

FINAL REPORT

Minding the Children:  
Understanding How Recall and Conceptual  
Interpretations Influence Responses to a  
Time-Use Summary Question

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**AUTHOR'S NOTE**

We originally used the terms “active” and “passive” to distinguish between two types of care activities. We have since decided that the terms “primary” and “secondary” more accurately reflect the distinction we are attempting to measure. Throughout this paper, the terms “primary” and “secondary” childcare are used.

## EXECUTIVE SUMMARY

The following paragraphs describe the results of a recently completed cognitive test of the effectiveness of a secondary childcare summary question in the American Time Use Survey. A more detailed discussion follows in the remainder of the paper.

### Background and Purpose

The Office of Survey Methods Research (OSMR) was asked to evaluate the cognitive and linguistic issues inherent in the collection of time-use data. In Study 1, OSMR was asked to test the effectiveness of a summary question designed to measure time spent providing secondary childcare. For the purposes of this study, secondary childcare is defined as indirect involvement with a child, such as times when parent may be engaged in one activity while remaining mindful of and responsible for a child.

The primary goals of this research were fourfold:

1. Determine the optimal wording of the secondary childcare summary question.
2. Evaluate the clarity of the concept with adults who care for household and non-household children.
3. Determine whether it is easier for respondents to recall specific times or specific activities during which they are caring for children.
4. Identify potential sources of response bias by examining whether response patterns vary with respondent or household characteristics.

The principle findings from this study were:

1. The inclusion of a secondary childcare summary question adds dramatically to an estimate of time spent providing care. Respondents reported an average of 1:14:17 engaged in primary childcare and an average of 3:31:44 engaged in secondary care.
2. Respondents preferred the phrase “*in your care*” to “*looking after*” primarily because it suggested a more nurturing relationship between parent/caregiver and child.
3. Level of educational attainment and experimental condition were confounded in this study. Respondents with higher levels of education were disproportionately represented in the “*in your care*” group. Respondents in the “*in your care*” group reported significantly more time spent engaged in secondary childcare than did respondents in the “*looking after*” group.
4. Respondents were inconsistent in their determination of when childcare could occur. Some respondents reported care when they, themselves, were sleeping. Others reported care when their children were sleeping. These individual differences in interpretation resulted in large differences in the estimates of time spent providing secondary childcare.

Childcare Study 2 was conducted to help determine the extent to which recall and conceptual issues influence responses to the childcare summary question. The results of Study 1 were used to refine the operationalization of the concept of secondary childcare. Specifically, Study 2 attempted to control for some inconsistencies in response patterns by implementing rules that bound the time during which secondary care can occur.

Because respondents inconsistently reported secondary care when they, themselves, were asleep, Rule 1 states that respondents must be awake in order to provide secondary care. However, secondary care can occur when the respondent is napping. Because respondents inconsistently reported secondary care when their children were asleep, Rule 2 states that secondary care can only occur during times when at least one child is awake. Implementation of Rule 2 requires that interviewers collect information about the times the first child woke and last child went to bed in order to bound the secondary care time period.

## Methodology

Eighteen adults were recruited through OSMR and an email announcement. To help untangle the effects of educational attainment from question wording effects confounded in Study 1, respondents with less than a college education were actively recruited for this study. Because respondents in Study 1 preferred the wording “*in your care*” to “*looking after*,” all respondents in this study were asked about times when children who are 12-years old or younger were in their care.

The time diary and secondary childcare summary question were administered over the phone as a computer-assisted telephone interview (CATI). In most time use surveys, during the administration of the time diary, respondents are asked, “who was with you?” for each activity listed in the time diary. Information gleaned from “who was with you” probes can be used to determine social context and potentially may be useful for understanding responses to the secondary child care summary question. The results of Study 1 and earlier work on the ATUS (Stinson, 2000) indicated that respondents did not interpret the question “who was with you?” in a uniform and consistent manner. In Study 2, the “who was with you” probe was refined based on location of the respondent. When the respondent reported being at home, the probe “who was in the room with you?” was used. When the respondent reported being away from home, the probe “who accompanied you?” was used.

