

# HISTORICAL TRENDS IN THE PATTERNS OF TIME USE OF OLDER ADULTS

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***Abstract:** This paper examines trends in the patterns of time use of older adults, from the 1960s to the 1990s. Using data from time use surveys, trends in three countries are examined: the United States, the United Kingdom and the Netherlands. As expected, results suggest that time spent on paid work has decreased over time for men, especially at older ages. For women, an opposite trend was observed. For older men, time that used to be allocated to paid work appears to have been reallocated to housework and leisure activities. Among leisure activities, increases in more passive activities, such as 'media and books' was observed, alongside an increase in 'sport and fitness' and in consumption-oriented leisure activities such as 'travel for pleasure'. There was however no evidence that time that used to be devoted to paid work has been replaced by more time devoted to unpaid work and volunteer activities.*

'Working less and living longer'<sup>1</sup> --- a phrase that sums it all! As a result of increasing life expectancy, earlier age at retirement, and shorter working weeks, the average lifetime hours devoted to paid work represents today a much smaller proportion of total lifetime hours than in the past (Mathers and Robine, 1997; Auer and Fortuny 2000). In Britain, estimates suggest that the fraction of lifetime hours devoted to paid work by men has declined from 50 percent in 1856 to 20 percent in 1981 (Ausubel and Grubler 1999). Knowledge about the ways older adults spend their time after retirement is however very limited. There have been cross-sectional analyses of the patterns of time use of older adults (Gauthier and Smeeding, 2000; Herzog et al. 1989), but we know little about how

these patterns of time use have changed over time. Empirically, this is a most intriguing question. On the one hand, we know that older adults have been retiring earlier, but on the other hand, we also know that their ability to work at older ages has increased as a result of increasing life expectancy and lower incidence of morbidity (Crimmins, Reynolds, Saito 1999; Waidmann and Manton 1998). And if the increasing ability to work at older ages suggests a more active lifestyle after retirement, it is unclear if today's retirees do indeed live a more active life than in past.

In this paper, we use data from time use surveys to examine the trends in the patterns of time use of older adults since the 1960s. The paper is divided into five sections. In Section 1, we review the literature on the changing balance between work and leisure, and summarize some of the main demographic and economic trends. In Section 2, we present our theoretical model, and point to factors that may be expected to have altered the patterns of time use of older adults. Section 3 presents our data and method, and Section 4 presents our findings. Section 5 concludes the paper and points to future avenues of research.

## **1. REVIEW OF LITERATURE**

The trend towards early retirement has been extensively documented (Guillemard and Rein 1993; Gendell 1998). Between 1950 and 1995, the average age at retirement for male workers has decreased by more than five years in Austria, Belgium, Finland, France, Luxembourg, the Netherlands, and Spain (Auer and Fortuny 2000). For example, the average age at retirement for men in the Netherlands has decreased from 66.4 years old in 1950 to 58.8 years old in 1995 --- the largest decrease in industrialized countries. The decrease in the average age at retirement has been smaller in countries like Sweden, Switzerland, and the United States, and very small in Japan (less than one year). Data from the late 1990s however suggests that the early retirement trends may be leveling off (OECD 2000). In fact, data from the United States suggests a recent increase in the return

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<sup>1</sup> From the title of Ausubel and Grubler (1999).

to work after retirement (Herz 1995)--- although this may still be an exception among the most industrialized countries. The situation for women is very different. Contrarily to men, the employment rates of women age 55-59 years old has increased between 1983 and 1998 in several countries, and the employment rates of those age 60-64 years old has remained stable (the exception being Finland and Sweden where they have decreased) (OECD 2000).

This trend towards early retirement (for men) has been explained by various factors including incentives to retire early (as part of companies' downsizing exercises), disincentives to continue working at older ages (the so-called tax on work), restricted work opportunities for older workers, discrimination against older workers, dismissal or redundancy (especially in periods of recession), disability or illness, and family responsibilities (Samorodov 1999, OECD 2000). For example, among retired men age 55-64 years old in the European Union in 1995, retirement due to own illness or disability represented up to 25 percent of all reasons given, while retirement for redundancy or dismissal represented up to 30 percent of the reasons given (Auer and Fortuny 2000).

The other trend that has been well documented is the long-term decrease in the hours of work. From 1850 to 1950, the average workweek has decreased from about 70 hours to 40 hours (Wilensky 1961). A downward trend has also been observed between the late 1950s and the late 1980s in most countries – at least in the manufacturing sector (Gershuny 1992). On the other hand, between 1976 and 1993, the average hours of work for wage and salary workers in non-agricultural industries in the United States have remained stable (Rones, Ilg, Gardner 1997). These data however pertain to workers of all ages, and are to certain extent dictated by national policies about the maximum number of hours of work, and by companies' needs. With regard to older workers, a different type of question arises: whether they retire abruptly from the labor market, by suddenly ceasing to work full-time, or whether they instead retire gradually, by reducing their hours of work or by opting for part-time work. Data from the OECD suggests that the percentage of older male workers aged 60-64 who hold part-time jobs has increased in

several countries since the mid-1990s. The increases are however small, leaving the OECD to conclude that gradual retirement is not common (OECD 2000).

If the decrease in time devoted to paid work at older ages obviously means an increase in time devoted to non-paid work, it is however unclear which one(s) of the non-work activities has/have most benefited from this 'freeing up of the golden years'.<sup>2</sup> As will be discussed in the theoretical section, time 'freed up' from paid work can be reallocated to active leisure, but can also be reallocated to unpaid work, housework, passive leisure, and personal activities (such as sleep and naps). Empirical evidence is limited. Data from the United States suggests that between 1975 and 1995, time devoted to all forms of leisure by seniors aged 65 and over has increased by about 10 hours per week --- but that 'about half of the newly acquired free time ... goes to TV viewing' (Robinson, Werner, Godbey 1997: 20). During the same period, time devoted to organizations (a form of unpaid work) has slightly increased for American men and has decreased for women. Data from Norway also suggests an increase in leisure time. Between 1971 and 1991, time devoted to leisure by seniors age 67-74 years old has increased by about 14 hours per week. No data is available on trends in time spent on unpaid or volunteer work.

Very little information is thus available on the trends in older people's active time.<sup>3</sup> Little is known about trends over time in older adults' involvement in unpaid work, other volunteer activity, and other forms of active leisure. Earlier studies suggest that as they grow older people reduce their informal social interaction, membership in voluntary groups, and volunteering (Chambré 1993). Studies also suggest that as they grow older people reduce activities that require intense physical activities, and spend more of their time at home (Kelley 1997). It is however unclear the extent to which significant changes in these trends have taken place in recent decades, especially among the 'newly retired'.

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<sup>2</sup> From the title of Robinson, Werner, and Godbey (1997).

<sup>3</sup> One reason why we know relatively little about the patterns of time use of older adults, as opposed to younger adults, is that the harmonized version of the Multinational Time Use Archive (MTUS) is restricted to the population age 20 to 60 years old, even though the original time use surveys covered a wider age range. We are currently expanding this archive. The results presented in this paper are among the first ones based on this expanded archive. For details, see the web site of the MTUS: <http://www.iser.essex.ac.uk/mtus/index.php>.

In this paper we use data from time use surveys from three countries, the Netherlands, the United Kingdom, and the United States, to examine trends over time in the patterns of time use of older people. Until recently, the cross-nationally comparable version of these surveys was restricted to the working age population (see for example Gershuny 2000). By extending the analysis to the older population, we therefore present the first results of this new multinational time use dataset.

## **2. THEORETICAL MODEL**

The classical micro-economic theory of allocation of time distinguishes two types of activities: work and non-work (Becker 1965). This allocation of time is assumed to be based on the cost of, and preference for, work and non-work subject to an income constraint. There are, however, major demand and supply factors that may affect this model, especially the opportunity for work at older ages and the physical ability to work at older ages.

