothesis by splitting non-market work into the two time use activities: housework and childcare, as well as splitting the non-market work gap into two: the housework gap and the childcare gap.

**The Importance of Time Use Research in Urban Planning:
the Case of Leisure Time in Larissa, Greece**

Alex Deffner, Kleanthis Sirakoulis

(University of Thessaly - Greece)

The topic of this paper is the incorporation of the neglected factor of time in the planning process of Greek cities. The scope of the paper is to show, on the one hand, the important role that time consciousness can play in the construction of local identity, especially in connection to the multilateral process of urban development. On the other hand, the growing social, cultural and economic importance of urban leisure is slowly establishing itself at the international level, although it has not yet been recognized in Greek planning.

The main methodology applied in this paper is a questionnaire survey carried out in Larissa, a medium sized city in central Greece with a high-ranking position in the national system of urban centres. The main impact of the inner city renewal plan that was implemented during the 1980s concerns the larger number of changes in the use of shops related to leisure. The research object was the recording of leisure time and of leisure spaces, as well as of the participation of the sample in activities during a period of a week and in depth of a year.

One of the outcomes of this research is the pinpointing of the existing gap in planning data that could be fulfilled by the use of systematic time use research in Greece. A crucial tool in this process is the implementation of the elaborated master plan of Larissa, which has recognized the importance of, inter alia, the factor of time.

**Gender, educational attainment and the value
of unpaid helping and voluntary work**

Muriel Egerton, Killian Mullen
(ISER, University of Essex - United Kingdom)

Previous research has shown that more highly educated people are more likely to engage in voluntary work through formally constituted organisations. Research with time use data confirms this but shows that the less educated, particularly women, engage in more unpaid helping to unrelated people outside their households. Both types of activity are important to social cohesion, but little is known about the types of activities and organisations involved. This paper will explore these issues in detail, using data from the UK 2000 Time Use Survey and the British Household Panel Study. Estimates of the market value of different types of activity will also be presented and discussed in relation to educational attainment and the life-time trajectories associated with particular levels of qualification.

**Effects of Methodological Changes on Surveyed Time Use –
a Comparison of the German Time Use Studies 1991/92 and 2001/2002**

Manfred Ehling
(Federal Statistical Office of Germany - Germany)

For Germany, the first representative time use survey was implemented in 1991/92 by the Federal Statistical Office. The second time use survey was carried out in 2001/02. The new survey design is structured in such a way that fundamental comparability between the new and the old results is guaranteed. To meet the requirements made by Eurostat on European time use surveys and due to financial cuts some methodical changes were necessary.

In the talk following modifications will be presented:

- Change from two consecutive days the diary had to be kept in the first survey to three dairy days, two weekdays and a Saturday or Sunday, in 2001/02.
- Change from an interviewer to a self administered survey with assistance by email and telephone.
- Lowering of the age for keeping the dairy from 12 to 10 years.
- Inclusion of the foreign population in the sample.
- Changeover from four survey periods in a year to a continuous fieldwork over 12 consecutive months.
- Inclusion of a column for mode of transport in combination with the main activity.
- Change of the diary time scale which shows five-minute steps in 1991/92 to a time axis with ten-minute steps in the new survey.

The presentation will focus on the effects of methodological changes on the surveyed time use. It will show that most of the changes have minor influence on the observed time use, but looking at subgroups and particular research questions one has to take notice of the different survey designs.

Activity Classification Systems – Comparing Two Approaches

Kajsa Ellegård

(Linköping University - Sweden)

Does it matter what kind of classification system you use in analysing time diaries?
Will the conclusions differ?

There are many activity classification systems suitable for doing research on time diaries. There are systems that are theoretically inspired, and there are systems generated from empirical diary data. In the paper the classification system used by Statistics Sweden will be compared with a classification system based on the time-geography approach. There are differences, for example, in how to handle transportation activities (in the Statistics Sweden classification transportation is integrated into the various groups of activities, while the time-geographical approach has a special category for transportation), in handling activities related to procuring and preparing food (these activities are integrated in the household work category in the Statistics Sweden classification, while it is a special category in the time-geographic scheme) and there are more, but smaller, differences.

Method: I will use diaries collected by Statistics Sweden and code them, on one hand by using the classification system used by Statistics Sweden and on the other hand by using the time-geographical classification system.

What do the differences in classification mean to the conclusions that might be drawn from the same diaries when they are classified by means of the two classification systems respectively? Do conclusions related to gender differ? Do conclusions on division of labour in the home differ?

Aging Well in Canada: the Role of Active and Productive Engagement

Janet E. Fast, Donna Dosman

(University of Alberta - Canada)

In this paper we use data from Statistics Canada's 1998 General Social Survey (GSS) on time use and their 2003 GSS on social engagement to examine the relationship between participation in productive activities (paid and unpaid work) and active leisure (physically, socially and cognitively active) and individual and societal well-being among retirees in Canada. Earlier analyses of the same data demonstrated that, while retirees do spend more time on passive leisure than their still-employed counterparts, they also spend more time on productive activity and active leisure. Moreover, the pre- and post-retirement differences were bigger for the latter two activities than for passive leisure. In this study we go on to investigate whether engagement in such activities is associated positively with several measures of well-being, (stress, self-esteem, life satisfaction, satisfaction with specific activities, time poverty, time stress and community belongingness) as is suggested in some of the extant literature. Multivariate analyses (OLS regression and multinomial logistic regression) are used to determine the extent to which time spent engaging in productive activity and active leisure contributes to aging well, as reflected in quality of life indices.

Harmonising Simultaneous Activities in the USA Heritage Time Use Files

Kimberly Fisher, Muriel Egerton, Jonathan Gershuny
(ISER, University of Essex - United Kingdom)

While much cross-time and cross-national comparative time use research has examined results of harmonised main activity data, little research has investigated issues arising when harmonising secondary activities.

This paper is drawn from work on the development of harmonised heritage time use files (from surveys collected in 1965-66, 1975-76 and 1985) for comparing changes in the national accounts of the United States with the new continuous American Time Use Study. We first investigate the potential impact the diary designs on the recording of secondary activities in these studies. We also examine variations in the reporting of secondary activities across these studies. Finally, we assess the potential implications for measuring time in child and adult care arising from the harmonisation of these activities when they are recorded as secondary activities.

Barking Mad – The Daily Activity Patterns of People Who Interact with Dogs and Other Domestic Pets

Kimberly Fisher, Montgomery Scottie
(ISER, University of Essex - United Kingdom)

Pets tend to get a bad press. Trends towards living in smaller households, spending more time away from home, and striving for an ever more sanitised environment have lead to a decline in the presence of companion animals. As people shed connections with other living creatures, they have tended to increasingly view domestic pets as befoulers of pavements and green spaces as well as producers of hairs which allegedly cause asthma among children. This paper examines the impact of living with domestic pets on daily activity patterns using three data sets. First, this paper compares daily activity patterns, particularly time in travel, time in paid and unpaid work, time alone, degree of social interaction, time in physical activities, of people living in households which have dogs or other domestic companion animals compared with those who live apart from animals in time diary studies conducted for two days with all members of households aged 10 or more in the UK in 2000-2001 and aged 15 or more in Australia in 1997. This paper then offers a preliminary assessment of the potential impact on the lives of infants and 4-year-olds, particularly focussing on time in social interaction with adults and other children, exposure to opportunities to learn language and social skills, and physically active time of children living in households where they can interact with animals compared with children who do not interact with animals, using the pilot data from the Growing Up In Australia Study.

**Time Allocation and Labor Supply –
a Literature Review Based on Economic Journals**

Elsa Fontainha

(ISEG, Technical University of Lisbon – Portugal)

About one decade ago, Juster and Stafford pointed out the importance for allocation of time studies of creating a "consistent set of micro data files from which common classifications can be developed and from which statistical models " could be estimated. (*) Some years later, Klevmarken surveying micro economic research using time use data concluded that more time use studies integrated in the research community and based on theory were need. (**)

Harmonised European Time Use Study co-ordinated by Eurostat during 90's contributed to a growing improvement on quantity and quality of time use data.

At the present methodology for collecting accurate and comparable time use data is much more developed and more data are available.

How is the growing availability of time use data influences economic research? To answer this question, the present paper review the recent economic literature about time allocation and labor supply (Journal of Economic Literature - JEL code J22) based on international journals.

Keywords: time allocation and labor supply; time use surveys; bibliometrics.

**Iatur web page –
Building together the inventory of existing and needed content**

Elsa Fontainha

(ISEG, Technical University of Lisbon – Portugal)

The main purpose of this website demonstration is to present the renewed IATUR Web Page and specially receive opinions and ideas in an interactive way for the future IATUR Web Page. A questionnaire will be available online.

The contribution of the attendees of Rome Conference will be important for the building of a dynamic IATUR Web page which serves the needs of current and future time use researchers.

For an international organisation as IATUR, a complete, simple and updated Web Page is essential for research diffusion and contacts between IATUR members and time use researchers in general.

