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Caring for children: Findings from the 2009/10 Time Use Survey



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1. Purpose and summary

Purpose

This report describes and analyses the time parents spend with their children using the Time Use Survey 2009/10. The main areas of focus are:

- the time parents spend caring for children and factors that influence this
- the way childcare is shared between parents living with children.

Complementary information about the time children spend in childcare is also provided here, sourced from the [New Zealand Childcare Survey 2009](#).

Detailed information on how much time parents spend with children, and how it is shared within couple households will provide useful information for family researchers. It will provide some quantitative data to complement existing information about how children are cared for. The information on how couples share childcare will assist in exploring issues around work-life balance and gender equity in particular.

The report also utilises some different types of analysis with the Time Use Survey. Previous analysis of the Time Use Survey 2009/10 has focused on the mean time people spend undertaking different activities. While mean parental childcare times are part of this report, the distribution of time, and how parents within couples share childcare are key parts of the report. Examining how parents within couples shared childcare involved matching parents' time use diaries together, a first for the Time Use Survey 2009/10.

Population of interest

The main population of interest in this report is parents with children under 14 years of age. However, for two chapters, there is a slightly different population of interest, due to the data examined. The three groups are listed below. For further details on these groups, see the technical notes.

Main population of interest:

- parents living with children under 14 years.

Other populations of interest used:

- total population 12 years and over (chapter 2: Participation in unpaid childcare)
- couple households¹ with all children under 12, and no other adults living in the household (chapter 4: How childcare is shared within couple households).

Childcare categories

Definitions for different types of childcare are provided in the technical notes. The main category of childcare used in this report is 'total childcare excluding parental sleep'. When other childcare categories are used, this will be stated.

The categories of childcare used in this report are defined below.

Active childcare categories

- Primary childcare: recorded by respondent as main activity.

¹ Couple households in this report are limited to parents of the opposite sex. See technical notes for explanation.

- Secondary childcare: recorded by respondent as secondary activity.

Passive childcare category

- Available for childcare only (excluding when parent is sleeping).

Total childcare categories

- Total childcare (excluding sleep): active categories plus available to care excluding when parent is sleeping.
- Total childcare (including sleep): primary, secondary, and available for childcare (including when parent is sleeping).

Summary of findings

Parents spend on average 8 hours and 18 minutes per day caring for children. The amount of time parents spend caring for children varies depending on the age of the child, whether or not it is the weekend, and the characteristics of the parent(s).

What influences parents' time caring for children

Key factors that influence the time parents spend with children include:

- age of the youngest child – more time with younger children
- labour force status – full-time workers spend less time with children
- paid work commitments of mother – for fathers employed full-time, if their partner is also employed full-time, they will do more childcare
- time of week – fathers especially spend more time caring for children over a weekend than a weekday
- number of dependent children – having more children increases a mother's childcare time.

Fathers compared to mothers

Partnered fathers spend around two-thirds of the time partnered mothers do on total childcare. The difference between the average daily childcare time for fathers and mothers is smaller over weekends, and when both have the same paid work commitments.

The time that partnered fathers spend with children varies. Around one in 10 fathers spend no time caring for children on an average day, but 50 percent of fathers spend well over 10 hours a day caring for children on a weekend day.

Variation in mothers' childcare time

The time partnered mothers spend with children on a weekday is concentrated at two time points. Mothers with young children, who are not employed full-time, peak at 14–16 hours of caring for children per day. Childcare by mothers employed full-time, and mothers with older children, peaks at 6–10 hours.

How childcare is shared within couples

Mothers are involved in the vast majority of childcare undertaken by parents. Time when fathers are caring for children without their partner makes up a small portion of parental care (around 10 percent). When both parents are full-time employed, fathers take more responsibility for parental care by spending more time caring for children without mothers.

A third of fathers are involved in over half of all childcare undertaken by parents during the week, while this rose to two-thirds over the weekend. Most fathers' involvement in

parental care involved providing care with mothers, rather than fathers providing care by themselves.

Childcare of sole parents

Sole fathers spend less time than sole mothers on childcare. Sole mothers and partnered mothers spend similar amounts of time on childcare once the age of the youngest child has been taken into account.

Paid work commitments impact on formal and informal childcare arrangements

Children of employed sole parents, or full-time employed partnered parents, have the highest participation rates in formal and informal care, especially when the children are below school age.

Other household members help parents with childcare

After parents, grandparents who live with children under 14 are most likely to spend time caring for children they live with. Siblings also look after children who live in the same household, but at a lower rate than live-in grandparents.

Satisfaction with childcare arrangements

This report does not make any conclusions on the time parents spend with children, especially since the Time Use Survey only provides a quantitative measure of the time parents spend with children, and lacks a subjective assessment from parents or children. The survey also does not examine whether the parents' paid work and childcare arrangements fit with their preferences. Some evidence from other New Zealand research suggests that lack of shared responsibility for parental childcare is a barrier to parents meeting their preferences for paid work and childcare.

2. Participation in unpaid childcare

Population of interest: all people over 12 years

While the time parents spend caring for children is the main focus of this report, the general participation of people in unpaid childcare provides some context. Time Use Survey respondents were asked if they looked after a child under 14 years without pay, within the past four weeks, from within their household or another household. From this, a participation rate for different groups in unpaid childcare can be reported (see tables 1.1–1.3). The population includes parents living with children, non-parents living with children, and all people.

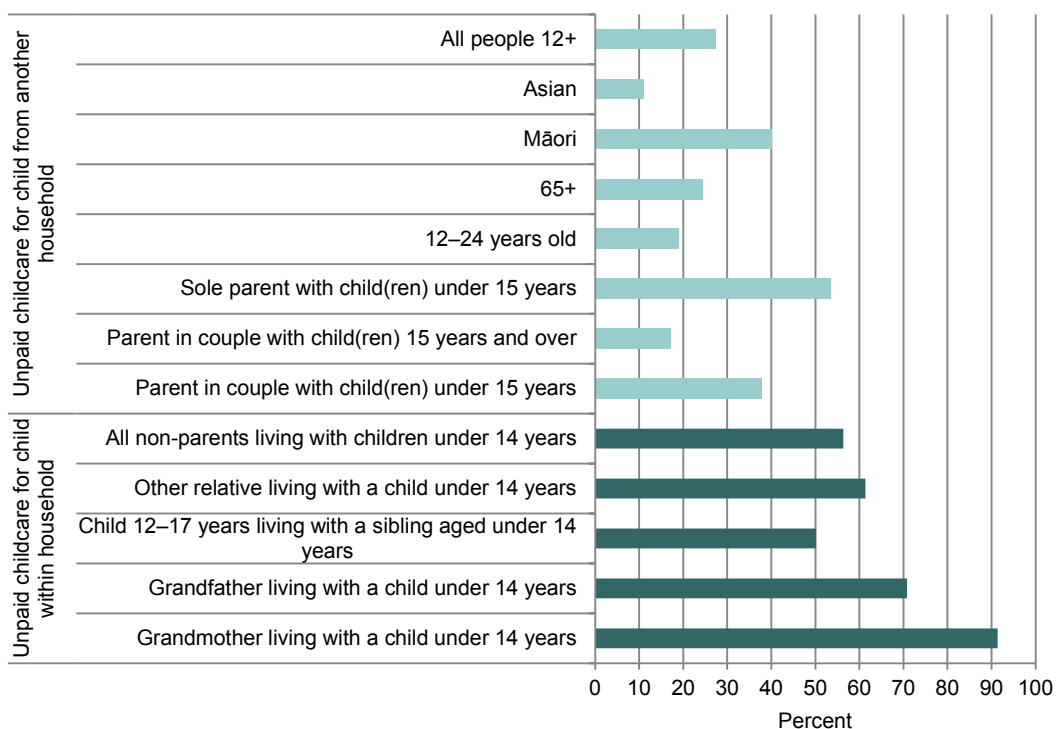
Who provides unpaid care for children

While parents are the group most likely to be undertaking unpaid childcare within their household, other relatives living with children are often involved. Grandparents, particularly grandmothers, living in households with children under 14 years are also very likely to participate in unpaid childcare with 84 percent and 91 percent, respectively involved in unpaid childcare. Siblings within a household with children under 14 years also undertake unpaid childcare (50 percent), but at a lower rate than grandparents.