The first of these factors, the opportunity to work at older ages, has received increasing attention in recent years (see for example Hicks 1996/7, 1998). Public and private policies, it is argued, have promoted early retirement and have provided disincentives to stay in employment at older ages. In particular, Gruber and Wise (1998a, 1998b) have documented the existence of various work disincentives in pension plans and various policies. As such, these structural factors have been argued to be preventing older people from living an active life, defined as ‘the desire and ability of many seniors to remain engaged in economically and socially productive activities’ (The Denver Summit of the Eight 1997).

The second of these factors emphasizes the ability to work at older ages. As pointed above, early retirement for health or illness reasons still accounts for a non-negligible share of early retirements. However, as also pointed out, recent studies have documented

a decrease in the prevalence of disability at old ages (Mathers and Robine 1997; Waidmann and Manton 1998; Rand 1998). Crimmins, Reynold, and Saito (1999) have estimated that the probability of being unable to work for men at age 69 in the United States has decreased from 26.5 percent in 1982 to 20.4 percent in 1993. For women, the respective figures are 24.9 and 19.1. Moreover, Freedman and Martin (1998) have found that the decrease in functional limitations was observed among all seniors, including those age 80 and over. The percentage having difficulty seeing, lifting, climbing, and walking has declined in all age groups between 1984 and 1993.

To these other factors, one has to also add the increase in the education level of the elderly population: a factor that may also be expected to have altered the patterns of time use of the older population (Denver Summit 1997; US Census Bureau 1995). This factor may not have led to an increase in paid work at older ages, but it may be expected to be associated with an increase in active leisure pursuits at older ages. This trend may be expected because of the link between higher education level and the decrease in the prevalence of health limitations, thus allowing people to have an active life at older ages (Crimmins, Reynolds, Saito 1999), the link between higher education level and physical activities (Pate et al 1995), and the link between higher education and higher income, thus allowing older people to 'consume' more expensive leisure activities, such as cultural activities and travel for pleasure (Robinson and Godbey 1997). All these factors may be expected to have increased the time allocated to 'active' leisure activities, such as sport and fitness and 'consumptive' leisure activities.

On the other hand, it should be kept in mind that caring responsibilities (especially caring for a frail relative or spouse) may restrict older people's opportunities to participate in leisure activities --- especially among women (Lechner and Neal 1999).

In short, some opposite forces are expected to have altered, over time, the allocation of time at older ages. While the private and public policies in force are expected to have led to early retirement and to a decrease in time allocated to paid work, the decrease in disability and in health limitations at older ages, is expected to have increased the ability

to work or at least to pursue active leisure activities. The increase in the average education level of the older population is also expected to have increased time allocated to active leisure activities. On the other hand, some older people (mostly women) may be expected to have faced reduced opportunities to pursue active leisure activities as a result of caring responsibilities. As will be seen below, the time use data does not provide strong evidence of an increasing trend towards active ageing. While some increase in active pursuits were observed, they were also accompanied by increases in more passive types of activities related to the media.

### **3. DATA AND METHODS**

In this paper, we use data from time budget surveys carried out in the United States, the United Kingdom, and the Netherlands since the 1960s. These surveys are highly comparable in that they all relied on the diary as mode of data collection. In each survey respondents were asked to keep a log (or to recall) every spell of activity, including the nature of the activity and its duration during a 24-hour period. As shown in Table 1, the surveys differed in terms of the type of diary and the mode of data collection, but these differences have been shown not to be affecting the comparability of the data (Robinson and Godbey 1997). On the other hand, differences in terms of response rate and the sampling period may potentially affect the comparability of the data (Gershuny 2000). The response rates in the Dutch surveys, for example, are much lower than in the other countries. Moreover, while the recent American surveys covered the 12 months of the year, this was not the case with the earlier surveys, and may therefore introduce elements of non-comparability.

[Table 1 here]

In the analysis, we distinguish four broad categories of activities and six sub-categories of leisure activities (see below). These categories encompass all activities carried out during

any diary day, and their sum is consequently equals to 24 hours. Details appear in Table A.1 in appendix.

1. Paid work
2. Housework (including cooking, washing up, gardening, shopping)
3. Personal activities (including sleep, bathing, eating)
4. Leisure activities
  - a. Religious, civic, and volunteer work
  - b. Sport and fitness (including walking)
  - c. Media and books (including watching television, listening to the radio, reading)
  - d. Social activities (including entertaining and visiting friends)
  - e. Other out-of-home activities (including social and cultural activities, travel for pleasure)
  - f. Other in-home activities (including hobbies, crafts, relaxing)

Although our interest is in the patterns of time use of the older population, we carry out the analysis for the population age 25 years old and above in order to provide a broader perspective. We furthermore do not provide results by employment status since being part, or not, of the labor force, is already captured by our time spent in paid work. There were however additional reasons for not considering employment status that are mainly related to the ‘fuzziness’ of the concept of retirement at older ages. First, as pointed in the literature review, work after retirement is an increasing trend, at least in the United States (Herz 1995). And while some of these work returnees may continue to declare themselves as retired (especially if the work is part-time or irregular), others may declare themselves as employed. Thus, restricting the analysis to the formally retired population, for instance, would miss part of these returnees. Second, while withdrawal from the labor market still happens abruptly from some workers, a trend towards gradual retirement involving part-time work has been documented (Smeeding and Quinn 1997). Ignoring these part-timers would thus give us an incomplete picture of the patterns of time use of older adults. And finally, in the time use surveys the information on retirement comes



from a question about the main activity carried out during the week prior to the survey. In some surveys, respondents were given a wide choice of answers including retired, unable to work because of disability, housemaker, etc. Again, the retired population drawn on the basis of this question would capture only part of the economically inactive population. It remains that the decline over time in the labor force participation of older adults has altered the composition of the older population in terms of employment status. Part of the changes in the patterns of time use that we will observe in the following section is therefore likely to result from changes in the composition of the population rather than changes in the allocation of time after retirement. This is a tricky issue. But since the timing and nature (gradual or abrupt) of retirement ultimately reflect a decision in terms of allocation of time, we feel justified in confounding the two components.

In the analysis below, we present daily averages of patterns of time use. These daily averages were computed on the basis of data that has been weighted in order to correct for sampling issues and to ensure an equal sampling of every day of the week.<sup>4</sup> One should however keep in mind that the daily averages are not representative of all the days of the year since the data collection was in several cases not spread across the 12 months of the year.<sup>5</sup>

## **5. FINDINGS**

Results for the four main types of activities appear in Figures 1 to 4, while detailed results for leisure activities appear in Tables 2 to 5. Before commenting on specific results, let us already say that the patterns of time use have been remarkable stable since the 1960s. Overall, both younger and older adults today spend their time in a very similar way than they did some 30 years ago – at least when broad categories of activities are

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<sup>4</sup> The weights also controlled for sampling issues such as non-response and over-sampling. Unfortunately, in several of the early time use surveys, weights were not provided by the statistical agencies in charge of administering the survey. In such cases, we relied on weights computed from official statistics (more information on this topic is forthcoming on the MTUS web site).

considered. Below, we comment on the trends and inter-country differences, activity by activity. The links between these findings and the theory outlined earlier are discussed at the very end of the paper.

### **Paid work**

Trends in time devoted to paid work, by age, gender, and country, appear in Figure 1. The data refers to daily averages calculated over the 7 days of the week. Time spent on paid work shows a familiar age profile in all three countries, with a steep decline from age 45-54 years old (especially among men). While time spent on paid work varies around 5 to 6 hours per day for men at age 45-54 years old (the equivalent of 35 to 42 hours per week), it reaches less than one hour per day by the age of 65-74 years old.

