

# Time Use Survey: 2009/10

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## Key facts

For paid and unpaid work for households and organisations in 2009/10, New Zealanders did the following:

- Males and females spent a similar amount of time on all paid and unpaid work activities combined (productive activities), but most male work was paid (63 percent) and most female work was unpaid (65 percent).
- However, among people aged 15+ not employed full time, women spent more time on productive activities than men (an extra 1 hour and 45 minutes a day), due to women doing much more unpaid work for their own households than men with the same labour force status.
- Older people (aged 65+) spent more time on unpaid work than people at other life stages – 4 hours and 31 minutes a day; young people (aged 12–24 years) spent the least, at 1 hour and 46 minutes.
- Females spent an average 4 hours and 20 minutes a day on unpaid work; males did 2 hours and 32 minutes.
- People aged 25+ spent less time doing unpaid work for organisations than in 1998/99.

In 2009/10, compared with 1998/99, the average daily time spent on activities by New Zealanders aged 12 years and over (12+) included:

- A rise in time spent watching television and video to 2 hours and 8 minutes (up 7 minutes), driven by females watching 10 minutes more a day – but males still watched 13 minutes longer a day.
- Males spent nearly twice as long playing computer or video games (17 minutes) than active sport (9 minutes) – in 1998/99 they spent a similar time on these activities (11 and 10 minutes, respectively).
- No change in the average time spent on all primary exercise or sporting activities – 19 minutes a day.
- The same top five activities continued to use over two-thirds of each day – sleeping, paid work, watching television, eating and drinking, and socialising with others.
- The difference in time spent by males and females doing unpaid work narrowed slightly – mainly because females did less indoor cleaning (down 11 minutes).
- A near doubling of time spent on education and training by unemployed people (aged 15+) – up to 66 minutes a day.
- No overall change in the total time spent on labour force activities, although people employed full time did 26 minutes less a day, and some groups (such as sole parents with children under 15 years and people aged 45+) did more.

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## Commentary

[How did New Zealanders spend their time in 2009/10?](#) | [How do males and females spend their time?](#) | [How does a person's life stage affect their activities?](#) | [How does ethnicity affect time use patterns?](#) | [How does a person's family role affect time use?](#) | [How does labour force status affect people's activities?](#) | [Access to time use data and requests for further information](#)

The 2009/10 Time Use Survey (TUS) provides information on how New Zealanders aged 12 years and over (12+) spend their time. The information was collected from two-day time use diaries between September 2009 and August 2010.

For most of us, time is rationed and its allocation both influences and reflects our lifestyles and opportunities. How people use their time is determined by the prevailing social and economic environment, cultural values, personal circumstances, and the expression of individual preference. Time-use statistics provide a unique perspective on people's behaviour, standard of living, social roles, work-life balance, and social well-being, which is not readily apparent in conventional social and economic statistics.

This information release describes some significant time-use patterns in 2009/10, and compares results with the first TUS in 1998/99. A selection of findings about how time use varies across the [population](#), and by [sex](#), [life stage](#), [ethnicity](#), [role in family](#), and [labour force status](#) are presented. More detailed results will be provided in future reports.

Two types of statistical measures are used to summarise time use – average time spent per day and participation rate. See the [Definitions](#) section for explanations of these measures.

Unless stated otherwise, all statistics refer to the primary activities people were doing at any one time. For example, a mother may have been preparing dinner and helping her children with their homework – whichever she recorded first in her diary was counted as the primary activity, and the other was coded as 'simultaneous'. Where simultaneous activities are included in the estimates, this is noted.

### **How did New Zealanders spend their time in 2009/10?**

Across all New Zealanders aged 12+, the average time spent on many activities remained stable between 1998/99 and 2009/10.

#### **Sleep, work, and television are most time-consuming activities**

The top five activities that New Zealanders aged 12+ spent most of their time on has not changed since 1998/99. These activities are sleeping, paid work, watching television, eating and drinking, and socialising with others. These five activities accounted for 69 percent of an average diary day in 2009/10 and 68 percent in 1998/99.

<b>Average time spent on the top five detailed activities</b>		
1998/99 and 2009/10		
Detailed activity	1998/99	2009/10
	Hours and minutes <sup>(1)</sup>	
Sleeping <sup>(2)</sup>	8:38	8:48
Work for pay or profit <sup>(3)</sup>	2:56	2:59
Watching television or video	2:02	2:08
Eating and drinking <sup>(2)</sup>	1:28	1:25
Socialising and conversation	1:09	1:07

1. Differences reported in the text are calculated from unrounded data and may not match those calculated from tables. See [Data quality](#) for further information about rounding.

2. Some of the differences between the two periods may be due to improvements in the way data was processed. See [Data quality](#) for further information about improvements to diary coding.

3. Includes people working without pay on a family farm or business.

People aged 15 years and over in Australia (2006) and the United States (2009) have the same top activities, though there are some differences in average time spent. See the Australian Bureau of Statistics ([www.abs.gov.au](http://www.abs.gov.au), catalogue no. 4153.0) and United States Bureau of Labor Statistics ([www.bls.gov/tus/](http://www.bls.gov/tus/)) for more time-use information from these countries.

Within New Zealanders' top five activities, the 7-minute rise in time watching television or video is the only statistically significant change not affected by improved activity coding. The changes in time spent sleeping, and eating and drinking, are subject to differences in the way diary information was coded in 1998/99 and 2009/10. (See [Data quality](#) for information about improvements to diary coding.)

### **Division of time among primary activities in 2009/10 is similar to 1998/99**

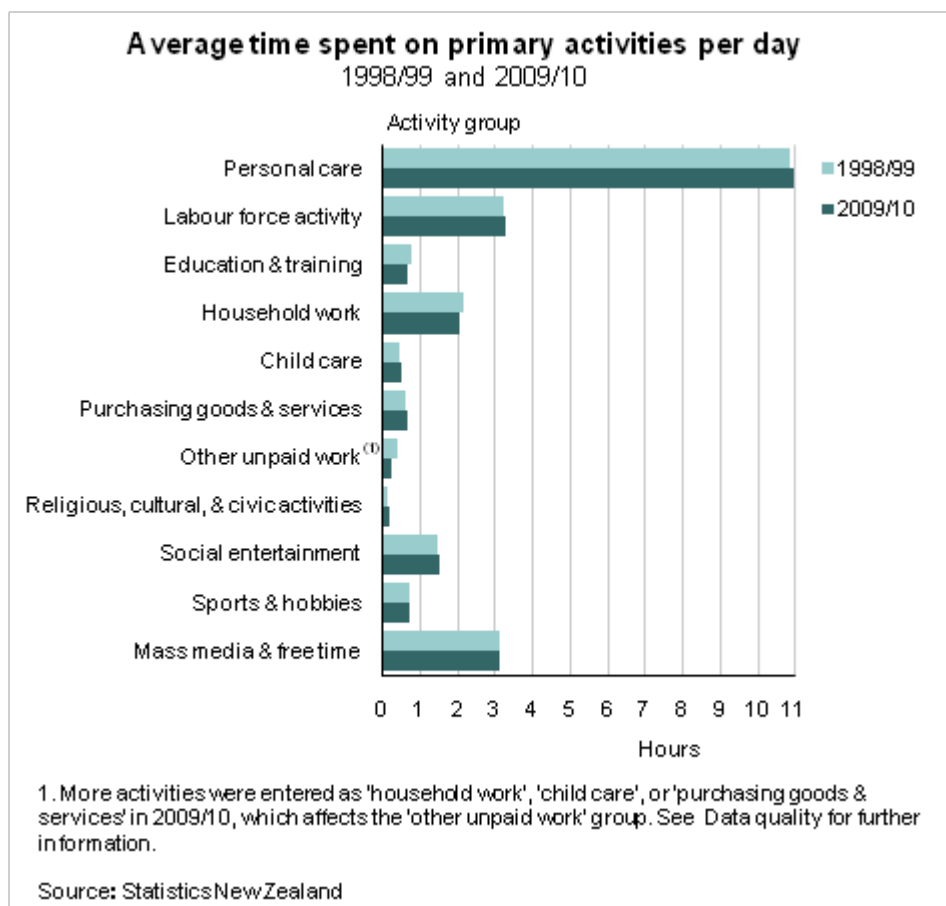
A high degree of stability between the 1998/99 and 2009/10 survey results was evident at the activity group level. Each of the 11 activity groups, shown in the graph below, contains a cluster of related detailed activities.

New Zealanders spent nearly half their time on personal care activities such as sleeping, eating, hygiene, and dressing (46 percent of an average day). This was up 6 minutes on 1998/99, but could be due to improved coding of time spent sleeping (see the [Data quality](#) notes about improvements to diary coding).

The other activity groups that New Zealanders spent more or less time on in 2009/10 were:

- household work – down 9 minutes, to 2 hours and 2 minutes
- education and training – down 6 minutes, to 39 minutes
- child care – up 4 minutes, to 32 minutes
- purchasing goods and services – up 4 minutes, to 40 minutes
- religious, cultural, and civic activities – up 3 minutes, to 13 minutes (this includes time spent filling in the time use diary; half the increase is due to this activity).

See [Data quality](#) for explanations of improved activity coding for 'formal education' and 'playing, reading, talking with child'.



## Most free time spent on passive leisure activities

New Zealanders aged 12+ spent an average of 4 hours and 36 minutes a day on passive mass media and social entertainment activities – over 80 percent of all leisure time. The most time-consuming leisure activities for all people aged 12+ were:

- watching television or video – 2 hours and 8 minutes a day
- socialising and conversation – 1 hour and 7 minutes
- reading or personal writing – 26 minutes.

Watching television was also a common activity, recorded on 8 out of 10 diary days (82 percent participation rate). The participation rate for reading or personal writing was only 37 percent.

The time spent on exercise or playing sport was just 19 minutes on an average day – no change from 1998/99. Among people who participated in exercise and sports as a primary activity, the average time was markedly higher (see participant information in table below). Physical activities with another main purpose, such as cycling to work or walking the dog, are not included in these statistics.

<b>Average time spent on exercise and sport by all people aged 12+ and participants only 2009/10</b>			
Primary activity	All people (12+)	Participants (12+)	
	Mean time spent on an average diary day (hours and minutes)		Participation rate (percent)
Active exercise	0:06	1:00	10
Playing active sport	0:06	2:10	5
Gentle exercise	0:05	0:57	9
Playing other sport	0:01	2:26	1

## **Total time spent on child care decreases**

A lot of child care occurs alongside other primary activities. This ‘simultaneous’ child care may be active, such as a father talking with his daughter while eating breakfast, or passive, where the parent is not interacting with the child but is available if needed. Being ‘available for child care’ is classified only as a simultaneous activity.

The amount of time spent on all primary and simultaneous childcare activities was down 44 minutes in 2009/10, mainly due to a 48-minute fall in the time available for child care. The government policy of 20 hours free early childhood education a week (for three- and four-year-old children), introduced in July 2007, may be influencing this result. Participation in licensed early childhood education by children aged 0–4 years increased from 50.9 percent at 30 June 1999, to 58.7 percent at 30 June 2009 (see Ministry of Education [Participation in early childhood education](#)).

The overall decrease in all childcare activities was partly offset by a 4-minute increase in primary childcare activities – mainly due to an increase in time spent playing with, or talking or reading to, a child. People who participated in primary child care spent 33 minutes more a day on these activities than in 1998/99.

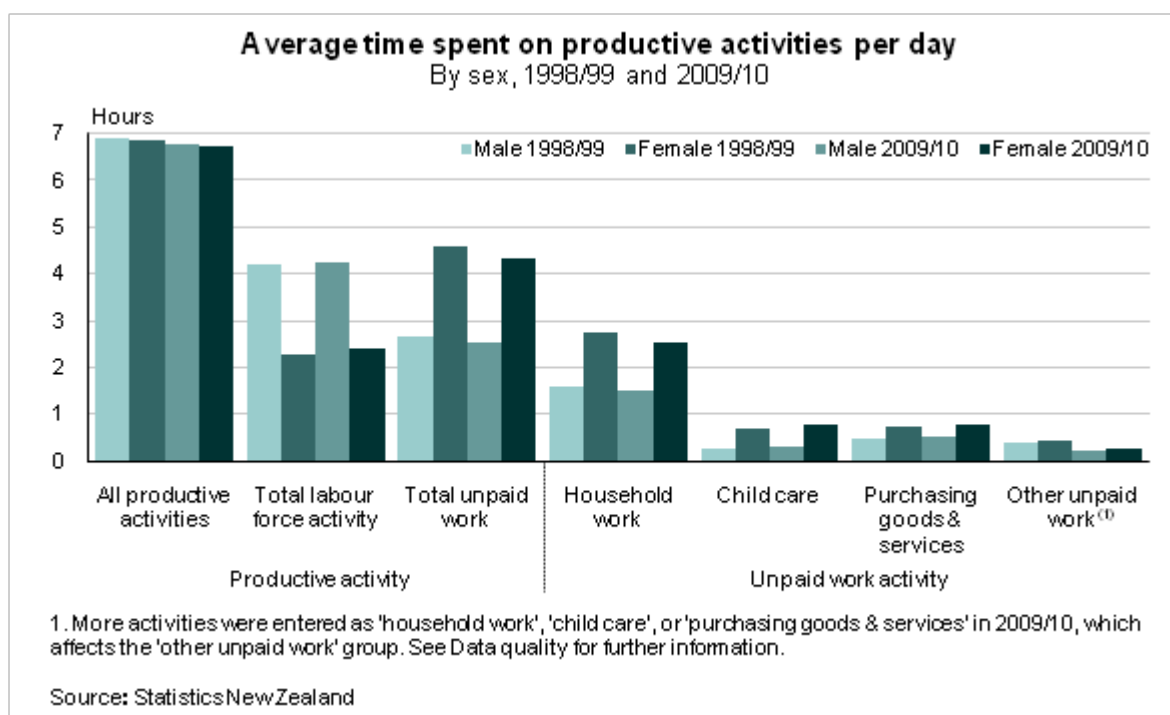
(See [Data quality](#) for information on improved coding rules for childcare activities.)

## **How do males and females spend their time?**

While some of the difference in how males and females spend their time is due to personal preferences, gender roles and social expectations also influence people’s time-use patterns. An important outcome of a time use survey is that it enables unpaid productive activities that are more commonly done by women, such as housework, care of family, purchasing household goods and services, and unpaid community work, to be measured and then valued in household and non-profit institutions satellite accounts. This allows time spent on paid and unpaid productive activities to be measured and compared.

