The ANU Time Use Survey of New Mothers (TUSNM) is a nation-wide survey which commenced in early April 2005 and finished during April 2006.

Mothers were recruited to the survey via:

- Health professional networks
- Childcare centres
- Baby health clinics
- Australian Breastfeeding Association
- Playgroups Association
Funded as part of an Australian Research Council grant
A pilot study to illustrate value of and need for the Australian Bureau of Statistics Time Use Survey to include adequate numbers of families with infants

Aims to
- Fill a gap in ABS Time Use Survey data collections on time use of mothers and infants
- Document scale and nature of changes in time use in year after birth
- Assess redistribution of time within households after birth of an infant
- Identify activities contributing to high work hours for mothers of infants
- Compare time use of mothers who are not breastfeeding with those who are
- Explore relationship between time use, infant feeding and employment, including effects of access to maternity leave and flexible work practices
- Mothers gave informed consent to the study before enrolment.
- Mothers completed a questionnaire on family and socio-demographic and employment related details.
- Mothers tracked their time pre-natally, 3 months, 6 months and 9 months of age.
- Some tracked just 1 or 2 of these dates, others tracked for 3 or 4.
- Tracking was for 7 days, using an electronic device.
- Covers a full year, so seasonal control.
- Fathers’ activities were not included in the study, but mothers reported some information on the questionnaire.
Electronic tracking more convenient for time-pressed new mothers than diaries

Used Canadian technology of Pace Productivity, a workplace productivity consultant

Battery operated

Each button A-Z programmed for a different activity

Duration and events data downloads to computer

‘Time stamp’ data file records time and date of each activity
<table>
<thead>
<tr>
<th>Code</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Sleeping and napping</td>
</tr>
<tr>
<td>B</td>
<td>Sleeplessness</td>
</tr>
<tr>
<td>C</td>
<td>Eating, drinking alone</td>
</tr>
<tr>
<td>D</td>
<td>Other personal care</td>
</tr>
<tr>
<td>E</td>
<td>Employment</td>
</tr>
<tr>
<td>F</td>
<td>Education re breastfeeding</td>
</tr>
<tr>
<td>G</td>
<td>Other education</td>
</tr>
<tr>
<td>H</td>
<td>Domestic</td>
</tr>
<tr>
<td>I</td>
<td>Meals with kids, other adults</td>
</tr>
<tr>
<td>J</td>
<td>Bath, dress, change kids</td>
</tr>
<tr>
<td>K</td>
<td>Meals with kids alone</td>
</tr>
<tr>
<td>L</td>
<td>Prepare infant feed</td>
</tr>
<tr>
<td>M</td>
<td>Breastfeed or give expressed</td>
</tr>
<tr>
<td>N</td>
<td>Feed formula from bottle</td>
</tr>
<tr>
<td>O</td>
<td>Carry, hold, soothe</td>
</tr>
<tr>
<td>P</td>
<td>Nurse unwell infant</td>
</tr>
<tr>
<td>Q</td>
<td>Teaching kids to eat</td>
</tr>
<tr>
<td>R</td>
<td>Play, read, talk to kids or teach</td>
</tr>
<tr>
<td>S</td>
<td>Minding and supervision</td>
</tr>
<tr>
<td>T</td>
<td>Travel to feed baby</td>
</tr>
<tr>
<td>U</td>
<td>Other child care</td>
</tr>
<tr>
<td>V</td>
<td>Purchase kids medical</td>
</tr>
<tr>
<td>W</td>
<td>Purchase other goods services</td>
</tr>
<tr>
<td>X</td>
<td>Volunteering</td>
</tr>
<tr>
<td>Y</td>
<td>Social</td>
</tr>
<tr>
<td>Z</td>
<td>Recreation, TV, leisure</td>
</tr>
</tbody>
</table>
Collected data on