In terms of trends, time spent on paid work for men shows a steeper age profile in the 1990s, as compared to earlier. Time devoted to paid work decreases more rapidly after the age of 45-54 today than it did in the past. This trend reflects the well-known trends towards earlier retirement and lower labor force participation at older ages. The decrease in time spent on paid work at older ages is particularly noticeable for Dutch men. Time spent on paid work at age 55-64 was 3.7 hours per day in 1975, and 2.2 hours per day in 1995. We should here comment on the unusual result for American men in 1965 (see Figure 1). The very flat age-pattern and the high allocation of time to paid work at older ages in 1965 is a consequence of the nature of the sample drawn in the time use survey that particular year. Only households with at least one member employed in non-agricultural industry were interviewed, thus resulting in a bias towards employed respondents.

The trends for women differ substantially from those of men. Since the 1960s, time spent by women on paid work has increased, rather than decreased, especially among younger and middle-aged women. The change is especially large in the United States. At age 45-54 years old, time spent on paid work by American women has increased from 2.0 in

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<sup>5</sup> It should be noted that even if data was collected for the 12 months of the year, we are likely missing major holidays when respondents were not available to keep their diary.

1965 to 4.0 hours per day in 1993. At older ages, on the other hand, time spent on paid work is low and has not substantially changed between the 1960s and 1990s.

In terms of cross-national comparison, the amount of time devoted to paid work varies substantially across countries. At age 45-54, time devoted to paid work by men varies between 5.3 hours per day in the Netherlands (in 1995) and 6.1 in the United States (in 1993). For women, also aged 45-54, time devoted to paid work varies between 1.5 hours per day in the Netherlands (in 1995) and 4.0 in the United States (in 1993).

[Figure 1 about here]

### **Housework**

Time spent on housework appears in Figure 2 and reveals a very different age-profile as compared to paid work. Time spent on housework slightly increases with age for men (with older men spending slightly more time on housework than younger men) while an opposite age-profile is observed for women. Between the 1960s and 1990s, time spent on housework has increased for men, while it decreased for women. The changes are however relatively small --- at least for men. At age 45-54 years old, time spent on housework for men the United States has increased from 1.8 hours per day in 1965 to 2.5 hours per day in 1993. For women, the comparable figures are 5.8 hours per day in 1965 and 4.0 hours per day in 1993.

In terms of cross-national comparison, the difference is mainly found in the number of hours devoted to housework rather than in the trends or age-profile. The difference is roughly half an hour per day. At age 55-64, time spent on housework varies between 2.6 hours per day for men in the United Kingdom (in 1995) and 3.4 hours per day in the Netherlands (in 1995), while for women the difference is between 4.3 hours per day for women in the United States (in 1993) and 4.9 hours per day in the Netherlands (in 1995).

[Figure 2 about here]

### **Personal activities**

This category of activities encompasses sleeping, eating, bathing, dressing, and personal services such as health care. Time spent on this activity appears in Figure 3 and reveals a rather flat age-profile, with only an increase at age 75 and over. Cross-national differences are also small. At age 55-64, time spent on personal activities varies between 10.1 hours per day for American men (in 1993) and 11.1 hours per day for Dutch men (in 1995).

Surprisingly, no major trends between the 1960s and 1990s are observed. If we remember, time spent on this activity was expected to have decreased over time – especially at older ages--- as a result of decreasing disability rates and health limitations. Only for American men and women was a decreased in time spent on personal activities observed between 1975 and 1993.

[Figure 3 about here]

### **Leisure activities**

Time spent on leisure activities appears in Figure 4 and reveals a strong age-profile, with older adults spending 2 to 3 hours per day more on this activity as compared to younger adults. Undoubtedly, time that used to be spent on paid work at younger ages is reallocated to leisure activities at older ages. The reallocation is however only partial. While time spent on paid work decreases for men by about 5 hours between the age of 45-54 and 65-74, time spent on leisure activities increases only by 2.5 hours between these two ages. As seen earlier, part of the time that used to be spent on paid work is reallocated to housework.

Between the 1960s and 1990s, increase in leisure time at older ages is only observed in the United States. At age 75 and over, time spent on leisure activities by American men has increased from 7.5 hours per day in 1975 to 9.0 hours per day in 1993. In the other countries, the differences between the 1960s and 1990s trends are much smaller.

In terms of cross-national comparison, time spent on leisure activities shows relatively small differences. At age 55-64, time spent on this activity varies between a minimum of 6.7 hours per day for American and British women respectively in 1993 and 1995, and a maximum of 7.7 hours per day for Dutch women.

[Figure 4 about here]

Leisure activities is however a very broad category. Results for detailed sub-categories of leisure activities appear in Tables 2 to 5.

[Tables 2 to 5 about here]

### **Media and books**

Reading, watching television, and listening to the radio (as primary activities)<sup>6</sup> represent the largest sub-category of leisure activities. Time spent on this activity substantially increases with age, especially between the age of 45-54 and 55-64. At age 75 and over, American men devote 5.6 hours per day to leisure activities (in 1993), as compared to 2.7 hours per day at age 25-34. A large portion of the time that used to be allocated to paid work at younger ages appears therefore to be reallocated to 'media and books' at older ages.

In terms of cross-national comparison, older adults in the United States and Britain devote more time to this activity than their Dutch counterpart. At age 65-74 years old, American men devote 4.8 hours per day to 'media and books' (in 1993), as compared to 3.9 hours per day for Dutch men (in 1995).

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<sup>6</sup> The results presented in this paper all refer to primary activities. We ignore secondary activities, that is activities carried out at the same time as a primary activity. The estimates for the categories 'media and books' would likely have been higher if secondary activities had been considered (especially television watching).

In terms of trends, an increase in time spent on ‘media and books’ was observed between the 1960s and 1990s – most notably in the United States. American men aged 75 and over, devoted 5.6 hours per day to this category of activity in 1993, as compared to 4.0 hours in 1975. We should note here the category ‘media and books’ excludes ‘education,’ and ‘study’ (included in other leisure activities) and therefore excludes any trend in lifelong learning.

### **Social leisure**

This category of activities includes entertaining and visiting friends. It is here considered as a separate activity partly to address earlier findings that people at older ages tend to reduce their social interactions and live a more isolated life. In line with these earlier findings, time spent on social leisure tends to decrease with age --- however the decline occurs only at the age of 75 and over. On average, women tend to devote more time to this activity than men, while Americans tend to devote less time to this activity than their Dutch or British counterparts. Over time, we would have expected older adults to be devoting more time to this activity, simply because their better health could allow them to entertain and visit friends more easily. The data does not support this hypothesis. If anything, older adults devote less time to socializing today than they did 30 years ago.

### **Religious, civic, and volunteer activities**

Theoretically ‘religious, civic, and volunteer activities’ is an important sub-category of leisure since this form of unpaid work may have benefited from the reduction in time devoted to paid work. If older adults substitute unpaid work for paid work, it is mainly in this category of activities that an increase over time and across age could be expected. As expected, time spent on this category of activity tends to increase with age. Among American men, time spent on this category of activity varies between 0.2 hour per day at age 25-34 (in 1993) and 0.4 hour per day at age 75 and over. However, contrary to what was expected, no obvious trend was observed between the 1960s and 1990s. In all countries, time devoted to this category of activity is low and has not showed any systematic trend. The exception is Britain, where time devoted to this activity by women aged 45 to 64 years old has increased.

### **Sport and fitness**

We exclude from this category ‘spectator sport’, which is instead included in the ‘other – out-of-home leisure activity’ or in the category ‘media and books’ if watched on television. We also exclude any physical exercise related to travel to work, school, or to go shopping. Overall, people of all ages devote around a quarter to half an hour per day to this type of activity. The age-profile suggests a decline in time devoted to this activity with age --- especially at age 75 and over. Men tend to devote more time to this activity than women. In terms of trends, an increase in time devoted to this activity has taken place between the 1960s and 1990s. For adults age 55-64, the increase is around 0.2 hour per day.