People also undertake unpaid childcare for children from other households. Single parents with young children, Māori, and partnered parents with young children were most likely to undertake childcare for children outside their household. Asian people, partnered parents with older children, and young people aged 12 to 24 years were less likely to care for children outside their own household.

Figure 1

Participation in unpaid childcare for a child under 14 years
In previous four weeks



Source: Statistics New Zealand



3. Time parents spend caring for children

Population of interest: parents living with children under 14 years

Parents living with a child under 14 years can spend a large portion of their day caring for their children, especially if their children are not in formal education and the parents do not have paid employment. This chapter looks at how a range of factors, including the parents' employment status, affect the time parents spend caring for children.

Sole parents

Employment and age of youngest child are key influences

Sole parents spend on average 9 hours a day caring for their children (see table 2.1). Sole fathers spend 3 hours less than sole mothers caring for children, mainly because their children are more likely to be older, and sole fathers have a full-time employment rate higher than sole mothers (Ministry of Social Development, 2010, p16).

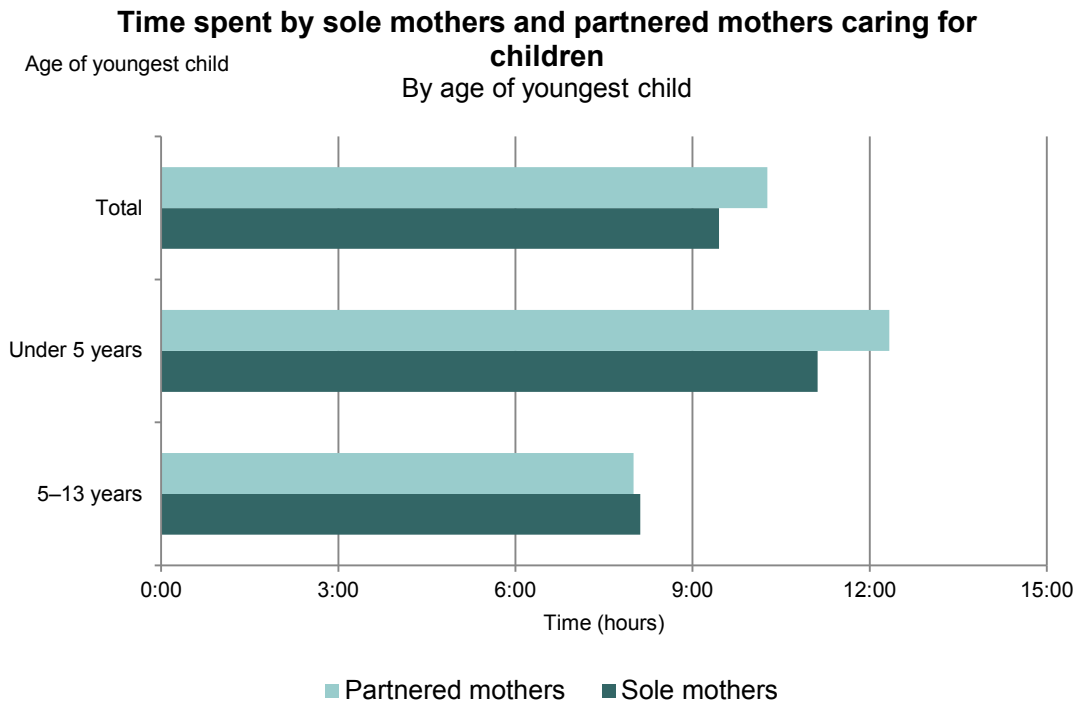
The time sole parents spend caring for children is affected by their employment status and the age of the youngest child. These variables are related, as parents with older children are more likely to be employed. Sole parents with a youngest child aged six to 13 years are more likely to be in employment than not working, while sole parents with a child under six years are more likely to not work than be employed (Ministry of Social Development, 2010, p18). Sole parents that are full-time employed spend almost 4 hours less on an average day caring for children than sole parents who do not work, and 2 and a half hours less than part-time employed sole parents. Sole parents with young children (under five years) spend around 3 hours more a day on childcare than those with older children (between five and 13 years).

Sole and partnered mothers spend a similar amount of time on childcare

Sole mothers and partnered mothers spend a broadly similar amount of total time on childcare, once differences in the youngest age of the children are taken into account. Sole and partnered mothers with older children spend a similar amount of time on childcare. Sole mothers with young children spend less time undertaking childcare than partnered mothers. The difference is likely due to sole parents being less likely than parents in couples to have children under two years, where a child is likely to require more childcare.

Given that sole mothers are the only parental caregiver within the household, there may be an expectation that they would spend more time on childcare than partnered mothers. However, sole mothers are more likely to have only one dependent child. Partnered parents may spend the similar time to sole parents on childcare, but that often involves caring for a higher number of dependent children. Children of sole mothers may also spend time in the care of the non-resident parent, which would also reduce sole mothers' time caring for children.

Figure 2



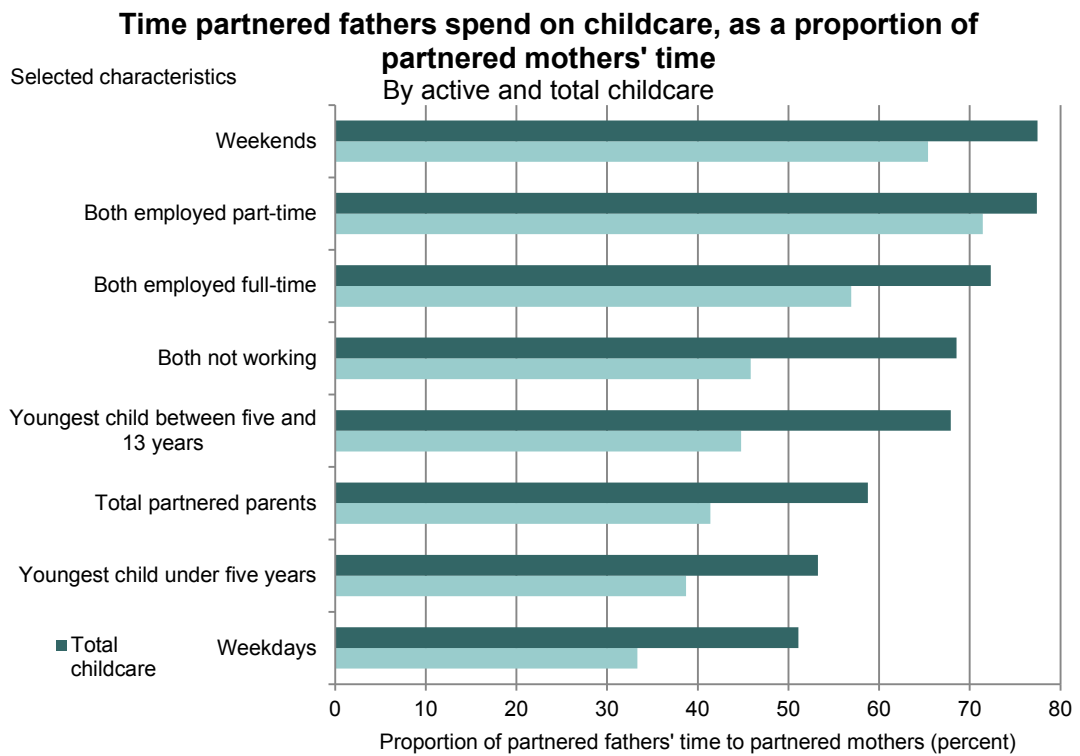
Source: Statistics New Zealand

Partnered parents

Partnered fathers spend around two-thirds of the time partnered mothers do on childcare