## **Males and females spend similar amounts of time on productive activities**

There is an anecdotal belief that women work a ‘double shift’ of paid work and unpaid domestic duties, spending more time than men on productive activities. However, both surveys show that males and females spent similar amounts of time on productive activities – about 6.75 hours a day in 2009/10 – though the ratio of paid to unpaid work varied between the sexes. The majority of men’s productive activities were related to paid work (63 percent), while the majority of women’s were unpaid activities (65 percent).



Men spent 1 hour and 50 minutes more on labour force activity than women, due to differences in participation rates and time spent on activities by participants:

- Men's labour force activity participation rate was 51 percent, with participants spending 8 hours and 18 minutes a day
- Women's participation rate was 35 percent, with participants spending 6 hours and 48 minutes.

In contrast, females did more unpaid work (4 hours and 20 minutes compared with 2 hours and 32 minutes for men), mainly due to females spending about an hour more on household work than males. Across all unpaid work activities, the two that males spent more time on than females were home maintenance and grounds maintenance.

The gap in time spent on unpaid work between males and females fell slightly between the surveys – because females did 15 minutes less in 2009/10. This was driven by a 13-minute fall in time that females spent on household work, mainly due to spending less time on indoor cleaning (down 11 minutes). The time males spent on unpaid work also fell slightly, down 8 minutes.

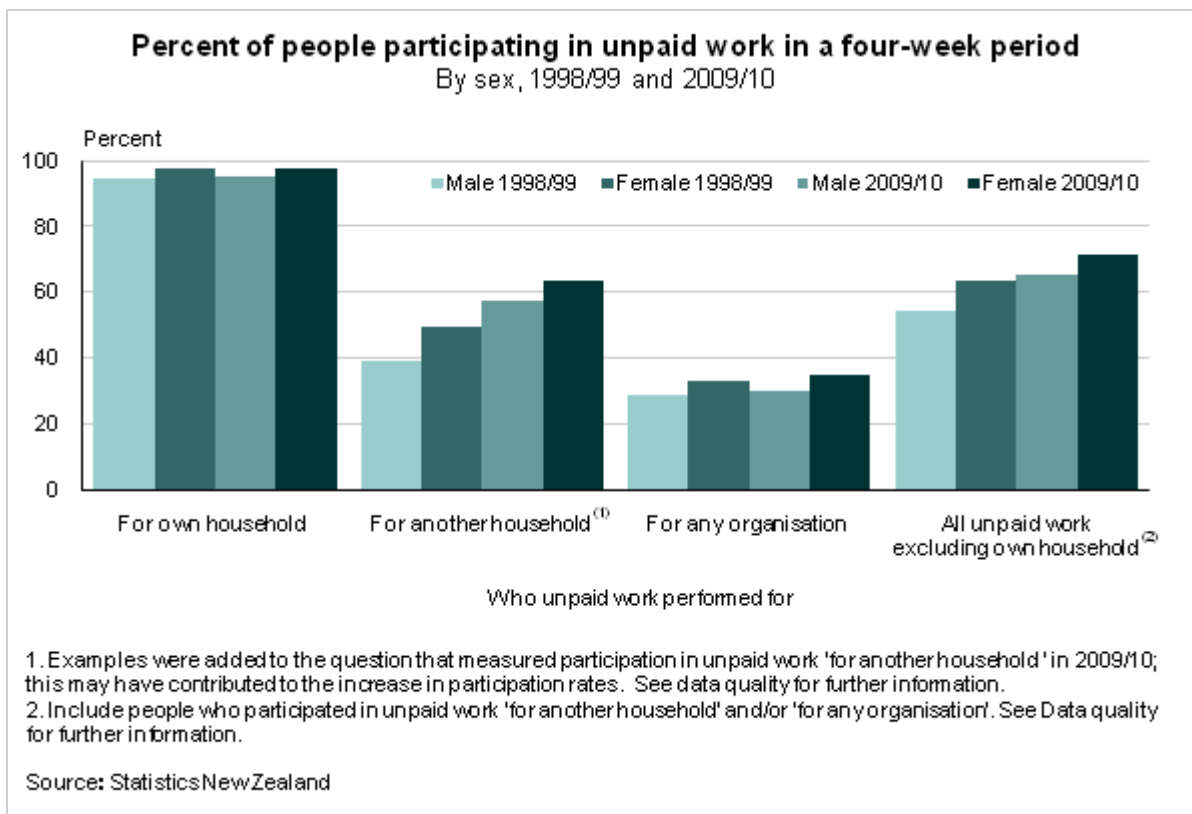
While both women and men spent more time on primary childcare activities in 2009/10, women still spent more than twice as much time on child care as men (46 and 18 minutes, respectively). When simultaneous child care is included, women spent more time a day on all child care than men (5 hours and 19 minutes compared with 3 hours and 2 minutes). Women had higher participation rates in childcare activities (29 percent compared to 19 percent for males).

### **More females than males participate in unpaid work activities over four weeks**

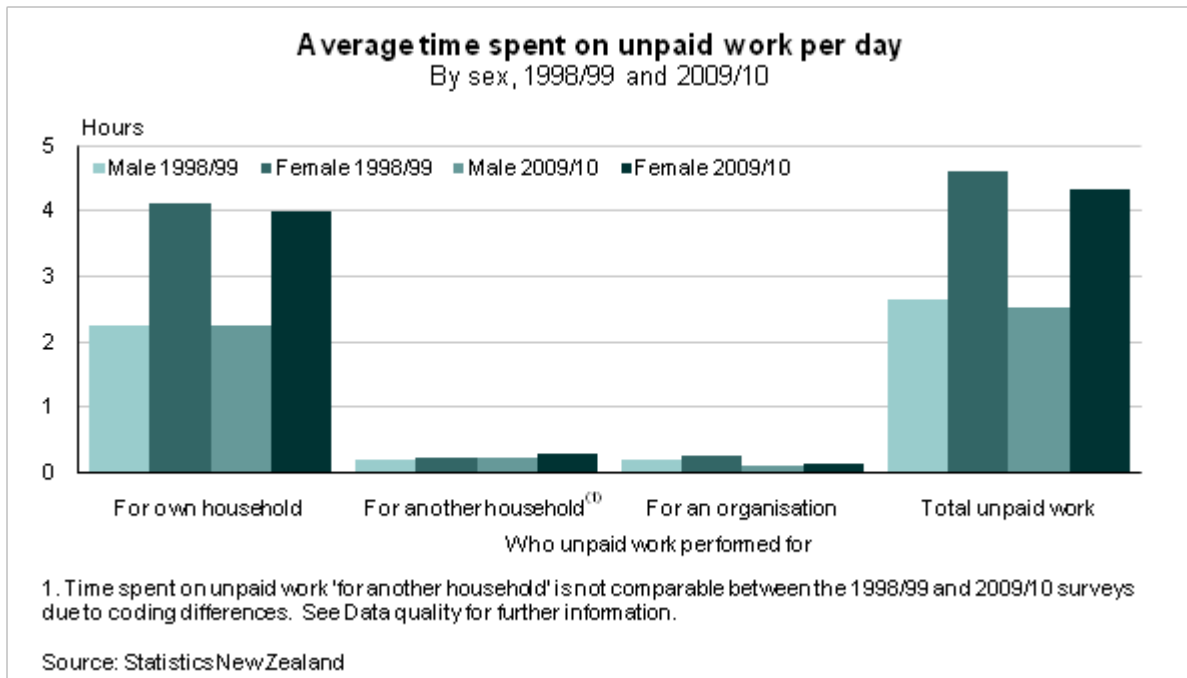
Some people participate in unpaid activities only occasionally in a month (eg volunteering for a non-profit organisation or helping a neighbour). To get an accurate measure of participation in all unpaid work activities, including occasional work not necessarily recorded in the diaries, people were asked about participation in a four-week reference period. The questions asked about

unpaid work for their own household, for other households, for any organisation, and in 2009/10 only, for non-profit organisations.

More females participated in unpaid work during a four-week period than males. Except for unpaid work for another household, participation rates did not change by a statistically significant amount from 1998/99.

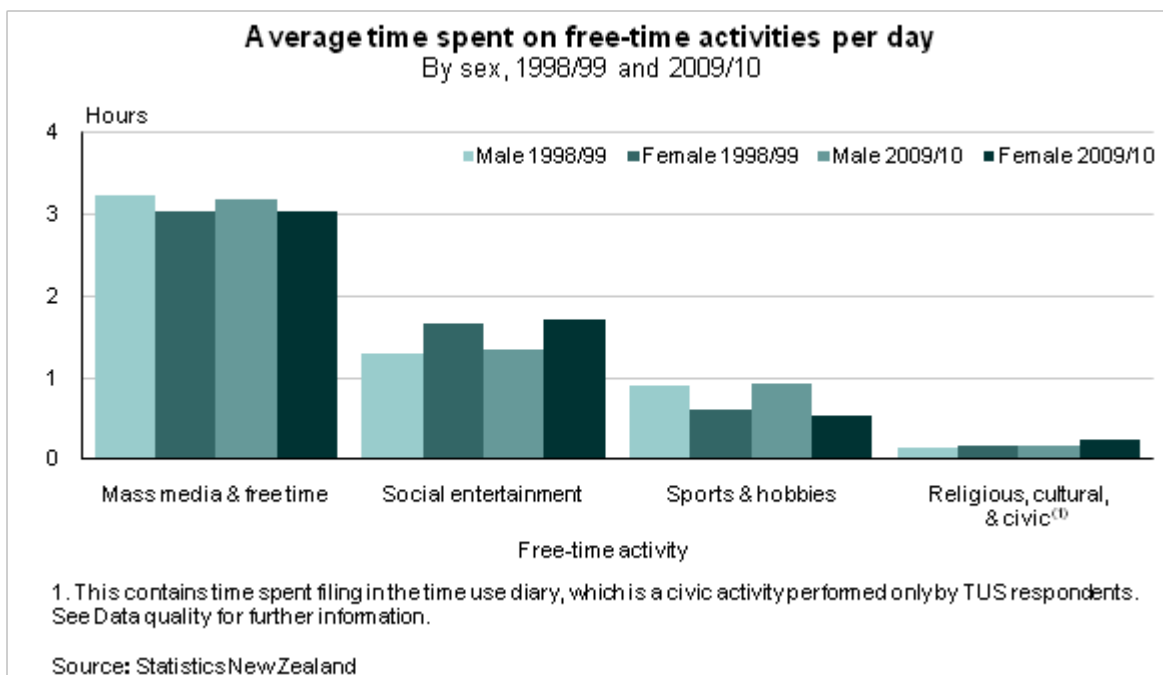


The majority of all unpaid work was completed by males and females for their own households, and the time spent was similar for both surveys. In 2009/10, about 13 percent of time spent on unpaid work by males was for other households or organisations; for females it was about 10 percent. However, the time spent for organisations halved between 1998/99 and 2009/10 – down to 6 minutes a day for males, and down to 8 minutes for females.



## Females spend more time on social entertainment and males on sports and hobbies

While males and females both spent an average of 23 percent of their day on free-time activities (unchanged from 1998/99), they divided this time differently. Females spent more time on social entertainment than males, and had a higher participation rate for these activities (78 percent; 65 percent for males). Of all social entertainment activities, the largest sex difference was in time socialising with others (1 hour and 16 minutes for females; 59 minutes for males). Males spent more time on both sport and hobbies and mass media activities than females.





Although males watched 13 minutes more television than females in 2009/10, the difference was smaller than in 1998/99 – a 10-minute increase for females and a negligible increase for males in the latest survey. Thus, the 7-minute rise in average time spent watching television by all people was driven by the longer time spent by females.

Time spent on reading and personal writing, the third-most common leisure activity, also changed for males and females. Both sexes spent 26 minutes on this activity in 1998/99, but in 2009/10 males spent 7 minutes less than females – males spent 3 minutes less a day than in 1998/99 and females 4 minutes more.

Males spent 56 minutes a day on sports and hobbies in 2009/10, compared with 33 minutes for females. Time spent playing computer or video games is the main contributor to this difference, driven by a higher participation rate for males, who also spent longer than female gamers:

- male participation rate in playing computer or video games was 12 percent; participants spent an average of 2 hours and 22 minutes a day
- female participation rate was 6 percent; participants spent 1 hour and 16 minutes.

Males also spent more time on active sport each day than females (9 minutes and 4 minutes, respectively). Although total population participation rates are relatively low, the rate for active sport among males was over twice that for females (7 percent and 3 percent). However, the average time spent by male and female participants was similar (2 hours and 13 minutes for males, and 2 hours and 5 minutes for females).

In 2009/10, the average time males spent playing computer or video games (17 minutes) was nearly twice that spent in active sport (9 minutes); in 1998/99 males spent a similar amount of time on these activities (11 and 10 minutes, respectively).