### **Other out-of-home leisure activities**

Consumption-related activities form the core of this category of activities, including travel for pleasure. According to our income argument, we would expect older adults today to be devoting more time this activity than they did in the past. Data support this hypothesis only in the Netherlands. Dutch men and women age 65-74 years old devoted 0.7 hours per day to this activity in 1995, as compared to 0.5 in 1975. No such trend was observed in the United States and Britain (apart from men age 45 to 64 in Britain). In fact, time devoted to this category of activity has decreased for American men aged 45 and above.

### **Other in-home leisure activities**

We include in this category hobbies, crafts, studying, and relaxing – even though these activities are not necessarily carried out at home. Older adults tend to devote more time to this category of activities as compared to younger adults. Over time, an increase in time devoted to this activity was observed in the United States, while a decrease was observed in Britain.

## **6. DISCUSSION AND CONCLUSION**

We started this paper with well-known demographic and economic trends: on the one hand people's life expectancy, health, and ability to work at older ages has increased over time, while on the other hand, people have been retiring earlier and labor force participation at older ages has decreased (especially for men). From this starting point, the paper asks the question of what have been the trends in people's allocation of time since the 1960s. More particularly, we were interested in the extent to which the decrease in time devoted to paid work at older ages had been accompanied by more time devoted to volunteer work, unpaid work, consumption-related leisure activities, and other form of active leisure activities. From a theoretical perspective, we were expecting more time to be spent actively today in view of the better health, education, and income of elderly as compared to 30 years ago.

Results presented in this paper suggest that this is not fully the case. As a result of the decrease in time devoted to paid work, older adults have indeed been devoting more time to leisure activities, but part of this increase as gone to more passive activities, including 'media and books' (excluding here education and studying). On the other hand, older adults appear to be devoting more time to 'sport and fitness' than they did in the past, and to be devoting more time to consumption activities such as travel for pleasure (in the Netherlands only). These findings lend therefore some support to claims that societies have created barriers that prevent older adults from being economically and socially more active (OECD 1998).

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**Table 1. Technical information on the time use surveys**

Country	Year	Age	Sample size <sup>1</sup>	Response rate	Diary	Survey period
Netherlands	1975	12+	1309	79%	7-day	1 month
	1980	12+	2730	54%	7-day	1 month
	1985	12+	3263	54%	7-day	1 month
	1990	12+	3158	49%	7-day	1 month
	1995	12+	3227	20% <sup>2</sup>	7-day	1 month
UK <sup>3</sup>	1975	5+	3545	60%	7-day	3 periods <sup>4</sup>
	1987 <sup>5</sup>	16+	1996	70%	7-day	1 month
	1995	16+	1875	93% <sup>5</sup>	1-day	1 month
USA	1965 <sup>6</sup>	18-64	1243	72%	1-day	2 months
	1975	18+	2406	72%	1-day	3 months
	1985	18+	5358	55%	1-day	12 months
	1993 <sup>7</sup>	0+	9386	63%	1-day	12 months

**Notes:**

- 1- Unless indicated otherwise, the sample size refers to the total number of individuals of all ages.
- 2- A different survey procedure was used in 1995. The response rate is not fully comparable with that of previous years.
- 3- For the UK, data for 1961 is also available but is not fully comparable because it does not cover the full 24 hours during the diary day. Data for 1999 is also available.
- 4- UK 1974/5: Data was collected in August and September 1974, and in February and March 1975.
- 5- UK 1987: The sample was not drawn from the entire population, but instead from six 'work' areas.
- 6- UK 1995: This is the response rate of the achieved Omnibus sample. No information was available on the actual response rate of the Omnibus sample.
- 7- USA 1965: the sample was based on a national sample of metropolitan areas (SMAs). The sample excluded residents of non-SMAs (areas with no city greater than 50,000 in population), households in which no member aged 18 to 65 was part of the labor force, and full-time farmers.
- 8- Formally, USA 1992/4.

Sources: Authors' tabulation from information contained in Fisher (2000) and various country-specific documents.

Table 2. Mean time spent on leisure activities by gender and age, USA (mean hours per day)

Gender	Leisure Activity	Year	25-34	35-44	45-54	55-64	65-74	75+
Men	Religious, civic, And voluntary activities	1965	0.1	0.4	0.2	0.3	n/a	n/a
		1975	0.2	0.3	0.2	0.2	0.4	0.5
		1985	0.1	0.2	0.2	0.4	0.3	0.2
		1993	0.2	0.2	0.2	0.3	0.3	0.4
	Social Leisure	1965	1.6	1.4	1.5	1.0	n/a	n/a
		1975	1.6	1.4	1.0	1.4	1.2	0.9
		1985	1.3	1.1	1.2	1.4	1.3	1.2
		1993	1.0	0.8	0.6	0.8	0.9	0.8
	Sports & Fitness	1965	0.3	0.2	0.1	0.4	n/a	n/a
		1975	0.2	0.2	0.1	0.2	0.1	0.1
		1985	0.4	0.4	0.2	0.4	0.4	0.4
		1993	0.5	0.4	0.4	0.4	0.7	0.3
	Other out-of-home leisure	1965	0.7	0.8	0.6	0.5	n/a	n/a
		1975	1.2	0.6	0.6	0.8	0.8	0.8
		1985	0.9	0.8	0.8	0.8	0.6	0.7
		1993	1.0	0.6	0.5	0.6	0.7	0.5
	Media and books	1965	2.8	2.6	2.4	2.8	n/a	n/a
		1975	2.8	2.8	3.0	4.1	4.5	4.0
		1985	2.7	2.6	2.8	3.4	4.4	5.3
		1993	2.7	3.1	3.2	3.9	4.8	5.6
	Other in-home leisure	1965	0.3	0.2	0.3	0.2	n/a	n/a
		1975	0.4	0.3	0.4	0.6	1.0	1.2
		1985	0.5	0.5	0.4	0.7	1.0	0.7
		1993	0.6	0.7	0.6	0.8	1.3	1.5

Notes:

n/a: No cases or too few cases (less than 20).

All based on weighted data, with the exception of the UK.

Table 2. Mean time spent on leisure activities by gender and age, USA (mean hours per day)

Gender	Leisure Activity	Year	25-34	35-44	45-54	55-64	65-74	75+
Women	Religious, civic, And voluntary activities	1965	0.3	0.4	0.2	0.6	n/a	n/a
		1975	0.3	0.4	0.4	0.3	0.3	0.5
		1985	0.2	0.3	0.4	0.3	0.3	0.6
		1993	0.2	0.2	0.3	0.3	0.4	0.4
	Social Leisure	1965	1.7	1.5	1.4	1.4	n/a	n/a
		1975	1.5	1.4	1.2	1.1	1.1	1.5
		1985	1.4	1.3	1.4	1.4	1.4	1.2
		1993	1.0	0.9	0.9	1.0	1.1	1.0
	Sports & Fitness	1965	0.1	0.1	0.0	0.0	n/a	n/a
		1975	0.1	0.0	0.0	0.0	0.1	0.0
		1985	0.2	0.2	0.2	0.2	0.3	0.2
		1993	0.4	0.2	0.3	0.2	0.2	0.1
	Other out-of-home leisure	1965	0.7	0.6	0.3	0.5	n/a	n/a
		1975	0.7	0.6	0.5	0.5	0.5	0.2
		1985	0.8	0.7	0.7	0.6	0.6	0.4
		1993	0.8	0.6	0.6	0.5	0.5	0.3
	Media and books	1965	2.0	1.8	2.4	2.4	n/a	n/a
		1975	2.6	2.4	2.7	3.1	3.6	4.2
		1985	2.5	2.3	2.5	3.3	3.9	4.2
		1993	2.6	2.7	2.7	3.5	4.6	5.5
	Other in-home leisure	1965	0.6	0.4	0.9	0.5	n/a	n/a
		1975	0.4	0.7	0.9	0.8	1.2	1.2
		1985	0.5	0.5	0.6	0.9	1.1	0.9
		1993	0.6	0.5	0.9	1.2	1.3	1.6

Notes: see notes Table 2.

