

Chapter 1

How do People in the Asia/Pacific Region Spend their Time?

Why time use is an important social indicator

This special chapter considers time-use patterns across Asia/Pacific countries and economies and compares these to OECD patterns. It focuses particularly on unpaid work and free-time. Unpaid work within the home includes cooking, cleaning, shopping and raising children. Unpaid work contributes significantly to the well-being of families and others. Focussing solely on market income measures, rather than also considering unpaid work, may lead to incorrect inferences about levels and changes in well-being. Since women typically do much of the unpaid work, considering unpaid work acknowledges the importance of a major female contribution to well-being. In addition to unpaid work within the household, people carry out vital unremunerated work for relatives who live outside the household and for the wider community. Voluntary work, such as helping out neighbours, caring for older people and people with disabilities, aiding charities, assisting new immigrants, training sports teams and administering schools, also contributes to societal well-being but is not included in traditional economic measures. Traditional income-based measures of well-being also neglect the measurement of the amount of free time and leisure time that people have available to them. Leisure time is self-evidently an important component of people's well-being.

The challenge of time-use comparisons across Asia/Pacific countries and economies

Time-use statistics are quantitative summaries of how people allocate their time over a specified period – usually 24 hours. Time-use statistics include information on the type of activities people engage in and the duration of each of these activities. The respondent's description of his or her activities are coded and systematically aggregated into a set of broad categories such as “time spent in work”, “time spent on household chores”, “time spent in leisure activities” or “time spent on personal care”. Ideally, they sample the population over a year in a manner that takes into consideration weekends and holidays, as well as seasonal effects.

Much as elsewhere in the world, up-to-date, reliable and comparable data on time use are very limited for countries of the Asia/Pacific region. Time-use data were obtained for 12 out of 36 countries included in the *Society at a Glance: Asia/Pacific* edition. Table 1.1 lists the countries for which surveys were available, the dates of the survey, the number of respondents, the data source and information on other data features.

Although data were obtained for only a minority of countries, the size of the total regional population covered is substantial. Three of the four most populous countries in the region – India, China and Pakistan – are covered. Additionally, the countries for which time-use information is available cover a broad spectrum. The subset covered includes countries at very different levels of economic development, with industrial developed economies, the large emerging economies of China and India, former Soviet transition economies, and some of the world's poorest countries with substantial peasant sectors, such as Cambodia and Pakistan. The geographic coverage is also good.

Table 1.1. Available time-use surveys

	Years of the survey	Sample size	Type of survey	Age range (years)	Source	Other data features
Armenia	2008	Unknown	Unknown	15-80	UNECE Statistical Division Database, Gender Statistics Database	Not representative of the year or of the population
Armenia	2004	235 people, 60 households	Two diaries, One for weekdays and one for weekends	15-80	National Statistical Service of the Republic of Armenia Armenia TU Pilot Survey 2004	Not representative of the year or of the population
Australia	2006	6 961 people, 3 643 households	Two consecutive days, diary	> 15	Australian Bureau of Statistics, Time Use Survey	
Cambodia	November 2003 to January 2005	2 000 households	Diary sheet included in the household survey	> 5	National Institute of Statistics of Cambodia www.nis.gov.kh/index.php/statistics/surveys/csese	
China	2008	37 142 people, 16 661 households	One weekday + one week-end day	15-74	National Bureau of Statistics of China, Time Use Survey	Not representative of the year
India	July 1998-June 1999	18 591 households	One week – interviewing method	> 6	Ministry of Statistics and Programme Implementation. Government of India	
Japan	2007	18 291 individuals, 3 866 households	Unknown	> 10	Statistics Bureau and Statistical Research Training Institute, Survey on Time Use and Leisure Activities (Questionnaire B)	Not representative of the year
Kazakhstan	2006	Unknown	Unknown	20-74	UNECE Statistical Division Database Gender Statistics Database	
Korea, Rep.	2004	12 750 households	Two consecutive days, diary	> 10	Korea National Statistical Office, Time Use Survey	Not representative of the year
Kyrgyzstan	2005	Unknown	Unknown	20-74	UNECE Statistical Division Database Gender Statistics Database	
Mongolia	2000	2 753 people, 1 086 households	24-hour diary	> 12	NSO, UNDP, A Pilot Time Use survey, 2000.	Not representative of the year
New Zealand	July 1998-June 1999	8 532 people	Two consecutive days, diary	> 12	Statistics New Zealand, Time Use Survey	
Pakistan	2007	19 380 households	24-hour diary	> 10	Government of Pakistan, Statistics Division, Federal Bureau of Statistics, Time Use Survey 2007, April 2009	Representative for the population and the year

However, several strong caveats regarding the inter-country comparability of the time-use data used here need to be kept in mind. One relates to the data collection method. Data on time use can be collected in two ways: surveys and diaries. Surveys ask respondents how much time they spent on activity *j* in a defined reference period, such as the previous 24 hours. However, this method can miss activities that take short amounts of time, and can lead to misreporting if activities do not have a fixed schedule over time (Ilahi, 2000). Diaries, on the other hand, are filled by the respondent him/herself or with the help of fieldworkers. Usually based on a 24-hours recall, this method emphasises the chronology of events. Because it is more detailed, it is also more costly in money and in the respondent's time. Contrary to the survey method, it captures non-routine activities well. However, there is a risk that respondents confuse multiple or simultaneous activities. For instance, childcare often tends to be over-reported, because it is the most common multiple activity (Ilahi, 2000).