**Statistical Methods for Exploring, Synthesizing and Comparing
Time Use Complex Tables. Applications to Time Use Differences
by Gender in Couple and in European Countries**

Mary Fraire

(University of Rome "La Sapienza" - Italy)

Elio Ascoli Marchetti

(Codres Research Institute, Rome - Italy)

Time Pyramid - a New Approach to Aging Society

Masago Fujiwara

(University of Shimane - Japan)

Michinori Hirat

(Hiroshima University - Japan)

Important time-budget methodological issues are concerned with producing and analysing time-use tables, obtainable from time-budget diaries, relevant for a variety of policy uses because of the multipurpose nature, size and complexity of time-budget data and related research situations. After a brief and non technical introduction to the main statistical aspects concerning classical multidimensional statistical methods (cluster analysis and factorial analysis) for analysing time-use two indices matrices $N \times K : N$ statistical units on which K characteristics are observed and in which data are aggregated or sequenced and based on duration of activities or percentage of 'doers', the paper focus on multi-way statistical data analysis for the analysis of time-use three indices matrices $N \times K \times O$: N statistical units on which K characteristics are observed in O occasions. In the paper we will suggest 3-way time-use data analysis for synthesizing and comparing many quantitative data matrices simultaneously. At this purpose we will present two applications of the 3-way data analysis for which two different time-use three indices matrices are designed and analysed. The first concerning equal opportunities in time-use analysing differences of women and men in couple by several analysis variables and occasions based on Italian National Statistical Institute TUS data. The second concerning cross-national comparisons in time-use by gender at different stages of life in european countries analysing a three indices matrix designed from the 2003 Eurostat basic tables .

Japanese society has been aging rapidly. The aging society is often discussed referring to the changing ratio of population. But, from the perspective of time use research, we can make another look at our aging society. We can draw various types of time pyramid, analogous to population pyramid. Time pyramid shows us the aggregate time fund of each age group spent on paid work, unpaid work, physiological needs and free time activities. Not only average duration of each activity but also population of each age group is reflected in time pyramid. We examined time pyramids of various age groups and gender from 1976 to 2001, based on the time use data provided by the Statistics Bureau of Japan. Age effects, period effects and cohort effects were found by the cohort analysis. Aged people had the more aggregate time fund of free time and the less aggregate time fund of paid and unpaid work than younger people. Aged people in the 21st century, however, had the more aggregate time fund of paid and unpaid work than those in the 20th century. Through examining a series of time pyramids, we will point out policy implications for Japan's rapidly aging society, that might be useful for other advanced industrial countries.

Comparison of Travel Time as Measured by Time Use Survey Diaries and the UK National Travel Survey

Reg Gatenby

(Office for National Statistics - United Kingdom)

Time Use Surveys can provide checks on travel survey data. It is known for instance that the National Travel Survey (NTS) in Great Britain under-estimates some sorts of travel.

The UK has carried out a number of small scale pre-coded time use surveys and found that the time use surveys recorded much more travel time than the NTS. The reasons for these differences have so far been unclear.

Now with the availability of the data from the large scale UK 2000 Time Use Survey (TUS) the measurement of travel time is being looked at again.

Similar results were found to previous surveys, with the NTS measuring 61 minutes travel per day for adults, but the TUS measuring 85 minutes (about 40% more travel). Anticipating difficulties, we started by looking at the simplest facts about travel, to see if the two surveys agreed. Do they agree on the number of journeys, on the method of travel and on the duration of the journey? The least reliable attribute of a journey was assumed to be purpose - essentially an attitude question - and this was looked at last of all.

A clear difference was that NTS recorded about 10% more days without travel than the TUS. A second difference was that the TUS would record more time for each element of a journey. The difference was thought to be due to the TUS rounding journey durations to fit the 10 minute time blocks, whereas the NTS recorded times to the minute.

Working 5 to 9. Atypical Working Hours in Flanders

Ignace Glorieux, Joeri Minnen

(VUB, Vakgroep Sociologie - Belgium)

It is generally assumed that during the eighties and nineties, large groups of workers have been forced to work in atypical hours and have lost authority over their working times. Although this trend toward more flexible working hours is considered as an established fact, in most countries there is very little evidence to illustrate this trend. In this paper we present some facts about working atypical hours in Flanders. Based on the time use survey TOR99, we make clear that working from 9 to 5 still is the norm in Flanders and that very few people are at work during night or weekend. On the basis of the available data in Flanders, the 24-hours society seems to be a myth. Nonetheless there is a small but vast group of workers who are working when the majority are enjoying their free time. In the second part of this paper we sketch out the profile of those people working atypical hours both in terms of general demographic characteristics and in terms of the jobs they are working in.

Towards a Time Economy of Parenting

Anne Gray

(London South Bank University - United Kingdom)

Poverty in Russia and Use of Work Time

Galina Gvozdeva

(Institute of Economics & Industrial Engineering SB RAS - Russia)

This paper will report recent analysis of the determinants of father's and mother's childcare time, using data from the UK Time Use Survey. It considers the impact of father's and mother's work time, working time patterns, use of childcare external to the household, occupational and cultural variables. It enquires whether childcare time should be considered a 'division of labour' issue or one aspect of culturally differentiated life-styles. If so, this raises some issues about how far inter personal variation between diaries reflect differences between life-styles or differences according to 'the kind of day it was'. Both kinds of difference are picked up by regression models which invoke the trade-off between one activity and another. Exploring the childcare issue raises the need for a new conceptual framework which might be called the 'time economy', a theorisation of how complementarity and substitution between different uses of time constitute a 'system' of revealed behaviour, which the author hopes to explore through qualitative as well as quantitative research. Individuals' and families' systems can be expected to vary with gender role patterns, social class, age, residential environment, consumption patterns and tastes. Developing analytical frameworks of this kind has implications for the way in which we understand time management in a range of activities beyond parenting.

Today long-term poverty is the most vexed problem in Russia. This study is aimed to show a difference in the material position and family labour division of households as well as gender analysis of unpaid work.. Standard of well-being, the stages of life circle of family, age of children and other indicators are used in defining types of households. The regression dependence of work time (paid and unpaid) on types of families is shown. Each type of family is creating its rational choice strategy in dependence on wellbeing and time resources. Low-income families and families with children perform more unpaid work.

The information basis of the study is the data of the Russian Federation Goskomstat and the data in paid and unpaid work duration from the "Monitoring Economic Conditions in the Russian Federation: The Russia Longitudinal Monitoring Survey (1996, 1998, 2001).

Earnings Inequality Inclusive of Household Production

Frazis Harley, Jay Stewart

(U.S. Bureau of Labor Statistics - USA)

Over the past fifteen years, inequality has become one of the most studied issues in economics. Most studies have focused on either income or earnings inequality, because data for more comprehensive analyses have not been available. Two relatively recent papers have expanded the scope of the analysis by examining compensation inequality (Pierce 2002) and consumption inequality (Johnson 1995), and have increased our understanding by considering dimensions that have previously been ignored. We argue that, from a policy perspective, what we really care about is command over resources or total production. Labor income measures the value of market production, but ignores nonmarket production. We propose to fill this gap by supplementing earnings data with time-diary data from the new American Time-Use Survey (ATUS). The ATUS is unique because it also contains earnings data that are comparable to those collected in the Current Population Survey (CPS), which is the most widely used dataset for studies of earnings inequality.

Our analysis will focus on comparing total production (the value of market plus nonmarket production) across earnings percentiles and demographic groups. To overcome the problem of small cell sizes for earnings percentiles, we will estimate household production as a smooth function of earnings and hours of market work. We will also estimate how the inclusion of non-market production affects the gap between high school and college graduates. As a benchmark, we will first examine earnings differences across groups. Next we will compare differences in total production across groups. For the most part, we will focus on employed individuals, but it is possible to broaden the analysis to include the nonemployed.

The Tale of Two Communities: Growth, Decline and Time Use

Andrew S. Harvey, Dave Reage, Aimee St. Croix

(Saint Mary's University - Canada)

Researchers, policy makers and academics have all come to recognize the virtually unlimited array of issues that can be better understood through the analysis of data describing how people use their time. While the focus has been on conducting larger scale surveys that can provide data representative of many sub-populations they fail to reflect community differences. Community level time use surveys can explain community level experiences that might be overshadowed in national surveys. This paper draws on a time-use survey conducted in Glace Bay and Kings County, Nova Scotia in 2002 using lite diaries. The diaries were collected as part of a broadly based community survey developed for use in local planning efforts. The results provide insight into the ways people from Glace Bay and Kings County, two areas in very different economic circumstances, use their time. The results show a number of similarities and significant differences in time-use between the two areas. The findings suggest that while some time uses are about the same in the communities, they may be what they are for different reasons. This paper further discusses the results in terms of their ability to provide a clearer picture of some of the current policy issues. Such issues include the struggle to balance work and family, the division of labour, the time spent caregiving in the household, and the quality of leisure time. For example, the data show that women play, relatively, a much greater role in market work in the declining area.