Partnered fathers spend less time on childcare than partnered mothers. Fathers spend on average 6 hours a day caring for children, including 1 hour and 17 minutes of active childcare (see table 2.2). Fathers' amount of active childcare is 41 percent of mothers', and fathers' total childcare is 59 percent of mothers' (see figure 3). Partnered fathers' total childcare time is closer to partnered mothers' during the weekends, or when both parents have the same employment status (such as when both are employed full-time). When active childcare is their primary activity, fathers spend a higher proportion of childcare time on education and recreational care than mothers, while physical care and supervision take up a higher proportion of mothers' active childcare time.

Figure 3



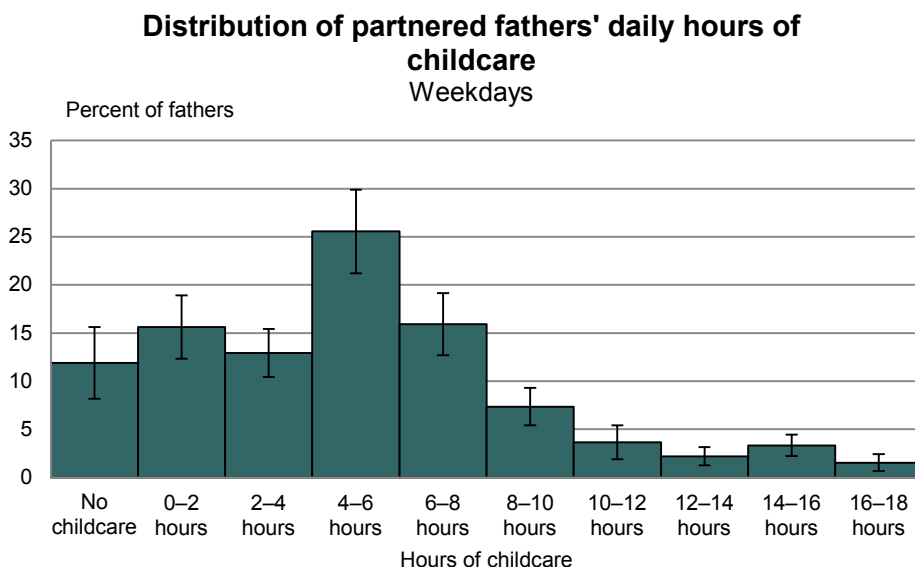
Source: Statistics New Zealand

Partnered fathers spend more time at the weekends caring for children

A number of factors influence the time that fathers spend caring for children. Whether the day is a weekend makes the biggest difference, but employment and age of the youngest child are also factors. On average fathers spend 3 and a half hours more on total childcare on weekends (8 hours and 39 minutes) than weekdays (5 hours and 4 minutes). This reflects the general working week being Monday to Friday.

The average time that fathers spend on childcare averages around 5 hours on a weekday, but childcare time can range from no childcare to over 14 hours. Figures 4 and 5 show the percentage of fathers carrying out different amounts of daily childcare on weekdays and weekends. On an average weekday, 25 percent of fathers may undertake 4–6 hours of childcare, similar to the mean time, but 12 percent of fathers do no childcare, and 11 percent spend more than 10 hours undertaking childcare.

Figure 4

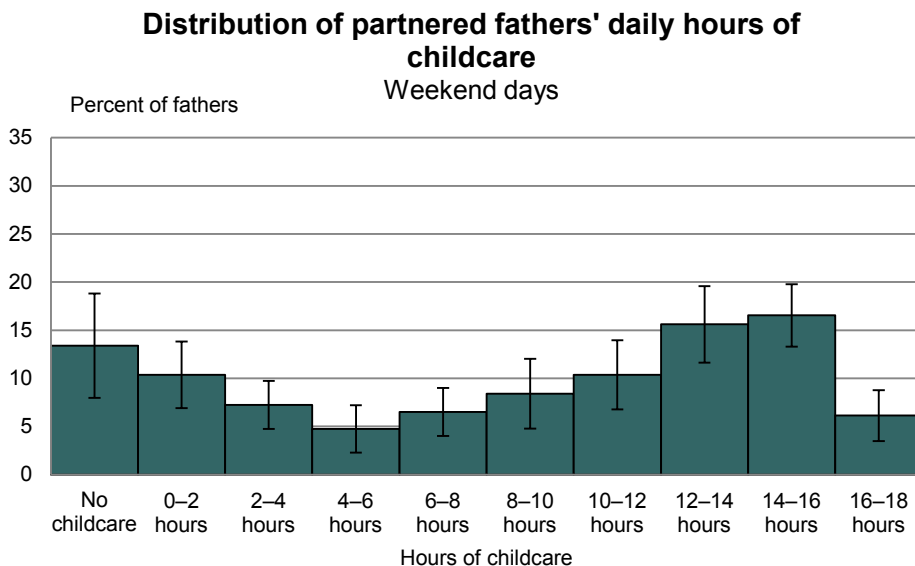


Source: Statistics New Zealand

Note: See technical notes for explanation of method of estimation

The number of hours fathers spend caring for children on a weekend day varies a lot. Around 50 percent of fathers spend more than 10 hours per day caring for children on a weekend, but around 25 percent spend less than 2 hours caring for children, or do no childcare. Fathers with older children are more likely to do no childcare at all on a weekend day.

Figure 5



Source: Statistics New Zealand

Note: See technical notes for explanation of method of estimation

Partnered fathers' greater work commitments affect the time spent with young children

Full-time employment generally reduces the time that fathers have available for childcare. A Families Commission survey identified that 68 percent of fathers with children under 19 years wanted to spend more time with their children, and the main barrier identified was work commitments (Families Commission, 2009, p54). Fathers in full-time employment do spend less time on average (5 hours and 42 minutes) caring for children than fathers in part-time employment or not working (both around 8 hours).

Greater work commitments have more impact on time spent with young children. Fathers with full-time employment and young children spend over 3 and a half hours less on childcare than fathers without full-time employment. For fathers with older children, there is no significant difference in total time caring for children by different work commitments; only more active childcare is undertaken by fathers with fewer work commitments. This can be explained by fathers, regardless of their work commitments, only being able to spend time with older children outside of school hours.

While working full-time is linked to less time caring for children, longer work hours for full-time employed fathers do not seem to make a difference to time caring for children. Whether a father works 30–49 hours or in excess of 50 hours a week, makes no significant difference on their daily childcare time.

Having a young child increases the time fathers spend on childcare, particularly active childcare. Fathers with young children spend, on average, one hour more on total childcare per day than fathers with only older children. Over three-quarters of this difference is in active childcare.

Age of youngest child has most influence on partnered mothers' time caring for children

The age of the youngest child has a significant impact on the time mothers spend with children. This is due to the greater care needed by young children, and the resulting lower rates of maternal employment. The mean daily time mothers spend caring for children is 12 hours and 20 minutes when they have a young child and 8 hours with older children. In comparison, fathers with young children spend around half the time of mothers, and fathers with older children spend around two-thirds the time that mothers do (see figure 3).