Differences in survey coverage also complicate the cross-country comparison. Given that time allocation is not constant over the year, the season of data collection may introduce a bias in the comparability of time-use data, especially in agricultural economies (Ilahi, 2000). For example, in China, Japan, the Republic of Korea, New Zealand, Armenia and Mongolia, the survey took place within a period of one month or less, so the sample

may not be representative for the year. Moreover, while some surveys were conducted in spring (China, Mongolia, New Zealand), others were conducted in autumn (the Republic of Korea, Japan, Armenia). In Pakistan, seasonal variations in the time-use pattern were captured by conducting the survey through the four quarters of the year. In Cambodia and Australia, the period covered by the survey is equal or longer than a year, also avoiding the issue of seasonality.

Another type of bias concerns the days covered by the survey. In Australia, the Republic of Korea and New Zealand, diaries are filled for two consecutive days. However, this method does not distinguish between weekdays and week-end days. For Pakistan, respondents were asked about their activities only for 24 hours. However, the percentage distribution of diary days of the week shows that all days of the week are approximately equally represented except Sundays – reflecting the fact that Sunday is generally not regarded as a work day in Pakistan. Surveys that examine only the allocation of time during workdays are not entirely comparable with those that cover non-work days as well. The former tend to underestimate women's work contribution, since unpaid/non-market work that is usually accomplished by women often takes place during weekends (United Nations, 1995).

In the Chinese time-use survey, respondents filled the diary for one weekday and one week-end day. For the Mongolian survey, the seven days of a week were divided into five (Sunday, Monday, Tuesday/Wednesday, Thursday/Friday, Saturday). The same number of households was selected to answer for each group of days. In other words, two-thirds of the respondents were assigned to make two-day diaries and one-third of the respondents were assigned to make three-day diaries. In the Australian survey, to deal with the issue of holidays, four 13-day periods in 2006 containing a representative proportion of public and school holidays were defined.

Geographic coverage is an important issue too. If the survey coverage is not national, the surveyed area may not be representative of the country as a whole. More generally speaking, averages may hide intra-country differences, such as urban and rural differences, which are usually wider in developing countries. In Pakistan, some areas located in difficult terrain could not be included in the survey due to constraints of time, access and cost. Nevertheless, the population excluded represents only 3% of the total population.

Another related consideration concerns the population group actually covered. Indeed, average time spent on paid work or leisure will certainly vary according to the age of the population surveyed. For instance, the data for Kazakhstan and Kyrgyzstan covers the population aged 20 to 74. On the other hand, Cambodian data concerns the population aged 5 and over. In the former case, excluding those older than 75 means that paid work will tend to be higher than if they were included. In Cambodia's case, the average time spent on paid work is expected to be lower than if only the adult population were covered, whereas in the former two countries the opposite holds.

Surveys also differ in whether they record simultaneous activities and if so, how. Generally, the data are coded to show people engaged in one activity at a time. For some countries, however, surveys include separate questions designed to learn about simultaneous activities (i.e. watching television while cooking or supervising children while ironing clothes), which allows a distinction between "primary" and "secondary" activities. So one limitation of the general approach is that "primary" activities are meticulously tracked while "secondary" ones are usually overlooked. The comparability of estimates for secondary activities is also affected by whether activities that typically require only a few minutes of

one's time, i.e. moving a load of laundry from the washer to the dryer, are reported consistently enough to produce comparable estimates of the time devoted to them. This in turn depends on the length of the time slots in which respondents can report their activities, which range from five minutes in Australia and New Zealand to 15 minutes in Japan.

We were unable to adjust for differences in data collection methods, nor for differences in survey coverage or respondent age. These strong comparability limitations should be kept in mind when considering the results. Given that the categories of activities are not equally detailed in all the data sources used here, the activities were aggregated into five very broad categories for the purpose of harmonisation: 1) Market work and learning activities, 2) Non-market work, 3) Leisure, 4) Personal care, and 5) Other. Harmonisation was eased for several countries (Mongolia, Pakistan and India) for which the survey used the UN Trial International Classification of Activities for Time-Use Statistics (United Nations, 2009).¹

In the “market work and learning activities” category, all jobs and work that encompass the creation of market value are included. Learning activities are also included, covering time spent at school, homework, personal studies and professional training. Following the ICATUS terminology, this first category covers employment for establishments, primary production activities (not for establishments), services for income and other production of goods (not for establishments) and all learning activities. “Non-market work” covers routine household chores and management (e.g. cooking, laundry, pet care, shopping and gardening), care for others (for household and non-household members) and volunteering activities. “Leisure” includes hobbies, sporting activities, participation in social or cultural events, use of mass media and socialising activities. “Personal care” includes sleep, eating and drinking as well as other household medical and personal services (hygiene, grooming, visiting doctors, etc.). “Other” contains religious activities, civic obligations and unspecified activities and travel when the travel could not be included in the other categories.² For some countries, more detailed information on the type of leisure and personal care (including sleeping time) is available, so more detailed types of activities can be considered.

