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INTERNATIONAL TIME USE COMPARISONS

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A Draft Final Report on the Second Phase of a Study for the
European Foundation for the Improvement
" "
of Living and Working Conditions.

1. Why Study the Use of Time?

Time is the stuff of experience. All activities have position and duration; our natural accounts of our activities ultimately take the form of "time spent in this or that activity". So time use is potentially a sort of general social accounting tool, a numeraire for describing a society in much the same way that money may be used for describing the more limited economic subsystem. What is surprising is that this statement should be at all necessary: time use data (material from time budget surveys) is in fact among the less used of the social scientists' tools.

The current importance of studies of time use patterns does not however rest on this rather diffuse statement of time as an important sort of social indicator, time as a means of studying a range of disparate social phenomena. For a number of reasons, the use of time is now becoming itself the object of research. Time use patterns are now emerging as the subject of policy concern, for a range of public, corporate and private bodies. Let us consider what the interests of these bodies are.

First and most obvious is the interest in issues connected with the reduction of working time. For some this is a simple matter of job sharing: the reduction of working time leads, assuming that the total amount of work remains constant, to an increase in the number of jobs available. Calculations about these somewhat straightforward consequences of the reduction of hours of work obviously need some time use information. Much more interesting, however, are the arguments emerging, for instance, from academic supporters of last year's IG Metal strike in favour of shorter working hours. These German economists argued that, as well as job sharing, shorter hours of employment may also be actually work generating. Their position relies on the fact that those not working must be doing something with their time; the new leisure activities encouraged by a reduction of work time (without a proportionate decline in take-home pay) may be expected to produce new employment opportunities in the service industries and in those manufacturing industries ancillary to the service sector. This then means a new focus for time use research; finding the consequences of work-time reduction for the pattern of non-work activities.

The second focus of policy concern has less pressing economic importance, but has nevertheless a substantial social and ethical significance. Women are in general in a disadvantaged position in the money economy; they work, often in gender segregated jobs, for less pay and with less hope of career advancement than their male counterparts. One of the main explanations for this disadvantaged status in the workplace is the nature of the sexual division of labour within the household. Women bear the major responsibility for the regular and routine domestic work tasks within the household irrespective of whether or not they also have paid work responsibilities. This means that women's total of paid plus unpaid (ie domestic) work tends to exceed men's.

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A third focus of policy concern is rather more futurological. The new information technologies have so far made themselves felt mostly through changes in production processes. There have indeed been a few new products (pocket calculators, home computers) for which there were no market equivalents before the advent of microprocessor chips. But in the main the new technology has been used largely to make existing sorts of products more cheaply (and employing less labour). Nevertheless there is still hope that the new technologies will begin to have a substantial employment generation effect - when genuinely new markets for new products (information technology hardware and software) begin to emerge. But what are the new products to be? Many high technology firms hope for new markets emerging from

households' use of IT to satisfy their needs for various sorts of services - the development of tele-shopping, remote and interactive educational, medical and social services, new forms of entertainment and information services. A major application of time use studies is the investigation of the way that new-product-related activities may find their place in the daily pattern of household activities.

2. The European Foundation Time Use Project.

The purpose of the European Foundation time use project is to organise a collection of data, for a number of different countries, which may be used to throw light on these three policy questions in particular, as well as providing some more general social accounting information. The established research instrument for time use study is the "time budget survey". Typically such surveys involve two parts: a conventional questionnaire covering both standard socio-demographic issues and more specialised geographical and other household information; and a diary (either for self-completion or completed by an interviewer) within which a detailed account of activities for a specified period (normally varying from a single day to a continuous week, or occasionally involving a series of widely separated days through a year) is entered.

This sort of research is enormously expensive. Sample sizes tend to be large, because of the wide scope for variation in lifestyle. The survey instruments tend to be cumbersome, because of the very large amount of contextualising information necessary to make sense of the diary material. And the process of coding the diary material - normally though not necessarily consisting of textual descriptions - and transferring it to machine-readable form, is very labour intensive and time consuming. The limited resources made available by the Foundation would certainly not be sufficient to enable us to carry out any sort of new multinational data collection. The last such multinational time-use study was in fact carried out, under the auspices of

UNESCO, just about twenty years ago.(Szalai 1973) But individual national studies have been carried out by most developed countries within the last decade, and in some cases two or more such studies have been made. It was decided very early in the planning of the Foundation exercise that, rather than collecting our own data on a multinational basis, we would attempt to construct a multinational survey retrospectively by putting together existing surveys, or the results of existing surveys, from a number of different countries.

Before describing how we have set about this task it may be helpful to consider the reasons why we should wish to be involved in multinational research in the field of time use. Quite apart from the normal attractions of multinational intellectual cooperation, there are some quite specific advantages at this point in time. These relate to the previously mentioned small scale of social science research. Though the history of this field stretches back some sixty years, the activities during these six decades may perhaps be best characterised as a series of promising starts prematurely abandoned. The field has been a graveyard of high expectations - practitioners have seldom if at all been able to move from description of time use patterns to analysis of the causes and consequences of these patterns. Yet such analysis is now precisely what is required if we are to begin to answer the questions posed in the previous section.

The few experts in the field, and the (in absolute terms) small amount of time budget data available, are now under some pressure to make a scientific input to the solution of policy questions of the highest possible importance. So the special

reasons for a multinational approach to time use studies at this point in history come down to economies of scale. There is only a small pool of time budget researchers in any one country; bringing together researchers from a number of different countries may have the effect of providing a critical mass of intellectual effort from which some real advance may emerge. And making national data available to the international community enlarges every researcher's supply of evidence. It may also be helpful to add that while the diversity of instruments and survey techniques among the participating countries does cause some problems it also gives some very specific advantages. Each researcher is limited in the amount of information that can be collected in the questionnaire ancillary to the diary; international collaboration means that the individual researcher has access to answers to questions (eg concerning possession of particular consumer durables or frequency of participation in activities during a year) that were excluded for reasons of space from his or her own survey, but which nevertheless appear in a survey from another country where a different choice of questionnaire items was made.

There are two different ways in which the multinational comparative exercise could be worked. The comparison could be operated at the level of published or otherwise acquired results from individual surveys. Or it could be operated through the development of a common multinational comparative dataset - bringing together the raw data into a single "lowest common denominator" form for reanalysis. The former course of action does have some advantages, and indeed some of this work has been carried out. Section 4 describes some of the results of

comparisons of time-use patterns in eleven different countries. But, as we shall see, data in this form is not really a suitable basis for answering the sorts of questions outlined in the first section of this paper, nor is it an appropriate framework for gaining the synergistic benefits of international cooperation. So, in Section 5 we outline the first steps in the development of a new multinational comparative data set. But first, Section 3 outlines the international stock of time-budget material from which our multinational comparative data is drawn.

3. An International Survey of Time Budget Material.

Tables 1 and 2 give some summary information about the international stock of time budget information. These tables are by no means comprehensive in their coverage; they exclude many "special purpose" time budget surveys (covering particular types of activity, such as transport or leisure, or particular occupational groups, such as teachers or managers). And they are probably not exhaustive; some important national surveys have doubtless been overlooked in the compilation of this present list. But even in this incomplete form the tables cover more than 50 surveys, for 29 countries. All of the major OECD states, and most of the Warsaw Pact economies, are included in the list.