The American Time Use Survey: 2003 Results

Diane Herz, Kristina Shelley

(U.S. Department of Labor, Bureau of Labor Statistics - USA)

The American Time Use Survey has been in full production since January 2003. Early results of 2003 data, in the form of press release tables, are tentatively scheduled to be available to the public in late July; microdata files also will be released either at the same time or a within a few months. At this conference, the BLS will present the American Time Use Survey's first annual (2003) averages of time use by major and detailed activity categories crossed by numerous demographic and labor force characteristics, such as sex, age, occupation and industry, educational attainment, employment status, and presence and age of children. Additional information, such as the amount of time spent on various activities by day of the week, where people work, and changes in time use by time of year (quarterly data), will also be presented.

Poverty in Family Life. Results of the 2001/2002 German Time Use Survey (ZBE, TUS, HETUS)

Erlend Holz

(Federal Statistical Office of Germany - Germany)

Fighting poverty and social exclusion is a very important political topic in the EU. The "National Action Plans against Poverty and Social Exclusion" (NAPs/inclusion) are continued in 2003/05. Time Use Surveys (TUS) allow analysing the consequences of poverty (and of wealth) for everyday life and social participation beyond the sole monetary aggregates which define poverty. My research topics dealing with the time use of young people living in poor families are.

- inequality between young men and young women in everyday life: is it more evident in poor families?
- temporary obligations of poor young people,
- participation in education, voluntary work and new communication technologies (computer, internet),
- social life inside / outside the family,
- time spend for selected leisure activities (e.g. mass media, sports, culture). My central issue is the extent, to which poor young people and their families suffer from "double poverty", that means how much they lack both income and time.

Analysis data is provided by 2001/02 German Time Use Survey. Its design follows EUROSTAT's Guidelines on Harmonised European Time Use Surveys (HETUS). The 2001/02 survey and the previous one (1991/92) were conducted on the behalf of the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth of Germany (Bundesministerium für Familie, Senioren, Frauen und Jugend / BMFSFJ).

The microdata of the German time use survey 2001/02 will become available as a Public use File for foreign users and other interested persons, as was already the case for the survey of 1991/92.

Media/ict Use and the Fragmentation of Daily Activity Patterns

Frank Huysmans, Jos de Haan

(Social and Cultural Planning Office - Netherlands)

In most countries, a large share of media and ict use takes place in leisure time. The amount of 'committed time' constrains the amount of leisure time. Committed (or duty) time (A) can be decomposed into two variables: (B) the number of episodes of committed time during a day or week, and (C) the mean length of such an episode. These two variables express qualitative differences in the way equal amounts of committed time are structured. A large number of short episodes indicates a fragmented (or busy) life, whereas a small number of long episodes signifies the contrary. Since $(A) = (B) \cdot (C)$, the third quantity is fixed whenever the two others are known. By consequence, it is not possible to simultaneously use the three variables as explanatory variables in causal analysis. It can be demonstrated, however, that using two out of the three provides information about the effects of a heavy 'work load' as well as a fragmented activity pattern. In this paper, a multiple regression analysis of media and ict time use of the Dutch is presented to demonstrate the simultaneous effects of work load and fragmentation. Using data from the series of time use studies conducted by the Social and Cultural Planning Office every five years (1975-2000), the amount and fragmentation of committed time are modelled as intermediary variables between sociodemographic factors (sex, age, education etc.) and media/ict use (print media, audiovisual media, ict). In so doing, the net effects of the structuring of daily life on media and ict use laid bare.

Testing the Practicality of a Personal Digital Assistant (PDA) Questionnaire vs. a Beeper and Booklet (B&B) Questionnaire in a Random-Time Experience-Sampling Method (RTES) Context

Duncan Ironmonger, Faye Soupourmas
(University of Melbourne - Australia)

Peter Brown
(Griffith University - Australia)

Penny Warner-Smith
(University of Newcastle - Australia)

The Random-Time Experience-Sampling Method (RTES) has been used to examine people's subjective experience of time (experience of freedom, intrinsic motivation and affect) in particular activity contexts (what they were doing, where they are and whom they are with) as they are experiencing particular events at random times throughout the day (Larson and Csikszentmihalyi, 1983).

The technique has been used once before in Australia (Ironmonger and Donath, 1995). The RTES method involves a signalling device which cues respondents (at random intervals) to evaluate and report their activities for up to 70 moments of time during a week.

Two different reporting methods were trialled in a pilot study to examine respondent reactions and ability to complete a time use survey. Each respondent was asked to complete a time diary at random times of the day using (1) a Personal Digital Assistant (PDA) (for three days) and (2) a Beeper and Booklet (B&B) (for three days).

PDA's are handheld computer devices with specialised survey software for participants to electronically report time use experiences in response to beeps from the PDA. The B&B method required respondents to report their time use experiences in a survey booklet when randomly signalled by a purpose-built electronic beeper. The PDA's and the Beepers were programmed to randomly beep 10 times a day.

Based on positive respondent feedback on merits of the PDA platform and the ability to download responses directly from the PDA's, the full scale RTES survey of parents in dual-earner households in 2004 and 2005 will use this method to gather data.

Differences between Young and Aged Peoples in Time Use

Georgeta-Marinela Istrate

(National Institute of Statistics - Romania)

A great Romanian historic Nicolae Iorga said: "The Time doesn't pass, we pass through Time". The perception of time is very different between young and aged peoples. For this reason is usefully to pay more attention in monitoring the changes in the populations use time by different groups of age.

The paper highlights the modalities in spending time by the population of 10 years old and over by various activities: personal care, economic activity (main and secondary), education and training, housework and family, charity, cultural life-relaxing and sports-social relationship and associative activities etc.

The results are provided from the Romanian Time Use Survey carried out in August-September 2000 by the National Institute of Statistics. This study shows that time spent on gainful employment decrease with age and this fact improves use more time for domestic work, especially for oldest age group-65 years old and over.

Also, the presentation of time use by groups of age could represent a important tool for assessment of the strategies in order to sustain all groups of age peoples to spend an active life and to dedicate more time for study in the spirit of long life learning policy.

Travel Time Budgets – Decomposition of the Worldwide Mean

Iragaël Joly

(Laboratoire d'Economie des Transports - France)

The paper is concerned with the travel activity and more specifically the urban travel time during a day. This individual mean travel time budget (TTB) has been hypothesised by Zahavi (1980) to be a constant amount of time close to 1 hour per day. This TTB seems to be stable between different cities and between different time periods.

Under the TTB stability hypothesis, travel time-savings are totally reinvested in transport. This reinvestment mechanism could then explain the urban sprawl, and give to the increasing speeds all the responsibilities of the "urban transport diseases".

However, the TTB stability seems to be valid at the world aggregate level only. The paper proposes to explore finer scales of observation of the TTB: from the aggregate to the desaggregate levels of observation. First, a worldwide comparison of the mean TTB of 100 cities is produced. Second a hazard based model for the individual TTB of the French city of Lyon is constructed.

Hence, two opposite urban models appear at the aggregate level: an extensive urban model of which development is based on extensive consumption of space and time resources, and an intensive urban model restricting its spatial and temporal extension.

At the desaggregate level, the analysis identifies the relationships between the individual TTB and the socio-economic variables and the mobility and activities attributes. Finally, the model seems to indicate that the traditional hypothesis of the minimisation of the temporal costs of travel is unsuitable to model the behaviour of the whole urban population.

**The Balance Between Work and the Family –
The Time Situation of Lone Parents in Germany.
Initial Results of the 2001/02 German Time Use Survey**

Irene Kahle

(Federal Statistical Office of Germany - Germany)

Single parents are much more affected by problems than families with two parents, concerning material as well as social aspects. Where in families with two parents the partners are able to share domestic and gainful tasks, single parents have to shoulder the responsibility on their own.

The great majority of single parents sets a high value on employment, in particular a fulltime job - to secure their economic independence. The employment situation is one of the most important factors that influences everyday life. The presentation will therefore stress mainly those aspects that will shed light on the consequences of the employment-situation for the time use of single parents.

In general, it concerns questions like: How do single parents arrange their daily routine compared to the organisation in families with two parents? How do they manage to reconcile professional and family life? How many working hours has an average day if paid and unpaid work are summed up? And how many time is left for childcare - if fulltime job and family tasks concentrate on one person? The results of the recently finished German time use survey are suitable to answer these questions.

In methodological respects the comparison with the German 1991/92-survey will ponder on what at first sight seems to indicate great changes over the last decade. The question how to interpret the results is of particular importance against the background that the underlined sociodemographic structure of the focussed group has changed evidently. It interests even more with respect to a modified survey methodology.

The Housework Participation of Husbands and Wives

Man-Yee Kan

(Institute for Social and Economic Research - United Kingdom)

The division of household labour has been a popular topic of social research in the U.K. and other industrialized countries in recent years. However, relatively less effort has been paid to the longitudinal dimension of this topic, i.e. how husbands and wives may adjust their time spent at housework with changes in their own and their partners' characteristics. For example, will husbands spend more time at housework with an increase in their wives' relative economic contribution or work-orientation?

Using data of the British Household Panel Survey, I will first examine how husbands' and wives' housework hours may vary according to both partners' employment statuses, incomes, educational qualifications and gender attitudes. Then in the panel analysis, I will explore how changes in these characteristics of both partners may influence the division of housework between them over time. The findings will enhance our understanding of the role of gender preference and economic factors in the gender division of labour.