Country-specific issues from the surveys

Although category harmonisation at the global level is desirable, when conducting a survey on time allocation there are cultural features peculiar to each society that deserve mention. Time may not have the same meaning in societies where large numbers of people are peasants, illiteracy is considerable, and society does not march according to the dictates of synchronised clocks, as it does in rich industrialised societies where people's regular rhythms are co-ordinated like clockwork. What is more, the way time-use surveys are designed, or the way categories are organised and constructed from filled diaries, in itself gives some interesting insights into cultural differences across the region's countries.

Country-specific activities are illustrated by time-use survey categories. For instance, in the Indian 1998-99 time-use survey, a category was created for making cow dung cakes, which was recorded as a sub-category of animal husbandry in the primary production section. Another India-specific activity was created for “talking, gossiping and quarreling”, surprisingly categorised under “Personal care and Self-Maintenance”. Indeed, Indians do spend a consequential amount of time on this, especially in rural areas. Men are found to dedicate even more time than women to this activity, with on average almost eight hours

per week, compared to seven hours for women (United Nations, 2000). To maintain consistency in the cross-country comparison, talking, gossiping and quarreling were categorised here under “socialising”, a leisure category.

The distinction between what constitutes leisure and what constitutes unpaid work is not always clear-cut between countries. The Japanese Statistics Bureau makes a distinction between what is done as part of housework and what is done as leisure for several activities, for example, “making sweets”, *versus* making sweets as a hobby. Additionally, in Japan, contrary to other countries, “pet care” and “walking the dog” were considered as leisure. To maintain consistency with all other countries, all these “productive hobbies” were categorised under “non-market work”.

For Armenia, Kazakhstan and Kyrgyzstan, “volunteering” was categorised as “leisure”. Since detailed data on time spent on volunteering activities was not available for Kazakhstan, we could not extract the time spent on “volunteering” from the broader “leisure” category, so that leisure time for Kazakhstan still includes time dedicated to volunteering.

The meaning of caring activities may vary according to the country. Contrary to most of the surveys, in the Korean, Chinese and Japanese time-use surveys, there is no division between care for household members and care for non-household members. Instead, they have one category for “family care” and another for “care for others”. It is interesting to note that these three countries are marked by the Confucian culture and philosophy, which encourages filial piety and is even given institutional legitimacy.

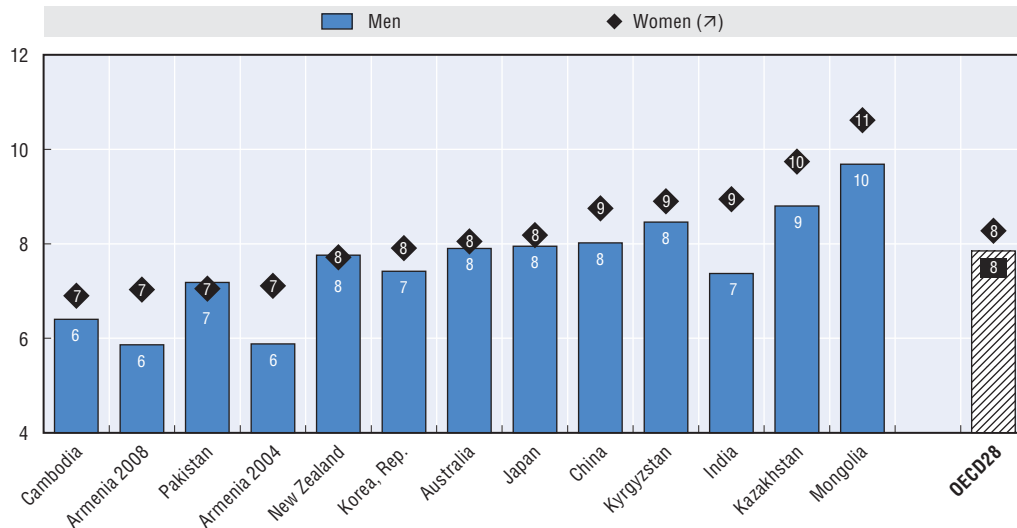
Working time

In all countries, both males and females work more than 350 minutes per average day, *i.e.* approximately six hours, or one-quarter of the day. This amount of time represent one-third of people’s waking time (Figure 1.1). However, differences exist between countries in the time spent on work. People work the longest in Mongolia, where men and women work on average respectively 581 minutes (almost 10 hours) and 637 minutes (almost 11 hours) per day. In Cambodia, where people work the shortest time, males and females work on average four hours less than in Mongolia (384 minutes, or 6.4 hours, for males; and 414 minutes per day, 6.9 hours, for females). The low amounts of work in Cambodia almost certainly reflect the fact that the base population is five years and older, meaning that considerable numbers of children are included. The four rich OECD countries stand in the middle of the ranking. People in the region tend to work more in total than the OECD average. Generally women tend to do more total work than men, except in Pakistan and New Zealand, where men do marginally more work.