## **How does a person's life stage affect their activities?**

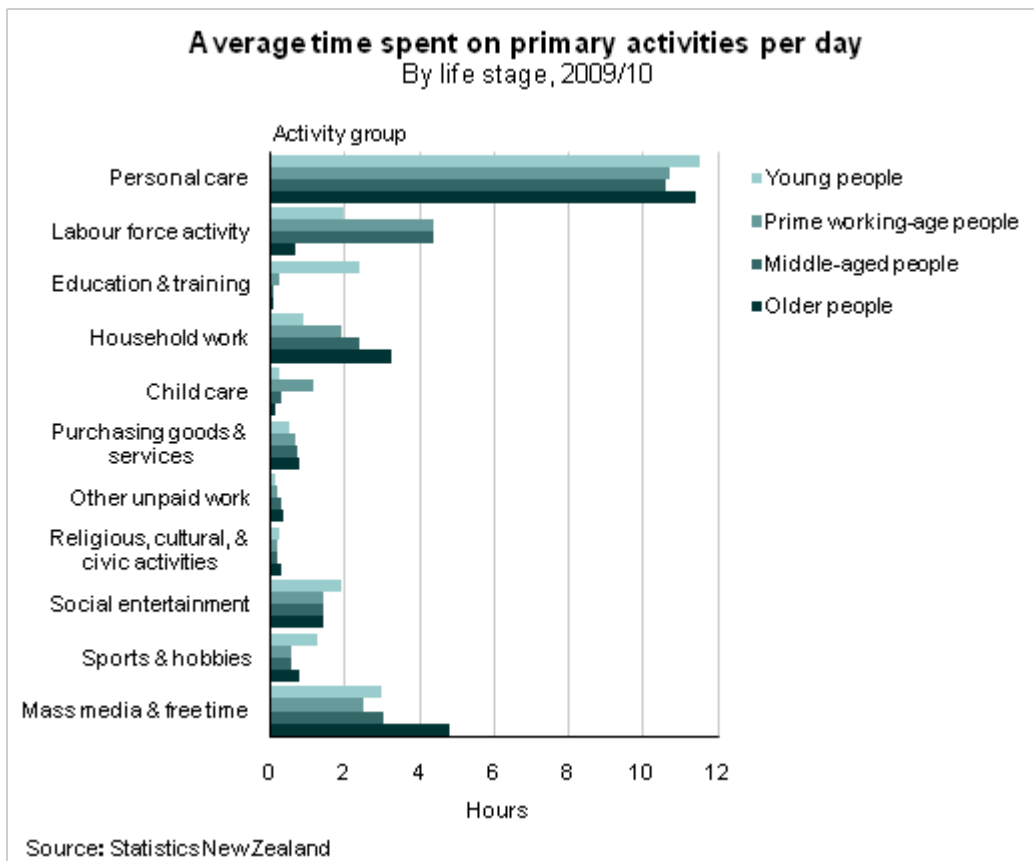
A person's life stage affects the types of activities they engage in and the length of time they spend on those activities. Four life stages are covered in this section:

- Young people (12 to 24 years)
- Prime working-age people (25 to 44 years)
- Middle-aged people (45 to 64 years)
- Older people (65 years and over (65+))

## **People at different life stages use their time in different ways**

Life stage has a strong effect on time-use patterns. Four of the 11 primary activity groups show higher variability in the time spent on them at different life stages:

- labour force activity – prime working-age and middle-aged people spent a much higher proportion of their day on employment activities than young and older people
- education and training – young people spent a substantially higher amount of time on learning activities than all other life stages
- household work – time spent increased successively across the life stages
- mass media activity – older people spent the most time on these activities, and prime working-age people spent the least.



### Young people’s activity focuses on education and leisure

Young people spent 2 hours and 22 minutes a day on education and training activities, compared with 15 minutes or less for each of the other stages. This is due to young people having a high participation rate (40 percent), and spending 6 hours on education and training activities on days they participated.

When compared with people at other life stages, young people did the least ‘productive’ work (labour force activity and unpaid work combined) at 3 hours and 42 minutes a day – an average of 1 hour and 56 minutes on labour force activity and 1 hour and 46 minutes on unpaid work.

Young people spent more time than other people on social entertainment and sports and hobbies. They spent an average of 1 hour and 15 minutes a day on sports and hobbies, but the majority of their free time was spent on passive leisure activities:

- 2 hours and 59 minutes on mass media activities
- 1 hour and 53 minutes on social entertainment.

They also spent more time on personal care activities than prime working-age and middle-aged people.

There was a large difference between young males and females for time spent on sports and hobbies. On average, young males spent about 1 hour more on these activities than females, due to differences in participation rates and time spent by participants:

- young males’ participation rate was 60 percent; participants spent 2 hours and 56 minutes

- young females' participation rate was 39 percent; participants spent 1 hour and 51 minutes.

The time difference for men and women on sports and hobbies was smaller at other life stages; with no significant differences in participation rates.

### **Working-aged people have the least free time and do the most child care**

People in the two working-age life stages – prime working-age and middle-aged – do the most labour force activity, averaging nearly 4.5 hours a day. They also had less free time, and spent:

- just over 30 minutes a day on sports and hobbies, compared with 1 hour and 15 minutes for young people
- 2 hours and 30 minutes (prime working-age) and 3 hours and 2 minutes (middle-aged) a day on mass media activities, compared with 4 hours and 47 minutes for older people.

People in the two working-age groups spent different amounts of time on childcare activities. Those at the prime working-age spent the most time raising young children – at 1 hour and 9 minutes a day caring for children, compared with 17 minutes for middle-aged people. Perhaps due to their child-rearing responsibilities, prime working-age adults spent 30 minutes less on household work than middle-aged people.

### **Older people are doing more paid work and do the most unpaid work**

The labour force activity of older people has increased over the past two decades (see Household Labour Force Survey in [Infoshare](#)), which is reflected by increased participation rates across the two surveys – the rate rose from 11 percent to 17 percent in 2009/10 for older men, and from 3 percent to 8 percent for older women. Compulsory retirement at 65 years ended shortly after the 1998/99 survey, and the average time spent on labour force activity by older people nearly doubled – to 40 minutes in 2009/10. The time spent by older labour force participants was much higher – for men it was 5 hours and 56 minutes a day, for women it was 4 hours and 43 minutes (similar to 1998/99 times).

In 2009/10, older people spent 4 hours and 31 minutes on unpaid work on an average day, similar to the time in 1998/99. This was more than double the time young people spent (1 hour and 46 minutes), and more than for prime working-age and middle-aged people (3 hours and 55 minutes, and 3 hours and 41 minutes, respectively).

In a four-week period, 38 percent of older people did unpaid work for an organisation – 35 percent had participated for a non-profit organisation, a higher rate than at other stages. However, fewer older people than working-age people participated in unpaid work for other households or organisations, combined (65 percent and 72 percent, respectively).

Older people spent the most time on unpaid work for organisations (12 minutes a day). However, this is 9 minutes less than in 1998/99. The time spent on unpaid work for organisations also declined for prime working-age and middle-aged people (down 7 and 12 minutes, respectively).

### **Older women spend more time alone than older men**

New to the 2009/10 survey, people were asked to state who they were with for all activities. Respondents selected one or more of five responses:

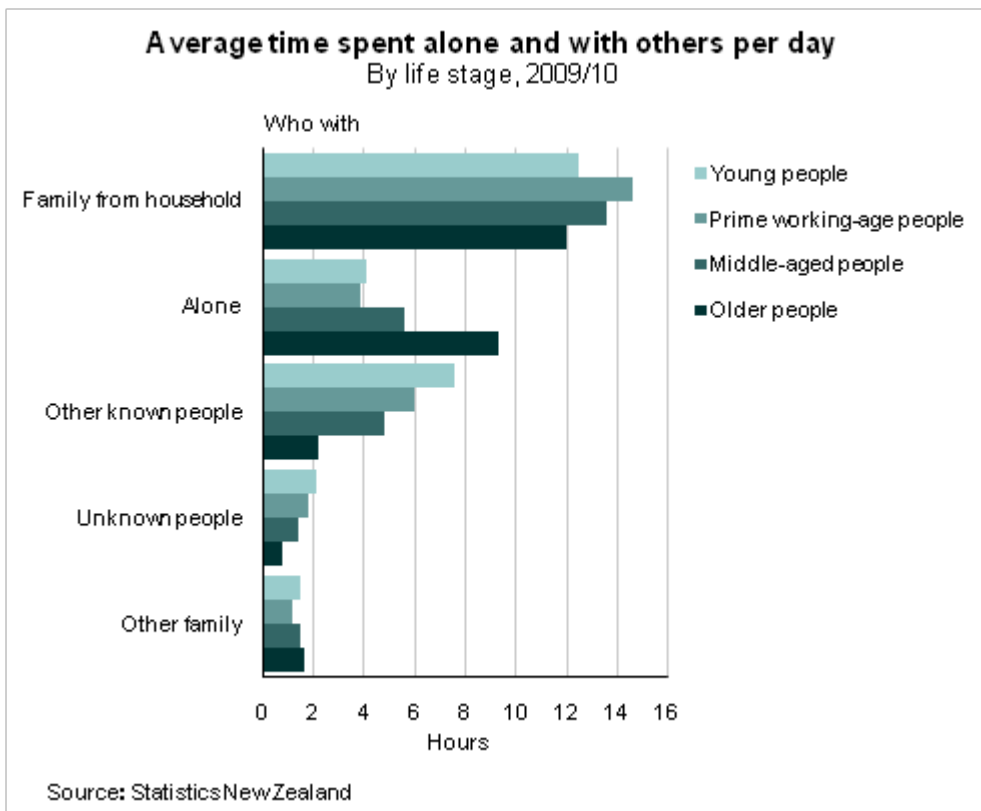
- alone
- with family members from their own household
- with family members who live in another household
- with other known people (this may include non-family household members)
- with unknown people.

People at the older life stage spent the most time alone, at 9 hours and 18 minutes a day, while young people spent only 4 hours and 6 minutes alone. Older women spent nearly 4 hours more alone than older men, who spent more time with family from their household than older women did (14 hours and 24 minutes compared with 9 hours and 57 minutes). These differences are probably due to women living longer than men.

Conversely, among people under 45 years, males spent about an hour more alone than females:

- young people – males spent 4 hours and 35 minutes alone; females 3 hours and 37 minutes
- prime working-age people – men spent 4 hours and 37 minutes alone; women 3 hours and 13 minutes.

Young people spent more time with other people they know (7 hours and 34 minutes) and with unknown people (2 hours and 5 minutes) than people at other life stages. The time spent with non-family members fell with increasing age. Older people spent 2 hours and 9 minutes with other known people and 44 minutes with unknown people. Working-age people spent more time with family in their household than other life stages. Young females spent more time with family in their household, other family outside their household, and unknown people than young males did.



## How does ethnicity affect time-use patterns?

Time spent with family and on unpaid work varied by the ethnic groups people identified with. Ethnicity is a self-perceived measure of cultural affiliation, so people can belong to more than one ethnic group. This section compares four ethnic groups: European, Māori, Pacific peoples, and Asian.

(See [Data quality](#) for information about ethnicity.)

These four ethnic groups have different age distributions (eg the European group has a much higher proportion of people aged 65+). Age effects can sometimes partly explain the time differences mentioned below, however unless otherwise noted, ethnic differences also exist. (See [Data quality](#) section for information about how age differences can affect differences in time spent on activities.)

### Pacific and Asian people spend the most time with family from their household

People of Pacific and Asian ethnicities spent more time each day with family who live in the same household than Māori and European people did – Pacific peoples spent 15 hours and 40 minutes with this group while Europeans spent 13 hours and 6 minutes.

In all ethnic groups, women spent more time than men with family members from the same household. The difference is quite pronounced for Pacific peoples, as Pacific women spent 3 hours and 31 minutes more each day than Pacific men, while the difference for European men and women was 50 minutes. European women spent less time with family from their own household than women from other ethnic groups – 1 hour and 4 minutes less than Māori women, 3 hours and 12 minutes less than Asian women, and 3 hours and 53 minutes less than Pacific women.

The time spent with family who live in other households also varied across ethnic groups. Māori spent 2 hours and 5 minutes a day with family who live in other households, while Pacific peoples spent 1 hour and 56 minutes, and Asian people spent only 37 minutes.

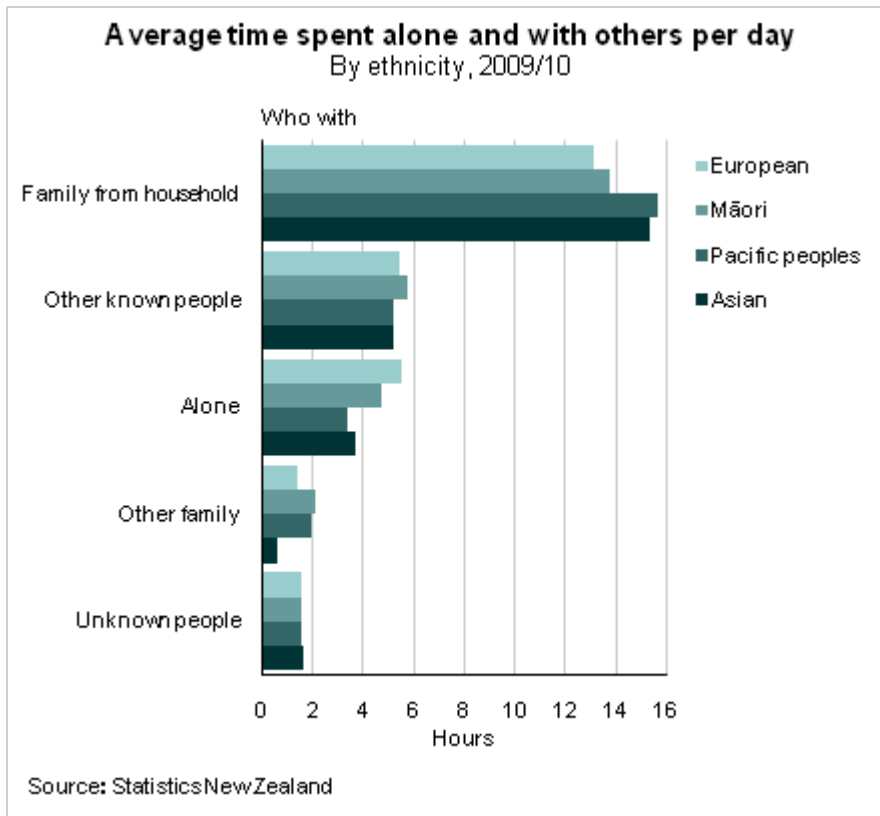
There were differences within the sexes across ethnic groups in time spent with family from other households:

- Māori men spent 1 hour and 48 minutes each day, more time than men in other ethnic groups spent with family who live elsewhere
- Māori women spent 2 hours and 19 minutes each day, more than European women (1 hour and 34 minutes) and Asian women (37 minutes).

There were also differences between the sexes in time spent with family from other households, and the size of the difference varied across ethnic groups:

- Pacific women spent 1 hour and 44 minutes more with family outside the household than Pacific men
- European women spent 21 minutes more than European men.

Differences in time spent alone also existed – European people spent 5 hours and 30 minutes alone each day, while Pacific peoples spent 3 hours and 21 minutes alone.