Active childcare makes up a higher proportion of mothers' daily childcare time when they have young children. Active childcare makes up over a third of mothers' childcare time when they have a young child, compared to a fifth when they only have older children. The composition of active childcare is also influenced by the age of the youngest child. Mothers spend less time on physical care, supervision, and educational care when they have young children, compared to older children, but spend a similar amount of time on transporting children in both age groups.

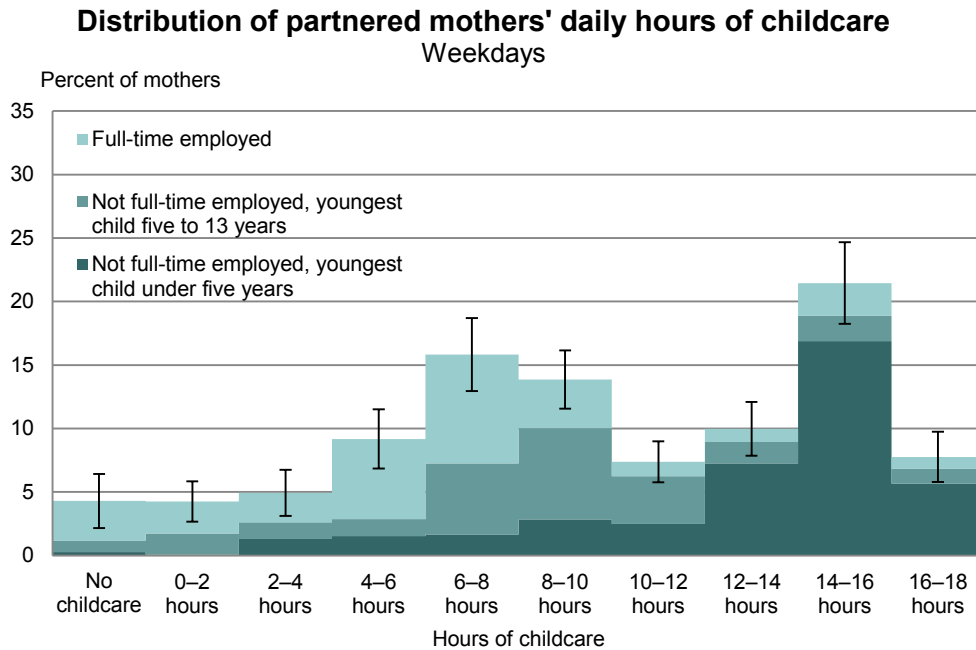
Partnered mothers' daily hours of childcare peak at two points

The age of the youngest child and employment status of partnered mothers are the driving factors behind the distribution of mothers' childcare hours on weekdays having a bi-modal distribution (two peaks). Figure 6 shows the peak at 14–16 hours per weekday of childcare is from mothers with young children that do not work full-time (79 percent of mothers between 14–16 hours). Childcare time that is around the other peak at 6–10 hours is from partnered mothers that are full-time employed (40 percent of mothers between 6–10 hours) or partnered mothers who are not working full-time and have older children aged five to 13 years (40 percent of mothers between 6–10 hours).

Employment rates of partnered mothers influence the time they have available to undertake unpaid work, including childcare. Partnered mothers' employment rates were

70.8 percent in 2009, but those with younger children were less likely to be in employment (Ministry of Social Development, 2010, p18). Around half of partnered mothers with children under six years were employed, and this was split fairly evenly between full-time and part-time employment. Partnered mothers in full-time employment still spend 8 hours a day caring for children, but this is around 4 hours less than partnered mothers not working and around 3 hours less than partnered mothers in part-time employment.

Figure 6



Source: Statistics New Zealand

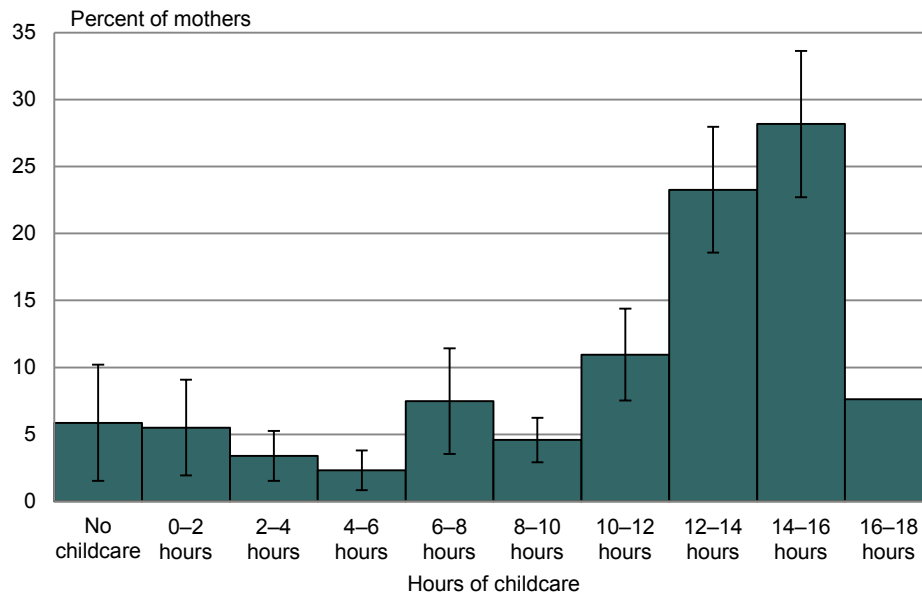
Note: See technical notes for explanation of method of estimation

Whether the day is a weekday or weekend has less impact on the childcare time of partnered mothers than partnered fathers. Partnered mothers are less likely to be in full-time employment than partnered fathers, especially when they have young children, so the general working week pattern does not have the same impact on childcare time. Partnered mothers' total childcare time is higher at weekends, but active childcare undertaken by mothers is lower at the weekends.

One factor that influences partnered mothers' childcare time, but not partnered fathers' is the number of dependent children in their household. For partnered mothers with young children, the number of dependent children in their household increases their total childcare time.

Figure 7

Distribution of partnered mothers' daily hours of childcare
Weekend days



Source: Statistics New Zealand

Note: See technical notes for explanation of method of estimation

Parents' ethnic group and household income do not affect the time caring for children

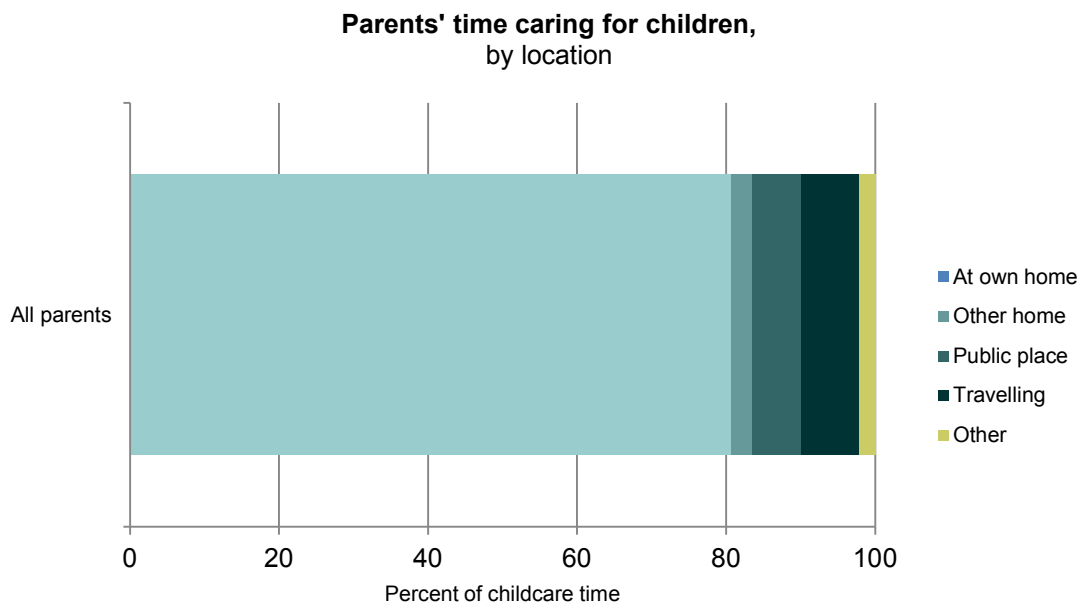
Some demographic characteristics of parents have no significant impact on total childcare time. There are no differences in total childcare time between the main ethnic groups of European, Māori, Pacific peoples, or Asian for partnered mothers or partnered fathers. For household income, there were no significant differences by household income categories for male partnered parents. For female partnered parents there are some differences with childcare time being lower in high income households. These differences reflected partnered females in households with high incomes being more likely to be full-time employed and less likely to have a young child.