Now consideration turns to the two major sub-categories of total work – market work and learning, and unpaid work, respectively. If only time allocated to market activities and learning is considered, Figure 1.2 shows that Mongolia is the most marketised society, followed by China, the Republic of Korea and Cambodia. At the lower end are Armenia, Australia, New Zealand and Kazakhstan. In all the region’s countries, men always do more market work and learning than women. This gender gap in market work is proportionately greatest in Pakistan and smallest in Mongolia. Figure 1.3 presents the time-use information with regard to unpaid work. Unpaid work is especially high in Kazakhstan, being the highest in the region for both women and men. Unpaid work is very low in Cambodia and, to a lesser extent, the Republic of Korea. Pakistani men also do very small amounts of unpaid work. Overall, women always do more unpaid work than men, but the

Figure 1.1. **Total working time is the longest in Mongolia**

Total hours worked in an average day, by country and gender



Source: See Table 1.1 on available Time Use Surveys.

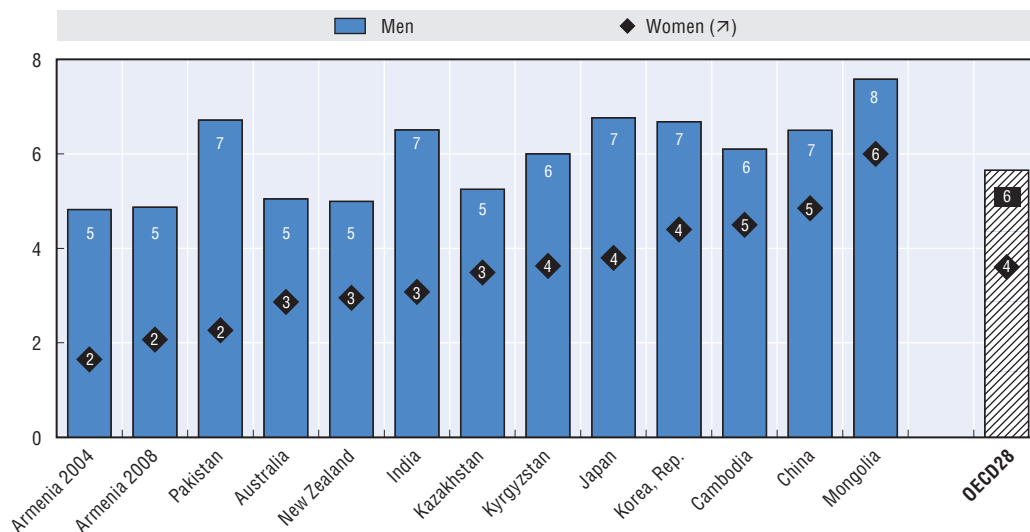
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gender gap varies greatly, being relatively high in Pakistan and low in New Zealand. The overall picture from Figures 1.2 and 1.3 is that Pakistan is very gender specialised in terms of the composition of work and New Zealand is relatively unspecialised.

Contrary to expectation, women spend similar amounts of time on unpaid activities in OECD countries and in non-OECD developing countries. In industrialised countries, the diffusion of household appliances, such as washing machines and freezers, and good access to basic services, such as electricity and water, should reduce the time spent on

Figure 1.2. **Mongolians spend the longest time in market work and learning**

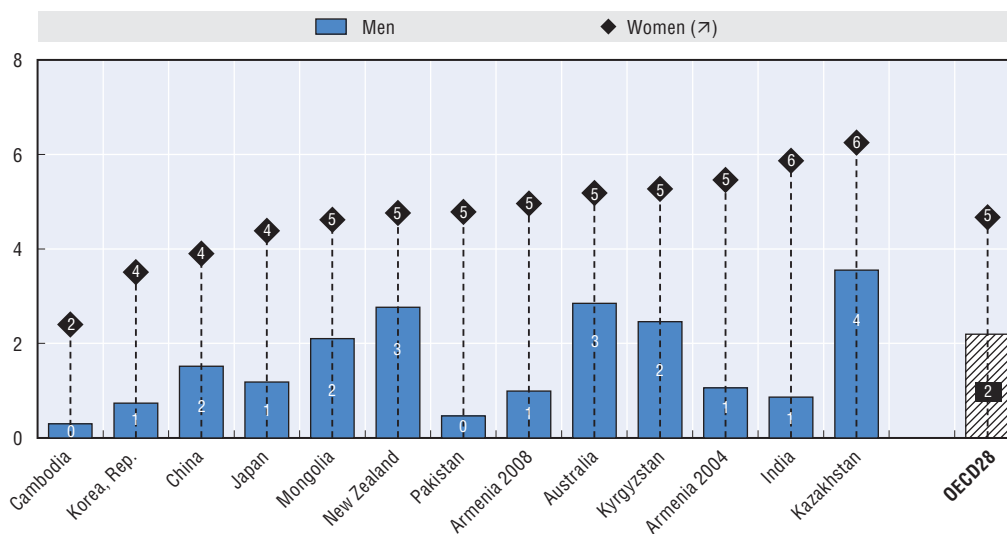
Time spent on market and learning activities in hours per average day, by country and gender



