

## Using a Life History Calendar to Measure Time Use in South India

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### Abstract

Time use studies have been carried out worldwide; nevertheless, challenges to recording detailed, accurate information on how individuals spend their time remain. To make progress on these challenges, we designed a life history calendar to record respondents' activities over a retrospective 24-hour period. Compared to the standard activity log approach, the calendar method could improve the accuracy of recall and provide greater flexibility for recording details about simultaneous activities (multi-tasking) and child-specific child care activities. In this paper, we describe this innovation, the Time Use Calendar (TUC), and our experiences designing and pretesting it in rural South India, where increasing son preference underscores the importance of measuring child investments for each child individually. Our study included 14 focus groups with men and women that explore local understandings of child care; an iterative process of instrument development; and instrument pretesting with 40 men and women in the study site.

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There has been increasing interest on the part of social scientists in measuring individuals' time use as a means to more fully understand family dynamics, including time spent in paid work, housework (Hook 2010, Schneider 2011), child care (Gauthier et al. 2004, Raley et al. 2012), and leisure activities (Wittenberg 2009, Bianchi et al. 2006). Time use studies have been carried out worldwide (Esquivel et al. 2008,); nevertheless, challenges to recording detailed, accurate information on how people spend their time remain (Gershuny 2011). A retrospective 24-hour diary has become one of the most common methods used to gather information on time use. In a face-to-face interview, respondents are asked to list their activities and the time spent in each starting from 4:00 am on the day before the interview to 4:00 am on the day of interview. Scholars have pointed out several drawbacks to this activity-sequence approach, including under-reporting of childcare and multi-tasking (Folbre & Yoon 2006, Gershuny 2011, Schwartz 2002).

Our research team is interested in measuring time use as a means to study parental involvement in child care and housework in South India, where rapid economic development and falling fertility is changing the organization of domestic labor. Indeed, parental investments in children are becoming ever more intensive in terms of monetary and time inputs, while at the same time son preference is on the rise (Srinivasan and Bedi 2008). These developments make the accurate measurement of the types and extent of child investments and how these vary by the gender of the child crucial.

To address some of the challenges associated with current time use data in surveys, we propose a new format for the collection of time use data. In contrast to the standard activity log approach, we designed a life history calendar to record respondents' activities over a retrospective 24-hour period. Life history calendars were specifically created to enhance respondents' reporting of the timing and sequencing of retrospective events (Belli and Callegaro 2009; Freedman et al. 1988), and this method could improve the accuracy of 24-hour time use recall. Furthermore, we argue that the calendar format provides greater flexibility to record simultaneous activities (multi-tasking) and types of care intended for specific children. Figure 1 shows a truncated version of the 24-hour retrospective TUC grid, with each cell representing a 15-minute interval. Each row corresponds to a general activity category, and multiple numbered codes pertain to more specific sub-activities within each category (see Figure 2 for the list of general activities and their sub-activities). The interviewer fills in the code for a specific sub-activity that took place for that time interval and draws a line across cells to indicate the time spent in that specific sub-activity.

With respect to child care, existing time use surveys generally collect information on "accompanying persons" who were with the respondent during an activity. If more than one child is present, this method cannot distinguish whether any given activity—such as reading to the child—is directed toward a specific child, thereby making analyses of parental investments in girl and boy children unfeasible. In the TUC, for the category "caring for/helping household/non-household children," three rows are provided to list specific, named children in the household and two rows are dedicated to non-household children. Thus, the TUC provides a structure to collect details on specific activities the respondent undertook with each child.

In this paper, we describe the new Time Use Calendar (TUC) and our experiences designing and pretesting it in the field in rural Vellore District, Tamil Nadu, South India. This process included 14 focus groups with men and women that explore local understandings of child care and variation in such understandings by gender of the parent and child; an iterative process of instrument development; and instrument pretesting with 40 men and women in the study site. We conclude by considering the benefits and limitations of incorporating the TUC into survey data collection, and describe our on-going efforts to do so in a study of family and community influences on health in Tamil Nadu.