The Time-budget in Russia

Tatyana Karakhanova

(Institute of Sociology Russian Academy of Science - Russia)

The time-budget data as a tool for estimating of change in everyday life activities' values. The time use researches in Russia for the period since the 1960th till now have led to the conclusion that time-use data can be explored as index of real change in people life value disposition. Expressed in people opinions to various spheres of life values may not coincide with people behavior. Besides the values expressed on verbal level characterize people' point of view on standard behavior in everyday life. In context of transforming Russian society we can reveal standards values for people and how they have changed for the last thirty years. So time-use data can be regarded as indicators of transformation of these standard values in real behavior. The data of time-budget use researches which were hold in 1986, 1998, 2003/2004 in Pskov allow to analyze how using of time conforms to people' opinions on values of various life domain's. Moreover this analysis was undertaken by gender, age, type of activity (employed, unemployed, retired etc.) and other aspects. Ranging of various everyday life activities by the share they take in week time-budget can be use as a tool to determine comparative value of these activities for people. We have chosen the activities which were characterized by considerable share and social importance. So for employed women we have got such result: at the first place by share in time budget there are sleep (34%), the second - paid work (23%), the third - domestic work (10,6%). The next are (0,1%).

Consistency or Discrepancy in Partners' Reporting on Family Work?

Ragni Hege Kitterød

(Statistics Norway - Norway)

At the international level, several surveys have revealed a tendency for both men and women to systematically over-report their own household work and underreport the effort of their spouse. However, there is also some evidence suggesting that both spouses sometimes over-report the husband's contribution and underreport that of the wife's in order to maintain a myth about equal sharing. Hence, the reporting of one's own and partner's contributions at home may vary between groups with different attitudes towards gender equality. Moreover, since well-educated couples usually negotiate the division of labour more openly than those with less education, they are probably better informed about each others' contributions and hence, give more accurate estimates of both partners' family work.

This paper analyses the consistency / discrepancy between mothers' and fathers' reporting among Norwegian couples with young children. We look at the respondents' estimates of their own and their partner's relative and absolute contributions in family work. We compare mothers' and fathers' reporting at the aggregate level and look at reporting gaps among individual couples. Norway has actively developed work-family policies with the aim of promoting gender equality. Most parents support this ideal, but the well-educated seem to be the most positive. Differences in reporting gaps between various groups, with particular focus on various educational groups, will be explored. The analyses are based on a survey conducted among couples with young children. The results will help us assess whether analyses of couples' division of family work can be based on information from one partner only.

Part-time Work, Underemployment and Gender. Supply and Demand Side Explanations.

Randi Kjeldstad, Erik Nymoen
(Statistics Norway - Norway)

In sociological research the question of part-time employment has predominantly been about women's part time work, and the phenomenon has most often been seen to reflect the choices made by employed women in order to balance work and family responsibilities. During later years the policy debate concerning part-time work has been broadened to include the factors of labour demand as well. In Norway this change of perspective has contributed to a stronger focus on involuntary part time and underemployment. The concern is still very much limited to women, though, and possible gender differences tied to the causes and processes behind part-time work have been far less investigated.

This paper analyses part-time work, both so-called voluntary and involuntary, in a gender perspective. To be sure, part-time work is mainly a female phenomenon in Norway as in other Western Countries. Our concern is, however, not to investigate the gender distribution of part time work. Rather we want to examine the various types of part-time work and discuss under what conditions women and men work part time. The discussion will be based on various logistic regression models, including life-cycle stage variables, human capital variables, household (and some partner-) characteristics and labour demand characteristics as independent variables. We use Norwegian Labour Force Survey data.

Merging Concepts of Time Use and Travel Behavior with Residential Location Decisions: Evidence from the US

Kevin J. Krizek
(University of Minnesota - USA)

Activity-based travel modeling has begun to make significant progress toward a more behavioral framework for simulating household travel behavior. A challenge remains in the need to address the interaction of people's time use (manifested by daily activity and travel patterns) with longer term household choices such as those related to where they choose to live (neighborhood type), whether they are employed, and how many vehicles to own. The latter choices often depend on one another and jointly define the lifestyle of the household and their use of time and activity frequency. These choices likely evolve over the course of the lifecycle as households are formed, children are born a raised, and ultimately depart to form their own households, and as retirement and old age change patterns of residence, work, and travel.

This paper builds on a framework offered by the author to analyze choices relating to three dimensions of the lifestyle of individuals and households. These three dimensions include travel patterns (including vehicle ownership), activity participation, and residential location (neighborhood type). The first two are derived from fundamental aspects of time use research (such as the willingness to engage in and travel to subsistence, maintenance, and discretionary activities). Using cluster analysis on data from the Travel Behavior Inventory in the Twin Cities Metropolitan Area (Minneapolis and St. Paul in Minnesota, USA) several classifications of lifestyle are uncovered. These clusters demonstrate empirically how decisions of residential location reinforce and affect daily decisions related to individual time use. The final section of the paper comments on the applicability of these lifestyle clusters for land use-transportation planning.

**A New Guide for Africa:
Integrating Gender Perspectives and
Household Production into National Accounts, Budgets, and Policies**

Alfred Latigo

(UN-Economic Commission for Africa – African Centre for Gender & Development - Ethiopia)

The main reasons for preparing Satellite Accounts of Household Production (SAHP) are to obtain separate estimates of GHP, map out the interaction of the “two economies” (the market and the household), and collect data for strategic planning and policy analysis to identify more equitable and sustainable development options. Towards this end, ECA has developed a guidebook for integrating household production into national poverty reduction policies in Africa. One of the key components relates to procedures to help governments prepare these satellite accounts. This initiative attempts for the first time in Africa to bring together economic and household information in a common framework to measure the contribution of household production to the economy and to assess the impact of the economy on household production.

The next on-going application of time use research is the recent development of a gender-aware macroeconomic model to evaluate impacts of fiscal policies on household production and poverty reduction. The model is based on a standard general equilibrium (CGE) model.

Temporal Segregation

Laurent Lesnard

(Laboratoire de Sociologie Quantitative, CREST/INSEE - France)

Time, as space, is occupied: action requires attention and time but is also located within time. This last feature of time is often neglected although this spatial analogy opens up stimulating perspectives for time-use analysis. It becomes then possible to study the way time is unequally occupied as urban analysts do for space. Using a typology of workdays derived from the Optimal Matching Analysis of the last two French time-use surveys (1985-86 and 1998-99), and the French social class scheme (CSP), substantial temporal inequalities are uncovered. The position in the economic field, i.e. the position in the social hierarchy and in the economic system, determines to a large extent the way time is occupied by work: professionals and managers work more hours, but also more standard schedules, than blue-collar and unskilled service workers. Thanks to questions asked in the 1998 time-use survey about the degree of freedom employees have to choose their schedules, it is furthermore demonstrated that these temporal inequalities are driven by the structure of the economic field, are dictated by economic motives: in other words, temporal inequalities arise from a temporal segregation process.

Changes in the Use of Time 1993-2003 in the Autonomous Community of the Basque Country

Jesús R. Marcos, Enrique Morán
(Basque Statistics Office Eustat - Spain)

A sharp increase (29.7%) in employment between 1993 and 2003, 65% of which corresponds to women, the increase in the educational level of women, the upsurge of the Information Society, the ageing of the population and rise in life expectancy, and the substantial increase in the standard of living have not upset the structure of the use of time, measured in three surveys carried out in 1992-3, 1997-8 and 2002-3 by Eustat, although important changes have taken place.

Non-leisure activities took up 34 more minutes between 1993 and 2003, 44 for men and 20 for women. Physiological needs with 25 more minutes, work and training with 14, travelling with 10 and looking after people in the household with 2, make up the activities showing an increase in time expenditure.

These rises stem from the decrease in unpaid household work –losing 17 minutes- and passive leisure (TV, games, reading, etc.), which as the main activity register a loss of 27 minutes. Time dedicated to social life falls by another 12 minutes, while information technologies and communication take away 7 minutes on average per day from the rest of activities.

Time Use and Inequality – The Case of Timing, Fragmentation of Work and Earnings in Germany: a Treatment Effects Approach

Joachim Merz, Paul Böhm, Derik Burgert
(University of Lüneburg - Germany)

Our study is contributing to economic well-being by adding insights into particular work effort characteristics and its resulting income distribution. The work effort characteristics we regard are about labour market flexibility with focus on relations between the daily timing of work and its fragmentation, and its consequences on income inequality. With our focus on 'who is working when within a day with which earnings consequences' we go beyond traditional labour market analyses with its working time division into aggregated full and part time work, working hours spread across a week and weekend etc.

Whereas the first part of our study is describing the distribution of timing and fragmentation of daily work time and its resulting income based on more than 35.000 diaries of the recent German Time Budget Survey 2001/2002, the second part of our study quantifies determinants of arrangement specific earnings functions and detects significant explanatory pattern of what is behind. The economic theory behind is a human capital approach in a market and non-market context, extended by non-market time use, the partner's working condition, social networking as well as household and regional characteristics. The econometrics we use is a treatment effects type interdependent estimation of endogenous participation (selection) in a daily working hour pattern (self-selection) and pattern specific earnings function explanation.