Location of childcare

Parents mainly care for children in the home

The time that parents spend caring for children mostly takes place at home. Overall parents spend 81 percent of their childcare time in their home, with a slightly lower proportion at weekends than weekdays (77 percent compared to 82 percent). Fathers spend a larger proportion of their childcare time in the home than mothers. Parents with older children spend a lower proportion of their childcare time at home, and a higher proportion travelling.

Figure 8



Source: Statistics New Zealand



4. How childcare is shared within couple households

Population of interest: parents-in-couple-with-children-only households, with all children under 12 years

The Time Use Survey allows us to look at how parents share childcare responsibilities for children within their own household. To ensure that we have the necessary information for this analysis, the population is restricted to households where the parents are the only people aged 12 years or over in the household, they have children living with them and all the children are under 12 years of age². By matching parents' time use diaries, the time spent caring for children by mothers, fathers, both parents, or when there is no parental care (due to school or other caregivers) can be estimated. The childcare category in this section is total childcare time, including when the parent is sleeping and available to care, but the time period is limited to between 6am and 9pm.

Share of parental childcare

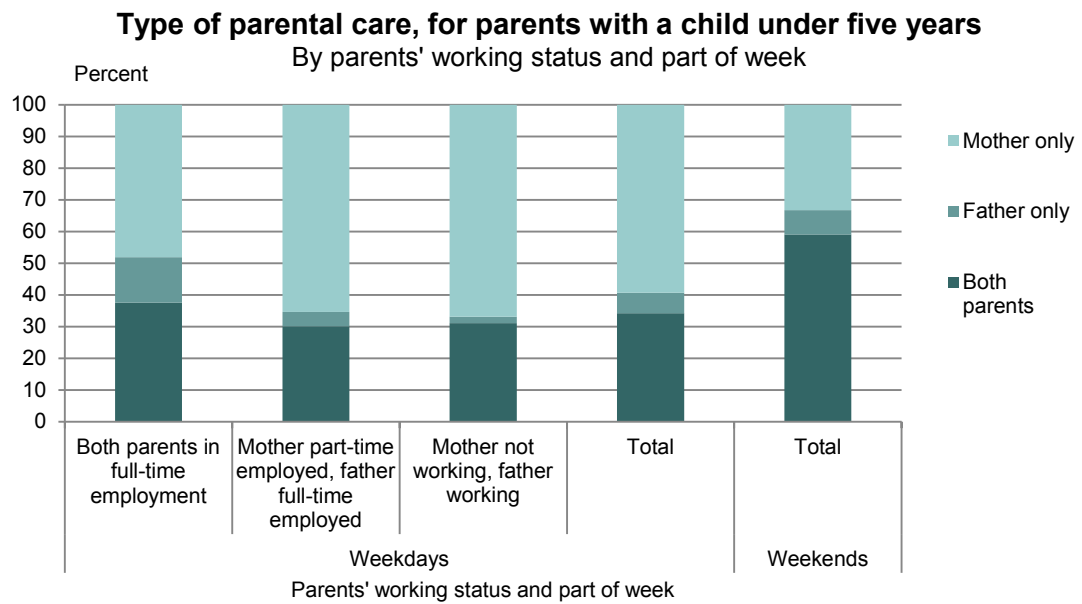
Mothers undertake the majority of parental care

When couples have a young child (under five years), mothers do most of the parental childcare (see figure 9). 'Mother-only' care comprises 59 percent of the parental childcare time on weekdays (between 6am and 9pm), compared to 6 percent of 'father-only' care and 34 percent of 'shared parental care'³. In the weekends, fathers in couples with young children do a larger share of the parental care – but they do it alongside mothers as shared care (59 percent of parental care) rather than as 'father-only' care. Parental childcare makes up 13 hours out of the 15 hours (between 6am and 9pm) that were examined on weekdays, and almost 14 hours on weekend days.

² When another adult or child over 12 is in the household, they could have been randomly selected to be a respondent, rather than both parents. See the technical notes for further explanation.

³ When both parents are undertaking childcare, but they may not be doing childcare together, as they could be looking after different children separately if more than one child is present.

Figure 9



Source: Statistics New Zealand

Employment status of parents affects how childcare is shared

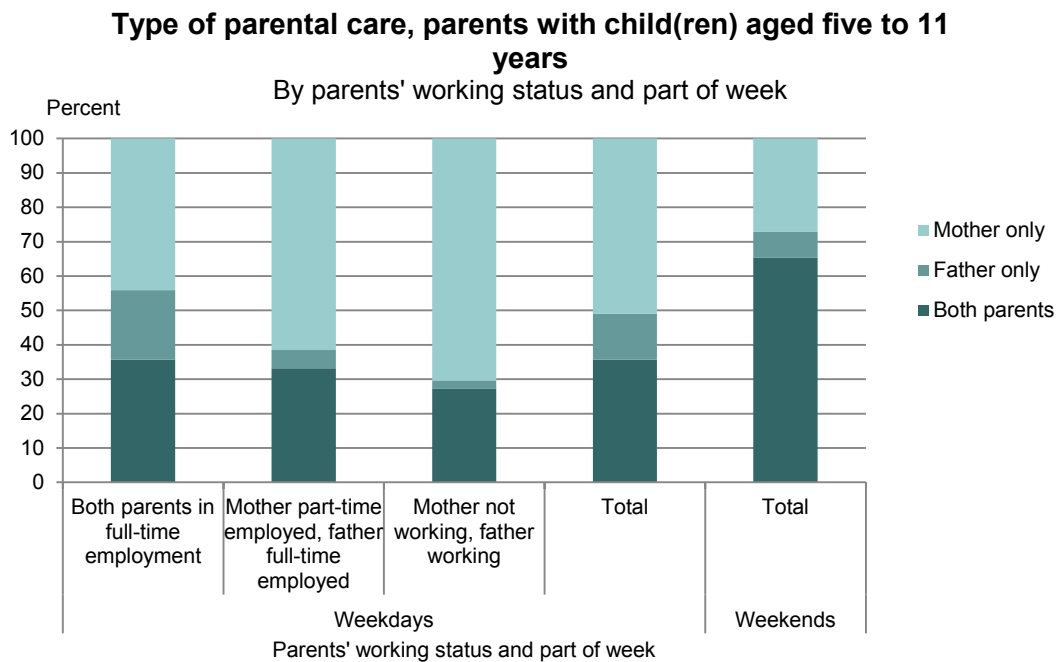
The employment status of both parents is a key influence on childcare time. Within the population group of couple households with young children, around half of couples have the father only working, and around 45 percent have both parents employed (split relatively evenly between both parents being full-time or mother being part-time and father full-time). When both parents of young children work full-time, fathers carry out a greater share of parental childcare than they do in other parental work settings. 'Mother-only' mean time caring for children on a weekday declines, as more non-parental care is undertaken, and the 'father-only' mean time on childcare increases. However, parental care is still dominated by 'mother-only' care, at 48 percent of parental care, while 'father-only' care is 14 percent of parental childcare on weekdays.