Source: See Table 1.1 on available Time-use Surveys.

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Figure 1.3. **Kazakhs spend the most time on non-market activities**
Time spent on non-market/unpaid work in hours per average day, by country and gender



Source: See Table 1.1 on available Time-use Surveys.

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household work considerably. For instance, in developing countries such as Pakistan and Cambodia, women spend a large amount of time collecting water and wood (Ilahi, 2000) – activity that does not exist in developed countries. However, the data shows that time spent by women on unpaid work does not vary much across our sample countries. The average time spent on unpaid work by women in Asian OECD countries was 268 minutes per day (4.5 hours), compared to the OECD average of 220 minutes per day (3.6 hours). Nevertheless, although time spent on unpaid work does not vary much between OECD and non-OECD countries, the physical intensity of work is unlikely to be the same, as in developing countries it may involve carrying water, collecting and carrying firewood, or processing foodstuffs by hand. Although it is not directly captured by time-use surveys, the intensity of effort is an important element to be kept in mind.

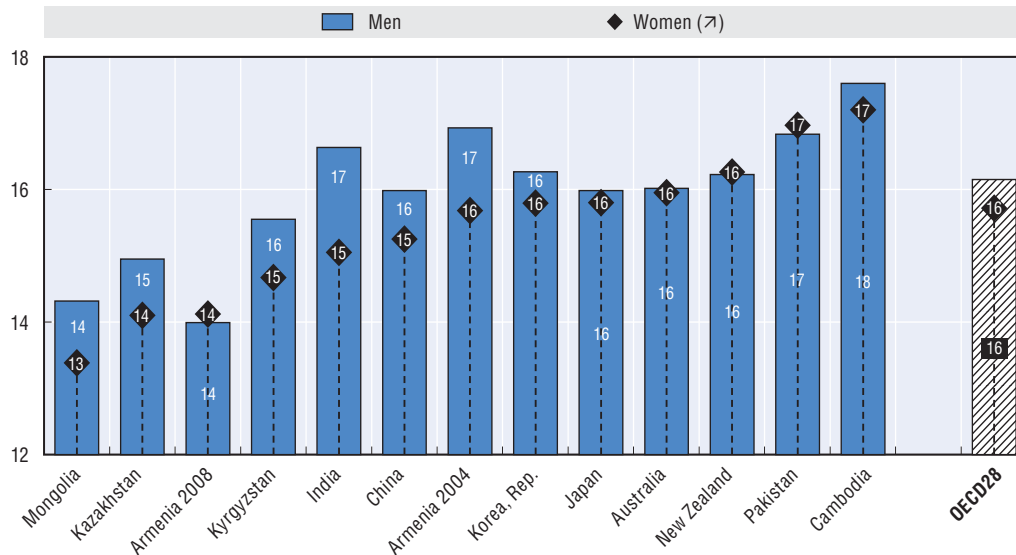
Free time

Free time is all time not spent working. Free time can in turn be divided into personal care and leisure. The way time is allocated between all the possible activities people can do in their free time depends on their preferences and on various socio-economic incentives. Sleeping time is essential for individual's well-being. It can also be assumed that sleep adds to an individual's productivity and is necessary for efficiency and is required even if the goal is to maximise income. As underlined by Biddle and Hamermesh (1990), many labour economics models consider sleep as a fixed biological constant. However, theory and evidence tend to show that sleep time, like any other activity, responds to economic incentives. If this is the case, sleep becomes a leisure-like activity and depends on individual preferences. Several recent studies thus understand sleep as leisure and categorise all sleep-related activities as leisure (OECD, 2009, p. 22). As already mentioned, both leisure and sleeping time matter for an individual's physical and mental health and well-being. As a consequence, looking at leisure time and sleep as social indicators should be considered as a fruitful initiative.

People in Cambodia (note the caveat of age – the sample is of those 5 years and older) and Pakistan have the largest amounts of free time (Figure 1.4). Cambodians have more than 16 hours of free time per day (1 000 minutes), whereas in Mongolia, which is the country where people work the longest, people have only 13 hours (800 minutes) of free time. Generally speaking, men have slightly more free time than women (Figure 1.5), reflecting longer total working time for women (Figure 1.1).