Table 3. Mean time spent on leisure activities by gender and age, Netherlands (mean hours per day)

Gender	Leisure Activity	Year	25-34	35-44	45-54	55-64	65-74	75+
Men	Religious, civic, And voluntary activities	1975	0.3	0.4	0.4	0.2	0.3	n/a
		1980	0.3	0.3	0.3	0.5	0.4	0.2
		1985	0.3	0.3	0.4	0.6	0.5	0.2
		1990	0.2	0.3	0.5	0.5	0.6	0.2
		1995	0.3	0.4	0.5	0.4	0.6	0.4
	Social Leisure	1975	1.9	2.2	1.6	1.7	2.2	n/a
		1980	2.0	1.7	1.7	2.0	1.9	1.8
		1985	1.9	1.5	1.4	1.7	1.7	1.8
		1990	1.8	1.5	1.7	1.7	1.6	1.5
		1995	1.8	1.4	1.3	1.5	1.7	2.1
	Sports & Fitness	1975	0.3	0.3	0.2	0.4	0.2	n/a
		1980	0.3	0.2	0.2	0.2	0.4	0.2
		1985	0.4	0.3	0.3	0.4	0.5	0.8
		1990	0.3	0.3	0.3	0.4	0.3	0.4
		1995	0.3	0.3	0.4	0.6	0.5	0.5
	Other out-of –home leisure	1975	0.7	0.6	0.6	0.5	0.5	n/a
		1980	0.8	0.6	0.6	0.6	0.5	0.2
		1985	0.8	0.8	0.6	0.6	0.7	0.4
		1990	0.8	0.7	0.6	0.8	0.6	0.6
		1995	0.8	0.7	0.8	0.7	0.7	0.8
	Media and books	1975	2.7	2.5	3.0	3.6	3.9	n/a
		1980	2.7	2.7	3.0	3.3	4.4	4.7
		1985	2.8	2.8	3.1	3.7	4.4	4.4
		1990	2.8	2.8	2.5	3.6	4.3	3.6
		1995	2.3	2.5	2.7	3.5	3.9	3.7
	Other in-home leisure	1975	0.6	0.6	0.5	0.8	1.1	n/a
		1980	0.6	0.6	0.6	0.8	1.0	1.2
		1985	0.5	0.5	0.6	0.9	1.1	1.3
1990		0.5	0.5	0.7	1.2	1.0	1.0	
1995		0.6	0.5	0.5	0.7	1.2	0.6	

Notes: see notes Table 2.

Table 3. Mean time spent on leisure activities by gender and age, Netherlands (mean hours per day)

Gender	Leisure Activity	Year	25-34	35-44	45-54	55-64	65-74	75+
Women	Religious, civic, And voluntary activities	1975	0.2	0.3	0.3	0.4	0.2	0.3
		1980	0.2	0.3	0.3	0.4	0.3	0.1
		1985	0.2	0.4	0.4	0.4	0.3	0.2
		1990	0.2	0.3	0.6	0.4	0.3	0.1
		1995	0.2	0.4	0.4	0.4	0.4	0.1
	Social leisure	1975	2.2	1.9	1.9	2.2	2.4	2.4
		1980	2.2	1.9	1.9	2.2	2.2	1.7
		1985	2.1	1.9	1.9	2.0	2.0	1.8
		1990	2.1	1.8	2.0	2.0	2.0	1.9
		1995	2.1	1.8	2.0	2.1	1.8	1.6
	Sports & fitness	1975	0.2	0.2	0.2	0.1	0.1	0.1
		1980	0.2	0.2	0.1	0.1	0.1	0.1
		1985	0.2	0.2	0.2	0.3	0.2	0.1
		1990	0.2	0.2	0.2	0.2	0.2	0.1
		1995	0.2	0.2	0.3	0.3	0.2	0.3
	Other out-of –home leisure	1975	0.6	0.5	0.6	0.6	0.5	0.2
		1980	0.6	0.6	0.5	0.5	0.4	0.3
		1985	0.7	0.7	0.6	0.7	0.6	0.4
		1990	0.7	0.8	0.7	0.6	0.6	0.3
		1995	0.8	0.7	0.7	0.8	0.7	0.5
	Media and books	1975	2.2	2.3	2.8	2.8	3.2	3.8
		1980	2.0	2.2	2.3	2.6	2.9	4.4
		1985	2.1	2.2	2.4	2.6	3.6	4.0
		1990	2.2	2.5	2.6	3.0	3.4	3.8
		1995	2.1	2.3	2.4	2.9	3.6	4.3
	Other in-home leisure	1975	0.9	0.9	1.1	0.8	1.1	0.7
		1980	0.8	1.0	1.2	1.3	1.3	1.0
		1985	0.8	1.1	1.1	1.3	1.4	1.2
1990		0.7	0.7	1.0	1.2	1.5	1.2	
1995		0.6	0.7	0.6	1.2	1.3	0.9	

Notes: see notes Table 2.