While both parents being in full-time employment has the most impact on increasing 'father-only' care, part-time work by mother also has a modest effect on 'father-only' care. 'Father-only' care is slightly higher within couples with young children where the mother works part-time, compared to couples where only the father works.

Mothers still dominate parental care when children are older

Fathers still undertake a smaller share of parental care than mothers when children are older (youngest child between five and 11 years). Parental care in these households accounts for 8 and a half hours on weekdays and 12 and a half hours on weekends, for the 15-hour time period examined. Of the parental care taking place, 'mother-only' care comprises 51 percent of parental care during weekdays, compared to 13 percent of 'father-only' care, and shared care comprises 36 percent (see figure 10). Even when both parents are employed full-time, around half of the parental childcare is 'mother-only' care. Over weekends, parental care is higher, and fathers are more involved, but in shared childcare (65 percent) rather than 'father-only' care (8 percent).

Figure 10



Source: Statistics New Zealand

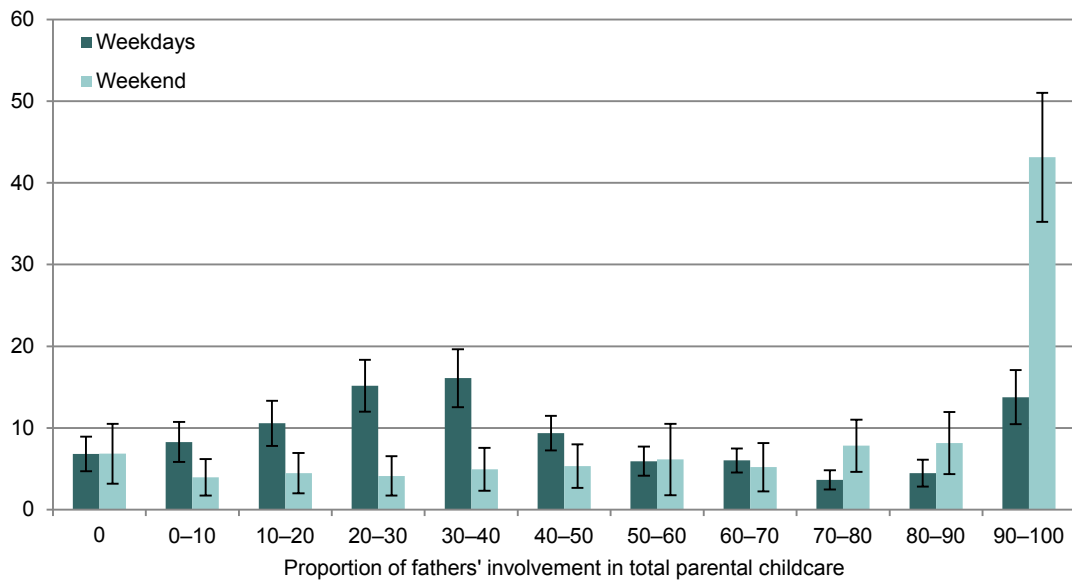
Couple households with older children have different work patterns to those with young children. In around three-quarters of households with older children, both parents work (split relatively evenly between both full-time and mother part-time while father full-time), and around 20 percent have only one parent employed (usually the father). When both parents are in full-time work, fathers do increase their mean time on childcare during weekdays, with 'father only' and shared parental time higher when compared with other work statuses. The proportion of parental care that is 'father only' increases to 20 percent when mothers are also in full-time work, compared to 5 percent when mothers only work part-time or 2 percent when mothers do not work.

Fathers are more likely to be more involved in childcare when both parents are in full-time work

While fathers within couples have, on average, less responsibility for childcare than mothers, some fathers are sharing childcare responsibilities. A definition of shared childcare responsibility for fathers could be when fathers, (either separately or together), are involved in at least 50 percent of the parental childcare. Using this definition, a third of fathers shared responsibility for parental childcare on weekdays. They were involved in at least 50 percent of parental care through 'father only' or shared care involving both parents. Over weekends, 70 percent of fathers are involved in at least half of all parental childcare, and over 40 percent of fathers are involved in more than 90 percent of all parental childcare. In comparison, 95 percent of mothers are involved in at least 50 percent of parental childcare.

Figure 11

**Distribution of couple-with-children households, by amount of
time father is involved in childcare**
By weekdays and weekend days



Source: Statistics New Zealand

When paid work arrangements are more even within couples, childcare is more likely to be shared between parents. When both mothers and fathers are employed full-time, half of fathers are involved in at least 50 percent of parental childcare. When the mother is employed part-time and the father full-time, 25 percent of fathers are involved in at least 50 percent of parental childcare. The higher contribution fathers make to parental childcare when both parents are full-time employed is driven by an increase in the actual time fathers spend caring for children alone, rather than father's contributions being higher proportion of parental care due to less parental care time that results when mothers move from part-time to full-time work.

Although a proportion of fathers are sharing childcare, mothers still undertake a lot of childcare on their own. 'Mother-only' care is almost seven times the proportion of 'father only' care on weekdays. The scale of this difference is heavily influenced by the age of the child and by the employment status of the parents. 'Mother only' childcare is nine times the proportion of parental care that is 'father only' when they have a young child. When the youngest child is over five years, and both parents are employed full-time, the proportion of 'mother-only' care is twice that of 'father-only' care on weekdays. On weekends, the proportion of 'mother only' care is more stable across different groups of parents, and is usually three to four times the proportion of 'father only' care.

Paid and unpaid work preferences

Childcare is a barrier to parents meeting their paid and unpaid work preferences

How couples share childcare given their paid work responsibilities provides an indication of how tasks are divided or shared between parents. However, it provides no indication on whether these arrangements fit with the preferences of the parents. The Ministry of Social Development's Work, Family and Parenting Study of 2004 examined parents' preferences for work and childcare, but was limited to parents aged 20 to 54 years with children aged 16 years or under, rather than the same population of interest in this report.

The study found that most two-parent families preferred both parents to be in work. Fifty-nine percent of parents in two-parent families preferred both parents to be in work, compared to 39 percent in favour of one parent working (Ministry of Social Development, 2006, p11). Parents who preferred that both were in paid work were equally split between preferring both parents to have jobs with equal demands, and one parent having a less demanding job (for example working part-time). The study then compared these preferences against the reality of both parents' employment status.

For around a third of couples, both are in paid work, and just under half of couples with only one parent in paid work, would prefer different paid work commitments. Where a preference was for both partners to have equally demanding employment and to share childcare and housework, 24 percent identified this preference not being met solely due to housework and childcare not being shared equally. Seventy percent did not have their preferences met due to both not being in employment, or the demands of their jobs being unequal – but these groups may or may not have had their preferences matched for sharing childcare and housework.

The 2004 survey suggests that many parents are not combining work and childcare roles in ways that fit their preferences. While not meeting employment preferences is an important component, the division of childcare, particularly for those parents seeking shared responsibilities, is an important factor.

5. Formal and informal childcare

Population of interest: parents living with children under 14 years

Formal and informal childcare relates to childcare provided by organisations, such as kindergartens, private childcare businesses, and arrangements with private individuals or relatives. Formal and informal childcare could be unpaid, or involve a payment. The [New Zealand Childcare Survey 2009](#) provides complementary information on the childcare arrangements for children when they are not in parental care. The information on children's formal and informal childcare relates to one child chosen at random from within the household. Unlike the rest of this report, the children's ages refer to the age of the selected child rather than the age of the youngest child.