- **Family size and characteristics** (no of children under 14; age of youngest and second youngest; couple or single parent)
- **Maternal characteristics** (age; education level; current employment status; usual occupation; maternity leave entitlement; paid or unpaid leave access; return to work before 12 mo intentions)
- **Residence** (State or Territory; capital city, other urban, rural)
- **Family income and earnings** (annual income; hourly earnings of mother and father; usual employment hours of father)
- **Infant feeding method** (past 24 hours, past 7 days; exclusive breastfeeding, exclusive formula feeding, mixed - milk only, breastmilk/solids formula milk/solids, breastmilk/formula milk/solids)
- **Non-maternal care hours** (other household members; paid childcare services,)
- **Maternal time without childcare responsibilities** (infant; other children)
- Open question/Invitation to comment on survey
Data collection

- 188 enrolments in study
- 327 tracking sessions between April 2005 and April 2006
  - 7% pre-natal tracking
  - 26% at 3 months
  - 38% at 6 months
  - 29% at 9 months
- Averaging just under 7 days of tracking each
- Amounts to around 2223 diary days
- Also, valuable information for case studies
  - Several tracking sessions from mothers of 5 sets of twins
  - Several recordings from mothers who were tandem feeding
  - One mother exclusively breastmilk-feeding through expressing her milk to give in a bottle
Sample characteristics

- Compared to Census and LSAC survey
  - Similar representation of different States, though ACT over represented
  - Similar representation of family income categories
  - Age of mothers and numbers of children broadly representative
  - Higher representation of non metro areas versus cities
  - Overrepresentation of post secondary educated mothers
  - Under representative of two earner couples (especially full time working mothers) and sole parents
  - Over representation of breastfeeding mothers compared to National Health Survey and State surveys
  - Virtually all were couples
Sample comparison

<table>
<thead>
<tr>
<th>Family type</th>
<th>LSAC infants</th>
<th>Census</th>
<th>TUSNM</th>
</tr>
</thead>
<tbody>
<tr>
<td>two resident parents/guardians</td>
<td>91</td>
<td>88</td>
<td>99</td>
</tr>
<tr>
<td>one resident parent/guardians</td>
<td>9</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Siblings</td>
<td></td>
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<tr>
<td>only child</td>
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<td>36</td>
<td>50</td>
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<tr>
<td>one sibling</td>
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<td>36</td>
<td>33</td>
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<tr>
<td>two or more siblings</td>
<td>24</td>
<td>28</td>
<td>17</td>
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<tr>
<td>Work status</td>
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<td></td>
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<tr>
<td>Both Parents or lone parent in work</td>
<td>48</td>
<td>na</td>
<td>29</td>
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<tr>
<td>One parent works in couple family</td>
<td>41</td>
<td>na</td>
<td>70</td>
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<tr>
<td>No parent works</td>
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<td>na</td>
<td>3</td>
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<tr>
<td>Educational status</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mother completed year 12</td>
<td>67</td>
<td>57</td>
<td>92</td>
</tr>
<tr>
<td>Father completed year 12</td>
<td>59</td>
<td>50</td>
<td>na</td>
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<tr>
<td>Parents combined income</td>
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<tr>
<td>Less than $800 per week</td>
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<td>42</td>
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<tr>
<td>$800-1499 per week</td>
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<td>39</td>
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<tr>
<td>$1500 or more per week</td>
<td>27</td>
<td>20</td>
<td>11</td>
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<td>Queensland</td>
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<td>19</td>
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<td>South Australia</td>
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<td>7</td>
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<tr>
<td>Western Australia</td>
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<td>10</td>
<td>9</td>
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<tr>
<td>Tasmania</td>
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<td>5</td>
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<td>1</td>
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<td>Australian Capital Territory</td>
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<td>16</td>
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<tr>
<td>Region</td>
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<td></td>
<td></td>
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<tr>
<td>Capital city statistical division</td>
<td>63</td>
<td>65</td>
<td>51</td>
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<tr>
<td>Balance of state</td>
<td>38</td>
<td>35</td>
<td>50</td>
</tr>
</tbody>
</table>