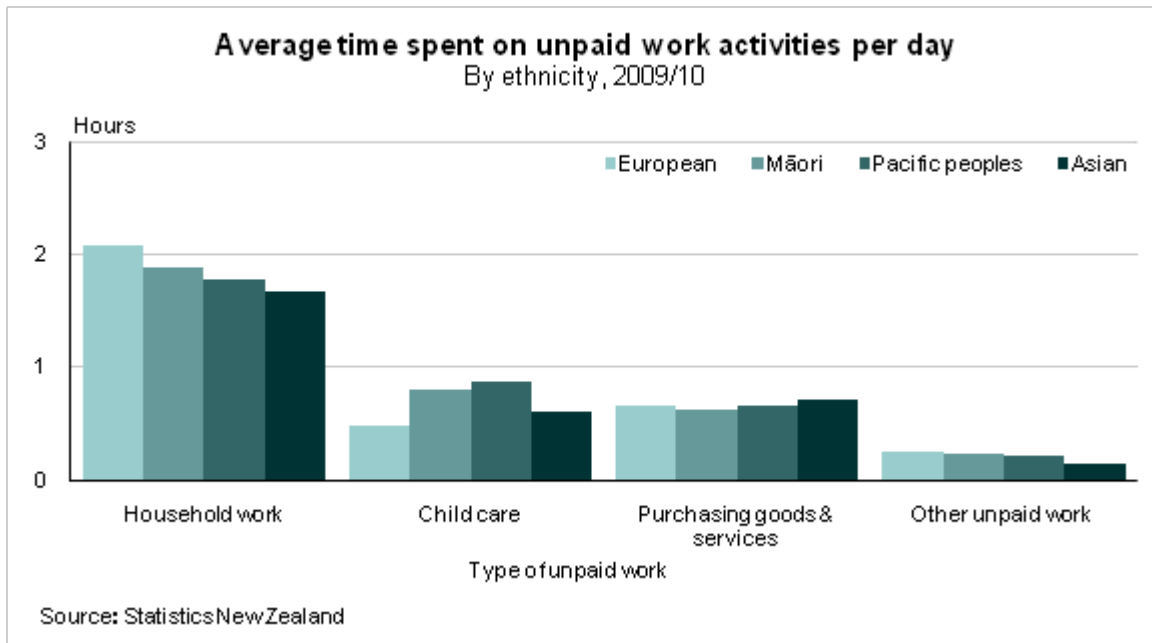


### Asian people spend the least time on unpaid work

Māori and Pacific peoples spent around 3 hours and 30 minutes a day on unpaid work activities, while Asian people spent closer to 3 hours a day.

Māori and Pacific peoples spent more time each day on primary childcare activities (48 minutes and 52 minutes, respectively), than Asian (36 minutes) and European people (29 minutes). This difference is driven by higher participation rates in childcare activities for Māori and Pacific peoples.

As Europeans have an older population, they spent the most time on household work (2 hours and 6 minutes; see [Older people are doing more paid work and do the most unpaid work](#)). Women spent more time on this activity than men, although the size of this difference varied by ethnicity – Asian women spent 1 hour and 32 minutes more each day on household work than Asian men; Māori women spent 52 minutes more than Māori men.



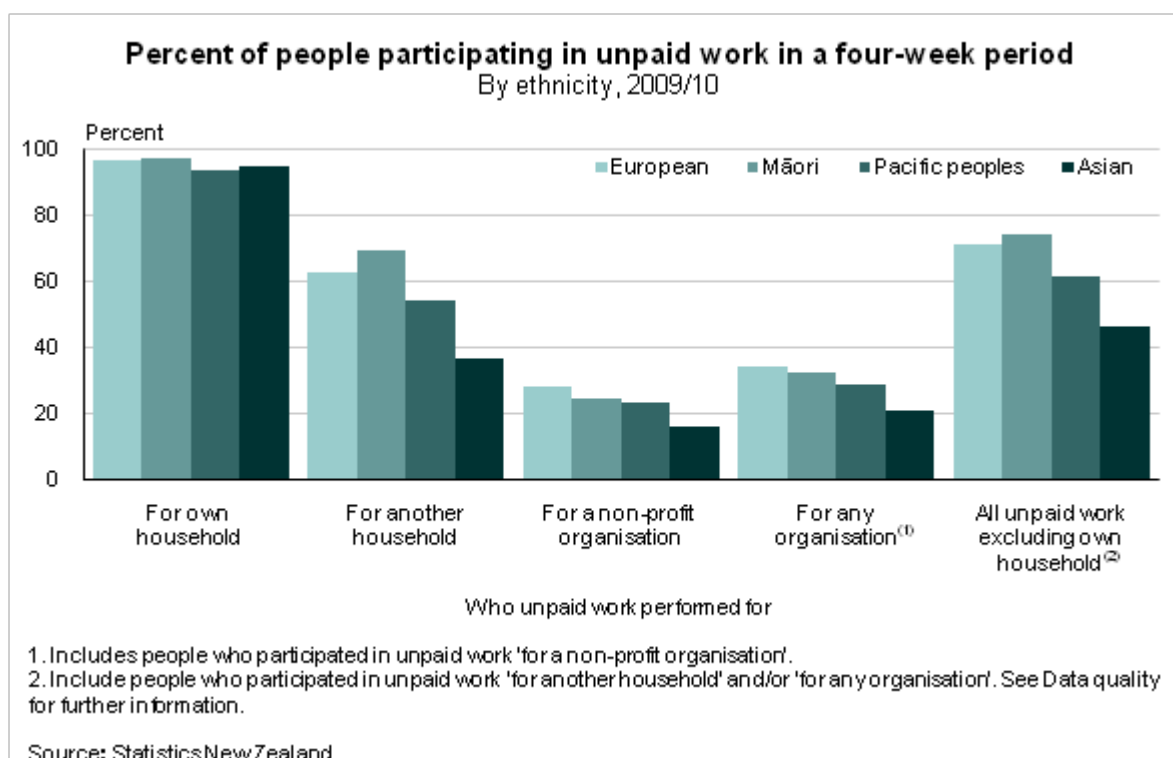
Europeans and Māori spent 17 minutes doing unpaid work for other households on an average day, twice the 8 minutes Asian people spent. European women spent 20 minutes each day on this activity, slightly more time than European men (14 minutes) and twice the time spent by Asian women (9 minutes).

### **More Māori and European people participate in unpaid work for others over four weeks**

Māori and European people were more likely to take part in unpaid work for other households or organisations (combined) in a four-week reference period (74 and 71 percent, respectively) than Pacific (62 percent) and Asian people (46 percent).

Asian people's lower overall participation rate in unpaid work for others over the four-week period was due to:

- 37 percent of Asians participated in unpaid work for other households (compared with Māori and European rates of 69 and 63 percent, respectively)
- 21 percent of Asians participated in unpaid work for any organisation (compared with Māori and European rates of 32 and 34 percent, respectively).



## How does a person's family role affect time use?

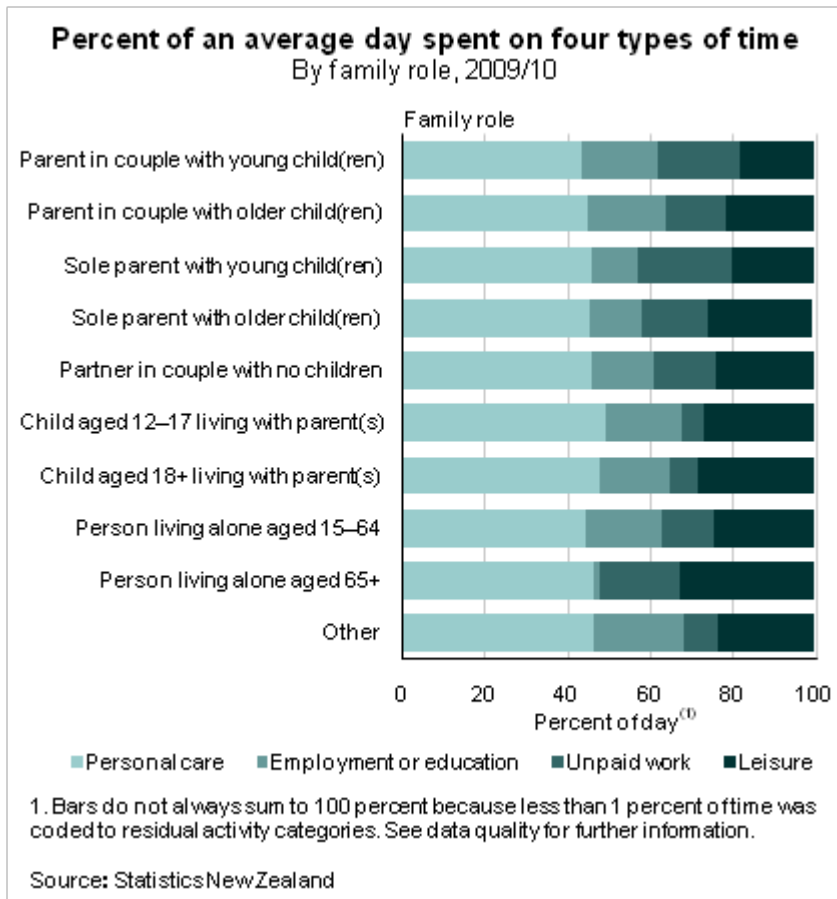
The different roles that people have within their family or household affect the types of activities they participate in and how much time they spend on these. Ten family roles are presented in this information release though the following sections focus mainly on parental roles, examining the effect on time-use patterns of raising children with and without a partner. (See [Data quality](#) for an explanation of the family roles.)

### Family role has greatest impact on time spent on employment and education activities

The 11 groups of activities can be further clustered into four categories of time: personal care activities, employment and education activities, unpaid work activities, and leisure activities. (See [Data quality](#) for information about grouping activities into four types of time.)

Family role affects how much of the day is spent on each of the four types of time. The greatest range in total time spent was for employment and education activities and the least was for personal care activities. Time spent on unpaid work also varies across the family roles.

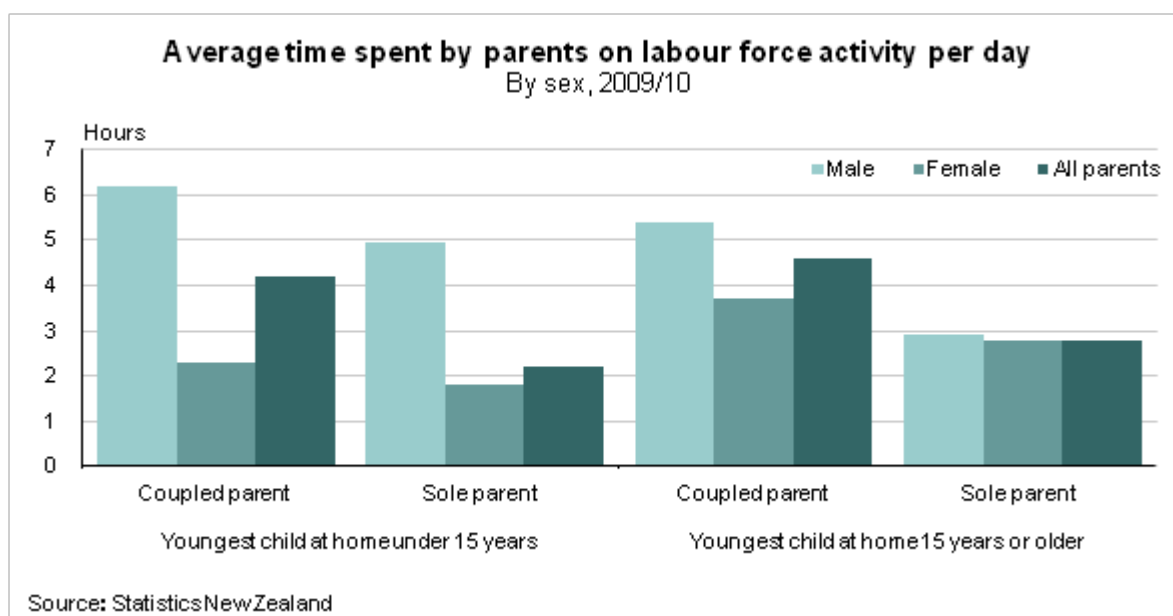




### Sole parents spend less time on labour force activity than coupled parents

Being a sole parent has a substantial negative effect on time spent on labour force activity. Sole parents with at least one child under 15 years at home spent an average of about 2 hours less on labour force activity than coupled parents with young children. The difference between sole and coupled parents with older children was similar, at 1 hour and 48 minutes.

However, the gap between sole and coupled parents with young children has lessened, because sole parents' labour force activity increased. In 2009/10, sole parents with young children did an average of 41 minutes more paid work a day than in 1998/99, giving a daily average of 2 hours and 13 minutes. This increase can only be reliably attributed to the increase in time spent by sole mothers, due to high variability around the labour force activity estimates for sole fathers with children under 15 years. There was no change for other parental roles between the surveys.



For three of the four parental family roles, a large difference exists in the time men and women spent on labour force activity ('sole parent with child 15+' is the exception):

- When parenting within a couple, women did less labour force activity than men, particularly when children under 15 years were in the household
- Among sole parents with children under 15 years, men spent just over 3 hours more a day on labour force activity than women (this may be influenced by child custody arrangements).

Sole mothers spent less time on labour force activity than coupled mothers:

- sole mothers with children under 15 years spent 28 minutes less than coupled mothers
- sole mothers with older children spent 57 minutes less than coupled mothers.

Sole fathers with children aged 15+ did 2 hours and 29 minutes less labour force activity than coupled fathers. Due to the high variability in time spent on labour force activity by sole fathers with young children, comparisons with coupled fathers are not reliable.

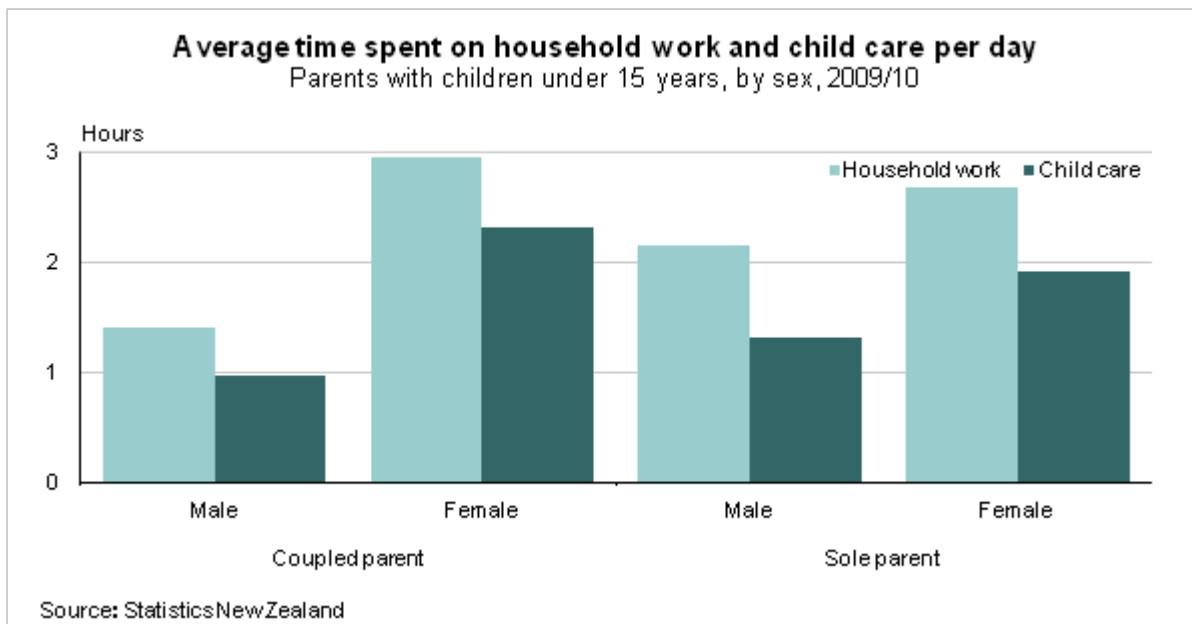
### **Coupled mothers with young children spend more time on housework and child care than sole mothers**

Household work activities were the most time-consuming primary unpaid work for all parental family roles, with females spending more time than males. Among women with at least one child under 15 years, coupled mothers spent 17 minutes more on household work than sole mothers.