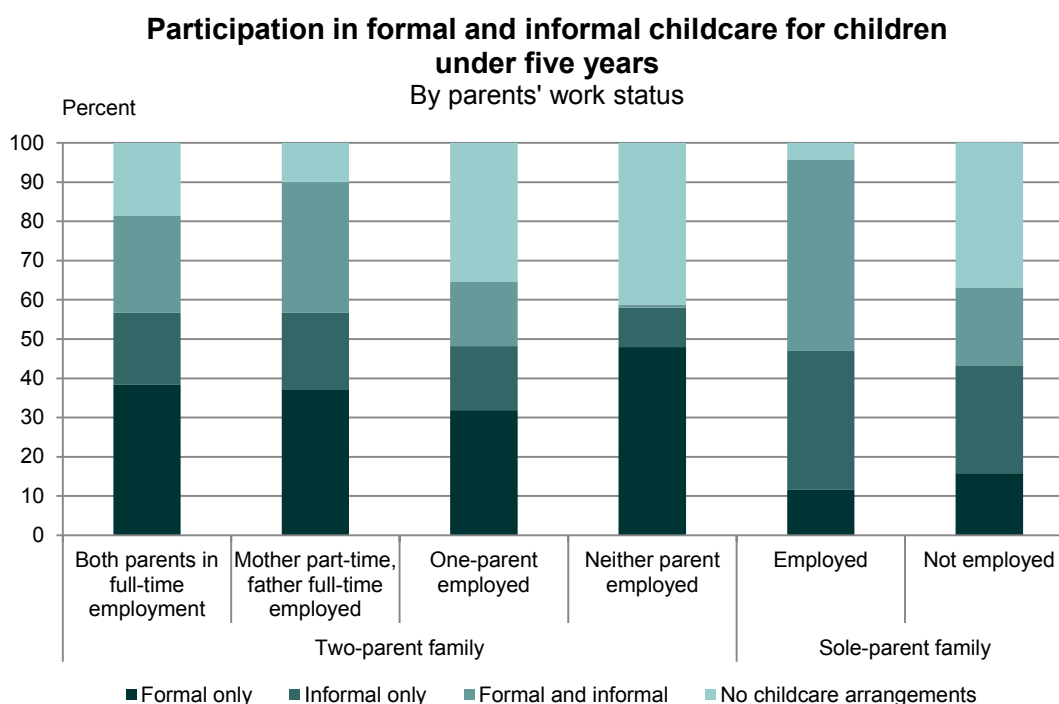
Participation in formal and informal childcare

Parents who spend less time caring for children also have children with higher participation rates in formal and informal childcare. Children with parents who both work full-time are more likely to have some childcare arrangements, compared to households where only one parent works or no parent works. Figures 12 and 13 show the participation rates in formal and informal childcare for young children and older children, respectively.

Childcare arrangements influenced by employment

Employed sole parents are most likely to have childcare arrangements for a young child and least likely to use only formal childcare arrangements. Children in sole parent families are more likely to be cared for in informal arrangements than children in two parent families. For children living in two parent families, those whose parents both work full-time have the highest rates of childcare participation. Children with one or both parents not working are most likely to have no childcare arrangements.

Figure 12



Source: Statistics New Zealand

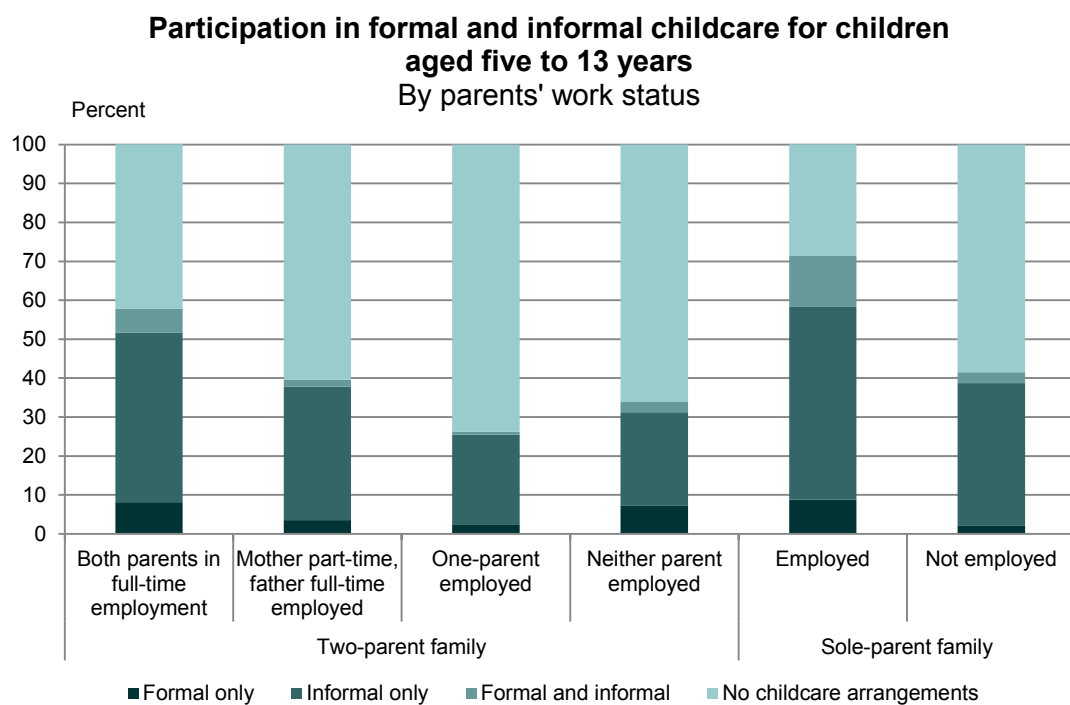
Participation rates in formal childcare are fairly high for all groups, even those where one or both parents are not working. This will reflect participation in early childhood education from 3- and 4-year-olds within the group of children under five years.

For more detailed information on the type of formal or informal care that children receive, see [New Zealand Childcare Survey 2009](#).

Informal childcare arrangements most common for older children

Childcare arrangements for older children are much lower than for younger children, but many patterns based on the parents' employment remain. Participation in formal childcare services outside of school is low for all parental employment groups, and informal arrangements are the most common childcare arrangements. The most common informal childcare arrangement is being cared for by grandparents. Children of employed sole parents and parents both in full-time employment were again the most likely to have childcare arrangements.

Figure 13



Source: Statistics New Zealand

Mean time in formal and informal childcare

Parental employment less of a factor for time older children spend in formal and informal childcare

The employment status of parents influences the mean time young children spend in childcare arrangements. Young children in two-parent families, where both parents are employed full-time, spend almost twice as many hours per week in informal or formal childcare than children with only one parent employed. Young children of employed sole parents spend a similar amount of time in total formal and informal childcare as children with both parents employed full-time. However, children of school age who have childcare arrangements spend a similar time in formal and informal care regardless of their parents' employment status.

Children of sole parents spend more time in informal care

Children of sole parents spend more hours per week (27 hours) in informal care than children of two parent families (16 hours). The higher mean time for children of sole parents may be due to them spending time with their non-residential parent. The mean time of children spending time with the non-residential parent was the highest of all the categories of informal care, particularly for school-age children (Statistics NZ 2010, pp5–8).

6. Technical notes

Time use surveys

Time use surveys measure the ways in which different population groups spend their time. Time use survey 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, these surveys are important because they:

- help to better measure 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 – time use surveys 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 use
- collect information relevant to public health, such as the allocation of time spent between active and passive activities.