The overall result: Individual earnings in Germany are dependent on and significant different with regard to the daily working hour arrangement capturing timing and fragmentation of work. Market and non-market factors are important and significant in explaining earnings.

Where Has Family Time Gone? In Search of Joint Family Activities and the Role of the Family Meal in 1966 and 1999.

Inge Mestdag, Jessie Vandeweyer
(Vrije Universiteit Brussel - Belgium)

It is often supposed that more and more families are disintegrating. This disintegration would display itself at several levels. First of all, there is an unequivocal decline of the share of traditional families, that is two parents with children living together. On the other hand, the disintegration of family life would also be at work within the traditional families. Dual earner families, extra-curricular activities, time-consuming hobbies, each family member his own television, Fear is rising that families are spending less time together than before, or at least that quality time as a family has seriously fallen. The family and family time are subject of serious ideological debates. Within this article we explore to what extent family time has changed within family life between 1966 and 1999 by examining which activities are done in the presence of other family members. How family time is influenced by factors such as number of children, activity status of the parents, etc. is also part of our research question. Do families only join for meals and watching television or are there other activities worth joining for? More specifically we will pay attention to the role of the meal over time. Our analysis is based on two time use surveys: the Belgian time budget survey of 1966 gathered by the ULB as part of the international time budget study and the Belgian time use survey of 1999, following the Eurostat guidelines, gathered by Statitics Belgium and TOR-VUB.

Simultaneous Activity in Everyday Life: Accounting to Explanation

William Michelson, Frederick Tyler
(University of Toronto - Canada)

This paper, stimulated by recent advances presented to IATUR, focusses on simultaneous (contaminated or polychronic) activity (i.e. multi-tasking). It focuses on moving the analysis of simultaneous activity further along the path from the full accounting of daily activities towards more complete explanation of social dynamics.

To do this, we revisited, with the benefit of contemporary computing technology, a time-use file from 1979 on 544 families in Toronto with dependent children and varying maternal employment. This file offers several advantages for the current analysis. 1) The time-use matrix included up to five secondary activities for each episode, adding more than 40 per cent to customary information on secondary activity. 2) Each spouse, where possible, provided time-use data, allowing more relevant gender comparisons. 3) Respondent perceptions of tension experienced in each episode of behavior were recorded on a seven-point scale, enabling a direct assessment of tension encountered during particular types and combinations of activity.

The analysis observed simultaneous activity from two vantage points. The first was on the extent that categories of primary activity are accompanied by a secondary activity. The second was on the secondary activities, asking the extent that specific secondary activities are linked to particular primary activities - and with what outcomes in tension. Multi-tasked episodes are experienced as with greater tension by both men and women, though the levels reported by women are significantly greater. This is not just a consequence of a greater exposure in the day to simultaneous activity, but to particular qualitative combinations of multi-tasking differentially encountered.

Cross-National Comparisons of Time Use – Interesting but Full of Traps

Iiris Niemi

(Statistics Finland – Finland)

Harmonised European Time Use Surveys have progressed to the stage that allows cross-national comparisons. Eurostat's Guidelines 2000 lead to the most comparable data since Szalai's project in the mid-1960s. Its recommendations concerning unique diaries, questionnaires, activity coding lists and indexes have created a good basis for uniform databases. Statistics Finland has recently produced for Eurostat a Pocketbook "How Europeans spend their time. Everyday life of women and men. Data 1998 - 2002". The comparability of the data in the received national tables was analysed before accepting them to the publication. This operation revealed how successful the harmonisation process had been.

This paper will present some inspiring examples of comparison possibilities. In addition, it will also discuss some problems that came to light while comparing the national tables - problems leading to biases in the results or to easy misinterpretations. The analysing process exposed several weaknesses arising from disparities in the sample frames and the timing of the fieldwork, as well as from minor differences in the used national definitions.

Time Use in Education Process

Natalia Nizovkina

(Novosibirsk State Technical University - Russia)

The professor has about 16 kinds of activities in an education process with a students: lectures, seminars, laboratory works, different consultations, tests, exams, term control works (leading, check and examination), calculation graphic works, term projects, leading of term individual works, leading of practice, leading of diploma projects (qualification works, graduation papers and thesis), work in a test commission. All this activities have a time quotas in planning and charge process. This quotas are varying. The last time it was in 2003.

The first activity in our rating is the leading of term works (the biggest share of time equals 27%). Lectures have 16% of time. The main idea of methodology is the calculation of time difference between different kinds of activities. We were interesting in displacement data from one kind of activity to another kind. Before we determined dynamic changes of every separate activity in period, calculated the share and balance of time (work and leisure). Dynamic changes was conditioned in such change that individual work is growing and auditorium time is decrease every year.

Knowledge Work, Working Time and Use of Time in Households

Jouko Nätti, Timo Anttila, Mia Väisänen
(University of Jyväskylä - Finland)

The industrial working time regime is dissolving - not dramatically and suddenly, but rather as a trend. Instead of a standard working time practice, a post-industrial working time mosaic is becoming more common, along with new individual possibilities and new risks. A new trend is that those in dynamic sectors and in a good labour market position work long hours: demanding knowledge work appears to require a marginalisation of private life. At the same time dual-earner arrangements for couples are increasingly common. Therefore, it is important to study how time schedules cluster at the household level.

The study examines working times and time use at household level: to what extent are knowledge workers and working times concentrated in certain households and how do they influence the division of labour and use of time between and within households. The analysis is based on Finnish time-use studies (1999-2000). The data includes use of time diaries and interviews covering 10,561 days and 5,332 individuals, which constitutes over 3,000 households. All individuals in the household aged 10 years and over are included in the data. Thus, the data includes time use diaries and similar interview questions for the target respondent and his/her possible spouse. The data allows us to examine patterns of time use between and within households with various multivariate methods.

Paid Work at Home and Time use in Knowledge Work

Jouko Nätti, Timo Anttila, Mia Väisänen
(University of Jyväskylä - Finland)

The aim of the study is to examine to what extent knowledge work changes the relations of work to place. Knowledge work is by nature, at least partly, detachable from a certain time and place. Empirically, the study asks whether knowledge work is becoming separated from normal working place (workplace) by comparing knowledge workers to other employed persons. In particular, we examine the extent, duration and timing of paid work at home and its relations to time use among knowledge and other workers.

On the basis of educational level, occupational status and use of computer at work we distinguish three groups. Those with tertiary level of education, higher occupational status and using computer at work were defined as knowledge workers (29%). Those with either lower level of education or occupational status, but using computer at work were defined as computer-users (37%). The rest were defined as others (34%). The main data is the Use of Time -study (1999-2000), collected by Statistics Finland. The data includes use of time diaries and interviews covering 10,561 days and 5332 individuals, which constitute over 3000 households. Our analysis focuses 15-64 years old employees (n=2317).

The Gendered Nature of Social Capital

Roger Patulny

(Social Policy Research Centre- Australia)

The social capital contributory practices, such as time spent volunteering and socialising, remain largely invisible for important sections of society. Time-use analysis demonstrates that the voluntary and social contribution women make may be under increasing pressure, as they take on increasing pressures of balancing employment and family/domestic commitments. This is despite gendered norms and values supporting propensities for women to 'give' and 'associate', both for family and society. Practices and norms are supported and reinforced by differing welfare regimes across countries, and the degree of 'de-familisation' (Esping Anderson 1999) they allow. It is unclear whether a welfare regime promoting strong de-familisation supports social capital through the provision of more free time for women to volunteer and socialise, or detracts from it through erosion of norms associated with family commitment and giving.

This paper contrasts time-use and value data concerning volunteering, socialising and trust amongst men and women, to see whether relations to social capital are evident on the basis of gender, and the effect (if any) that welfare regimes play in this. The findings suggest that time is particularly important; highly de-familising countries show substantially higher aggregate amounts of social capital, whilst less de-familising regimes show reduced amounts among women. Norms are also important generally, with conservative gender norms and values linking negatively to trust in regression analysis.

Children's Time Together With Their Parents

Lotta Persson, Klas Rydenstam

(Statistics Sweden - Sweden)

In course of the 1990s, the time parents spent on child care decreased in Sweden. The total time parents spent together with the children did not decrease. However, when the data are analysed not from the children's perspective, another picture emerge. The conclusion of the analysis is that although the parents time together with the children has not decreased, the children's time together with the parents has decreased somewhat paradoxical, as the point of view of the parents. This does not mean that the time the children.