Table 1. Time Use Studies in Various Countries

Country	Date	Sample	Ages	Days	Organisation
EEC					
Netherlands	1980	2700	12+	7	Soc. Cult. Planbu
	1975	1300	12+	7	Soc. Cult. Planbu
Belgium	1965	2100	18-65	1	Univ. Brussels
France	1984/5	20000*	*	1/7	INSEE
	1974/5	6650	18+	1	INSEE
	1967	2868	18-65	1/7	INSEE
	1966	2802	18-65	1/7	INSEE
	1963/4	696	"Adult"	1	CES
	1958	2900	<47, F	1	INED
	1947	1800	<47, F	1	INED
West Germany	1979/80	4000	14+	1	EMNID
	1979	3000	16+	1	Hamburg CC
	1965	2500	18+	1	U. Koln, Munster
Denmark	1975	3700	16+	1	N. Inst. Soc. Res
	1961		16+	1	N. Inst. Soc. Res
U.K.	1983/4	10000	14+	1	BBC
	1983/4	1300	14+	7	SPRU, ESRC
	1981	1200	14+	7	Scot. Count. Comm
	1974/5	3500	16+	7	BBC
	1971	700	25-45	4	Inst. Comm. Stud.
	1961	2700	14+	7	BBC/SPRU

	1938	700	"Adult"	1	Mass Obs./SPRU
Italy	1979	3900	All	1	CNR, U. of Turin
	1973	3000	14+	1	U. of Rome
Other Europe					
Austria	1981	22000	19+	1	Cent. Stat. Off.
Switzerland	1979	45000	14+	1	Fed. Stat. Off.
Norway	1980/1	5205	16-74	2/3	Cent. Bu. Stat.
	1971/2	3000	16-74	2/3	Cent. Bu. Stat.
Finland	1979	7355	10-64	2	Cent. Stat. Off.
Sweden	1981/2	3500	9-79	1	Swed. Broad. Corp.
Eastern Europe					
Poland	1978				Inst. Phil. Soc.
	1965				
East Germany	1965		18-65	1	
Czechoslovakia	1979/80	35000	15-69	1	Inst. Phil. Soc.
	1965		18-65	1	
Hungary	1976/7	27600	15-69	4	Cent. Stat. Off.
	1965		18-65	1	Hung. Stat. Off.
	1963	12000	18-59	1	Hung. Cent. Off.
Yugoslavia	1965		18-65	1	

Bulgaria	1976/7				Bulg. Acad. Sci.
	1970/1				Bulg. Ac. Sci.
Soviet Union	1980	2000	18+	1	Inst. Soc. Res.
Far East	<hr/>				
South Korea	1981	3365	5+	7	KBS, U. of Seoul]
Japan	1980	54500	>10	1	NHK
	1975	30000	>10	1	NHK
	1970	34000	>10	1	NHK
	1965	24300	>10	1	NHK
	1960	170000	>10	1	NHK
North America	<hr/>				
Canada	1981	2700	18+	1	Statistics Canada
	1971				
USA	1975/6	2400	18+	1-4	SRC, U. Michigan
	1965		18+	1	SRC, U. Michigan
Near East	<hr/>				
Israel	1970	3700	18+	1	Hebrew U.

Table 2 Reference Material on Time Budget Surveys.

Country	Date	References
EEC		
Netherlands	1980	Knulst and Schoonderwoerd (1983)
	1975	Knulst (1977)
Belgium	1965	Szalai (1973), Javeau (1970)
France	1984/5	Roy (1984)
	1974/5	Lemel (1976), Fouquet and Chadeau (1981), Roy (198)
	1967	Lemel (1972, 1974), Goguel (1966)
	1966	Goguel (1966)
	1963/4	Guilbert, Lowit and Creuzen (1965)
	1958	Girard (1958), Girard and Bastide (1959)
	1947	Stoetzel (1948)
West Germany	79/80	EMNID
	1979	Dangschat et al (1982)
	1965	U. Koln and Munster
Denmark	1975	Madsen (1966)
	1961	Madsen (1967)
U.K.	1983/4	BBC (1984)
	1983/4	Gershuny and Miles (1984)
	1981	CCS (1982), Gershuny and Thomas (1985)
	1974/5	BBC (1978), Gershuny and Thomas (1983)
	1971	Young and Willmott (1973)

	1961	BBC (1965), Gershuny and Thomas (1981)
	1938	Thomas, Zmroczek (1983), Gershuny (1983)
Italy	1979	Belloni (1984)
	1973	Grazia-Rezi (1974)
Other Europe	<hr/>	
Austria	1981	Cent. Stat. Off.
Switzerland	1979	Fed. Stat. Off.
Norway	1980/1	Lingsom and Ellingsaeter (1983)
	1971/2	Lingsom (1975)
Finland	1979	Niemi et. al. (1981), Niemi (1983)
Sweden	1981/2	Sveriges Radio (1982), Gahlin (1983)
Eastern Europe	<hr/>	
Poland	1978	Inst. Phil. Soc.
	1965	
East Germany	1965	Szalai (1973)
Czechoslovakia	1979/80	Federal Statistical Office* (Undated)
	1965	
Hungary	1976/7	Andorka and Falussy (1982)
	1965	Szalai (1973)
	1963	Ferge (1965)

Yugoslavia 1965 Szalai (1973)

Bulgaria 1976/7 Staikov (Undated)
1970/1 Staykov (1978)

Soviet Union 1980 Inst. Soc. Res.

Far East

South Korea 1981 KBS, U. of Seoul]

Japan 1980 Nakanishi (1982)
1975 NHK (1976)
1970 NHK (1971)
1965 Nakanishi (1966)
1960 Nakanishi (1963)

North America

Canada 1981 Kinsley and O'Donell (1983)
1971

USA 1975/6 Robinson (1978)
1965 Robinson and Converse (1973)

Near East

Israel 1970 Katz and Gurevitch (1976)

While this is a very large amount of information, it does not necessarily provide a very substantial basis for multinational comparative research. There is no standard form for a time budget survey; it might be helpful to consider the various ways in which the design of a time budget survey may vary:

- 1) It will vary according to the nature of the population from which the sample is drawn. Most surveys (though not all - Belloni (1984)) place a lower age limit, and some an upper age limit for their respondents. Some restrict their coverage by other demographic criteria, by, for example, sex (Stoetzel 1948), or marital status (Young and Willmott 1973). Others still are restricted by the geographical region they cover (eg Staikov, no date).

- 2) Variation according to the sampling methodology also introduces complications for international comparative purposes. The very substance of a time budget survey is the nature of the respondents' activity patterns - and the nature of the individual's activity patterns determines his or her availability to complete the survey instrument. The effect of non-response bias in these surveys may then be assumed to vary according to the sampling methods (eg quota sampling involving knocking on doors in a specified area will produce a larger proportion of "stay-at-home" respondents than will a more classical postal-addressed based probability sampling procedure).

- 3) There is wide scope for variation in the design of the time-use diary. Activity categories can be precoded, either with a relatively small set of activities (eg Sweden 1981/2) or with a very large number of precoded activities (the Netherlands 1980 survey had more than 200) - or the activity coding may be left open. The time intervals for recording activities may be left open (as in the "start time, activity, start time, activity" format of 1960s UNESCO multinational study), they may be fixed as units of 5, 15 or 30 minutes (or combinations of these at different times of the day), they may be recorded at random instants (as in the "beeper" studies recorded in Robinson 1978), or they may be set against a time grid (the diaries used in the NHK Japanese surveys are particularly attractive examples of this last format - which is unfortunately best suited to the compact orthography of ideographic text). The single day interviewer-aided recall format (the "yesterday" diary) is the most common, but seven-day self-completion is also widely used, and some of the French studies combine a detailed one day with a less detailed seven day structure.
- 4) The activity classification schemes themselves vary very considerably, and this must be a major stumbling block for comparative work. However, one lasting consequence of the UNESCO work of the 1960s is that the 100-activity categorisation used by its participants has become generally accepted as at least a starting point for the development of new activity coding schemes. Most of the

modern surveys pay at least token respect to an unspoken principle that new coding structures should be at some level compatible with the Szalai activity set. Surveys also differ with respect to the possibility of multiple codings for simultaneously occurring activities, and for the opportunity for recording the spatial location of the activity, and the company of other people in the activity.