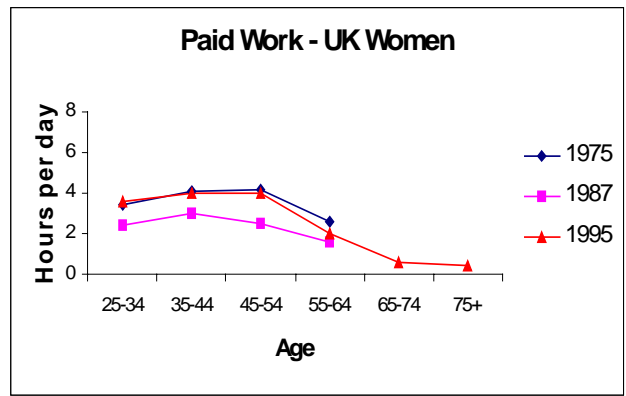
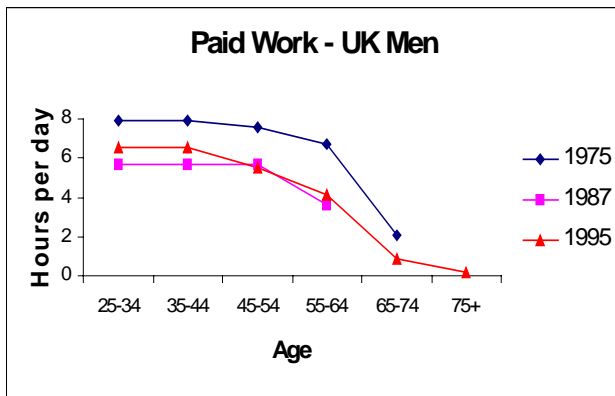
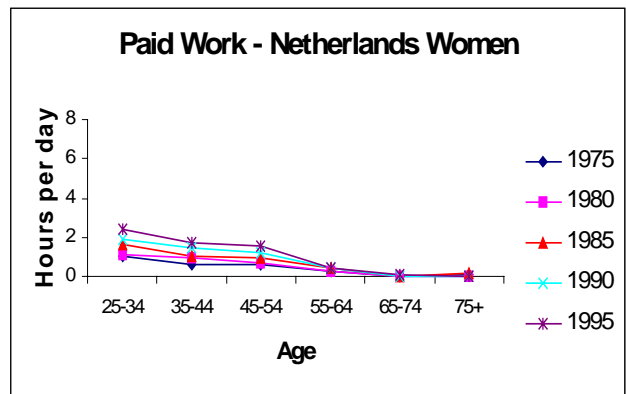
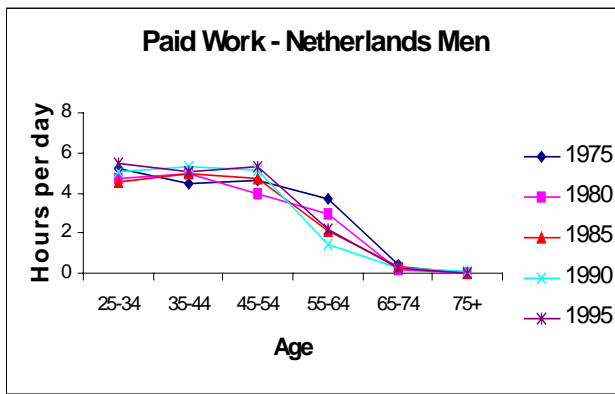
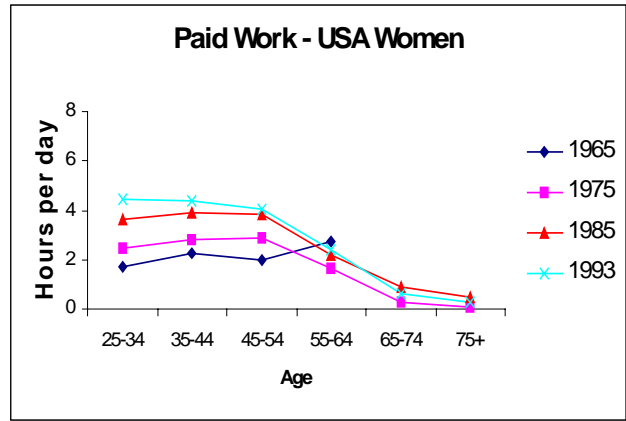
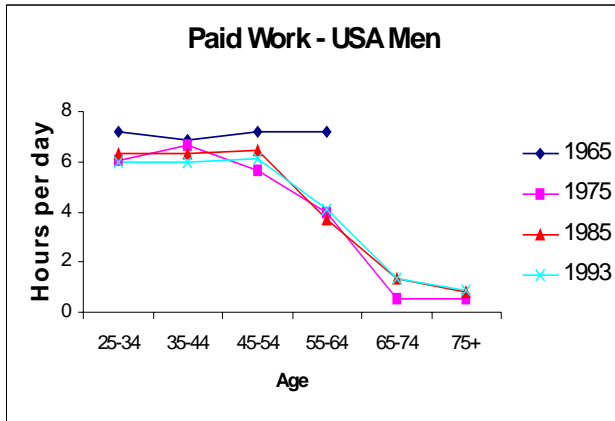


Table 4. Mean time spent on leisure activities by gender and age, UK (mean hours per day)

Gender	Leisure Activity	Year	25-34	35-44	45-54	55-64	65-74	75+	
Men	Religious, civic, And voluntary activities	1975	0.0	0.0	0.1	0.1	0.1	n/a	
		1987	0.1	0.2	0.2	0.2	n/a	n/a	
		1995	0.3	0.2	0.0	0.2	0.2	0.2	
	Social leisure	1975	1.0	0.9	0.9	0.6	0.5	n/a	
		1987	1.4	1.2	1.2	1.4	n/a	n/a	
		1995	1.6	1.8	1.6	1.4	1.7	1.3	
	Sports & fitness	1975	0.2	0.2	0.1	0.3	0.4	n/a	
		1987	0.3	0.2	0.3	0.3	n/a	n/a	
		1995	0.2	0.2	0.2	0.2	0.2	0.1	
	Other out-of-home leisure	1975	0.5	0.4	0.3	0.2	0.7	n/a	
		1987	0.8	0.7	0.7	0.8	n/a	n/a	
		1995	0.6	0.5	0.8	0.6	0.7	0.4	
	Media and books	1975	2.3	2.4	2.7	3.4	4.7	n/a	
		1987	2.9	2.9	3.1	3.6	n/a	n/a	
		1995	2.5	2.5	2.9	4.2	4.6	6.6	
	Other in-home leisure	1975	1.1	1.0	1.4	1.5	2.0	n/a	
		1987	0.5	0.7	0.6	0.6	n/a	n/a	
		1995	0.7	0.3	0.7	0.5	1.0	0.5	
	Women	Religious, civic, And voluntary activities	1975	0.1	0.1	0.0	0.1	n/a	n/a
			1987	0.1	0.2	0.2	0.2	n/a	n/a
			1995	0.2	0.2	0.6	0.4	0.2	0.3
Social leisure		1975	1.1	0.9	0.8	1.0	n/a	n/a	
		1987	1.7	1.4	1.6	1.4	n/a	n/a	
		1995	1.8	1.4	1.6	1.6	1.8	1.1	
Sports & fitness		1975	0.2	0.0	0.1	0.2	n/a	n/a	
		1987	0.2	0.2	0.2	0.1	n/a	n/a	
		1995	0.1	0.2	0.1	0.2	0.1	0.0	
Other out-of-home leisure		1975	0.7	0.3	0.3	0.5	n/a	n/a	
		1987	0.7	0.8	0.7	0.6	n/a	n/a	
		1995	0.6	0.4	0.3	0.5	0.4	0.2	
Media and books		1975	1.8	2.5	2.7	3.2	n/a	n/a	
		1987	2.4	2.4	2.7	2.9	n/a	n/a	
		1995	2.7	2.2	2.4	3.5	4.2	5.1	
Other in-home leisure		1975	1.5	1.3	1.6	2.3	n/a	n/a	
		1987	0.7	0.8	0.8	1.0	n/a	n/a	
		1995	0.3	0.3	0.4	0.6	0.8	1.2	