Measuring Hours Worked - Diary Versus Questionnaire Information

Hannu Pääkkönen

(Statistics Finland - Finland)

Household Production and Dynamics of Labour Supply During Transition

Natalia Radtchenko

(TEAM, University of Paris 1 - Panthéon-Sorbonne - France)

Divergent methods can be used to measure hours worked. The Labour Force Survey uses telephone interviews in which the interviewees are asked: How many hours did you work last week/the week before last? The respondents estimate themselves the numbers of hours they have worked. The data of the Time Use Survey derive from diaries kept by respondents. Two kinds of diaries were used in Statistics Finland's latest Time Use Survey conducted in 1999-2000. In their own words, respondents recorded in the actual time use diary what they did during two days at 10-minute accuracy. The diary entries were coded afterwards according to a harmonised classification of time use. These diaries were filled in by 5,332 persons. Employed respondents were given weekly diaries into which they only recorded their actual gainful hours worked for seven days at the accuracy of 15 minutes. The keeping of both diaries was started on the same day. Such weekly diaries were filled in by 2,554 persons.

How consistent are the results obtained with different methods for hours worked? This presentation compares the results obtained with Statistics Finland's Labour Force and Time Use Surveys. The presentation also compares the figures obtained with daily and weekly diaries for actual gainful hours worked by employees. These figures derive from diaries kept by the same respondents on the same days.

The extensive socio-economic transformation undertaken by Russia over the last decade has substantially affected the structure of the country's economy and the social behaviour of its population. One of the issues much discussed in the literature on economics of transition in Russia is labour reallocation and the development of an informal labour market. However, studies that analyse labour supply do not take into consideration home production, in particular working on individual plots of land, a phenomenon widely developed among the urban population ever since the start of the transition process.

This paper is an attempt to analyse the dynamics of labour supply during transition while accounting for home production, which can be considered an investment in future utility. The Russian database RLMS allows us test the model by exploiting the time use data available for several years during transition.

**"Pure" Production Factors and the Sharing Rule:
Estimating Collective Models with Household Production**

Benoît Rapoport, Catherine Sofer

(TEAM, University of Paris 1- Panthéon-Sorbonne - France)

In this paper, extending a previous work (Rapoport, Sofer, Solaz, 2003), we estimate a collective model with household production, assuming that household goods are non marketable. The price of household goods is endogenous and varies from household to household. We consider a household good produced by using a constant return to scales technology. The theoretical model shows that it is possible to identify the parameters of the sharing rule, provided that we can find a factor which is a determinant of the production process, but is independent of preferences. This "pure production factor" which influences the individual shadow price of the household good, plays a similar identifying role as a "distribution factor" in a collective model without household production. We apply this theoretical result to French data. We assume a CES production function for household production. We use the French 1998-1999 time use survey to first study the variables which play a role in the amount of household production made by each member of the household. Then, we simultaneously estimate the individual (true) leisure demands of two-earner households and an equation describing the allocation of domestic time. First, we are able to measure the influence or the direction of the impact of variables such as wages, or education, for example, on the demand for leisure, on the allocation of time between market work and household work for each spouse, and on the shadow price of the household good. Second, we recover the parameters of the sharing rule that we compare to parameters computed without considering household production or computed when assuming that household goods are marketable, and find substantially different results.

A Preliminary Comparison of 2003 BLS Data with Earlier Surveys

John P. Robinson, Geoffrey Godbey

(University of Maryland – USA)

Preliminary comparisons of data from the recently released BLS time-diary data set from more than 20,000 American residents aged 15 and older across 2003 show a number of convergences with earlier national diary studies conducted in the 1990s at the University of Maryland, as well as certain discrepancies. Various historical, demographic and methodological reasons for these results are explored, along with the problems of comparability with earlier data sets. Of particular interest are gender differences in paid and unpaid work, the personal care activities of sleeping, eating and grooming, and contrasting free time activities like fitness and TV viewing. Comparisons with longer trends in other countries are also explored.

Time Use for Leisure in Romania

Monica Roman, Mihai Daniel Roman
(Academy of Economic Studies Bucharest - Romania)

Recent theoretical and empirical studies tend to highlight the prominent role that time plays in society, in a context of changing rhythms of work, the ageing of the European population and changing family structures.

In this contribution we will analyse the way time is used for leisure in Romania and situate it in the European context. We highlight the time use for creative and leisure activities in respect with the main demographical categories: age groups and gender. We use the factor analysis to observe the differences existing in time use for leisure between eight Romanian regions and we also identify the factors that cause these differences.

There are some specific patterns in time use in Romania. The most important category of free time is dedicated to mass media 65%: watching TV, reading and listening to radio. The persons who lived in Bucharest spend the most time on mass media activities, 3.8 hours, while in the NE region the time spent on these activities is 2.6 hours, which is less with 51%. In Romania, elderly spend less time for leisure than other age groups and more than that, elderly spend less time for leisure than other Europeans at the same age. The large disparities appear between rural and urban areas and are worth to be discussed in the paper, since more than 60% from Romanian elderly are living in rural area.

The data source is Time Use Survey, conducted in Romania in 2000 on a pilot basis, being developed with the help of EUROSTAT and Italian National Statistical Institute.

The Conciliation between Family and Work: Strategies of Italian Women

Maria Clelia Romano
(Istat, Italian National Statistical Institute - Italy)

The conciliation of work and family is a problem that affects all people irrespective of gender or generation within the developed world. Particularly for women, it is expected that the difficulty to reconcile different commitments is especially challenging in the period immediately following the birth of children because of the unequal distribution of the domestic work load and the demands associated with the care of the family.

The data that comes from time use surveys is uniquely significant because it provides relevant information about the organization of daily life and the subdivision of various activities. For this reason, these data are used to better analyze the conflicting roles, due to time demands associated with multiple obligations (familiar, working, etc.), that society imposes on individuals.

In light of the increasing attention this topic has been receiving, the Italian survey "The Use of Time" 2002-2003 included supplementary ad hoc questions in the individual questionnaire, introduced to accommodate a special request by the Department for Equal Opportunities. These additional questions together with the data collected from the time use diaries constitute a large informative file beneficial for the study of the daily strategies used to balance work and family life in Italy.

The present work reports the initial results of an on-going study based on the conciliation of work and family, which is largely derived from the analysis of the set of questions introduced in the individual questionnaire of the survey. In particular, they illustrate the main strategies that Italian women use in order to reconcile the demands between work and family as well as the advantages and costs associated with these particular strategies. The next step will be to re-analyse these results in light of the data extracted from the time use diaries.

The Time Use Survey in Italy

Maria Clelia Romano, Silvano Vitaletti, Rina Camporese
(Istat, Italian National Statistical Institute - Italy)

Latest national Time use survey has been carried out in Italy in 2002-2003. For twelve consecutive months, diaries for respondents aged three years or more have been collected according to a sample strategy that covered every single day of the period and was meant to produce estimates for twenty regions, separately for type of day (weekday, Saturday, Sunday).

Researchers paid particular attention to the improvement of final data quality through the improvement of survey process quality, persuaded that respondents' participation and positive involvement of interviewers would have been difficult to obtain and constitute key elements in terms of final results.

New graphic expedients made the diary more friendly and the fieldwork easier for interviewers. A continuous monitoring of the fieldwork allowed to detect and correct errors and undesired events during data collection phase. As a consequence, data quality improved significantly in terms of response rate and respect of methodological rules. Computer assisted coding, additional auxiliary codes and a monitoring system reduced non-sample errors due to miscoding.

At the time being, some preliminary estimates have been produced and data are subjected to final checks and corrections.

Keywords: fieldwork, monitoring PAPI interview, coding, data quality.

Is Time Spent Together in Finnish Households?

Olli-Pekka Ruuskanen
(Helsinki School of Economics - Finland)

Concentrating on the instantaneous use of time we study what determines the joint time use of spouses in Finnish households. In our estimation we apply fractional logit model introduced by Papke and Wooldridge (1996). The data used is the recent Finnish Time Use Survey from 1999/2000 with matched income records. Our results show that net wage rate and yearly income of the spouse have a negative impact on the share of the joint time spent together. This finding is robust to the aggregation of time use categories and to the demographic changes.

More than Two Hands: is Multitasking an Answer to Stress?

Olli-Pekka Ruuskanen

(Helsinki School of Economics - Finland)

Multitasking, or doing many activities at the same time, has not been under active research in economics. Recent time use surveys, like Finnish Time Use Survey from 1999/2000, have collected information not only from primary activities but also from secondary activities that people do. Concentrating on the multitasking in housework and leisure we investigate what determines whether multitasking is done and the amount of it. We look at the gender differences and the effect of time pressure on the incidence of multitasking. Our evidence suggest that time-pressure or feeling rush do not explain the incidences of multitasking. Multitasking is mainly done by highly educated persons, unemployed or housewives.

Daily Variation in Time Use - a Count Data Application

Olli-Pekka Ruuskanen

(Helsinki School of Economics - Finland)

Besides productivity in market work, human capital might influence people's ability to enjoy non-work activities. In a recent paper by Gronau and Hamermesh (2001) it is argued that human capital increases the number of activities people can engage in during their spare time. In this paper the variability in time use of the Finnish households is studied with Finnish time-use data from 1999/2000. Our results indicate that the number of activities increases with educational level. We tested whether this increase is caused by the coding schema used in most time use studies and whether it can be explained by living area. Our results indicate that these objections cannot refute the increase in the variety by the people with higher educational level. Accounting for secondary activities does not change this conclusion either.