- 5) The demographic and other questionnaire information ancillary to the diary instrument varies very widely. There are a few variables (age, sex, family status, household composition, years of full-time education) which are both obvious candidates for inclusion in the questionnaire, and readily coded in a way which enables comparisons with other surveys. There are other variables (eg occupation, social class, educational status, geographical location of home) which are obvious candidates, but without readily available coding systems which make international comparisons easy. And there is a very wide range of other variables which might be included either because of some special subject of interest (eg accessibility of sports or cultural facilities) or because of a particular framework of explanation for activity patterns (eg mothers' employment history as explanation of daughters' employment status). As previously noted this last source of diversity may be a strength as well as a weakness in comparative research.

The large number of surveys included in Tables 1 and 2 might potentially be used for comparative purposes in a range of different ways. Each of the listed surveys have some published results. In principle it would be possible simply to use a collection of the published tabulations from each survey as a basis for a comparison of time allocation patterns, their change over historical periods, and their variation as between countries ("Strategy 1"). But this procedure would be subject to almost all of the problems listed above. The variation in the age ranges covered (see column 4 in Table 1), and the differences in the geographical coverage of the surveys (some of those listed are entirely urban samples) would mean that we could not tell what part of the variation in time use is due to country differences and what part to population. And the great variety of different meanings attached to such commonplace terms as "at work" or "doing housework" would in any case render any comparisons rather less than meaningful.

A second approach ("Strategy 2") would be to identify the current community of time use researchers with current access to raw national data, whose data is of sufficient quality (ie sufficiently detailed activity coding and adequate socio-demographic information), and to request that they compile special-purpose tables, well specified as to the detail of population coverage, and the inclusiveness of activity categories. Table 3 lists the national surveys which might in principle be expected to be included in such an exercise.

Table 3.

"Strategy 2" Surveys

Netherlands 1980	France 1974/5
Denmark 1975	UK 1983/4
Italy 1979	Austria 1981
Switzerland 1979	Norway 1980/1
Finland 1979	Hungary 1976/7
Japan 1980	Canada 1981
USA 1975/6	

Further information might reveal that other national data sources (particularly those in Eastern Europe) might be added to this list. This does leave us with a minimum of fifteen countries as candidates for a "Strategy 2" multinational comparison. And indeed researchers in eleven of these countries have agreed to take part in such an exercise:(described in Robinson, 1984) some of its findings are reviewed in the next section.

But the "Strategy 2" approach is less than satisfactory. Answering the sorts of questions outlined in Section 1 of this paper requires that we improve our fundamental understanding of the determinants of time use patterns. Once we have established and well-founded hypotheses about the determinants of time use, then we may be in a position to specify a small number of standard tables which cast light on our policy problems. The standard tables discussed in the following section are not very illuminating. For the moment we need, not the international time-use accounts that would emerge from "Strategy 2", but rather a multinational raw data set that the researchers can interact

with in an exploratory mode. This "Strategy 3" seems the appropriate approach for the European Foundation Project; Section 5 describes our progress in constructing such a multinational data set.

4. Time Use in Eleven Countries: Some Illustrative Examples.

Figure 1 shows an overall picture of the allocation of time, in the eleven participating countries, to four basic categories of activities tables giving a more detailed account of leisure activities in these 11 countries may be found in Robinson (1984). The category "sleep" includes also other personal care activities, such as washing, dressing, and non-sociable eating. "Paid work" also includes travel to work and other activities ancillary to employment such as changing into work clothes. "Domestic Work" includes child care, shopping, domestic paperwork and household (and vehicle) maintenance. "Leisure" is the residual category; the four categories together sum to the 24 hours of the average day for each country.

Figure 1

National Average Division of Time.

AUSTRIA 1981			
CANADA 1981			
DENMARK 1975			
FINLAND 1979			
FRANCE 1974-5			
JAPAN 1976			
NETHERLANDS 1980			
NORWAY 1971-2			
SWITZERLAND 1979			
UNITED KINGDOM 1974-5			
UNITED STATES 1975			
sleep	paid	dom	leis

The four categories have been quite tightly specified. Yet the differences between the various countries are striking. Finland has a little less, and France rather more, than the average amount of sleep. Japan appears to have three times more paid work than the Netherlands, and correspondingly less leisure. What construction can we put on these differences?

In principle there are three possible sources of variation:

- 1) There may be differences related to the method of data collection - particular sectors of the population may be disproportionately represented in the national samples, for example, or differences in the designs of the diaries may lead to differences in the pattern of non-response bias between the countries.

- 2) There may be real differences in the proportions of the population falling into those particular categories which, on the basis of prior theory or evidence developed from national data, we expect to determine time allocation patterns. National differences in the proportion of women in paid employment, for example, would lead to differences in the balance between paid and unpaid work, even if the various national samples were otherwise equivalent in terms of such characteristics as age, sex, social class, household composition etc. So international variation in aggregate time use statistics may reflect differences in socio-economic structure.

- 3) Suppose, however that we have reweighted the national samples so as to dispose of variation due to the socio-economic and demographic factors that can be identified on a national basis - and there still remains some variation in aggregate time use patterns. These are now genuine national time use differences, due to history, or culture, or current circumstances. They are national differences in the consequences of social structural variables - we might think of these as international differences in socio-economic processes.

Some of the national differences in Figure 1 will certainly be traceable to the sorts of methodological inconsistencies which fall under the first of these explanations. It is, among other concerns, the likelihood of this sort of inconsistency, that leads us to reject "Strategy 1"-type international comparative work from previously prepared time use material. The essence of Strategy 2 is to use nationally-based knowledge of the socio-economic and demographic variables which determine time-use patterns to specify a set of tables which minimise the variation due to both the first and second of these explanations, so that the remaining international variation reflects the genuine national differences in time use patterns and socio-economic processes. (To get a little ahead of the narrative, it is the exploration of these differences that is the purpose of Strategy 3; and it is here that multinational research transcends the capabilities of national.)

So how well does the Strategy 2 approach cope with the variation we find in Figure 1? Let us take for example the aggregated "leisure" category. National studies show that sex and employment status are both important determinants of the total amount of leisure time. Figure 2 shows the total of leisure time for men, broken down by various employment statuses, for the six out of our set of eleven Strategy 2 countries who were able to supply this data.