Time Use Survey of New Mothers compared to Longitudinal Study of Australian Children and the Census
Themes from participants’ comments

- The extent of multi-tasking that mothers do
- ‘Pre-emptible time’ – a mother’s day is ‘contingent’
- The complexity and diversity of mothers paid work and maternity leave arrangements
- How to distinguish breastfeeding, settling, sleeplessness and sleep, especially if co-sleeping
- Where and how to categorise
  - exercise
  - travel
  - time with partner
- Mothers highly motivated to see where their time was used
Mothers time use is “pre-emptible” that is, contingent on what baby is doing

- “Even though I did 30 odd hours of recreation it was all at the same time I was listening out for my baby.”
- “The study has made me realise how often a mother is interrupted when trying to do something. (eg cook, clean). When catering for a baby's needs you are juggling tasks with attending to the baby.”
- “You really have to learn how to make effective use of small pockets of time, or to multitask.”
Mothers learn to multitask:

- “For most of my day I am doing more than one task at a time, eg breastfeed, and supervise 2 toddlers”
- “I rarely do only one thing at a time. This is my third baby so my day doesn't necessarily reflect what I would like to be doing but often what my older kids need at the time like travelling to school.”
- “I often prepared infant feed and did domestic at the same time.”
- Tricky part is remembering to change activities or deciding which to track, e.g. cooking dinner while talking to kids/supervising homework, or carrying baby in a sling at the same time.
Couples with a new baby do not have much time together:

“My husband even began changing my activities for me! He was wondering if you could add sex, so I would consider it a main activity in life!! I don't think so.”
Employment must fit in with baby, and may be home-based

- “I work from home in whatever time I have available so it will appear fairly disjointed.”
- “I am part of farming partnership which makes me a taxpayer but at present only do the paperwork, phone calls, purchasing, fetching.”
- “Am sort of back at work. Do casual hours when baby is asleep only as I can. Not in office. Return to work properly soon for 3 days a week.”
Questions for future investigation

- How does mothers’ time use differ for:
  - New babies compared to older babies
  - First babies compared to subsequent babies
  - Employed mothers vs. non employed mothers
  - Different feeding methods (e.g. breastfeeding, formula feeding, milk feeding plus solids)
  - Patterns of activity e.g. baby feeding and mothers’ sleep patterns throughout the day using ‘timestamps’

- How is mothers time use affected by:
  - Help from partner with the baby/partner’s work hours
  - Baby in childcare
  - Maternity leave/paid entitlement
  - Family financial resources, e.g. husbands wage, mothers wage
Average for all mothers:

- Sleep around 54 hours a week
- Housework around 14 hours a week
- Recreation/leisure averages around 14 hours a week
- Feeding the baby around 11 hours a week and emotional care (soothing, settling baby) around 7 hours
- Social activities and playing with kids each 8 hours a week
- 5-6 hours each on family meals, physical care of children, shopping, and personal care, and sleeplessness
- Around 4 hours each on employment, supervising children, and eating/drinking alone or with partner
Weekly % by Category

- Personal Care: 39%
- Child Care: 16%
- Meals: 8%
- Feeding + related: 9%
- Domestic: 12%
- Recreation, fitness, leisure: 14%
- Employment: 2%
On average, mothers of infants work a total 71-75 hours a week (paid plus unpaid),

- Workload increases slightly as infant gets older;
- Mothers do slightly less child-caring time at 9 months than at 3 months but this is more than offset by spending more time on housework, shopping, and paid work
- A third of mothers got no time off from the baby; the average number of hours when someone else was mainly responsible for the baby was 7 hours a week
Sleep hours were reduced, and 54 hours sleep were spread over 60+ hours of sleeping and napping