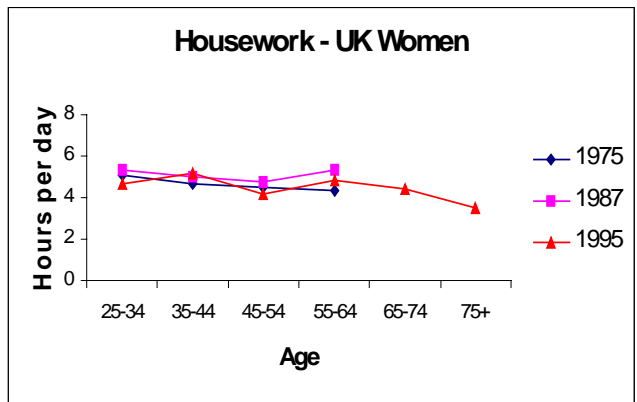
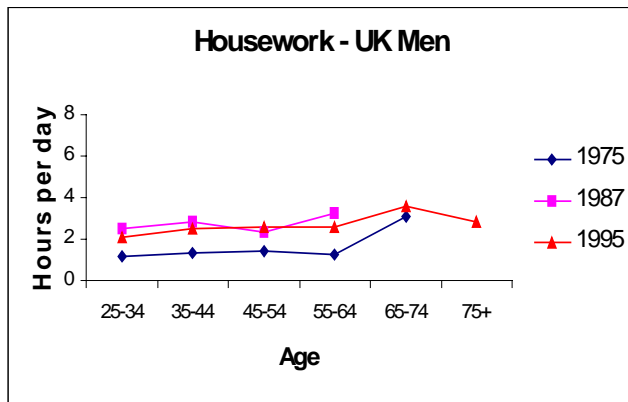
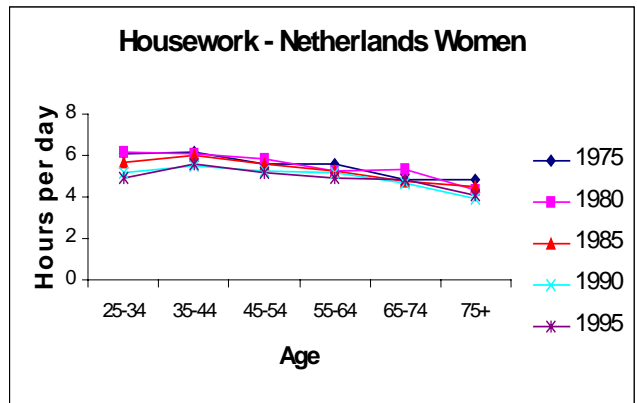
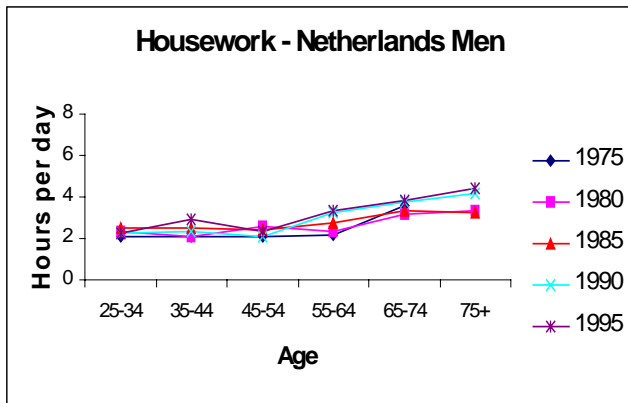
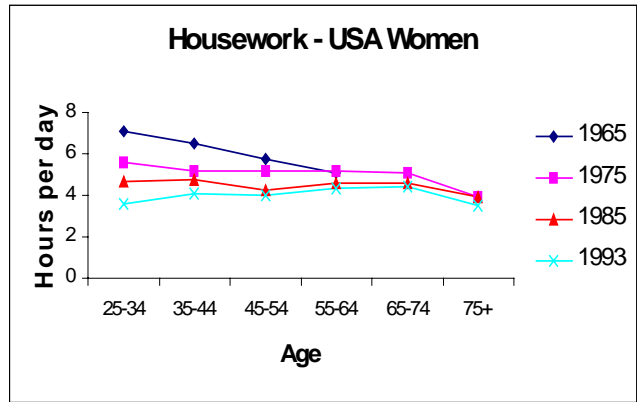
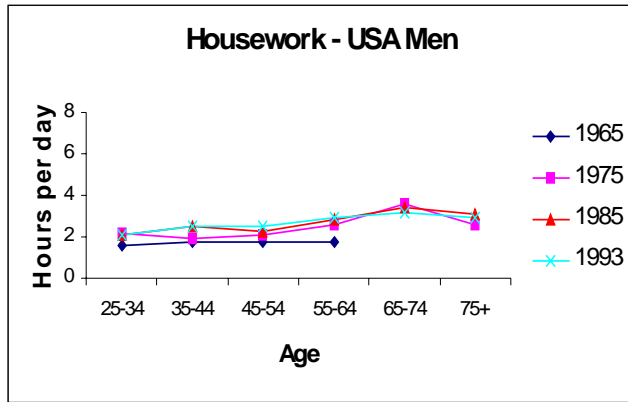
Notes: see notes Table 2.

Figure 1: Trends in time spent on paid work

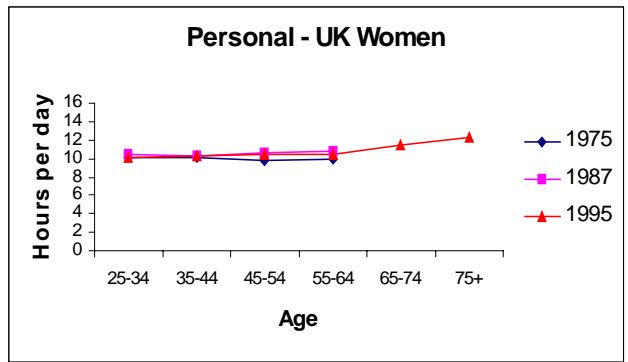
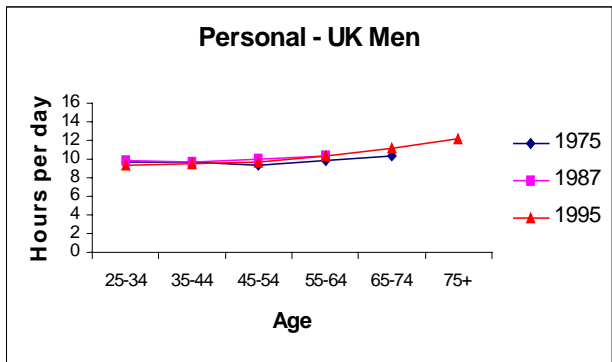
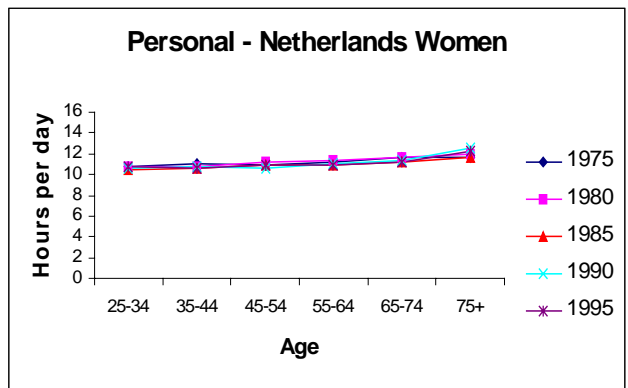
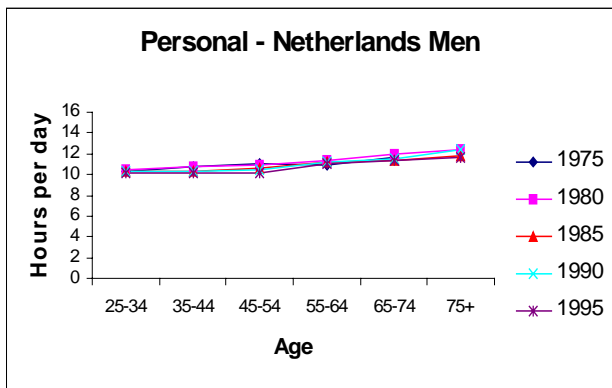
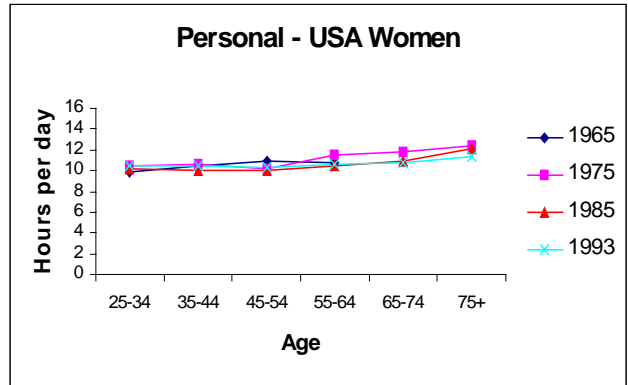
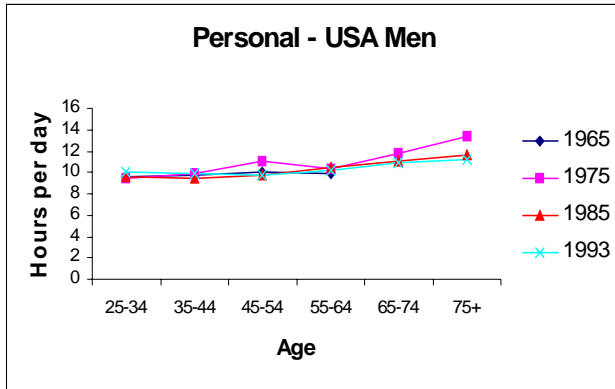


Note: The unusual trend for 'Paid Work – USA Men 1965' is due to the nature of the sample. Refer to the text for details.