Figure 2

Men's Weekly Leisure Time: Various Occupational Categories

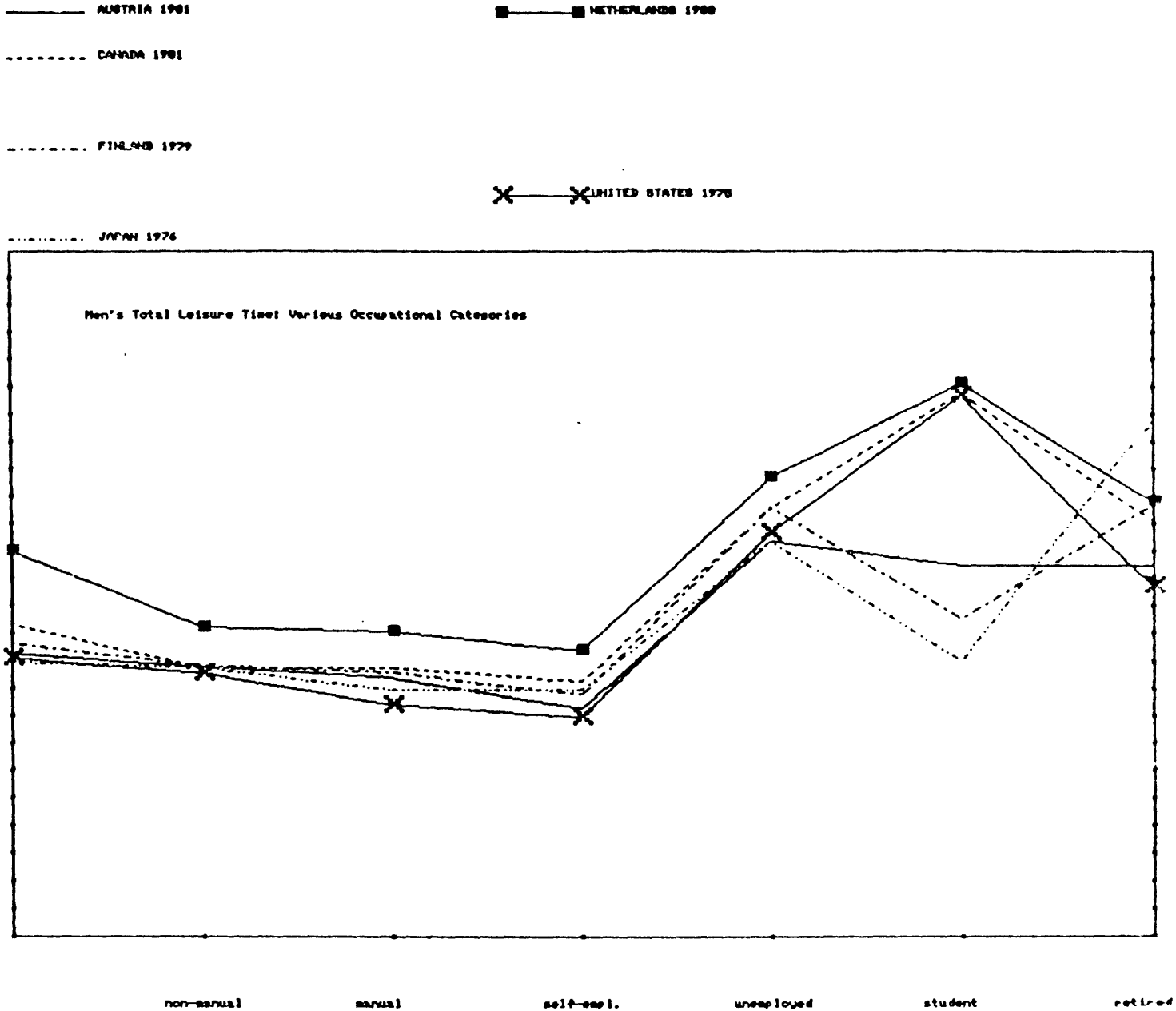
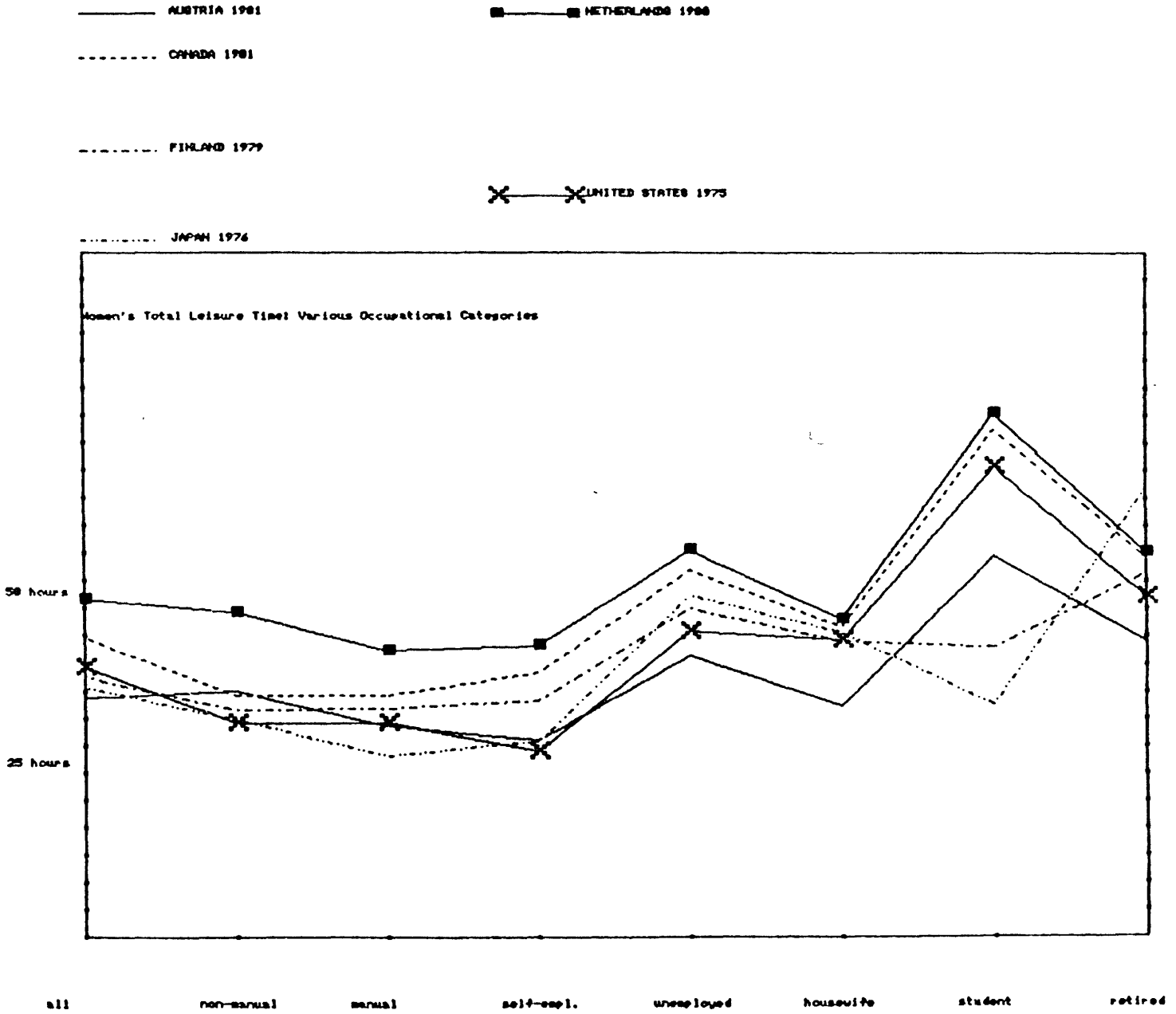


Figure 3

Women's Weekly Leisure Time: Various Occupational Categories



It is immediately clear that there is a strong cross-national similarity among these six countries. The Netherlands still emerges as the most leisured society, with something like an hour per day of extra leisure time in most of the main occupational categories. But the other countries in general cluster rather closely together. And most important, the relative positions of the various occupational groups are, with two exceptions, constant for all of the countries. Manual employees seem to have slightly more leisure than the self-employed, and non-manual employees to have slightly more leisure than the manual. The unemployed, unsurprisingly, all have more leisure time than any of the employed groups. For men in the workforce, then, we can say that employment status has a strong and internationally consistent effect on leisure time.

But for the remaining categories, the consistency is less marked. Students in the Netherlands, the USA and in Canada, all seem to have more leisure than even the unemployed (a total of about eighty hours per week). Students in Austria, by contrast, seem to have slightly less leisure than the unemployed, while those in Finland and Japan have hardly more than adults in employment. This contrast may be an example of a "social process" difference. Students in Finland and Japan may find themselves under much more pressure for success than those in the USA, the Netherlands and Canada. However it is also possible that this difference reflects either a bias in the sampling procedure, or a difference in the inclusiveness of the term "student". Similarly, it seems likely that the variation in the total amount of leisure time for retired men reflects differences in age-related sampling biases rather than genuine social processual differences.

Let us now turn to the equivalent evidence about women's time use (Figure 3). The general shape of the relationships is other similar - with the unemployed having rather more leisure than the employed, and with the same contrast between North American students on one hand, and Finish and Japanese on the other. But some of the differences are instructive. If we compare them employment category by employment category, men have systematically more leisure time than women. So as we might have expected on the basis of the national evidence, sex is an important structural variable; but though the direction of the sex effect is constant (ie men having more leisure time than women), the scale of the effect is not constant. Another readily visible difference between Figures 2 and 3 is that the men's leisure time aggregates for each occupational category seem to show more cross-national similarities than do the women's. A small part of this difference may be explained by the fact that the exclusively female membership of the housewife category leads to a smaller number of women (and hence higher standard errors of the means) in the employed categories. But most of this may be a genuine international difference in the nature of the division of work between men and women.