Across the total population aged 12+, females did more child care than males (see [Men and women spend similar amounts of time on productive activities](#)), and parents with children under 15 years did the most child care. Coupled mothers with at least one child under 15 years spent more time on primary child care than sole mothers (2 hours and 19 minutes and 1 hour and 55 minutes, respectively).

Mothers were more likely to participate in childcare activities on an average day than fathers. Among coupled parents with young children, female participants spent longer than male participants – 2 hours and 49 minutes compared with 1 hour and 35 minutes for males.

However, looking at time spent by sole parents with children under 15 years who participated in child care on their diary days reveals negligible differences in time spent by mothers and fathers. The difference in time spent for all sole parents with children under 15 years is due to women's higher participation rate (which is likely to be influenced by custody arrangements).



Overall, sole parents with children under 15 years spent more time on unpaid work than people in other family roles – 23 percent of an average day (about 5 hours and 30 minutes) and about 30 minutes less than in 1998/99. As coupled mothers and fathers can share many household and childcare duties, the average time they individually spent on unpaid work (4 hours and 48 minutes, or 20 percent of a day) was less than that for sole parents, and has not changed since 1998/99.

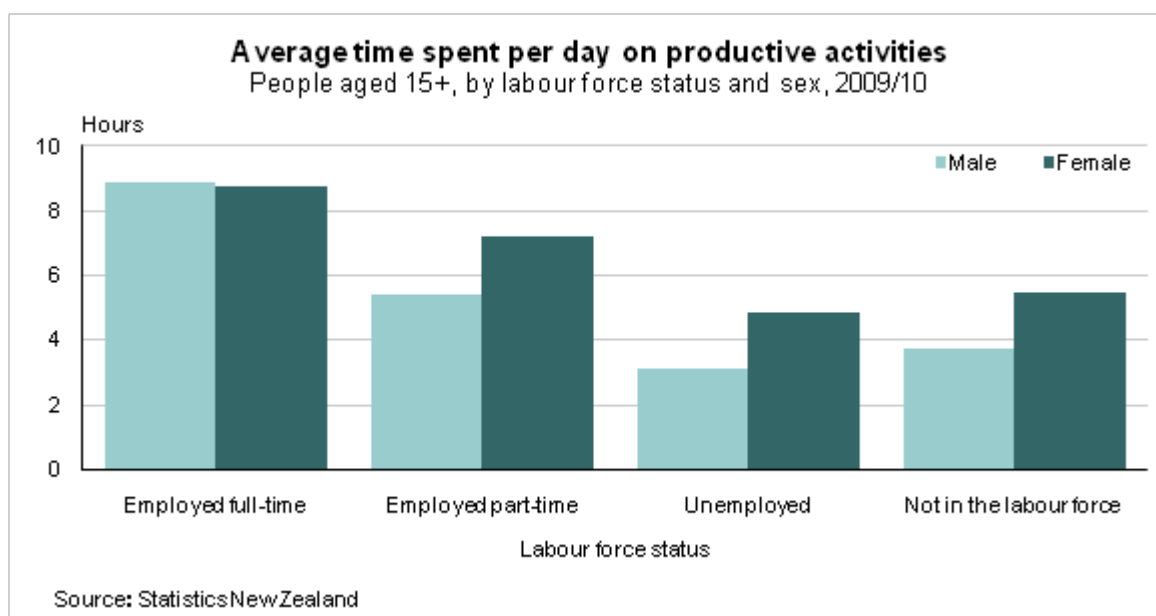
### How does labour force status affect people's activities?

The extent to which people participate in the labour market shaped the way they allocated their time. This section presents information for New Zealanders aged 15+ who worked full time (usually at least 30 hours per week) or part time (up to 30 hours per week), or were unemployed or not in the labour force.

#### People in full-time employment do the most productive activities

People who worked full time spent more time in total on productive activities (total labour force activity and unpaid work, combined) than people with other labour force statuses. The majority of their productive activities were employment-related, though the general pattern of men doing more paid work and women doing more unpaid work was still apparent among the full-time employed.

There was no difference in time spent on labour force activity between men and women employed part time (around 2 hours and 30 minutes a day), yet part-time employed women did more unpaid work, leading to women spending 1 hour and 45 minutes more on all productive activities. Women who were unemployed or not in the labour force also spent about 1 hour and 45 minutes more a day on productive activities than men with the same labour force status, due to women doing much more unpaid work for their own households.



When women were employed full time, they did significantly less unpaid work than women from other labour force statuses. Men employed full time also did less unpaid work than men employed part time or not in the labour force (though the differences are smaller), but the difference from unemployed men is not significant.

People employed full time spent 2 hours and 37 minutes on all unpaid work activities, combined, while those not in the labour force spent the most time on these activities, at 4 hours and 43 minutes.

<b>Average time spent on productive activities</b> People aged 15+, by labour force status and sex 2009/10						
Labour force status	Labour force activity <sup>(1)</sup>		Unpaid work		Productive activities <sup>(2)</sup>	
	Men	Women	Men	Women	Men	Women
	Hours and minutes					
Employed full time	6:39	5:30	2:14	3:16	8:53	8:45
Employed part time	2:40	2:30	2:47	4:42	5:27	7:12
Unemployed <sup>(3)</sup>	0:29**	0:13**	2:40	4:40	3:08	4:53
Not in the labour force <sup>(3)</sup>	0:16**	0:04	3:29	5:27	3:44	5:31

1. The estimates for time spent on labour force activities are affected by diaries being completed on public holidays, weekend days, or during periods of leave from work. See [Data quality](#) for further information.

2. Due to rounding, individual figures may not sum to productive activity totals.

3. Labour force status was derived from the person questionnaire, and not from activities recorded in the diaries. Labour force activity may include job search activities and episodes of paid work.

Symbol: \*\* Relative sampling error greater than 50 percent.

People in full-time employment spent less time on productive activities in 2009/10 than in 1998/99. This time fell 22 minutes for men and 32 minutes for women. For both sexes, the falls were due mainly to less time being spent on labour force activities (down 20 minutes for men, and 32 minutes for women). The government-subsidised nine-day working fortnight for full-time

employees in large businesses, in place over the 2009/10 survey period, may have contributed to the fall, as may the 2007 increase to minimum annual leave entitlement.

### **Unemployed people are doing more education and training**

In 2009/10, unemployed people spent about 1 hour on education and training, up nearly 30 minutes from 1998/99. The participation rate rose to 23 percent in 2009/10, with participants spending 4 hours and 49 minutes a day on education and training activities. Many more unemployed men participated in 2009/10 than in 1998/99, while the participation rate for women remained similar. The proportion of unemployed people aged 15 to 19 years was higher in the year-ended September 2010 than the September 1999 year (see the Household Labour Force Survey in [Infoshare](#)), which may also affect the time spent on education activities by all unemployed people.

Unemployed people spent 3 hours and 59 minutes on productive activities in 2009/10, which was 38 minutes less than in 1998/99. This fall largely resulted from unemployed men spending less time on unpaid work activities in 2009/10 (down about 1 hour), which may be partly due to the increase in education and training.

Time spent on labour force activity by unemployed people has not changed since 1998/99. They spent about 21 minutes a day on these activities in 2009/10, which includes searching or applying for jobs and may include episodes of paid work (labour force status was derived from the person questionnaire, not activities recorded in the diaries). About 13 percent of unemployed people engaged in labour force activity on their diary days, for an average of 2 hours and 38 minutes a day.

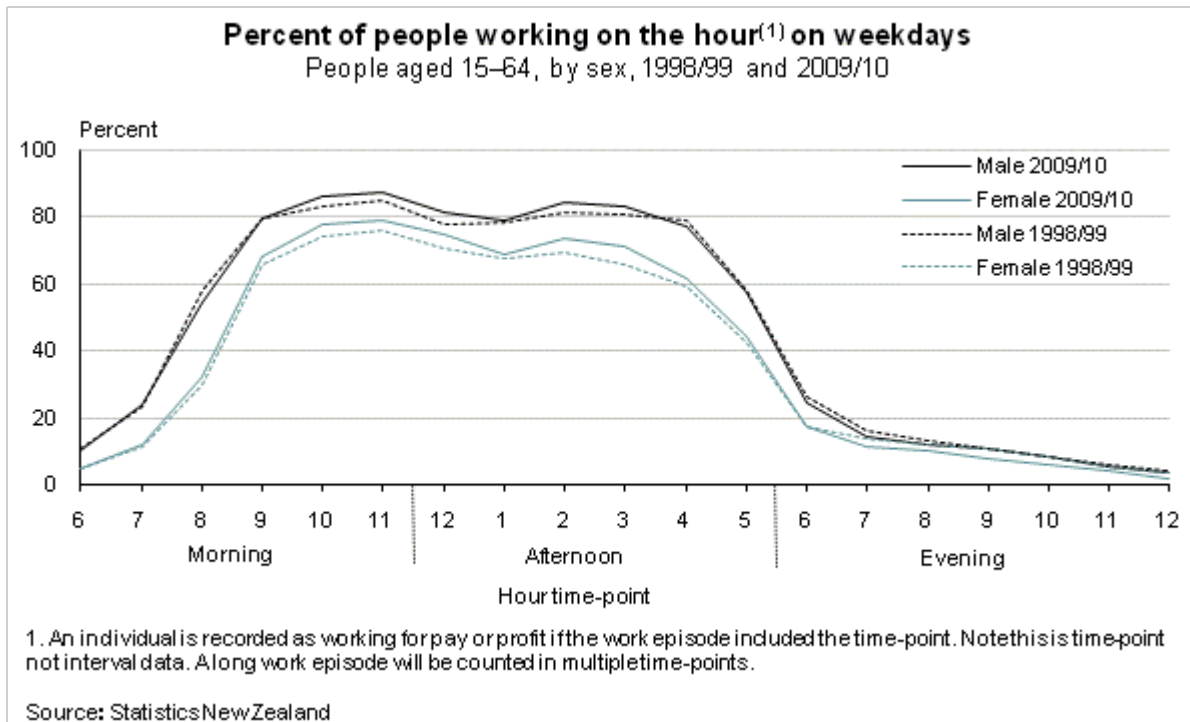
Unemployed people spent the most time on sports and hobbies of all labour force statuses, averaging about 1 hour and 10 minutes a day. Men spent nearly an hour more than women for both sports and hobbies, and mass media activities. Overall, unemployed people spent about 2 hours on social entertainment and 3 hours and 41 minutes on mass media activities, which is similar to the times in 1998/99.

Less than 5 percent of the total working-age population was unemployed during both survey periods – 4.5 percent in the year ended 30 September 2010 and 4.9 percent in the year ended 30 June 1999 (see the Household Labour Force Survey in [Infoshare](#)).

### **Fewer women participating in paid work on weeknights than in 1998/99**

This section presents information about when people aged 15–64 years did paid work, by counting the number of people at work each hour of the day and night as a proportion of all people who did paid work.

The majority of people who worked on any weekday participated in paid work activities between 8:00am and 5:00pm. Outside these standard hours, the percentage of people working varied from an average of 22 percent at 6:00pm to only 3 percent at 12 midnight.



When compared with 1998/99, there was little change in the pattern of hours people worked on a weekday. However, in 2009/10, fewer women worked from 9:00pm onwards on weekday evenings – a smaller proportion was recorded working at 9:00pm, 10:00pm, and 12 midnight (down 1 to 3 percentage points at each hour).

When looking at weekends, the only change for men was that more were working for pay or profit at 1:00pm in 2009/10 than in 1998/99 (51 percent and 41 percent, respectively). Among women, weekend changes were negligible.

When week and weekend days are combined, in 2009/10 participation rose at many of the time points for both men and women. A higher proportion of male participants were working at each hour from 9:00am to 3:00pm, and more women were working at each hour from 9:00am to 5:00pm.

## Access to time use data and requests for further information

For more detailed data, see the Excel tables in the '[Downloads](#)' section. See [Data quality](#) for information about the content of the tables.

See [Data quality](#) for information on how to access time use data.

For technical information contact:  
Bridget Murphy  
Wellington 04 931 4600  
Email: [info@stats.govt.nz](mailto:info@stats.govt.nz)

### Next release...

Further results will be published as they become available.

## Definitions

[Time use surveys](#) | [History of time use surveys in New Zealand](#) | [Key objectives of the Time Use Survey: 2009/10](#) | [How data was collected](#) | [Activity classification and how it was used to measure time use](#) | [Key definitions](#)

### Time use surveys

Time use surveys (TUS) measure the ways in which different population groups spend their time. TUS data illustrates how activity choices are affected by different circumstances and responsibilities; for example an individual's family role. The data also provides information on productive activities that are unpaid or voluntary, and not measured using existing economic statistics.

More specifically, TUS are important because they:

- assist in better measurements of economic growth by providing information on the time spent on goods and services outside the market sector. For example, activities in the household and voluntary sector
- provide information on the economic contribution of the household sector. TUS are the only current source of information for producing reliable estimates on the value of household production
- provide additional measures of well-being
- collect information on work/life balance, analysis by sex, work-family balance, work and education, and the relationship between people's paid and unpaid work
- collect information on social and leisure time and measure social contact, which is a key indicator of well-being
- collect information on transport
- collect information relevant to public health, such as the allocation of time between active and passive activities.