Figure 1.4. **Cambodians have the most free time**

Total free time by gender in hours per average day



Source: See Table 1.1 on available Time-use Surveys.


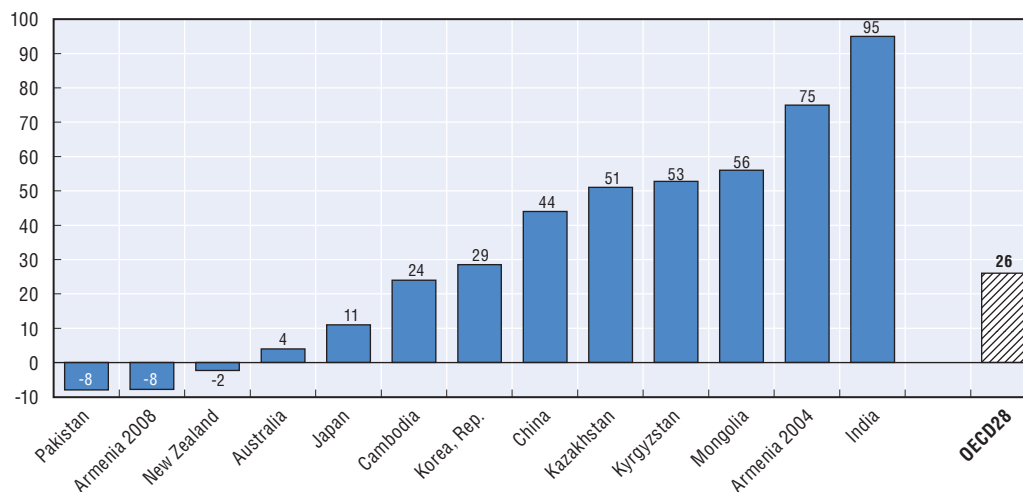

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Figure 1.5. **Men usually have more free time than women**

Gender gap in total free time in minutes per average day



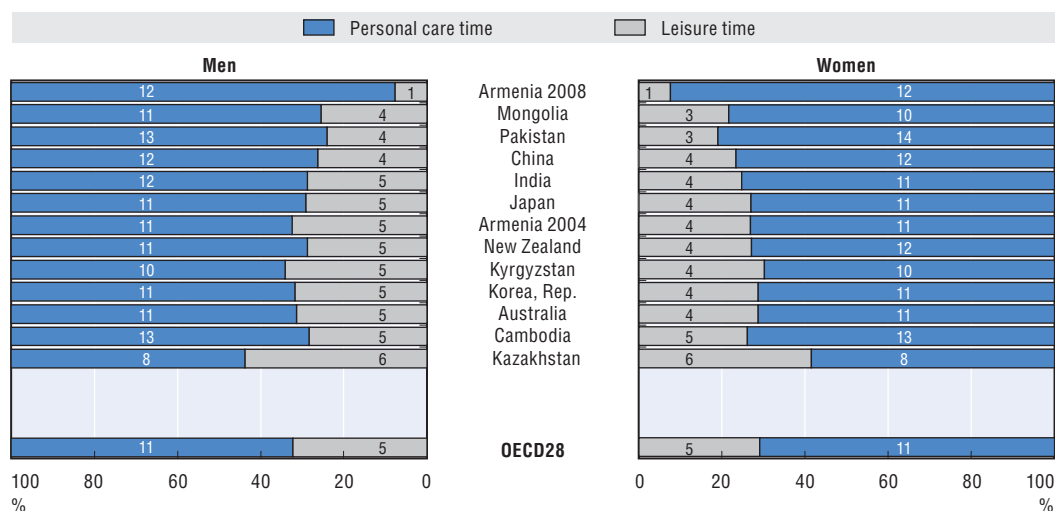
Source: See Table 1.1 on available Time-use Surveys.

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How do people actually allocate their free time? People spend most of it – well above half – on personal care, which means primarily sleeping time and secondarily eating time (Figure 1.6). The composition of free time varies greatly across the region. Personal care is an especially high share of free time in Armenia, at over 90%, and is especially low in Kazakhstan, at a bit above 50%.

Figure 1.6. **Personal care represents more than three-fifths of people's free time**

Leisure and personal care time and their share in total free time, in hours per average day



Note: Countries are ranked by women's leisure time.

Source: See Table 1.1 on available Time-use Surveys.