Figure 4 takes the data from Figures 2 and 3, expressing, for each occupational category, men's weekly leisure time as a percentage of women's. A certain regularity does emerge from this analysis: in almost every case the male leisure is substantially higher than the female. But notice the contrast between this figure and the two preceding ones. In the two preceding cases, while there were clear national differences, there were also similarities; while the absolute mean values for

the categories certainly differed, there were nevertheless international similarities in the patterns of relation among the various nations' occupational categories. In Figures 2 and 3 we have telegraph lines, lines running for the most part in parallel across the graph; Figure 4, by contrast, is an irregular cats cradle.

Figure 4

Men's Leisure Time as a Percentage of Women's: Various Employment Categories

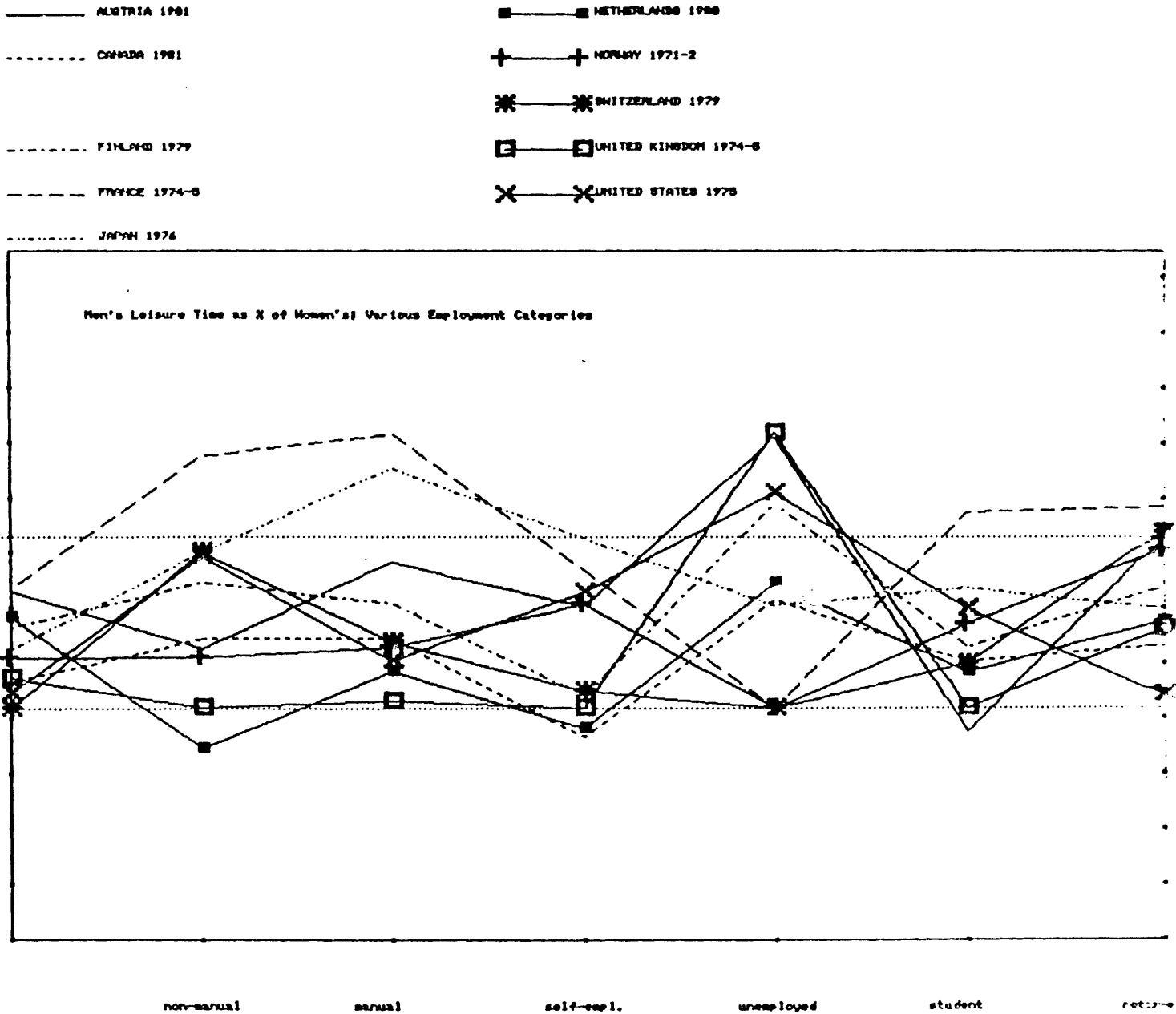


Figure 5

Total Weekly Hours of Free Time By Household Type

- | | |
|-------------------------|----------------------------|
| ———— AUSTRIA 1981 | ■——■ NETHERLANDS 1988 |
| ----- CANADA 1981 | +——+ NORWAY 1971-2 |
| FINLAND 1979 | *——* SWITZERLAND 1979 |
| - - - - - FRANCE 1974-8 | □——□ UNITED KINGDOM 1974-8 |
| | X——X UNITED STATES 1978 |