TUS differ from other household surveys in that the unit of analysis is diary days, not people. The data's main purpose is for analysis of time spent on activities on a diary day, rather than the count of people.

### History of time use surveys in New Zealand

The first New Zealand TUS was carried out in 1998/99, sponsored by the Ministry of Women's Affairs and designed by Statistics New Zealand. The Time Use Survey: 2009/10 is the second national time use survey, and was designed and conducted by Statistics NZ.

### Key objectives of the Time Use Survey: 2009/10

The 2009/10 survey incorporated new information needs while maintaining comparability with the Time Use Survey: 1998/99 and allowing comparison with international TUS.

The survey was designed to answer these key research questions:

- Work-life balance – how do people divide their time between paid work, unpaid work, family, and leisure?
- How do people schedule their paid work, and where do they do it?

- How socially connected are people with family and/or friends, from inside and outside their own household?
- How much does unpaid work contribute to the New Zealand economy?
- How do people spend their leisure time?
- Who is caring for whom, for how much time, and where?

## How data was collected

The survey consisted of a household questionnaire and a person questionnaire, and a diary. Respondents recorded their use of time in the diary by entering what activity they were doing, what other activities they were doing at the same time, who they were with, where they were at the time, and for whom any unpaid work activities were done. Data was collected about who the respondent was with for the first time in 2009/10.

More information on the data collection methodology is included in the Data quality section.

## Activity classification and how it was used to measure time use

The activity classification includes all activities which the general population may spend their time on. The classification's main purpose is to provide a set of activity categories that diary entries could be coded to.

More information on the activity classification, including necessary, contracted, committed, and free time explanations, is available in the Data quality section.

## Key definitions

### Diary day

A diary day is a continuous 24-hour period during which respondents reported their activities. Each respondent was asked to complete their diary for two consecutive diary days.

When the total number of diary days is referred to, a person can be counted twice. For example if 100 people participated in an activity on just one day, and 200 participated on two days, that is a total of 500 diary days.

### Mean (average) time spent per day on an activity

This is the mean time spent on an activity within a 24-hour period, across all people and their diary days.

This is reported in two ways:

- mean time spent on an activity across all diary days, regardless of whether the activity occurred
- mean time spent on an activity across all diary days where the activity was actually recorded. This is the time spent by participants.

The diary was not designed to measure general participation in activities as the data was only collected for a two-day period. The main objective was to measure time use. Therefore the published time for participants does not include people who participated in an activity on their



non-diary-days. For example, many people only work Monday to Friday. If their diary days include a Saturday, a Sunday, or both, they won't be counted as having spent time at work.

### **Participation rate in an activity**

Participation rate is the proportion of diary days where a respondent participated in an activity. For example, if the number of people in the sample was 50 this would be 100 diary days. If on 72 of these days paid work was performed, the participation rate would be 72 percent.

**Note:** The participation rate can only be used to explain participation on the diary days, not a general participation rate.

The only estimates which present general proportions of the population participating in activities are those within table 11 which covers a four-week period.

### **Primary activities and simultaneous activities**

The first column in the TUS 2009/10 diary was headed 'What were you doing?' Any activity listed in this column was considered a primary activity.

A simultaneous activity occurs at the same time as the primary activity and is recorded in the second column of their time-use diary. This column was headed 'What else were you doing at the same time?'

The data reflects a respondent's main activity alongside additional activities they were doing at the same time. For example, a person could record 'cooking dinner for family' as their primary activity and 'watching TV' as simultaneous activity, or vice versa.

### **Productive activities and non-productive activities**

Productive activities include labour force activities, household work, child and family care, purchasing goods and services, community services, and all other types of unpaid work.

**Note:** 91 percent of time spent on labour force activities is work for pay or profit (including work on family business or farm). The remaining 9 percent consists of job search activities, work-related training, and travel associated with labour force activities.

Non-productive activities are for personal benefit only, and include education and training, personal care, and free-time activities. A person cannot contract out non-productive activities to anyone else. For example, while a person can contract out their housework, they cannot contract out their time watching television.

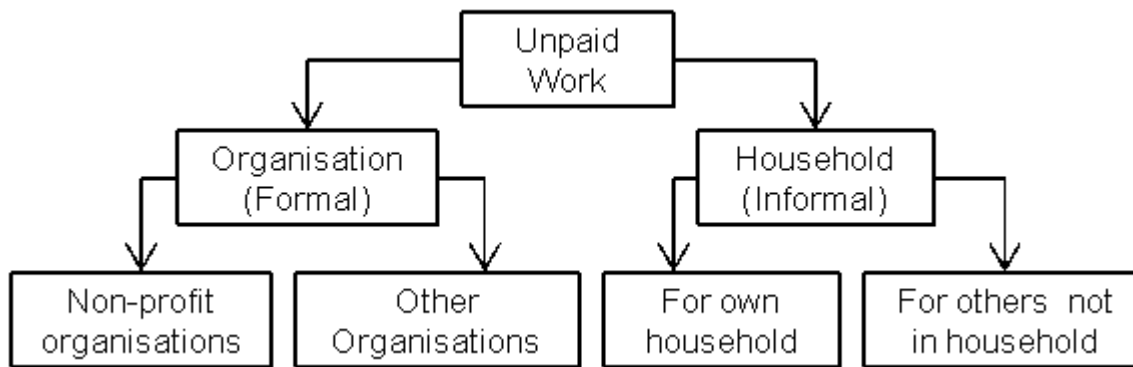
### **Unpaid work**

Unpaid work covers household work, child care, purchasing goods and services, and any other unpaid work. All unpaid work activities are productive activities.

These activities include:

- informal unpaid work done for other households or a respondent's own household
- formal unpaid work (also known as formal volunteering) is work done for, or arranged through, an organisation or group (eg marae or church group).

## ***Unpaid work structure***



Further concepts and definitions are defined in the [Data quality](#) section.

## Data quality

[Key survey features](#) | [Accuracy of the data](#) | [Interpreting the data](#) | [Consistency between 1998/99 and 2009/10 surveys](#) | [Accessing the data](#) | [Customised data requests](#)

### Key survey features

#### Survey reference period

The Time Use Survey 2009/10 (TUS 2009/10) was carried out from 1 September 2009 to 31 August 2010.

#### Survey population

The survey population for TUS 2009/10 was defined as the civilian, usually resident, non-institutionalised population, aged 12 years and over, residing in private households.

The following people were excluded from the survey population:

- long-term residents of old people's homes, hospitals, and psychiatric institutions
- inmates of penal institutions
- those living in other non-private dwellings
- members of the permanent armed forces
- overseas diplomats
- overseas visitors who expect to be usually resident in New Zealand for less than 12 months
- people living on off-shore islands (except Waiheke Island).

#### Survey content

TUS 2009/10 had three parts: an interviewer-administered [household questionnaire and person questionnaire](#), and a [two-day \(48-hour\) diary](#), plus a [diary interview](#).

The household questionnaire collected socio-demographic data on every member of the household, and the relationships within the household.

The person questionnaire contained questions on the following topics:

- highest qualification, and occupation and industry of each individual
- whether in past four weeks they did any unpaid work for someone in their own household, another household, or any organisation or group
- names of any organisation or group unpaid work had been done for
- whether in the past four weeks anyone had been paid to do any cleaning or laundry, gardening, or lawn-mowing for the household
- whether in the past seven days they had eaten out
- whether on the days they filled in their diary, anyone was paid to look after any child in the household.

A completed diary contained the following information:

- what activity the respondent was doing (primary activity, and any other activities done at the same time)
- the start and finish time of each activity
- the length of time for the activity
- the physical location for each activity or how the respondent was travelling (mode of transport)
- who they were with at the time. This information was only collected in the 2009/10 survey to provide key information on social connectedness
- who any unpaid work activities were being done for. This data was captured by the interviewer in the follow-up diary interview.

## **Accuracy of the data**

In 2006, Statistics New Zealand reviewed best practice for time use surveys. The results were published in the [Time Use Survey Scoping Paper](#) and used to improve the content and methodology for the 2009/10 survey.

## **Estimated population size**

The target survey population was estimated as 3,564,228 people during the survey reference period.

## **Sample design and selection**

New Zealand is divided into 21,812 geographic areas called primary sampling units (PSUs). Within this sample design, PSUs were assigned to groups called strata. PSUs were assigned to a super-stratum based on its regional council area and then assigned to strata based on characteristics of the PSU. To ensure an adequate sample, characteristics included urban/rural classification, proportions of Māori and Pacific people in the PSU, and other socio-economic variables such as level of education and employment status.

**PSU selection** – A total of 850 PSUs were randomly selected, with the number varying across strata.

**Household selection** – Households in each PSU were divided into groups of approximately 10 households. One household was selected from each group.

**People selection** – In households with more than two eligible people, two were randomly selected. Otherwise every eligible person was selected.

**Diary day allocation** – Within each month, households were allocated two consecutive diary days, with equal numbers starting on each day of the week. People in the same household were allocated the same diary days. One in seven selected people would have Monday as the first diary day and two in seven would have Monday as one of their two diary days – similarly for each day of the week.

**Sample allocation** – To minimise the effects of seasonal variation, the PSUs were allocated evenly across the 12 months of the year.

## **Selected sample size**

The selected sample size and design is sufficient for measuring time use in New Zealand. It is adequate for analysing the time spent on common activities specified within the classification and allows for disaggregation into large subgroups of the population.

In total, 8,543 households were selected into the survey sample. It was expected that 61 percent of these households would be both eligible and respond. The average number of usable person questionnaires per household was estimated at 1.67, giving a sample size of at least 8,500 individuals. The achieved sample size was 9,159 individual respondents.

## **Response rate**

The target household response rate for TUS 2009/10 was 70 percent. The achieved household response rate was 72 percent, the same as for the Time Use Survey: 1998/99 (TUS 1998/99). This is an acceptable response rate, resulting in data that can be deemed to represent the New Zealand population.

The household response rate was calculated as the number of eligible responding households divided by the estimated total number of eligible households in the sample. An eligible responding household contained at least one eligible adult who has responded to the diary and person questionnaire to a satisfactory standard.

## **Data collection method**

The collection method was a combination of face-to-face computer-assisted interviewing by trained interviewers, and self-administered questionnaires.

## **Household questionnaire**

The interviewer made up to three visits to establish contact with the selected households. One adult member (over 15 years of age) of the selected household answered the household questionnaire.

## **Diary and person questionnaire**

After the household questionnaire was completed, two individuals aged 12 years or older (12+) were randomly selected to complete the two-day (48-hour) diary. This was left with respondents to complete on their allotted diary days. The diary contained clear instruction for the respondent to complete the diary to an adequate standard and quality, and the respondent was given additional instruction by the interviewer. Example pages were included for reference. Activity information was recorded at five-minute intervals.

When the interviewer collected the completed diaries, a person questionnaire was administered with each respondent. The diary was reviewed, to ensure the recorded information was of a high quality. Further information about the context of the activities was collected. For example, who unpaid work activities were done for.

Diary delivery and collection was recorded, which allowed the diaries to be tracked at any point. Completed diaries were returned to Statistics NZ by the interviewer.

## **Proxy interviews**

There were rare instances of proxy interviews in the 1998/99 and 2009/10 surveys. A proxy interview was only acceptable if the respondent was too sick to complete the diary themselves, or had a disability that prevented diary completion.

## **Data processing and quality assurance**

### **Processing and coding diary data**

Diary responses were captured into a computer system by data entry staff using the [activity classification](#).

A best-practice quality assurance process was implemented for the diary capture and processing. To maintain a high level of accuracy and consistency of diary coding, 46 percent of diaries were entered into the system twice. A quality assurer compared the consistency of these diaries to achieve overall consistency.

### **Editing and verification procedures**

Logical edits checked particular coding entries in the diary with other information provided on the person questionnaire to minimise human error. Additional edits flagged unexpected activity, for example no eating or drinking on a diary day. However, the coder was able to bypass these if they accurately reflected the diary.

A minimal editing policy was adopted. Responses were only edited where enough evidence existed to support the change. As a result discrepancies may still exist. For example, a respondent classified as living in a household on their own may have recorded spending time with someone they live with in their diary, or someone classified as unemployed may have recorded spending some time on work for pay or profit in their diary. These discrepancies do not affect the overall quality of the data.

To ensure the 1998/99 data was as comparable as possible with 2009/10 data, a copy of the final 1998/99 survey data was re-edited through a mapping exercise.

### **Validation and output checking**

TUS 2009/10 incorporated a thorough validation process verifying the data for quality to ensure it was 'clean'. This included checking for incomplete information, data that had failed internal edit controls, and other anomalies identified within the data. Comparisons were made with the 2006 Census of Population and Dwellings and other international time use surveys. To account for any anomalies, a number of macro and micro-edits were applied to the data.

### **Imputation for non-response**

Certain key variables must be present before a questionnaire becomes usable. By imputing some of these values more questionnaires were able to be used. Imputation was done by copying values from complete questionnaires that closely matched the answers to the other questions.

Four variables were imputed: age, personal income, labour force status, and ethnicity. Less than 5 percent of personal incomes had to be imputed, while less than 0.5 percent of other variables had to be imputed.

## Weighting

Each responding person was assigned a unique survey weight to be used for calculating survey estimates. The weight reflected their inverse probability of selection into the survey sample.

The final weights resulted from applying integrated weighting to the selection weights. The process of integrated weighting ensured certain population benchmarks were met. This ensured each individual received the same final weight for each complete diary day.

The benchmarks used were: sex by age group, Māori by age group, regional council area, number of two-adult households, number of employed (aged 15+), survey month, and weekday/weekend.

The Statistics NZ Household Labour Force Survey (the official measure of labour force status) for the TUS reference period was used as the benchmark for employed.

**Note:** Unlike other Statistics NZ surveys, the TUS weights are diary day weights not household weights. This is because the survey measures days, not people.

## Sampling errors

Statistics NZ aims to minimise the impact of sampling errors. A sampling error can be measured. It quantifies the variability that occurs because a sample rather than an entire population is surveyed. The sampling errors present in this survey are at an acceptable level and enable accurate estimates to be calculated for the survey objectives to be met.

Non-sampling errors are all errors that are not sampling errors – these are not usually quantifiable and include mistakes by respondents, variation in the respondent's and interviewer's interpretation of questions asked, and errors in recording and coding data.