Following the mock ATUS interview, respondents engaged in a face-to-face debriefing. During the debriefing, respondents rated the ease or difficulty of remembering information required for the time diary and summary question, engaged in an activity-by-activity review of their time diaries, and provided information about who else was at home with them during the previous day.

## Results

The principle findings from this study are:

- The average age of the youngest child in the household in this study was 5.6 years.
- Respondents reported an average of 6:10:00 spent in secondary childcare.
- In general, respondents had few omissions in their secondary care reports. Errors tended to be ones that could be corrected by the implementation of the two sleep rules. However, a few respondents still made errors that seemed consistent with a schematizing approach – i.e., respondent over-reported the amount of time they spent

providing secondary childcare because they reported for their “usual” day rather than the specific, previous day.

- Respondents were demographically similar to respondents in the *looking after* group in Study 1. Respondents in Study 2 reported significantly more time in secondary childcare than did respondents in the *looking after* group in Study 1.
- Some respondents had difficulty with the time-bounding questions that are included in the summary question. Some respondents interpreted the question as asking about the time their firstborn child got up and the time their lastborn child went to bed. Respondents did not attend to the wording that instructed them to restrict their reports to sleep and wake times of household children 12-years old or younger. Revisions to the question wording that named all children to whom the questions applied successfully ameliorated these problems.
- Respondents reported that it was easy to remember who was in the room with them and who accompanied them to various activities. However, the degree to which these findings will generalize to different types of respondents with different household characteristics and the extent to which this information can be used as a supplement to, or proxy for, secondary childcare remains an empirical issue.

### **Conclusions**

In the interim report, it was recommended that the negative approach be used to allow respondents who are either schematizing or have simply made errors in their reports of secondary care to correct themselves by asking them to identify times when children were not in their care. The need to implement this approach did not arise with any of the respondents tested following the dissemination of the interim report.

The current wording the summary question is effective and should be implemented in the ATUS. Some respondents may omit some activities during which they providing secondary care and others may schematize and over-report their care activities. However, based on the results of testing, it appears that most respondents will answer accurately. After the first year of data collection in full production is complete, we may wish to examine the relationship between “who was in the room/accompanied you” and estimates of secondary childcare. If the “who was with you” probe is reliably measuring time spent in secondary care, we may wish to consider omitting the childcare summary question from future ATUS questionnaires.

## Minding the Children: Measuring Time Spent Providing Passive Childcare

### 1. BACKGROUND

The Bureau of Labor Statistics (BLS) is in the process of developing a new survey to measure how Americans spend their time. Preliminary testing of the American Time Use Survey (ATUS) began in 1997 when a field test was undertaken to determine the feasibility of conducting a nationally representative time-use survey by telephone.

During a time-use interview, respondents provide information about how they spent their time during the previous day. During the first part of the interview, the *time diary*, respondents provide a sequential list of activities and estimate the duration of those activities. Upon completion of the *time diary*, respondents are asked a series of *summary questions* that focus on specific activities of interest. *Summary questions* may be used to probe for details that respondents did not provide in the *time diary*.

The BLS is interested in measuring time spent in secondary childcare. Briefly, the concept of secondary childcare refers to a distinction between two types of parental or caregiver activities. There are those times during which a parent or caregiver may be actively and directly engaged with a child. In a time-use survey, these kinds of activities are reliably reported in the *time diary*. Examples of active and direct engagement with a child would be, “*I was playing with my child,*” or “*I was reading to my child.*” There are other times during which a parent or caregiver may be indirectly involved with a child, such as times when the adult is engaged in some other activity but is still mindful of and responsible for that child. Research has found that this type of childcare, which we are calling *secondary childcare*, is under-reported (Ironmonger, 1996).