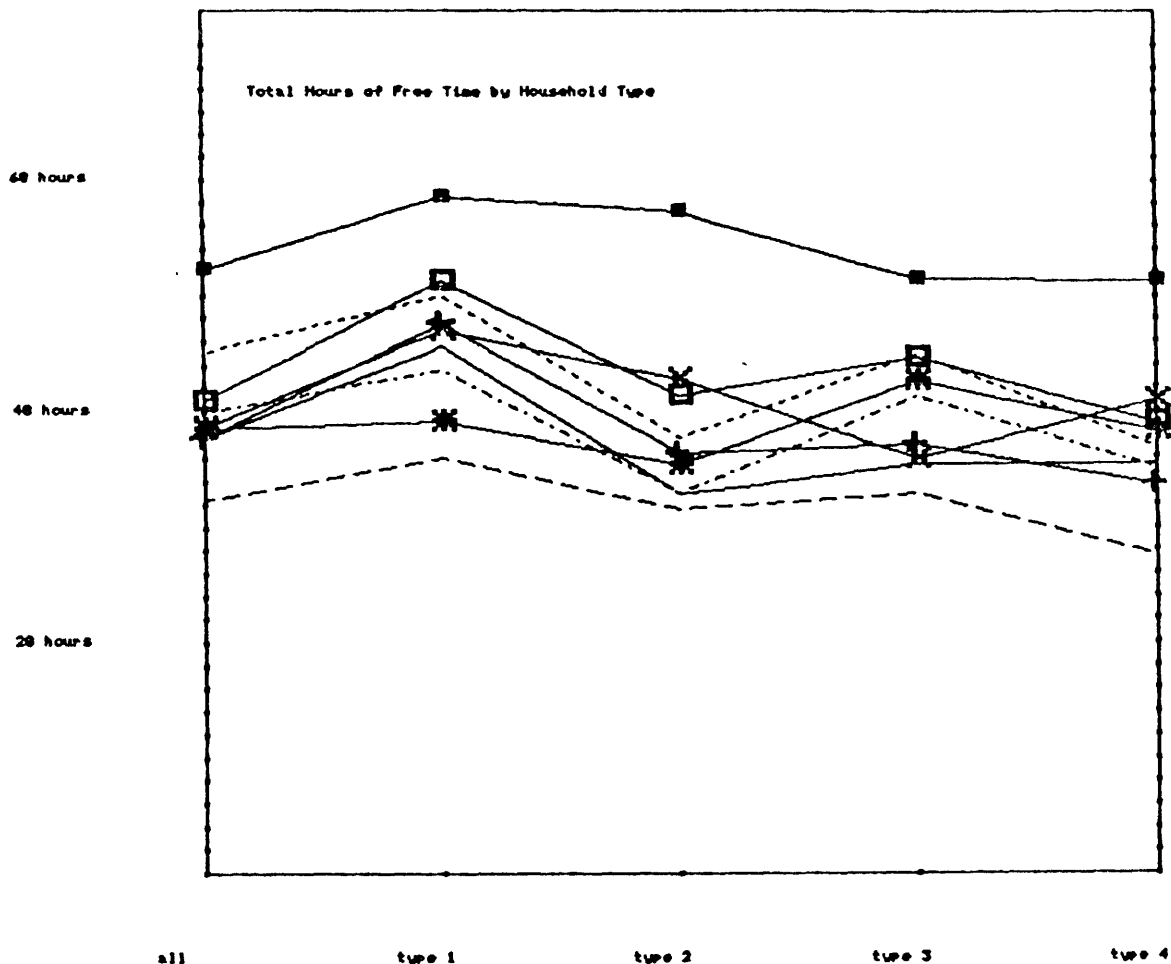
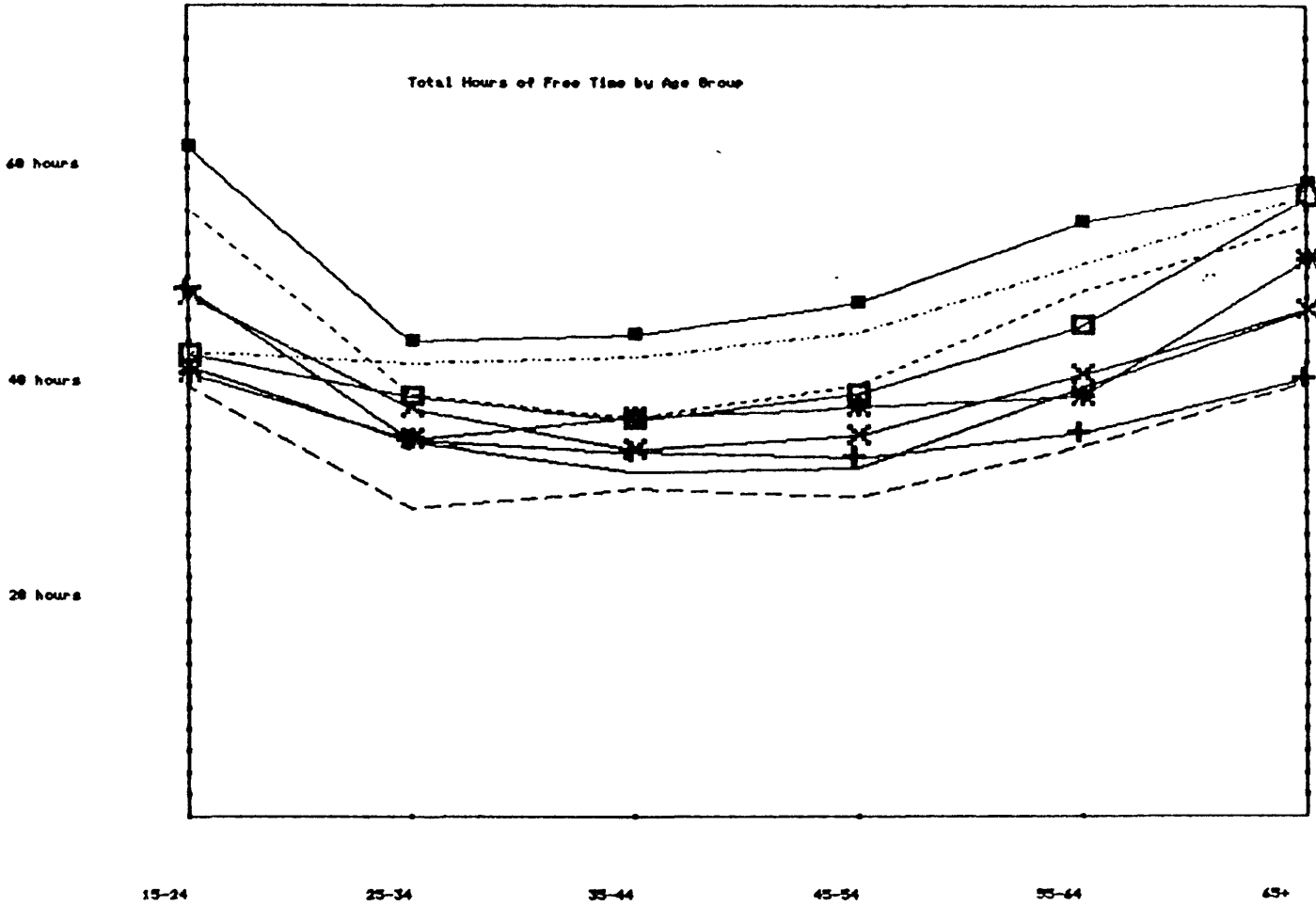
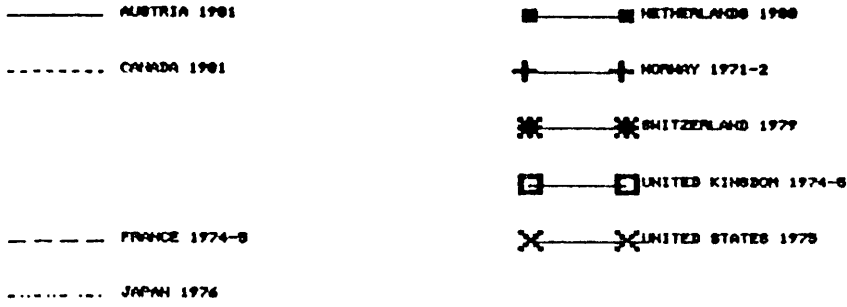


Figure 6
Total Weekly Hours of Free Time by Age Group



Consider, for example, the "non-manual employees" category. In the UK and the Netherlands, men and women in this occupational group have about the same amount of leisure time. Men in the same group in the USA, Switzerland and Japan however have about 50% more leisure time than women in equivalent jobs; while non-manual employed French men seem to have 80% more leisure time than equivalently employed French women. The variation appears even more extreme for manual employees, and hardly less extreme for the self-employed. We may suspect that part of the variation in the unemployed and retired categories reflects cross-national differences in the sampling biases in the various surveys; nevertheless, the data as presented shows a reversal in the international patterns of inequality. The UK, which is consistently among the lower levels of gender inequality for the employed groups, becomes, with Norway, the most unequal in its sexual division of leisure time for the unemployed (unemployed UK men have more than 80% more leisure than unemployed women); France, consistently among the most unequal for the employed, becomes just about the most equitable in its division of leisure time for the unemployed. It is tempting to speculate on the reasons for these international differences; for present purposes, however we need only note that these international differences in the sexual division of leisure time will clearly repay some further research work.

So far we have sex and employment status as common international determinants of time use patterns. There is however still some remaining cross-national variation in total leisure time even when we control for these variables. Let us briefly consider two other variables: household type and age.

Household types have been divided into four groups: "type 1" households are two person households with no children, "type 2" consist of two adults plus children, "type 3" consist of single individuals, while "type 4" are single adults plus one or more children. Figure 5 shows the total amount of free time available to adult members of each of these types of household in nine countries. Again we find some considerable national variations, Holland, with the most leisure overall, having something like three hours more leisure time per day than France, which is the least leisured.

But within these rather large national differences, we also find some quite unmistakable national similarities. The four household types have a more or less constant cross-sectional relationship within each country. In all cases except Norway, children seem to reduce the amount of leisure time available both to single-adult and to multiple-adult households. And in all cases except the USA, the single-adult-no-children households have more leisure time than the two-adult-plus children households.