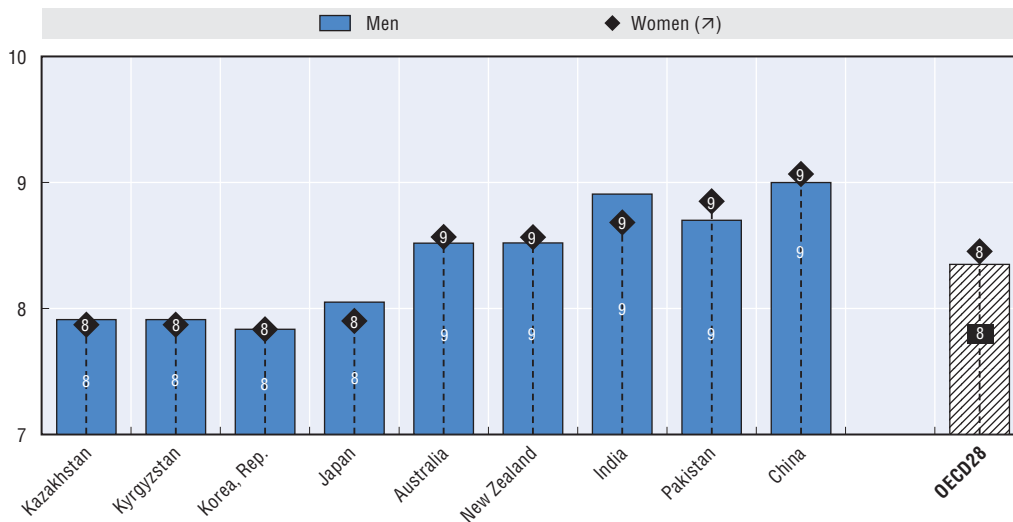
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In all countries except the Republic of Korea, people dedicate at least half of their free time to sleeping (Figure 1.7). Except in Pakistan, where people spend the longest time on personal care, sleep represents more than 70% of the total time dedicated to personal care. Sleeping time tends to be similar in geographically proximate countries (Figure 1.7). The Republic of Korea and Japan are the two countries where people sleep the least, with less than 8 hours sleep per 24 hours. Sleeping times are the same in Australia and New Zealand and in Kazakhstan and Kyrgyzstan. In the former two countries men and women sleep on average, respectively, 511 and 514 minutes (8 hours and a half) per 24 hours whereas in Kazakhstan and Kyrgyzstan men sleep 475 minutes and women 472 minutes (approximately 8 hours). People sleep the most in China, with 9 hours of sleep (540 and 544 minutes of sleep for men and women, respectively).

There are no strong gender differences in hours of sleep. Although on average women have less free time than men (since they work more), they do not sleep less. In Japan, where the gender gap in sleeping time is the largest, women sleep only 10 minutes less than men. Biddle and Hamermesh (1990) found that the fact of having young children reduces sleep times only of mothers; they also showed that paid work and higher educational attainment tend to reduce hours of sleep. Indeed, in their model, higher wage rates reduce the hours of sleep because individuals have a greater incentive to spend time in the labour market as income (and thus the price of time) increases. This effect is even higher for men than for women.


Figure 1.7. **The Chinese sleep the most**

Time spent on sleep in hours per 24 hours



Note: Countries are ranked by women's sleeping time.

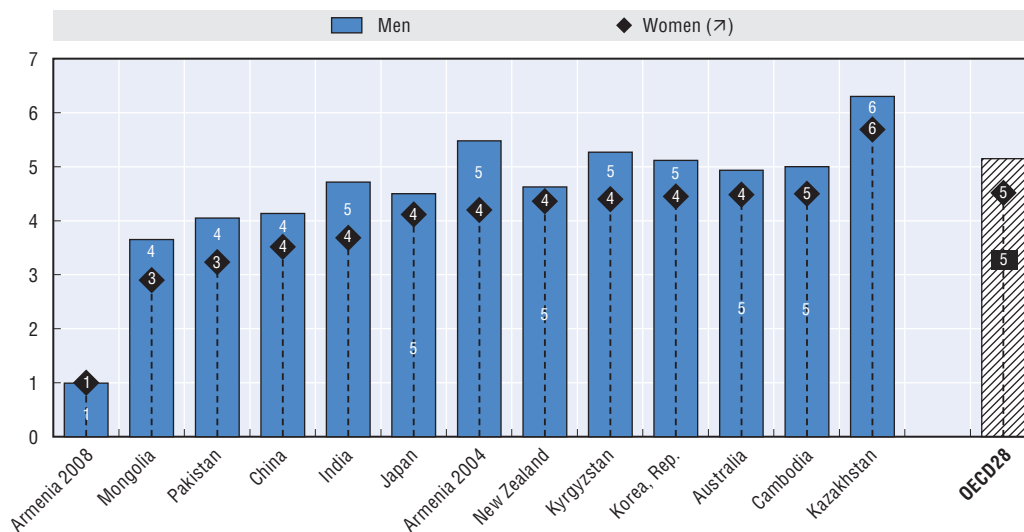
Source: See Table 1.1 on available Time-use Surveys.

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Turning from personal care time to the other major component of free time – leisure – people in Asia/Pacific countries and economies spend more than 10% of their time on leisure activities (Figure 1.8), though this is less than in OECD countries. Mongolian women spend the least time on leisure, with three hours per day (174 minutes) on average, whereas men in Kazakhstan spend the longest time on leisure activities, with more than 6 hours (378 minutes) per day, representing 27% of daily time. However, as already

Figure 1.8. **People have the longest leisure time in Kazakhstan**

Leisure time in hours per average day, by country and gender



Source: See Table 1.1 on available Time-use Surveys.