Time use surveys 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.

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).

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 NZ. The Time Use Survey 2009/10 is the second national time use survey, and was designed and conducted by Statistics NZ.

How data was collected

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](#). 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 method is included in the [Data quality](#) section of Time Use Survey: 2009/10.

Populations of interest for this report

Parents living with children under 14 years

Parents with at least one child under 14 years are the main population of interest in the report (chapter 3 and chapter 5). Limiting the group of parents to those with at least one child in their household under 14 years relates to children 14 years and over being legally able to be cared for by themselves. While the time parents spend with dependent children over 14 years is still of interest for children's outcomes, the analysis would have a different focus than that for younger children. Eighty four percent of parents with dependent children had at least one child under 14 years.

Population 12 years and over

The total population of the Time Use Survey is the population of interest for looking at who participates in unpaid childcare. Chapter 2 provides an overview of all people undertaking unpaid childcare (for their own household or other household) within the past four weeks. While information on unpaid childcare by parents is provided, the focus is mainly on which groups of non-parents, such as siblings and grandparents, contribute towards unpaid childcare. Time Use survey respondents were asked if they looked after a child under 14 years without pay, within the past four weeks, from within their household or another household. From this, a participation rate for different groups in unpaid childcare can be reported.

Couple only households, with all children under 12 years

When examining how childcare is shared within couple households (in chapter 4), a more refined population group is used. For analysing how care between parents is shared, the population is limited to where there are couples only, with no additional adults living in household, and all children are under 12 years. The population group, of couple only households, with all children under 12 years, is around 60 percent of the couples with at least one child under 14 years.

Given sampling methods used in the Time Use Survey, the matching of parents' diaries needs to be limited to couple parents, with no other adults in the household, and with all children under 12 years to avoid introducing a sample bias. When another adult or child over 12 is in the household, they could have been randomly selected to be a respondent, rather than both parents. Without excluding these households, we would only have a portion of these households with both parents' diaries – and the sample of diaries of both parents would be biased towards households with couples only and children under 12 years. To avoid this, we have limited the population to the sub-group of households where two parents are the only two respondents possible.

The analysis is also limited to couples with partners of the opposite sex. This is to simplify the analysis and enable us to report for mothers and fathers within couples only. The number of same-sex couples was too small to provide separate analysis of how childcare was shared between same sex parents.

From matching parents' time use diaries the time mothers, fathers, both parents, or when there is no parental care (due to school or other caregivers) can be estimated. However, there are some limitations. Where both parents are undertaking childcare, they may not be doing childcare together, as they could be looking after different children separately if more than one child is present. The time period where total childcare time, including when parent is sleeping but available to care, is analysed is limited to between 6am and 9pm. The time period is where parental care is more likely to happen, and coding issues around available to care while parents are sleeping are mostly avoided.

For the Time Use Survey each responding person was assigned a unique final survey weight that was used for calculating survey estimates. As the population of interest for this section is households, a proxy household weight was estimated as the harmonic mean of the mothers' and fathers' personal weights.

Distribution of diary days

Using and interpreting distribution of caring time on diary days

In the Time Use Survey we cannot estimate the number of people who do a particular activity as respondents only fill in a diary for two days of the week. However, we can look at the distribution of diary days for average time spent and use this as a proxy for the distribution of people.

In chapter 3 (figures 4–7) the report focuses on the distribution of mothers and fathers by their average time caring for children per day. The time a parent spends caring for children can range between no reported childcare and 24 hours. In the charts, time categories above 18 hours are excluded due to small sample sizes and to the fact that we exclude sleeping from total childcare for this chapter. The distribution is estimated using weighted diary days but for simplification the distribution is referred to as that of mothers or fathers.

In chapter 4 (figure 11), distribution of the father's time as a proportion of parental care time is analysed. The share of parental care that a father contributes can range from zero to 100 percent and this proportion includes shared care with mothers. Like the distributional analysis in the previous chapter, the proportion of fathers is discussed for simplicity rather than the proportion of fathers' diary days.

Key definitions

Childcare

There are two main types of childcare.

- Active childcare – when the respondent stated they were actively looking after a child, as either a primary or simultaneous activity.
- Passive childcare – when the respondent was not actively caring for the child, but the child was under the respondent's care. This was never coded as the primary activity.

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

Passive childcare 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.
- Active childcare categories
 - Secondary childcare: recorded by respondent as simultaneous activity.

The childcare categories used in the report are outlined below.

- Primary childcare: recorded by respondent as main activity.
- Passive childcare categories
 - Available for childcare only (excluding when parent is sleeping).
- Total childcare categories
 - Total childcare (excluding sleep): active categories plus available to care excluding when parent is sleeping.
 - Total childcare (including sleep): primary, secondary, and available for childcare (including when parent is sleeping).

Within the primary childcare category, the type of childcare is broken down into four categories: physical care and supervision, educational and recreational care, transporting a child, and other childcare.

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.

Dependent child

Child aged under 18 years without full-time employment.

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.

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.

Father

A male parent (natural, step, adopted, or foster), or male person in a parent role.

Formal childcare

Formal Early Childhood Education (ECE) and care: Formal ECE is generally fee-based, although subsidised, and includes the following types of services:

- public kindergartens

- education and care centres (excluding bilingual or immersion education and care centres)
- kōhanga reo
- bilingual or immersion education and care centres (including Pacific, Māori, and other languages, but excluding kōhanga reo)
- organised home-based education and care programmes
- playcentres
- playgroups.

Formal Out-of-School Services (OSS) care: Organised programmes that provide care and activities for school-aged children that include:

- before-and after-school care programmes (can be provided either on or off the school site)
- school holiday programmes
- home-based care programmes
- study support or homework centres.

Formal OSS care programmes are usually fee-based.

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.

Informal childcare

Informal childcare may be paid or unpaid and includes:

- care by relatives, including older siblings, grandparents, and a parent or parents living outside the household
- care by non-relatives, for example friends and neighbours
- care by babysitters, child-minders, or nannies not affiliated to a home-based education and care organisation.

Labour force status/working status

Employed/working – 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 employed – people who are employed full time usually work 30 or more hours per week.

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

Not working – all people over 15 years who are not employed. They could be unemployed or not in the labour force due to retirement, caring for children full-time, or study.

Those aged 12 to 15 years have no labour force status and are not included in any of the categories above.

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.

Mother

A female parent (natural, step, adopted, or foster), or female person in a parent role.

Non-parental childcare

When a child is being cared for by someone other than their parents. Non-parental childcare could include informal childcare with relatives, early childhood education, and formal schooling.

Older children

When a child is being cared for by someone other than their parents. Non-parental childcare could include informal childcare with relatives, early childhood education, and formal schooling.

Parents

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.

Parental childcare

Childcare undertaken by parents. The categories of parental childcare are as follows.

- Both parents or shared childcare – where both parents are simultaneously caring for children. They could be caring for different children individually or the same child(ren) together.
- Father only – childcare that the father does without their partner.
- Mother only – childcare that the mother does without their partner.

Partnered parents

Parent living in a two-parent family. Also includes an individual if they are the partner of a parent.

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.

Sole parents

Parents in a one-parent family.

Weekday

Weekdays are the time between 4am on Monday and 4am on Saturday.

Weekend

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

Working status of parents

Employment situation of both parents. Divided into working and not working categories, or labour force status categories of parents if it is known.

Young children

Parents with young children have at least one child aged under five years.

Data accuracy

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 report, a relative sampling error of less than 30 percent is acceptable.

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 differences between groups are also subject to sampling error. A difference between estimates from two population groups 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 difference 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.



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