A similar blend of cross-national differences and similarities emerges for the relationship of leisure time to age (Figure 6). There is (since the population is identical) the same three hours of leisure per day gap between France and Holland. But nevertheless, the cross-sectional relationships are very regular. In all cases there is a "U shaped" evolution of leisure time through successive age cohorts. In most cases, leisure time decreases monotonically to the 35-44 age cohort, and subsequently increases regularly to the 65+ age groups (the two exceptions are France and Switzerland where the 25-34 cohort have the least leisure).

What emerges from this brief discussion is that the availability of leisure time in a wide range of developed countries does seem to be affected by a common set of social structural variables. The same social structural variables will serve as explanations for time spent in a number of more detailed leisure activities (see for example Figures 7 and 8), and for the amounts of time spent in paid and unpaid work. It is however also clear that a substantial proportion of the variation in time use patterns remains unexplained by this set of social structural variables. How much of the variance remains to be explained? And how do we set about explaining this remaining variance? The answers to these questions require that we move from a "Strategy 2" to a "Strategy 3" approach.

Figure 6
Weekly Hours of Television Watching by Age

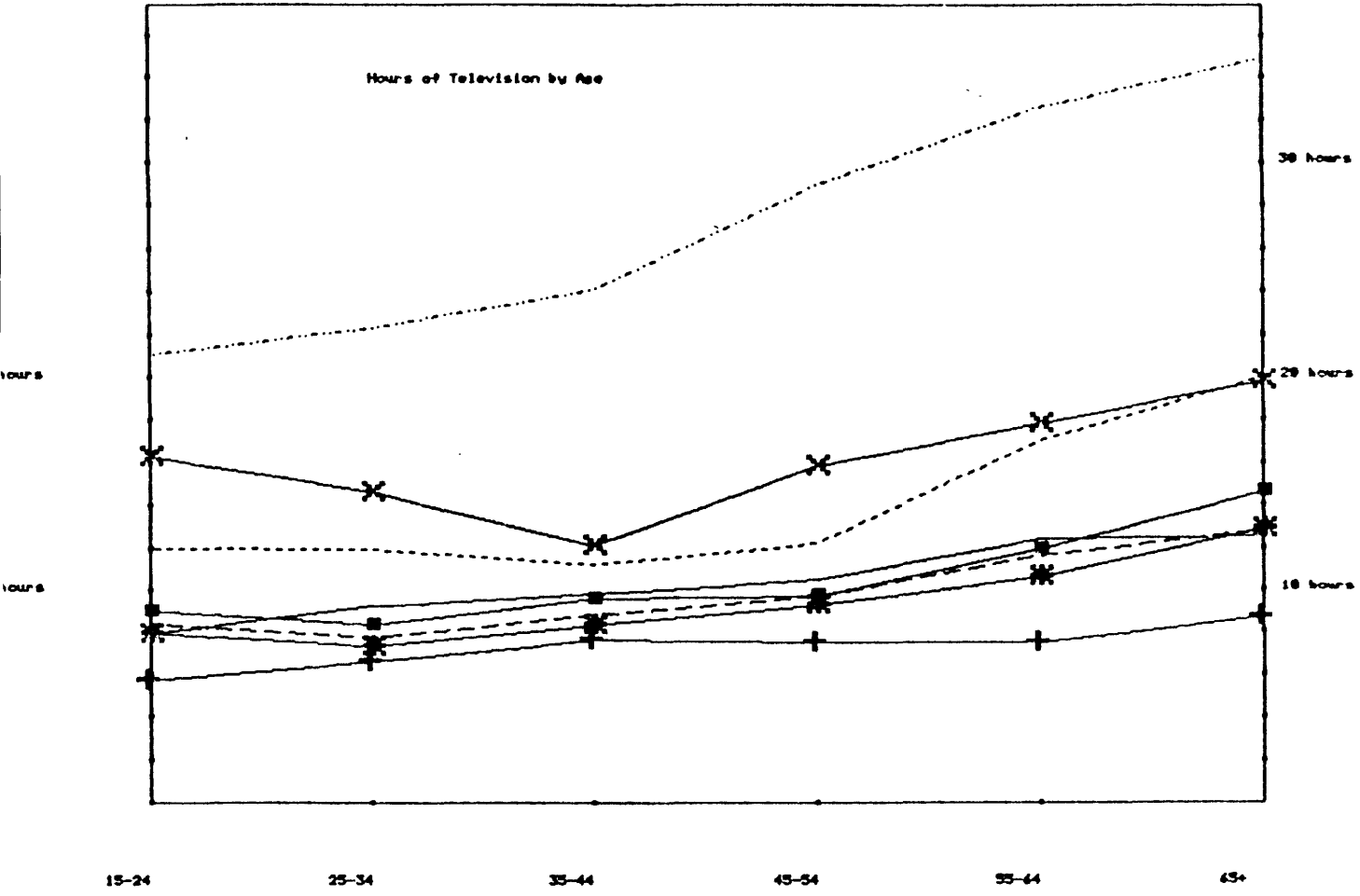
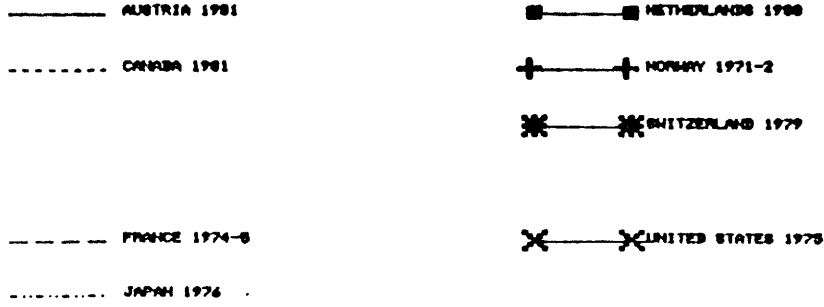
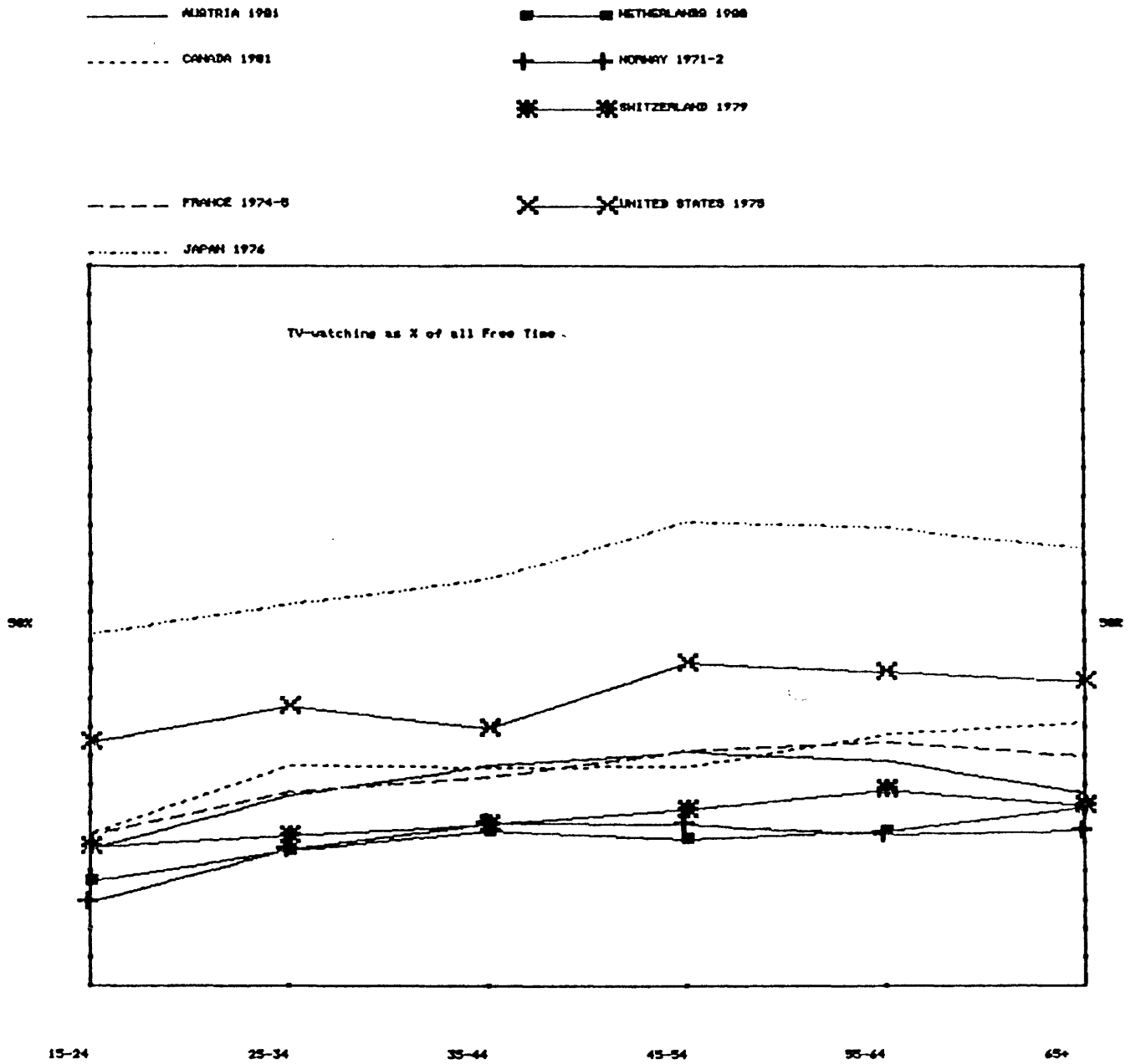