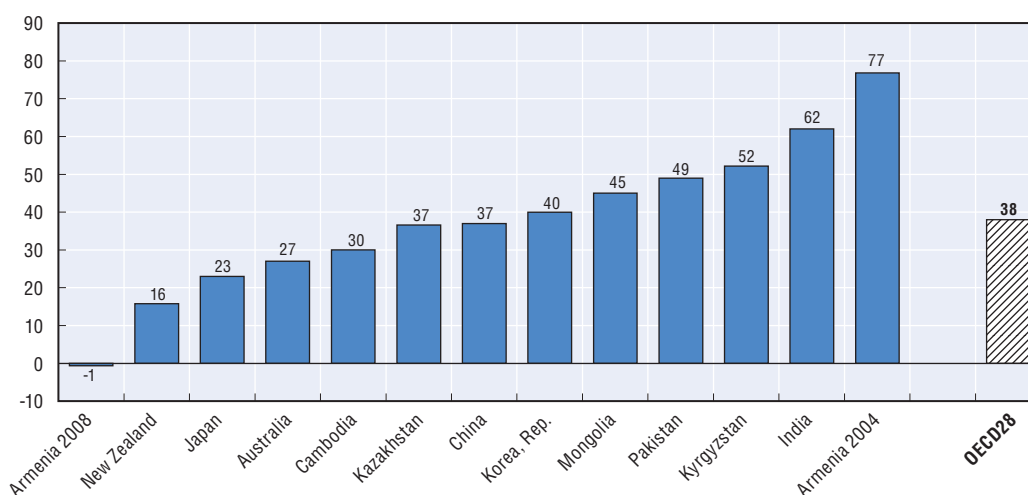
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mentioned, the Kazakhstan data on leisure includes time spent on volunteering activities, while data for other countries classify volunteering in non-market work. This categorisation issue may bias the Kazakh leisure time upward. Nevertheless, the bias should not be large, given that on average the time dedicated to volunteering is low.³


Men have more leisure time than women (Figure 1.9), with on average 39 minutes more per day. The gender gap in leisure time is the highest in Armenia, with a difference of over one hour. The smallest gap, 16 minutes, is found in New Zealand.

Figure 1.9. Men have more leisure time than women

Gender gap in leisure time in minutes per average day



Source: See Table 1.1 on available Time-use Surveys.

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Conclusion

Although reliable and comparable data is limited, much can still be learned on time use in Asia/Pacific countries and economies. The accent in this special chapter was on total working time and free time. It showed that important disparities exist across countries and gender in terms of both the types and duration of work time. In the large majority of countries, women work more than men. This difference is driven by the time spent on non-market unpaid work. Time-use data tends to underline that women do contribute to wealth creation when performing housework and caring activities.

Differences in the way people allocate their free time to various activities exist as well, although no strong gender/geographic pattern emerges. Nonetheless, the time spent on sporting activities, on inactive leisure activities (such as watching TV) or on sleep has implications for personal development and health.

The type of activities people engage in is directly related to life satisfaction. People experience different feelings of satisfaction, anxiety, nervousness or reward depending on the activity being performed, and this affects their mental state. For instance, among a sample of 625 Germans, outdoor activities and watching TV were found to be the most pleasurable, with volunteering and working the most rewarding (White and Dolan, 2009).

The feelings associated with each daily activity may vary according to the society and the individual, but are definitely linked to subjective well-being.

All these elements can be of great use to government agencies as they monitor and design public policies. Additionally, gender differences in time use, especially in work time, as explained in this chapter, should be taken into account when designing any labour policy, since policies in this field can have differentiated gender impact. More generally, learning about people's time allocation ensures a better understanding of a society for policymakers who are concerned with the efficiency and equity of their policies.

Thus, conducting surveys on time use on a regular basis is highly desirable for every country. Longitudinal data on time use – which is scarce today – would make possible comparisons in time use patterns across time. Furthermore, international comparisons of time use, which would be facilitated by a substantial effort to harmonise activity categories at the global level, would allow researchers to enquire more deeply into countries' socio-cultural specificities and to think in a more advised way about suitable social policies.

Notes

1. http://unstats.un.org/unsd/methods/timeuse/icatus/icatus_2.htm.
2. When possible time spent on travel is classified in the category of the activity to which it is linked. When there is no information on the purpose of the travel, travel time is included in the "Other" category.
3. On average, the time dedicated to the care of non-household members and to community services is seven minutes per day (this average is calculated for nine countries and does not include Cambodia or Kazakhstan, since data for these countries are not available). However, if we do not include New Zealand where the time dedicated to care of non-household members and to community services is the highest (with 35.5 minutes per day for women and 28 minutes for men), the average falls to four minutes per day.

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