- Pregnant women slept on average 62 hours a week
- Mothers with babies 3-9 months slept an average 54 hours a night, that is, 8 hours less
- This wasn’t explained by more hours of sleeplessness, this went up by only one hour on average
- Many mothers had no sleepless nights but some got only 20 hours sleep for the week
- Fewer hours of sleep were associated with higher unpaid work hours
• The total amount of sleep a mother got had more to do with their total workload than whether they or their baby woke a lot (‘sleeplessness’)

• The less hours of paid work by the partner, the more hours of sleep the mother got
Compared to pregnant mums, first time mothers:

- Halve their recreational/leisure time – to around 16 hours a week
- Lose 13+ hours a week for personal care including sleep
- Lose 10 hours of social interaction
Transition to motherhood

Compared to pregnant mums, first time mothers:

- Work 10 hours less of paid work a week,
- Do around 3-4 extra hours of housework/shopping
- Provide 44 hours a week more childcare
- ‘Childcare’ is mainly;
  - infant feeding and settling/soothing (29 hours),
  - physical care (6 hours), and
  - playing (5 hours)
Breastfeeding by age of infant

<table>
<thead>
<tr>
<th>Age</th>
<th>Hours / Week</th>
<th>Occasions / Week</th>
<th>Minutes per occasion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Natal</td>
<td>1.3</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>3 months</td>
<td>16.0</td>
<td>49</td>
<td>19</td>
</tr>
<tr>
<td>6 months</td>
<td>10.6</td>
<td>37</td>
<td>17</td>
</tr>
<tr>
<td>9 months</td>
<td>7.9</td>
<td>28</td>
<td>17</td>
</tr>
</tbody>
</table>
Breastfeed or give expressed

Hour of Day

Occasions
Daily feeding duration at 3 months

Breastfeed or give expressed

Duration in Minutes

Hour of Day
Time spent by mothers in ‘passive childcare’ of around 160 hours a week is four times greater than active childcare of around 44 hours a week

• Mostly, mothers had no time off from the baby and children (around one third of mothers).
• On average mothers reported 7 hours a week when they did not have the main care responsibility.

For mothers of newborns, the median time without any childcare responsibilities was 1 hour a week.

For those with older infants it was around 2-3 hours, increasing with the age of the baby
The study did not track how much time that partners’ spent on unpaid work, but the questionnaire did ask mothers about help with the baby:

- Mothers got slightly more help with the first baby, and with older babies (averaging 6 hours and 5 hours a week by 6-9 months, median 3 vs 2 hours)
- A small number of mothers reported their partner shared equally in caring for the baby
- Mothers reported that the average time their partner cared for the baby was about 4-5 hours a week.
- The median number of hours a week that partners were caring for the baby was around 2-3 hours.

These figures do not include the time that partners spent doing housework, or caring for children other than the baby.
Most mothers (70%) were not in the labour force

- Most mothers in employment worked part time (30% with only 2% of mothers working full time)
- Around one quarter of mothers were in the labour force in the first six months, but most were not
- By nine months, around a third of mothers were in paid work, nearly all part time, and employment rates are the same as in the prenatal group
- Only one in four mothers with a newborn was entitled to paid leave
- Four in five new mothers were not entitled to any paid maternity leave
- Only around 10-15% of mothers with more than one child were entitled to paid maternity leave
- Only around one half of all new mothers with a 3-6 month old had entitlement to paid or unpaid maternity leave, compared to nearly two thirds of first time mothers
Weekly hours of mothers’ unpaid work per child, by number of children
Conclusion

- Unique study of time use of new mothers
- Challenges for time use measurement in measuring what mothers do
- Use of technology has considerable potential
- Rich collection of data on time and related variables
- Contributes to understanding of particular time stresses for mothers and age of peak demands by infant
- Potential for better understanding of usual feeding patterns of breastfed infants
- Health, labour market, and family policy implications of heavy time demands on new mothers
Acknowledgements

- Pace Productivity Inc. Toronto, Canada for TimeCorder devices
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- ABA, Playgroups, Health professionals, etc
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