Figure 7

Television Watching as a Proportion of All Free Time: By Age.



6. A Multinational Comparative Dataset.

The discussions in the previous section should draw the reader's attention to some of the shortcomings of the "Strategy 2" approach. It is difficult to specify tables of sufficient complexity to control for all the social structural variables which constitute the common multinational explanatory model for variation in time allocation patterns. The brief outline in Section 5 suggests that each time use variable would need to be broken down across at least four basic variables (sex, employment status, household status, age - and probably in addition occupational status and educational level) together with some interaction variables (eg sex/employment status combinations) - in order to identify adequately the structural similarities between the countries. The difficulties encountered in abstracting even the one- or two-independent-variable breakdowns on which the Figures in Section Five were based suggest that this much more complex task is to be avoided if possible.

Even if these tabulations were accessible, it would still not be possible to calculate exactly how much of the overall variation in time allocation was explained by the structural variables. (Though if the national tables of mean time use broken down by the structural variables were accompanied by information about the "between" and "within" variances for time use variables this calculation would be possible.) And experience suggests that any given set of breakdowns of the time use variables immediately gives rise to speculations as to the explanation of any remaining unexplained cross-national differences. So the initially simple "Strategy 2"-type appeal

for a well-specified set of time use breakdowns from colleagues in a dozen different countries, very quickly escalates into a quite unmanageable iteration of increasingly complex and unintelligible demands for ever more obscure statistics - and one might expect, ever decreasing levels of cooperation from the initially well-disposed colleagues.

On these grounds alone, we might wish to argue for the "Strategy 3" approach, attempting to put together a multinational collection of raw data, to avoid the increasingly demanding process described above. But in fact there is a much stronger reason. Consider the sorts of "explanation" for time allocation patterns described above, in the context of the time allocation issues raised in the first section of this paper - the consequences of shorter working time, change in the sexual division of labour, the development of new patterns of time use as a result of new technological possibilities. Certainly there is a sense in which age and sex and occupation and so on determine time use patterns. But this is merely cause in the "positivist" sense - a strong statistical association between a presumed "independent" and an assumed "dependent" variable. In fact gender does not itself really "cause" behaviour, any more than occupation or age or family circumstances do. These are merely intermediate variables in rather complex causal processes.

The sorts of models most commonly used in the analysis of time budget data involve the use of social structural variables to "explain" time allocation patterns, rather in the manner of the preceding section. These models work adequately where we are concerned simply to describe behaviour. But the questions

outlined in the first section of this paper call for more than just description. They ask in effect for predictions: "what would be the time-use consequences of this policy, of that new mode of service provision? To answer such question, it will be necessary to move forward from the traditional, variance explaining, positivist models, to the development of models which involve some of real processes whereby activity patterns are determined. We need to develop models which mirror the complex interactions of spatio-temporal constraints, social norms, legal requirements and personal expectations which actually determine our patterns of time use. Such models are now in their very early stages of development (e.g. Jones, 1983). But they are a long way off at present.

So perhaps even more important than international comparison of data, may be the international collaboration of experts, in the development of a new generation of time use models. The "Strategy 3" approach outlined below is intended to promote both goals.

The essence of the exercise is simply to bring together a number of different national datasets, translate them and their codebooks into a single language (English), make them available on one computer software package (SPSS/SPSSX), and reduce them to a common comparative format. One additional constraint has been adopted: data has been drawn, in the first instance from countries in which there exist more than one comparable dataset. This for two reasons: it enables us to compare "longitudinal" changes over historical time against "cross-sectional" differences between countries; and also allows us to compare changes over time cross-nationally (which may cancel out the effects of national differences in coding systems.

Rather than a single and finite exercise of comparison, the European Foundation project is viewed as an open-ended process of research cooperation. It has, so far, three collaborating countries within the EEC; the Netherlands, Denmark and the UK have already provided data, it is expected that France will also contribute, and it is hoped that a number of non-EEC (Norway, Canada, the USA) countries will also contribute. Table 4 sets out the set of surveys which can eventually be included in this process. The first three countries' data has now been collected, and two reduced activity coding lists have been devised (Table 5). It is expected that all the countries involved in the study will be able to provide information at the "eight activity" level; it is anticipated that will provide data comparable at the "forty activity" level.

Table 4. "Strategy 3" Countries

Already Included:

Netherlands	1975, 1980, (planned 1985)
Denmark	1961, 1975
UK	1961, 1974/5, 1983/4

Approached, but not yet agreed:

France	1965, 1975, (planned 1985)
Norway	1971, 1980
Canada	1971, 1981

USA

1965, 1975, (Planned mid-1980s)

Table 5 The Eight- and Forty-category Activity Lists

A. Formal Work.

- | | |
|------------------------|-------------------|
| 1) At Work | 2) Work at home |
| 3) Second Job | 4) School/Classes |
| 5) Travel to/from Work | |

B. Domestic Work

- | | |
|-----------------------|----------------|
| 6) Cooking/Washing up | 7) Housework |
| 8) Odd Jobs | 9) Gardening |
| 10) Shopping | 11) Child Care |
| 12) Domestic Travel | |

C. Personal Care

- | | |
|---------------------|-----------------------|
| 13) Dressing/Toilet | 14) Personal Services |
| 15) Meals/Snacks | 16) Sleep/Naps |

D. Outdoor Leisure

- | | |
|--------------------|--------------------|
| 17) Leisure Travel | 18) Excursions |
| 19) Playing Sport | 20) Watching Sport |
| 21) Walks | |

E. Civic Activities

- | | |
|---------------|-------------------------|
| 22) At Church | 23) Civic Organisations |
|---------------|-------------------------|

F. Out-of-Home Leisure

- | | |
|--------------------|----------------------|
| 24) Cinema/Theatre | 25) Dance/Party etc. |
| 26) Social Clubs | 27) Pubs |
| 28) Restaurants | 29) Visiting Friends |

G. Passive Leisure

- | | |
|------------------------|-----------------|
| 30) Listening to Radio | 31) Watching TV |
| 32) Listening to Music | |

H. Other Home Leisure

- | | |
|------------------------------|--------------------------|
| 33) Study | 34) Reading Books |
| 35) Reading Papers/Magazines | 36) Relaxing |
| 37) Conversation | 38) Entertaining Friends |
| 39) Knitting/Sewing | 40) Pastimes/Hobbies |

I. No Information

- 41) No Information

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