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Figure 2. Activity Categories and Sub-categories

<p><b>Sleeping</b> 1. Sleeping</p> <p><b>Personal care (e.g. bathing, dressing, taking medications)</b> 1. Personal care</p> <p><b>Household Activities</b> 1. Sweeping/cleaning the house 2. Water collection 3. Firewood collection 4. Cooking fire preparation 5. Food preparation and cooking 6. Serving and delivering food 7. Dishes/food clean-up 8. Laundry 9. Vehicle/motorbike repair and maintenance 10. House repair and maintenance 11. Kitchen garden/trees maintenance 12. Caring for livestock 13. Other animals and pets (not livestock) 14. Overseeing paid help in the house 15. Other (specify)</p> <p><b>Eating and drinking</b> 1. Eating and drinking</p> <p><b>Telephone calls</b> 1. Telephone calls (to or from)</p> <p><b>Services</b> 1. Bank/ATM 2. Medical care services (public) 3. Medical care services (private) 4. Waiting for services 5. Other (specify)</p>	<p><b>Caring for and helping household/non-household children</b> 1. Physically caring for and helping child (bathing, etc.) 2. Playing with child 3. Talking with child 4. Reading to or with child 5. Giving advice/emotional support to child 6. Receiving advice/emotional support from child 7. Picking up or dropping off child 8. Helping with homework 9. Supervising child do homework 10. Supervising child 11. In the room, but not supervising 12. Nearby, but not supervising 13. Attending school meetings 14. Providing medicine or medical care to child 15. Obtaining medicine or medical care for child 16. Organizing and planning for the child 17. Other (specify)</p> <p><b>Caring for and helping household/non-household adults</b> 1. Physically caring for and helping adult (bathing, etc.) 2. Talking with adult 3. Giving advice/emotional support to adult 4. Receiving advice/emotional support from adult 5. Supervising adult 6. In the room, but not supervising</p>	<p>7. Activities related to adult's education 8. Providing medicine or medical care to adult 9. Obtaining medicine or medical care for adult 10. Assisting friends/neighbors with tasks/providing favors 11. Other (specify)</p> <p><b>Agricultural work</b> 1. Agricultural work 2. Picking up wages</p> <p><b>Non-agricultural work</b> 1. Non-agricultural work 2. Picking up wages</p> <p><b>Education</b> 1. Taking class 2. Extracurricular school activities (except sports) 3. Research/homework 4. Registration/administrative 5. Tuition center 6. Other (specify)</p> <p><b>Provisions and other purchases</b> 1. Shopping (store, telephone, internet) 2. Researching purchases 3. Rations (including waiting time) 4. Other (specify)</p> <p><b>Community organization</b> 1. Political participation 2. Self-help group (non-paid work) 3. Community organized constructions and repairs 4. Community organized work (cooking for collective celebration) 5. Volunteering with/for an organization 6. Other organization (specify)</p>	<p><b>Socializing and social events</b> 1. Socializing, chatting, and talking 2. Attending or hosting social events (religious) 3. Attending or hosting social events (non-religious, weddings) 4. Other (specify)</p> <p><b>Relaxing and leisure</b> 1. Relaxing (alone) 2. TV 3. Radio 4. Book or newspaper 5. Cinema 6. Other leisure (specify)</p> <p><b>Recreation, sports and exercise</b> 1. Participating in sports, exercise, or recreation 2. Attending sporting/recreational events 3. Other (specify)</p> <p><b>Religious and spiritual activities</b> 1. Worship 2. Other religious and spiritual activities (personal, not social)</p> <p><b>Traveling</b> 1. Car, truck, motorcycle (driver) 2. Car, truck, motorcycle (passenger) 3. Bus 4. Train 5. Boat 6. Taxi 7. Autorickshaw 8. Walking 9. Bullock cart or similar 10. Bicycle 11. Waiting for transportation 12. Other (specify)</p>	<p><b>Specific place</b> 1. Respondent's home or yard 2. Respondent's own fields/land 3. Respondent's other workplace indoors 4. Respondent's other workplace outdoors 5. Someone else's home 6. Someone else's fields/land 7. Restaurant/bar (or similar) 8. Place of worship 9. Shop/marketplace 10. Public place indoors (e.g. community hall) 11. Public place outdoors (e.g. well) 12. Health facility 13. Bank/post office 14. School 15. In transit 16. Other (specify)</p> <p><b>Town/village</b> 1. Respondent's main village/ town 2. Other main village/ town 3. Vellore 4. Chennai 5. Other city</p>
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