**The Diversifying Use of Media by Children:
a Report on the 2003 Children's Time Use Survey**

Nakano Sachiko

(NHK Broadcasting Culture Research Institute - Japan)

In Japan, few surveys have previously aimed to establish a scientific grasp of the day-to-day life of infants and children raised in a social environment undergoing diverse changes, not least in terms of its media environment. Therefore, the Japan Broadcasting Corporation (NHK) organized and conducted The Children's Time Use Survey targets of which are from 0 yrs (over 4 months) to 6 yrs old in order to provide the requisite basic data on children's daily activities, especially on their use of some media including television, video and video games. It had been twenty-four years since NHK had last conducted this kind of survey, the previous instance being the "Children and Television" survey of 1979. These twenty-four years, and the 1990s in particular, marked "a period during which the media world experienced transformation of unprecedented scale and pace" in Japan. We'd like to introduce some findings of the 2003 survey including data that clearly illustrate the contemporary features.

**What is Gender?
Measuring Children's Gendered Behaviour through Time Use**

John Sandberg

(McGill University - Canada)

Virtually all previous research, both in the developmental psychological and the sociological literature has attempted to assess gender differences among children through participation and time spent through broad, a priori categorizations of activities. In many cases however the typologies of gendered behavior used to construct these categorizations (such as 'indoor vs. outdoor', or 'passive vs. active' activities), may reflect researchers' own naïve conceptualizations of gender, rather than observed empirical patterns. In constructing measurement models of gendered behavior and time use employing more fine grained, specific activities from the 1997 Panel Study of Income Dynamics Child Development Supplement, this research addresses the question of whether such broad categorizations of children's behavior are valid measures of pervasive and encompassing gendered differences, or whether smaller subsets of, or even individual activities may capture gender equally as well.

Time Use As an Indicator of Modernization and of the Capacity of Young Malians to Confront a Context of Growing Uncertainty

Claudine Sauvain-Dugerdil, Abdoul Wahab Dieng, Magali Simeone
(University of Geneva - Switzerland)

Time-use and its associated functional spaces are considered here in order to analyse the way young people cope with the growing uncertainty which characterises their environment. The aim of the analysis is to trace emerging behaviour and obtain insights on risks and opportunities they suppose. Special emphasis is placed on unstructured-time, i.e. time not devoted to (domestic)work or school, as a possible proxy for modernisation and to activities which allow escape from the family circle. We use data from the survey that we conducted in 2002 among 2000 young girls (aged twelve to twenty-five) and boys (15 to 30) in four different Malian settings: three different parts of the capital city, Bamako, (one central and two peripheral, including one with more recent immigrants) and an isolated rural setting in the North of the country. This survey incorporates a time-use module recording the activities of the Saturday prior to the survey (or the day before the survey in the rural sample).

Profiles of daily activities are constructed by means of a cluster analysis and are considered in the light of a series of socio-demographic characteristics of the individuals. The gender divide is so strong that male and female samples are analysed separately.

Dimensions of Changing Social Practices in a Comparative Perspective, 1975-2000: a Study Using Time Use Diary Data

Dale Southerton, Wendy Olsen, Alan Warde, Shu-Li Cheng
(University of Manchester - United Kingdom)

By pooling data from three time-points (in the range 1975 to 2002) and five countries (USA, UK, France, Australia, and Norway), this paper analyses cross-national comparative patterns of consumption. We conceptualise consumption as the appropriation of goods and services in order to engage in social 'practices' – which makes interconnected practices the unit of analysis rather than individuals or particular consumer products. The practices covered are the 37 main 'harmonised' non-work headings of the Multi-National Time Use Survey dataset (MTUS). Divergence within countries (e.g. by social class) is taken into account before the comparative analysis is undertaken. Socio-demographic changes underlying the observed patterns are also allowed for. The methods used include descriptive statistics (e.g. the ranked correlation coefficient for pairs of practices, which changes over time); pooled time-series regression; and principal components analysis. Using the latter technique, a two-dimensional summary diagram is created. This diagram indicates the main patterns in consumer culture for each time-point. By comparing these diagrams, a long-term analysis is possible and both causal analysis and exploratory analysis are undertaken. Through this approach, we examine empirically whether there is a homogenisation of consumer behaviour; whether there has been a privatisation of social practices; whether there is convergence toward Americanisation (which would suggest that other countries tend to mimic the USA's social trends); note patterns of path dependency in the time-series aggregate data for the five countries; and explore different forms of divergence.

**The Contribution of Social Context, Human Capital,
and Time Use Constraints on the Diversity of Role Relationships**

Glenn Stalker
(University of Toronto - Canada)

Role diversity is an important feature of individuals' social networks that is reflected in the amount of time spent in the company of different role relationships. Canadian time-use data is used to derive an index of dispersion measuring the diversity of one's social contact among different role relationships. Patterns of social engagement are specialized when large investments of time are allocated to a small number of role relationships, while patterns are diverse when relatively equal amounts of time are spent among all possible role relationships. A general model utilizing Tobit estimation indicates significant social context, time-use, and attitudinal effects on the diversity of role relationships, while trends in role diversity (1986-1998) are assessed for stages in the life-cycle. Findings indicate that role diversity is a complex phenomenon shaped by one's existing social context, individual preferences, and present constraints on the use of time. These factors influence the extent to which patterns of social contact bridge network ties or bond primary group members.

**The Distribution of Housework
and the Persistence of Household Partnerships**

Leslie Stratton, Jens Bonke, Mette Deding, Mette Lausten
(Danish National Institute of Social Research - Denmark)

One advantage to forming a household is the ability to gain from specialization. Yet specialization is not costless. If costs are associated with specialization, then the degree of specialization observed will depend upon the expected duration of the relationship – individuals will find it more worthwhile to make the investment in specialization if the relationship is expected to endure. Conversely, the degree of specialization within a household may influence its expected duration. Partners who have specialized more within the household will face a higher cost when dissolving their household and so may have more enduring relationships, all else equal.

American and Danish time-use data are used to examine how the distribution of housework time between household partners influences and is influenced by the duration of the household partnership. The Danish data come primarily from the 2001 Danish Time Use survey. The American data come from three waves of the National Survey of Families and Households (NSFH). Both data sets contain time use data on each partner within the household, thus allowing construction of a measure of intra-household specialization.

We examine how our specialization index differs by type of partnered household (cohabiting/married, with/without children) and by elapsed duration of the partnership. Cross-country differences in specialization between household types are expected because the nature of cohabitation and marriage differs between the US and Denmark. Furthermore, the persistence of the partnership and the degree of specialization are likely to be simultaneously determined. Thus, secondly we estimate a multi-equation model of time use and partnership duration.

The Demand for Sleep: a South African Study

Gabor Szalontai

(University of the Witwatersrand - South Africa)

In this paper we investigate the demand for sleep using South Africa's first time use survey. We model the demand for sleep using a number of economic and demographic variables. We show that time spent sleeping responds to changing economic incentives. Multivariate regression analysis is employed to show that sleep time is influenced by various factors. We find strong and significant negative effects of income and education on sleep indicating that sleep time is just another resource which can be drawn upon when other uses of time become more attractive. Our results are consistent with previous international findings. Indeed our model seems to indicate that differing sleep patterns across countries can be explained by economic factors, indicating that there are microeconomic as well as macroeconomic linkages to time spent sleeping.

Economic Dependence and Division of Domestic Work

Pentti Takala

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Aim of this research is to test hypotheses about the connection between spouses' relative earnings and time used for domestic work. According to the recourse theory of power, the division of domestic work is more equal with the decrease of the wife's economic dependence. In contrast to this, the gender role theory emphasises the strength of the traditional gender ideology: wives do most of domestic work regardless their share of family income. The theory of time availability is based on the effects of the other time commitments.

Time use diary data conducted by the Statistics Finland in 1999-2000 have been used. Couples of working age, married or cohabiting, with or without children (n=2,563) have been studied. Descriptive statistics showed that time used by husband for domestic work increased and time used by wife decreased with the increase of wife's relative earnings (the recourse theory of power). However, when stage in the family cycle was controlled, the connection between the wife's share of family income and her time used for domestic work was weakened (the gender role theory). Finally, when employment (or usual weekly hours of paid work) of spouses was controlled, the connection between women's relative earnings and division of domestic work did not sustain (the theory of time availability).

The Complicated Change of Time Used to Reading

Timo Toivonen

(Turku School of Economics - Finland)

Time used to reading has decreased on average in last decades in various countries. The observation has been true also in Finland, where on the basis of Time Use Surveys conducted by Statistic Finland the average time used to reading per day was in 1987/88 53 minutes and in 1999/00 44 minutes. However, the trends between age groups, cohorts, educational groups were not analogous. For instance, differences between educational groups increased, because in primary level time spent to reading reduced by 15 minutes, whereas in master and doctoral level of education it increased by 4 minutes. In some groups the growth was very strong as in the cohort born 1926-1938 with the bachelor level education. The growth was 51 minutes. Time used to reading, television watching, and computer were not alternatives with each others. Surprisingly, time used to reading correlated positively with time used to television watching in 1987/88, and the correlation in 1999/00 was not significant. In the paper it has been looked out for explanations and interpretations for these complicated phenomenons in the change of time use devoted to reading.