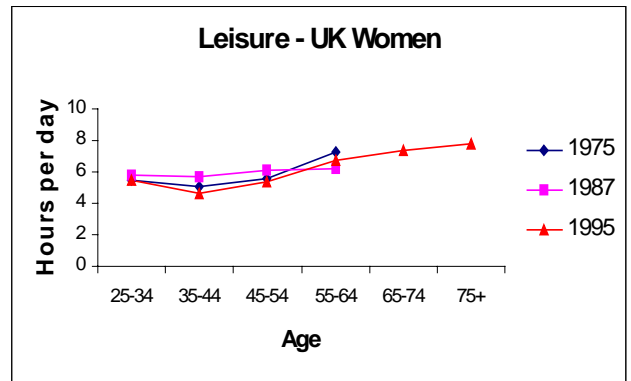
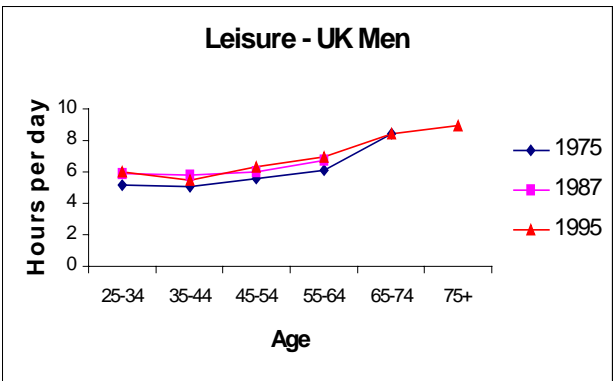
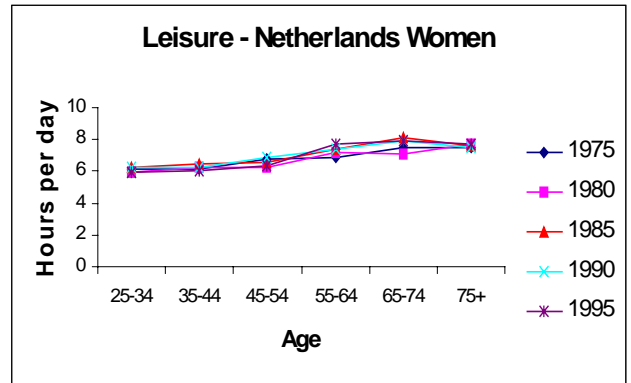
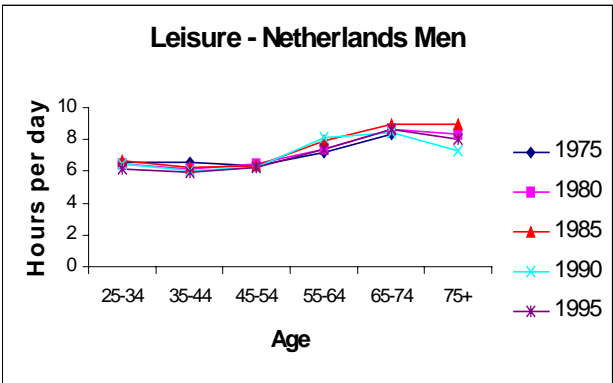
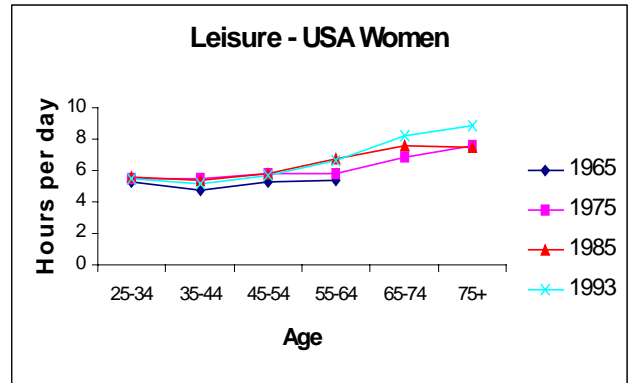
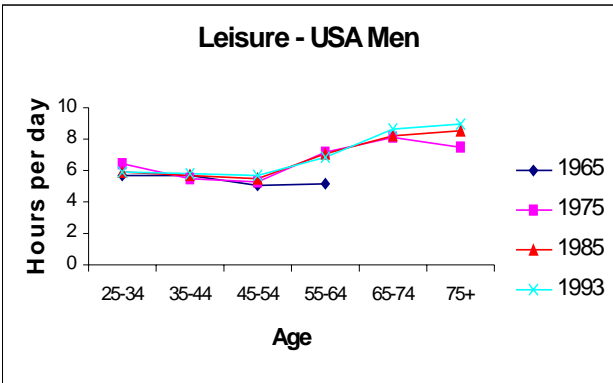
Figure 2: Trends in time spent on housework



**Figure 3: Trends in time spent on personal activities**



**Figure 4: Trends in time spent on leisure activities**



APPENDIX --Table A.1. Categories of activities

Main Category	Sub-category	Variable <sup>a</sup>	Details
1. Paid work		AV01	Paid work
		AV02	Paid work at home
		AV03	Second job
		AV05	Travel to/from work
2. Housework		AV06	Cooking, washing up
		AV07	Housework
		AV08	Odd jobs
		AV09	Gardening, pets
		AV10	Shopping
		AV12	Domestic travel
3. Personal		AV13	Dressing/toilet
		AV14	Personal services
		AV15	Meals, snacks
		AV16	Sleep
4. Leisure	4.1. Religious, civic, and Volunteer activities	AV23	Civic duties
		AV11	Child care
		AV22	Religious activities
	4.2. Sport and fitness	AV19	Active sport
		AV21	Walks
	4.3. Media and books	AV31	Television, video
		AV30	Listening to radio
		AV32	Listening to tapes etc
		AV34	Reading books
		AV35	Reading papers, magazines
	4.4. Social activities	AV25	Dances, parties
		AV26	Social club
		AV27	Pub
		AV28	Restaurant
		AV29	Visiting friends
		AV37	Conversation
		AV38	Entertaining friends
	4.5 Other out-of-home	AV17	Leisure travel
		AV18	Excursions
		AV20	Spectator sport
		AV24	Cinema, theatre
		AV04	School/classes
	7. Other in-home	AV33	Study
AV39		Knitting sewing etc	
AV40		Other hobbies and pastimes	
AV36		Relaxing	

A: These variables are the harmonized categories of activities found in the MTUS datasets.

**Appendix Table A.2**

Number of cases by gender and age								
Country	Gender	Year	25-34	35-44	45-54	55-64	65-74	75+
USA	Male	1965	126	141	116	86	9	0
		1975	232	201	203	171	81	29
		1985	528	452	298	267	173	87
		1993	785	676	526	437	298	172
	Female	1965	150	150	146	94	13	0
		1975	249	196	178	162	134	65
		1985	537	446	309	291	227	114
		1993	844	807	663	527	510	349
Netherlands	Male	1975	124	99	96	64	71	8
		1980	288	207	176	154	129	27
		1985	317	296	196	186	145	50
		1990	332	295	214	173	130	45
		1995	345	275	246	162	159	32
	Female	1975	119	92	99	65	88	21
		1980	259	213	166	158	199	29
		1985	309	270	198	200	228	52
		1990	303	323	190	179	165	66
		1995	305	316	234	192	210	57
UK	Male	1975	104	90	112	65	32	5
		1987	154	137	94	84	5	0
		1995	171	127	139	116	108	61
	Female	1975	58	58	72	34	19	4
		1987	191	164	116	67	0	0
		1995	189	159	126	107	160	108

Note: All based on weighted data, with the exception of the UK.