The sample error measure should be taken into account when assessing the reliability of an estimate. Some survey estimates are unreliable, either because of a high sampling error or because only a few individuals contribute to a certain cell.

Absolute sampling error is expressed as a percent and indicates that the actual value is likely to be between the estimate plus or minus the sampling error. So if it was estimated that the participation rate is 35 percent with a sampling error of 7 percent, then the true value is likely to be between 28 percent and 42 percent.

For averages, users often prefer the sampling error to be expressed as a percentage of the estimate. This is the relative sampling error. For example, if an estimate of 100 minutes per day has a relative sampling error of 20 percent, then the true estimate is likely to lie within plus or minus 20 percent of 100 minutes per day – that is between 80 and 120 minutes per day.

$$\text{Relative sampling error} = (\text{sampling error} / \text{estimate}) * 100$$

## Confidentiality and suppression

For this information release, a relative sampling error of less than 30 percent is acceptable. This excludes a labour force status of unemployed (due to the low proportion of unemployed people in the total population).

An output with a relative sampling error of 30 percent to 50 percent should be viewed with caution (flagged in tables by an asterisk \*), and an error of 50 percent or more should be considered unreliable (flagged by \*\*).

Table cells with very few contributors are suppressed ('S'). These cells have an estimated population of less than 2,000 and are deemed to be unreliable and a risk to respondents' confidentiality.

## Significance testing

Estimates of movement are also subject to sampling error. A difference between estimates from TUS 1998/99 and TUS 2009/10 is statistically significant if it is larger than the associated sampling error. The change is also statistically significant if the relative sampling error is less than 100 percent.

The sampling error of the movement can be estimated as  $\sqrt{SE_1^2 + SE_2^2}$  where  $SE_1$  and  $SE_2$  are the sampling errors of the two survey estimates. The same formula is approximately valid for differences between groups within the same survey, when weak relationships between groups are expected.

## Rounding

Figures are rounded to improve the readability of the data and to provide a more appropriate level of precision for this sample survey. Average minutes per day are rounded to the nearest whole number of minutes. Where a figure for average minutes per day is less than half a minute it is rounded to zero. All percentages and comparisons are calculated from unrounded data and then rounded to a whole number. Due to rounding, individual estimates may not sum to stated totals.



## Interpreting the data

### Estimates methodology

The estimates produced in this release are as follows:

Type of estimate	Formula and description	Table(s)
Mean time spent by all the population on primary activity 'X' on an average diary day	Average (mean) = Total time spent on activity 'X' across all diary days / Total count of all diary days  Includes all diary days, regardless of whether the activity occurred. Estimates in these tables can be summed.	1
		2.1
		2.2
		3.1
	3.2	
Mean time spent by people participating in primary activity 'X' on an average diary day	Average (mean) = Total time spent on activity 'X' across all diary days where activity 'X' was recorded / total count of all diary days where participation in activity 'X' was recorded  Includes only diary days on which activity 'X' was recorded. Estimates in these tables do not sum to totals as they include participants only.	8
		9.2
Percentage of population that participated in primary activity 'X' on an average diary day (Participation rate)	Percentage of population that participated in activity 'X' = (Total count of all diary days where participation in activity 'X' is recorded / Total count of all diary days) * 100  Estimates in these tables do not sum to totals as they include participants only.	8
		9.1
Counts and percentages of who respondents were doing activities for in 4 weeks before the interview	Percentage of people participating in activity in last 4 weeks = Total number of people who did activity 'X' in last 4 weeks / total count of all people  Table 11 presents data from person questionnaire. It is the only table where unit of analysis is people not diary days. Use data to look at participation rates for unpaid work – more accurate for estimates for activities that don't happen daily.	11
Time of day estimates	This release includes estimates on the proportion of people working at certain time points in a day. A person is considered to be working on the hour if they started work either before or after the hour, and they finished on or after the hour  Eg – if the work activity occurs from 4pm to 5pm:	10.1
		10.2
	<ul style="list-style-type: none"> <li>the 4pm time point would be counted because the start time is at 4pm and the end time is after 4pm</li> </ul>	

	<ul style="list-style-type: none"> <li>• 5pm would also be counted because the start is before 5pm and the end is at 5pm.</li> </ul> <p>Note: as people can work in multiple hourly slots, the percentages of time spent working at each time point cannot be summed.</p>	
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**Note:** The participation rate affects the average time spent on an activity by all people in the group of interest. Activities with a high participation rate show little difference in time spent by participants and by everyone. Activities with a lower participation rate have larger differences for participants only and for all people in a group. Changes in average times between 1998/99 and 2009/10 may be due to differences in time spent by participants, changes in the participation rate, or changes to both.

### Simultaneous activity estimates

Time spent on activities that occurred simultaneously, and were coded as the same activity, was only counted once. As a result, subtotals in the output tables for simultaneous activities do not equal the sum of the underlying activity categories. Coding of activity data was at a detailed level. For example, activities such as 'preparing dinner', and 'cleaning kitchen' that occurred at the same time were both coded to 'food or drink preparation and cleanup'. The only exception to this rule applied to childcare activities. Time was counted twice when the primary activity was: travel associated with childcare activities, or other childcare activities, and the simultaneous activity was a passive childcare activity.

Tables with simultaneous data (tables 6.1 and 6.2) show the amount of time spent on each activity using the methodology described above. Each activity should be considered independently, and not added together.

### Limitations of the data

#### Participation rates for diary data

The diary data was not designed to be used to determine general participation rates. This is due to the bias caused by diary day selection – some activities are non-daily. For example, many people only work Monday to Friday. If their diary days include a Saturday, a Sunday, or both they won't be counted as having spent time in work.

However, the diary data can provide estimates of the average time that participants spend on an activity, because the time spent and the number of diary days both include only data from participating diary days. But time spent on labour force activities does not relate well to the working week concept as averages include weekend days, weekdays, and holidays.

Data from the person questionnaire can be used to calculate general participation rates, and is presented in table 11.

Some differences exist between participation rates collected in the diary and the person questionnaire, particularly around unpaid and paid work. For example, an individual may have stated in the person questionnaire that they did no household work for their household in the last four weeks, but entered a household work activity in their diary. The discrepancy is acceptable, due to the different collection modes, but should be taken into account when analysing participation rates.

## ***Standardisation***

One of the purposes of statistical analysis is to place the data in perspective and this is often done by comparing means or proportions. However, many factors can contribute to differences between any two subgroups of the population. Our outputs give valid estimates of the differences, but are not adjusted for other contributing factors.

An example – If estimates show that Europeans spend more time on household work than other ethnicities, it could be tempting to conclude that ethnicity is the factor influencing this estimate. However, the European population tends to be older than the other ethnic populations, and older age groups have a different pattern of time use than other age groups. A better conclusion could be that because the European population has more older people, they are more likely to spend more time on household work.

Standardisation has not been used within this release. However, when looking at ethnic differences age effects were taken into account. In most cases, ethnic differences do exist, and age effects only partly contribute. Where the differences could be mostly explained by the differing age distributions, this is noted explicitly.

## **Comparability with other data sources**

The results in this release are internationally comparable. The development and design of TUS 2009/10 followed United Nations guidelines for time use statistics.

## **Further concepts and definitions**

### ***Activity classification***

Activities recorded by respondents in their time use diaries were entered into an electronic system using the New Zealand Activity Classification for the Time Use Survey (ACTUS). This was based on the classification used for TUS 1998/99 which met international standards at that time. For TUS 2009/10 improvements reflect the needs of users, satisfy world changes such as the use of technology, and improve international comparability.

For this information release, a copy of the 1998/99 data has been mapped to the 2009/10 classification to ensure the highest level of comparability between the two surveys.

The conceptual basis for the New Zealand (and also Australian) activity classification is [Aas' four categories of time](#):

- necessary time (personal care activities) – includes personal care activities such as personal hygiene and grooming, sleeping, eating and drinking, private activities, personal medical care, and travel associated with personal care. These activities serve basic psychological needs.
- contracted time (employment or education activities) – includes all types of labour force activity and education and training activities. These activities often constrain the distribution of other activities over a day.
- committed time (unpaid work activities) – includes household work, child care, purchasing goods and services, and other unpaid work activities. This describes activities to which a

person has committed him/herself because of previous acts or behaviours or community participation.

- free time (leisure activities) – includes religious, cultural, and civic participation activities, social entertainment, sports and hobbies, and mass media and free-time activities. This is the amount of time left when the previous three types of time have been taken out of a person's day.

ACTUS can also be mapped to the equivalent [United Nations draft international classification \(IACTUS\)](#). TUS 2009/10 did not use ICATUS because a key objective was comparability with the 1998/99 survey.

## **Child**

To be a 'child' a person must usually reside with at least one parent, and have no partner or child(ren) of their own living in the same household. A 'child' can be of any age.

- Young child(ren) – under 15 years living with parent.
- Older child(ren) – 15 years and over living with parent.

## **Childcare activities**

There are two main types of child care:

- active child care – when the respondent stated they were actively looking after a child, as either a primary or simultaneous activity. Includes physical care of child, teaching/helping a child, playing/reading/talking with a child, or accompanying or supervising a child
- passive child care – when the respondent's main activity did not concern the child, but the child was under the respondent's care. This was only coded as a simultaneous activity when the respondent had not recorded active care for that activity.

Child care is often done at the same time as other activities, so analysing primary child care alone would result in an underestimate of childcare activities. For example, a person can record 'cooking' as their primary activity and 'available for child care' as a simultaneous activity.

Passive child care was collected in two ways:

- responsibility method – interviewers asked respondents whether they were responsible for anyone during the activity time. If so, this was coded to passive child or adult care
- respondent-recorded care method – respondents recorded passive care as a simultaneous activity in their diary.

Passive child care is one of only two non-travel activities that could be done while sleeping (the other being 'on call for work while at the workplace'). Due to different methods used to record and estimate passive child care, the estimates in this release may not be comparable with international estimates.

**Diary day – see the Definitions.**

## ***Ethnicity***

Ethnicity is the ethnic group(s) that people identify with or feel they belong to. Ethnicity is a measure of cultural affiliation, and is self-perceived. People can belong to more than one ethnic

group. Respondents were counted once in each ethnic group reported. This means the total number of responses for all ethnic groups can be greater than the total number of people who stated their ethnicities.

Because the classification groups Middle Eastern / Latin American / African and 'other' were too small for analysis they are excluded from tables showing estimates with ethnicity as a subgroup.

### ***Family role***

This variable allows analysts to distinguish what role individuals play within their family unit. Ten family roles are used in the output tables:

- coupled parent or partner living with youngest child aged 0–14 years
- coupled parent or partner living with child or children all aged 15 years or older
- sole parent living with youngest child aged 0–14 years
- sole parent living with child or children all aged 15 years or older
- partner in couple with no children (includes without children or children who have moved away)
- child aged 12–17 years living at home with parent/s
- child aged 18 years or older living at home with parent/s
- person aged 15–64 years living alone
- person aged 65 years or older living alone
- other individuals who are not a parent or child, who live with others but not with a partner, such as people in a flatting situation.

These definitions may clarify the roles above:

- couple – two people who usually reside together and are legally married or in a civil union, or two people who are in a consensual union
- parent – the mother, father (natural, step, adopted or foster), or 'person in a parent role' of a 'child in a family nucleus'. An individual will also be classified as a parent if they are the partner of a parent
- parent in couple with children – a couple with child(ren) under 15 years. Also includes an individual if they are the partner of a parent.
- sole parent – the parent in a one-parent family
- sole parent with children – a sole parent with child(ren) under 15 years.

### **Household**

A household is either one person who usually resides alone, or two or more people who usually reside together and share facilities (such as eating, cooking, bathroom, and toilet facilities, and a living area), in a private household. At least one household member must be aged over 15 years.

### **Internet and computer use**

For activities that used the Internet, or the computer, the activity's purpose was coded. For example, shopping online was coded to purchasing goods and services, and chatting via online social networks was coded to socialising and conversation. General computer use for no specified purpose, such as browsing the Internet, was coded to the other Internet and computer use activity category.

An Internet-use derived variable was created to flag whether activities were being done online. Data using this derived variable is not provided in this release, but will be available in datasets through the Statistics NZ Data Lab.

## **Labour force status**

**Employed** – all people in the working-age population (those aged 15 years and over) who:

- worked for one hour or more for pay or profit in the context of an employee/employer relationship or self-employment
- worked without pay for one hour or more in work that contributed directly to the operation of a farm, business, or professional practice owned or operated by a relative
- had a job but were not at work due to their illness or injury, personal or family responsibilities, bad weather or mechanical breakdown, direct involvement in an industrial dispute, or being on leave or holiday.

**Full time** – people who are employed full time usually work 30 or more hours per week.

**Part time** – people who are employed part time usually work less than 30 hours per week.

**Unemployed** – all people in the working-age population who, during a defined time period, were without a paid job, were available for work and had actively sought work in the past four weeks, or had a new job to start within the next four weeks.

**Not in the labour force** – all people in the working-age population who are neither employed nor unemployed. This category includes:

- retired people
- people with personal or family responsibilities, such as unpaid housework and child care
- people attending educational institutions
- people permanently unable to work due to physical or mental disabilities
- people who were temporarily unavailable for work in the survey reference week
- people who are not actively seeking work.

A respondent's labour force status was derived from answers to the person questionnaire.

## **Paid for domestic or household services**

Information was collected in the person questionnaire on services that respondents paid someone to perform, such as looking after children, or cleaning, laundry, gardening, or lawn-mowing for the respondent's household. Respondents were also asked whether cleaning and gardening services were provided by a household member, or someone who did not live in the household. This data is not provided in this release but will be available in datasets through the Statistics NZ Data Lab.

**Primary activities and simultaneous activities – see [Definitions](#).**

## **Residual categories**

Three residual categories were used for diary entries:

- response unidentifiable – used when the information in the diary was unreadable or otherwise unidentifiable
- response outside scope – used when the information was outside the survey scope
- not stated – used when information was missing.

### **Travel categories**

All travel activities were associated with the next activity recorded, with the exception of driving home, which was associated with the previous one. For example, if a respondent drives to work but stops off at the shops along the way, the travel time was coded as 'drive to shops' followed by 'drive to work'.

**Unpaid work – see Definitions.**

### **Who the activity was done for**

The interviewer filled in information about who an activity was done for, for each committed time activity, when the diary interview was conducted. More than one response could be recorded for each activity. There are eight response categories:

- own household (including self)
- household member aged 0–13
- household member aged 14+
- another household or individual
- non-household member aged 0–13
- non-household member aged 14+
- organisation or group
- response unidentifiable.