Living Conditions and Time Use Among 62 to 66 Year Olds in Norway

Odd Vaage

(Statistics Norway - Norway)

In Norway many 62 to 66 year olds can choose between early retirement and continuing employment until they reach the ordinary retirement age. This paper gives insight into the differences between those who continue and those who retire early concerning health, education, economic situation and daily activities. The Norwegian time use survey 2000 shows that less than half of the population is employed at the age of 60. Those who are still employed at age 62 to 66 have shorter working hours than the general working population. Those who stay at work have better education and are healthier than those who have retired early.

During the last 30 years time spent on paid work among persons in their 60s has decreased by one third. This decrease applies only to men, largely as a consequence of an increasingly higher retirement rate in this age group. Among women in the same age group there has been no decrease, mostly due to the fact that working hours have increased considerably among all employed women. There also has been a slight increase in working hours among men still at work. Thus the general situation is that fewer persons in their 60s are employed, but those who continue to work spend more time at work than before.

Since persons in their 60s as a whole spend less time at work than before, they have more time for leisure activities. A large part of this extra time is used in front of the TV screen. In particular non-workers spend much of their time watching TV, but they also spend more time on sports and outdoor activities than those in the same age group who are still employed

Leisure, Values and Leisure Values

Andries van den Broek

(Social and Cultural Planning Office of the Netherlands - Netherlands)

Time use research, at least in The Netherlands, developed somewhat 'in opposition' to opinion research. Facts and figures were looked for, not values and evaluations. Revealed preferences were thought to speak louder than stated preferences. Reversely, and again at least in The Netherlands, time use in general and leisure in particular were largely ignored in opinion research.

This divergence between time use research and opinion research is not fruitful, as it prohibits assessing to what extent time use, differences in time use and changing time use are related to values, to differences in values to changing values respectively.

It is argued in some detail that this is all the more a pity as the leisure domain decolonized end became an important element in people's identity.

The second part of the paper presents analyses of attempts to include values and evaluations into the Dutch time use surveys as well as of attempts to include the leisure domain into values studies.

For one, it will be analysed to what extent e.g. postmaterialism matters in the way people structure their time. Secondly, 2004 data on leisure values will be presented, including an attempt to establish dimensions in the ways in which people value leisure.

Time Use Research as the Basis for Policy Models in a Democratic Society. The Case of Flanders

Walter Van Dongen

(Population and Family Study Centre, CBGS - Belgium)

Full employment for all active men and women is a central objective in a democratic welfare state. Professional labour is an essential part of the daily division of time of men and women. An efficient employment policy must therefore start from the past and actual combination of family and professional labour. Time use research offers a more differentiated view of the daily life of men and women, that can be the basis for the development of useful policy models.

The first section briefly deals with the actual development of the division of labour in Flanders on the basis of time use data, showing the development from the traditional breadwinner's model in the period 1950-1980 to a moderate combination model in the period 1990-2000.

In the second section, four normative future models for the division of labour are proposed, reflecting the basic normative views in society. We argue that the complete combination model is the most suitable policy model for the future. The model is in line with the recent development and expresses a democratic view on the division of labour.

In the final section, some policy perspectives are formulated, following the complete combination model: a general professional statute for all active men and women, reforming the fiscal and social security system, transforming the unemployment insurance, increasing the employability of men and women, stimulating an adequate combination policy within companies, decent day care facilities for young children and additional child care facilities for all children.

Conjugation of Temporalities Inside Social Theories of 90's

Gilles Verpraet
(CNRS/GRASS – France)

Beside the leading thematics of interdependence and coordination (Landes, Gurvitch), the 1980/90's sociological theories of time and socialization explicite more deeply the differentiation and the conjugation of temporalities by the autonomous experience (Luhman, Habermas), by the actors and its processes of socialization (Bourdieu, Beck, Lahire).

This review of time inside the social theory questions the social shaping of the actor's constitution, the differentiation inside the biographic institution. Besides the long term history of structure, of institution (Durkeim), of the necessity of coordination, contemporary sociological developments complement the singular history as a disjunctive times such as the disjunctive socialization, such as the biographic institution.

ExpoFacts Database – European Time Use Data in a New Context

Virpi Vuori, Matti J. Jantunen
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The actions and the media that bring us in contact with environmental impurities are called exposure factors. Important exposure factors are e.g. food, housing conditions, and time use in different environments. The European exposure factor data are at the moment scattered at national and international institutions. Therefore ExpoFacts project works to get the European data easily and centrally available.

No new data are produced but the database will include already existing data from a variety of international and national sources. This database and basic tools to browse and sample data will be published at a free and openly available Internet site.

The results of the latest European time use surveys have been included to the ExpoFacts database to the extent possible. Time use data of ten countries (06/2004 situation), collected from a sociological point of view, have been brought together with time use data collected for environmental health research purposes. This enables interesting comparisons and allows researchers from the both research communities, to easily access each other's data and explore the common grounds of their research.

One interesting feature in the ExpoFacts database is the data from the Finnish time use survey, which have been analyzed especially for ExpoFacts. Statistics Finland produced HETUS coded data tables in an optimal format for environmental health research purposes, e.g. the distributions of time used in traffic, to assess people's exposure to air pollutants while travelling.

The ExpoFacts database will be published by November 2004 at www.ktl.fi/expofacts.
Acknowledgements: ExpoFacts project is funded by CEFIC-LRI.

Managing Work-Life Tensions in Dual-Earner Families in Australia

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(University of Newcastle - Australia)

Peter Brown

(Griffith University - Australia)

Against a backdrop of profound social, economic and organisational change in industrialised western societies, workers' ability to satisfactorily integrate paid work with non-work life is essential for social and economic well-being. 'Family friendly' workplace policies have been relied on to ease time tensions between families and employment as well as for addressing women's employment disadvantage. Less is known about the "private" dimensions of the work-life interface and the actual strategies used by families to cope with competing demands. In this paper we present findings from focus groups conducted as part of a study of work-life tensions among Australian dual-earner couples. Strategies identified by parents to manage their work and family commitments were grouped into a number of themes which included outsourcing domestic work, relinquishing 'control', adapting work patterns, resisting ideological pressures, managing domestic organization, making lifestyle choices, reducing individual stress, and engaging a 'pit crew' to manage domestic tasks. While the reconciliation of work and family life is an important area of public policy intervention, and also presents challenges to employer groups and workplaces, much can be learnt from the strategies used to manage work/life tensions within households. Such understanding is important given the reported associations between balanced lifestyles, leisure and well-being.

Short-term Shifts in Population Distribution Unraveling the Diurnal Mobility of Daytime Population in the Netherlands

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(Utrecht University - Netherlands)

In network society, due to technological, economical, demographical and cultural developments, individual activity and travel patterns have fragmented in space and time. These fragmentations will have a large impact on the use of places and spaces by visitors. To date, insight into the impact of a large variety of urban, suburban and rural areas on the presence of visitors is lacking. The aim of this paper is twofold. Firstly, to unravel some of the complexity and dynamics in the presence of temporary populations by identifying the most important dimensions underlying diurnal weekday variations visitor populations in Dutch municipalities. Secondly, to identify the salient spatial and transportation related features of these municipalities, which contribute to the dimensions of these temporary populations. Using the 1998 Netherlands National Travel Survey, for six representative one-hour time periods, we performed exploratory factor analysis to capture underlying dimensions. The solution comprised one dimension referring towards participation into activities (leisure dimension), two dimensions related to the size of the territory in which visitor populations operate combined with the use of different transport modes (inter-local and local dimension), one dimension expressing the direction in which inter-local movement occurs (central place dimension), and three dimensions capturing different life stages within the visitor population (primary school dimension, (high-income) family dimension, and senior dimension). The analysis of visitor populations in the context of their destination environment during different periods of the day has shown to be a methodology with the potential of contributing to an increased understanding of the functioning of urban networks.

Time Use of Canadian Adolescents as a Function of Age Progression and Composition of the Family

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The time use of Canadian adolescents has been examined in national General Social Surveys (GSS) since 1986. However, GSS surveys have not included adolescents under the age of 15. To remedy this lack of time use information about younger Canadians, a 2002-2003 survey of "Adolescent time use and emotional well-being," conducted by the Research Group on Leisure and Cultural Development at the University of Waterloo, collected time diary data from adolescents aged 12 to 19. This study was part of a larger project funded by the Social Sciences and Humanities Research Council of Canada. Data on time use, feelings of time pressure, leisure participation, emotional well-being, and health were collected from 2,100 students from selected schools in the province of Ontario. The proposed paper examines changes in adolescent time use as a function of age and family composition. Specifically, the paper examines differences in time use among adolescents aged 12 to 14, 15 to 17, and 18 to 19, as well as among those in single parent families, and in families where both parents are engaged in full-time paid employment, one parent is employed full-time and one part-time, and one parent is employed full-time with the other parent full-time at home. A comparison of time use findings for adolescents aged 15 to 19 from the 1998 GSS with the authors' 2002-2003 data for 15 to 19 year-olds is also reported.

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