### **Who the activity was done with**

Data was collected about other people who were present when the activity occurred. There are five response categories:

- alone
- with family members from their own household
- with family members who live in another household
- with other known people (this may include non-family household members)
- with unknown people.

### **Weekdays and weekends**

Weekdays are the time between 4am on Monday and 4am on Saturday. Weekends are defined as the time between 4.00am on Saturday and 4.00am on Monday.

### **Consistency between 1998/99 and 2009/10 surveys**

TUS 2009/10 was designed to be as comparable as possible with TUS 1998/99. The following section highlights the main changes between the two surveys. Minor design differences between the surveys do not affect the overall quality of the survey data or the ability to make comparisons between the two surveys.

## **Edits to the original TUS 1998/99 estimates**

Minor changes to the activity classification between the surveys created inconsistencies in the way activities were coded, and the range of activities that were coded. For example, sleeplessness was an addition to the TUS 2009/10 classification. These changes were made to meet user demands, ensure international comparability with other TUS, and because of real-world changes (eg technology). The New Zealand classification is now closer to the Australian Time Use Survey classification and the quality of data collected has improved.

To produce high-quality comparative estimates of time spent on activities for the two surveys, the activity codes used in 1998/99 were matched to those used in 2009/10. This was done through a mapping exercise at the lowest level of the activity classification (using individual synonyms).

Synonyms are used to group together and code literal statements of activities written in the respondents' diaries. For example, the literal statement 'watching the news on television' would be coded to the synonym 'watching television'.

As a result of the edits, the 1998/99 estimates in this release differ from those originally published in 1999.

## **Changes to the activity coding rules between the surveys**

### **Eating and drinking**

Initially in 2009/10, eating/drinking while also socialising was coded as 'socialising and conversation' with no simultaneous activity of eating and drinking. In 1998/99 the two activities of eating/drinking and socialising were both recorded as primary and simultaneous activities. The 2009/10 data has been edited to add eating/drinking as a simultaneous activity. However, it is likely that in the 2009/10 data less time was coded to eating/drinking as a primary activity than in 1998/99.

### **Formal education**

In 2009/10, school breaks such as lunch or morning tea were coded as eating/drinking, whereas in 1998/99 they were coded as formal education. It is therefore likely that the 1998/99 data has more time coded to formal education than the 2009/10 data.

### **Other unpaid work**

In 2009/10 unpaid work activities involving household work, child care, or purchasing goods and services, were coded to specific categories, rather than to the general 'other unpaid work' category. These rules were not as strictly adhered to in 1998/99. As a result, more time was coded to other unpaid work in 1998/99 than in 2009/10. In particular, this affects the unpaid work activities performed for another household.

### **Playing, reading, talking with child**

In 2009/10, 'talking to a child' was coded to child care, while in 1998/99 it was coded to socialising and conversation. The 1998/99 data has been re-coded so that talking to a child is now coded as child care. However, it is unlikely that all 1998/99 incidences of talking to children have been re-coded. As a result, more time was coded to playing, reading, talking with child in 2009/10.



## **Religious, cultural, and civic participation**

This category includes time spent filling in the TUS diary. This is a civic activity performed only by TUS respondents, so caution is required when generalising results for this category to the wider New Zealand population. For example, although people spent an additional four minutes on average on religious, cultural, and civic activities compared with 1998/99, half this increase is due to spending two minutes more filling in the TUS diary.

## **Sleeping**

In 2009/10, if a respondent recorded being in bed and a short period later they recorded sleep, the entire sequence was coded as sleep. In 1998/99, lying in bed before sleeping was coded as thinking, reflecting, relaxing, resting, and planning. Where possible in the 1998/99 data, activities of this type have been re-coded to sleeping; however it is possible that not all incidences were changed. As a result, more time was coded to sleeping in 2009/10 than in 1998/99.

## **Socialising and conversation**

In 2009/10, intermittent social-networking activities such as texting were coded to the total period allocated to them in the diary. Similarly, online chatting on the Internet could be coded as an activity along with a simultaneous Internet-based activity. There was much lower reporting of these social networking activities in 1998/99, so it is likely that more time was coded to socialising and conversation (particularly as a simultaneous activity) in 2009/10 than in 1998/99.

## **Thinking, reflecting, relaxing, resting, and planning**

In 2009/10, activities such as lying in bed, resting, or relaxing were only coded if there was no simultaneous activity. This rule did not exist in 1998/99 when both the primary and simultaneous activities were coded. Consequently, in 2009/10 less time was coded to thinking, reflecting, relaxing, resting, and planning than in 1998/99.

## **Who the activity was done for**

The estimates for time spent on unpaid work for other households are not comparable between the two surveys due to coding differences. In the 1998/99 survey, when unpaid work was done 'for own household' and 'for other household' at the same time, in most cases this was only coded as unpaid work 'for own household'. This resulted in an underestimate of unpaid work 'for other household' in 1998/99.

## **Other changes between the surveys**

### **Changes to calculating sampling errors**

In original publications for the 1998/99 survey, sampling errors were based on a model. A more accurate jack-knife method was used on the subsequent 1998/99 comparison datasets, so the sampling errors are different to those previously published.

### **Sampling methodology for Māori**

For both surveys, the samples were designed to amplify the number of Māori within the sample. However, an additional Māori booster sample included in 1998/99 was not included in the 2009/10 design. As a result, the number of Māori in the 2009/10 sample is about half that in the previous sample. In 2009/10, the sampling errors for the top 11 activity categories for Māori vary

from about 2 percent to over 90 percent. Much of this variation is due to real differences in the activity patterns and cannot be separated from the change in the Māori sample size. These changes have not affected whether or not differences were significant.

### **Sampling errors for other ethnicities**

The number of Asian people in the sample doubled as a result of an increase in their New Zealand populations; consequently, the sample errors for this category have fallen about 30 percent.

Similarly, the number of Pacific peoples in the sample increased about 50 percent; the corresponding sample errors fell about 20 percent.

### **Ethnicity classification for 'New Zealander' responses**

In 1998/99, a New Zealander response was included in the New Zealand European category. For 2009/10, New Zealander responses to ethnicity (and similar responses such as Kiwi) were classified to a separate category at level four in the 'Other Ethnicity' group. This is unlikely to affect European ethnic group comparisons between the two surveys because New Zealanders are a small group (2 percent of the time-use total population) with similar characteristics (age, sex, labour force status) as the total population.

### **Collection of 'Who else was with you' diary data**

Collecting this data in the diary is standard practice in most international TUS. It is an important measure of social connectedness/social capital (ie contact with family and friends) and was introduced to the 2009/10 survey as part of the review of best practice for TUS.

### **Questions on formal unpaid work for an organisation**

The person questionnaire in 2009/10 asked respondents for the name of the organisation(s) they performed unpaid work for. This allowed for a split between non-profit organisations and other organisations, which has important implications for the volunteering rate reported in the non-profit institutions satellite account (NPISA). The first account used formal unpaid work data from the 1998/99 survey, including all volunteering. The next NPISA will use volunteering rates from the 2009/10 survey. However, it will only include volunteering done for non-profit organisations, and although more accurate, will not be truly comparable with the first NPISA.

### **Question change regarding unpaid work for another household**

A higher proportion of 2009/10 respondents reported doing unpaid work for another household than in 1998/99 in the person questionnaire. It is likely that this finding is a result of a wording change to the relevant question. In 2009/10, respondents were asked whether they did any cooking, cleaning, or other household work for another household without pay. In 1998/99, respondents were asked whether they had done any household work, without specifying the cooking or cleaning.

### **Changes to methodology for calculating time spent on simultaneous activities**

To produce comparable data estimates, the 1998/99 comparison data used in this release used the same approach as in 2009/10. As a result, estimates of time spent on simultaneous activities differ from those published in 1998/99.

## Accessing the data

Later in 2011, TUS 2009/10 and the comparable TUS 1998/99 datasets will be available through the [Statistics NZ Data Lab](#), alongside a comprehensive user guide. This will give researchers the opportunity to carry out their own analysis on time-use microdata, with the help and support of Statistics NZ.

For more information about accessing the data, see [Contacts](#).

## Timing

Timed statistical releases are delivered using postal and electronic services provided by third parties. Delivery of these releases may be delayed by circumstances outside the control of Statistics NZ. Statistics NZ accepts no responsibility for any such delays.

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## Customised data requests

Statistics NZ will publish analytical reports using the TUS 2009/10 data throughout 2011/12. If you would like to join the Statistics NZ Time Use Survey Data Users Group, please [contact us](#).

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## Tables

The following tables are printed with this information release and can also be downloaded from the Statistics NZ website in Excel format. If you do not have access to Excel, you may use the [Excel file viewer](#) to view, print, and export the contents of the file.

### Tables 1–7 cover mean time spent per day for the total population

Table 1	Time spent on detailed primary activities, total population, by sex, 1998/99 and 2009/10
Table 2.1a	Time spent on primary activities, all males, by selected demographic characteristics, 1998/99
Table 2.1b	Time spent on primary activities, all females, by selected demographic characteristics, 1998/99
Table 2.1c	Time spent on primary activities, total population, by selected demographic characteristics, 1998/99
Table 2.2a	Time spent on primary activities, all males, by selected demographic characteristics, 2009/10
Table 2.2b	Time spent on primary activities, all females, by selected demographic characteristics, 2009/10
Table 2.2c	Time spent on primary activities, total population, by selected demographic characteristics, 2009/10
Table 3.1	Time spent on productive and non-productive primary activities, total population, by selected demographic characteristics, 1998/99
Table 3.2	Time spent on productive and non-productive primary activities, total population, by selected demographic characteristics, 2009/10
Table 4.1	Time spent with others, all males, by selected demographic characteristics, 2009/10
Table 4.2	Time spent with others, all females, by selected demographic characteristics, 2009/10
Table 4.3	Time spent with others, total population, by selected demographic characteristics, 2009/10
Table 5	Time spent on detailed primary and simultaneous activities, total population, by sex, 1998/99 and 2009/10
Table 6.1	Time spent on primary and simultaneous committed time activities, total population, by selected demographic characteristics, 1998/99
Table 6.2	Time spent on primary and simultaneous committed time activities, total population, by selected demographic characteristics, 2009/10
Table 7	Proportion of an average day spent on primary activities, total population, by family role and sex, 1998/99 and 2009/10

### Tables 8–11 cover participation rates and mean time spent per day for participants

Table 8	Time spent by participants on detailed primary activities, with participation rates, by sex, 2009/10
Table 9.1a	Daily participation rates for primary activities, all males, by selected demographic characteristics, 2009/10
Table 9.1b	Daily participation rates for primary activities, all females, by selected demographic characteristics, 2009/10
Table 9.1c	Daily participation rates for primary activities, total population, by selected demographic characteristics, 2009/10

- Table 9.2a Time spent on primary activities by male participants, by selected demographic characteristics, 2009/10
- Table 9.2b Time spent on primary activities by female participants, by selected demographic characteristics, 2009/10
- Table 9.2c Time spent on primary activities by all participants, by selected demographic characteristics, 2009/10
- Table 10.1 Participation rates for people aged 15 to 64 years working for pay or profit, by time of day and by weekday / weekend, 1998/99
- Table 10.2 Participation rates for people aged 15 to 64 years working for pay or profit, by time of day and by weekday / weekend, 2009/10
- Table 11 Participation rates for unpaid work in a four-week reference period, total population, by selected demographic characteristics, 1998/99 and 2009/10

## Sampling error tables

The following tables are not printed with the information release, but are available from the Statistics NZ website in Excel format. They contain either the relative sampling errors (RSEs) or sampling errors (SEs) for data in the information release tables.

- RSE table 1 Time spent on detailed primary activities, total population, by sex, 1998/99 and 2009/10
- RSE table 2.1a Time spent on primary activities, all males, by selected demographic characteristics, 1998/99
- RSE table 2.1b Time spent on primary activities, all females, by selected demographic characteristics, 1998/99
- RSE table 2.1c Time spent on primary activities, total population, by selected demographic characteristics, 1998/99
- RSE table 2.2a Time spent on primary activities, all males, by selected demographic characteristics, 2009/10
- RSE table 2.2b Time spent on primary activities, all females, by selected demographic characteristics, 2009/10
- RSE table 2.2c Time spent on primary activities, total population, by selected demographic characteristics, 2009/10
- RSE table 3.1 Time spent on productive and non-productive primary activities, total population, by selected demographic characteristics, 1998/99
- RSE table 3.2 Time spent on productive and non-productive primary activities, total population, by selected demographic characteristics, 2009/10
- RSE table 4.1 Time spent with others, all males, by selected demographic characteristics, 2009/10
- RSE table 4.2 Time spent with others, all females, by selected demographic characteristics, 2009/10
- RSE table 4.3 Time spent with others, total population, by selected demographic characteristics, 2009/10
- RSE table 5 Time spent on detailed primary and simultaneous activities, total population, by sex, 1998/99 and 2009/10
- RSE table 6.1 Time spent on primary and simultaneous committed time activities, total population, by selected demographic characteristics, 1998/99
- RSE table 6.2 Time spent on primary and simultaneous committed time activities, total population, by selected demographic characteristics, 2009/10
- SE table 7 Proportion of an average day spent on primary activities, total population, by family role and sex, 1998/99 and 2009/10
- RSE and SE table 8 Time spent by participants on detailed primary activities, with participation rates, by sex, 2009/10

- SE table 9.1a Daily participation rates for primary activities, all males, by selected demographic characteristics, 2009/10
- SE table 9.1b Daily participation rates for primary activities, all females, by selected demographic characteristics, 2009/10
- SE table 9.1c Daily participation rates for primary activities, total population, by selected demographic characteristics, 2009/10
- RSE table 9.2a Time spent on primary activities by male participants, by selected demographic characteristics, 2009/10
- RSE table 9.2b Time spent on primary activities by female participants, by selected demographic characteristics, 2009/10
- RSE table 9.2c Time spent on primary activities by all participants, by selected demographic characteristics, 2009/10
- SE table 10.1 Participation rates for people aged 15 to 64 years working for pay or profit, by time of day and by weekday / weekend, 1998/99
- SE table 10.2 Participation rates for people aged 15 to 64 years working for pay or profit, by time of day and by weekday / weekend, 2009/10
- SE table 11 Participation rates for unpaid work in a four-week reference period, total population, by selected demographic characteristics, 1998/99 and 2009/10