Earlier this year, Stinson (2000) conducted a preliminary investigation into this issue. Focus group participants were given examples of the kinds of activities that BLS is interested in capturing and were asked to provide their own descriptors for those activities. Participants strongly suggested that the concept of secondary childcare is not intuitively meaningful, as most parents would consider these activities “*just part of being a parent.*” Focus group participants also suggested a number of phrases that could be used to capture secondary childcare. Their preferred phrase was “*taking care of*” followed by “*looking after.*” Focus group participants also offered the alternative phrase “*in your care.*” “*Taking care of*” seems to include a more active component than is intended by the concept of secondary childcare and was not considered for further testing. The wordings “*looking after*” and “*in your care*” were tested in Study 1. The primary goal of this project was to determine if there are important distinctions between the two expressions.

### Study 1

#### 1.1. PURPOSE OF TESTING

The purpose of testing was to further examine the cognitive and linguistic issues inherent in the collection of reliable secondary childcare activities. The study

objectives included determining the clarity of the concept of secondary childcare to adults who care for household and non-household children under the age of 13 years-old and determining the optimal wording of the childcare summary question. Additionally, the study sought to identify potential sources of response bias by determining whether response patterns vary with either respondent or household characteristics. Lastly, the study investigated whether it is easier for respondents to remember times or activities during which they are providing secondary childcare.

## 2. METHODOLOGY AND DESIGN

### 2.1. PARTICIPANTS

Twenty-seven adults (9 men, 18 women) participated in this study. Five respondents, all women, provided care for non-household children for which they were not paid. Their demographic characteristics were as follows:

- Four women were Black, one was White.
- Three were married, two were single.
- Three were unemployed, two were employed.

The remaining 22 adults were parents of children between the ages of 7 weeks and 12 years. The average age of the youngest child in the household was 6 years old and the average number of children per household was 1.6 (SD = .95, range: 1-4). Half of the respondents were single parents. Respondents averaged 15.9 years of education (SD = 2.4, range: 12-19) and self-reported household income averaged \$47,318.18 (SD = 25,608.79, range: 15,000 – 100,000).

### 2.2. RESEARCH DESIGN

#### 2.2.1. TIME USE METHODOLOGY

Two researchers in the Office of Survey Methods Research served as interviewers<sup>1</sup>. Prior to the collection of the *time diary*, respondents completed a short employment status screener and the interviewer collected a roster of the names and ages of all children living in the household. Consistent with the ATUS methodology, *time diaries* and *summary questions* were collected over the telephone. Respondents were brought into the Behavioral Science Research Laboratory at BLS. After explaining the testing procedures to the respondent, and administering the employment status screener and roster update, the interviewer went into another room in the lab and telephoned the respondent. The *time diary* instructions were administered over the phone and then the *time diary* was collected for the previous day beginning at 4:00 am and concluding at 4:00 am on the day of testing.

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<sup>1</sup> There was no evidence of an interviewer effect. This finding is discussed in more detail in Section 5.2.

### 2.2.2. SECONDARY CHILDCARE SUMMARY QUESTION

Immediately upon completion of the *time diary*, the interviewer administered the secondary childcare summary question. Because the summary question was administered over the phone, respondents did not have access to their previously completed *time diaries*, and therefore, had to mentally review their reports to identify episodes of secondary childcare. Interviewers did not assist in this process other than to verify start and stop times after respondents reported their secondary care activities. Respondents were randomly assigned to one of two experimental conditions that differed in their wording of the secondary childcare summary question:

a. **“Looking After” (n = 11)**

This version of the secondary childcare summary question asked,

“Okay, now I’d like to talk with you, in a little more detail, about childcare. Childcare certainly includes active things, like feeding or playing with your children. But, it also includes things that you could do even while doing something else, like looking after them.

I’d like you to think back over your day yesterday. During any part of the day were you looking after (fill with name(s) from roster of household children who are younger than 13 years old)?”

*If “Yes”* – “At which times or during which activities were you looking after (fill with name(s) from roster of household children who are younger than 13 years old)?”

b. **“In Your Care” (n = 11)**

The alternate version of the secondary childcare summary question read,

“Okay, now I’d like to talk with you, in a little more detail, about childcare. Childcare certainly includes active things, like feeding or playing with your children. But, it also includes the times when children are in your care, even while you are doing other things.

I’d like you to think back over your day yesterday. During any part of the day, yesterday, was/were (fill with name(s) from roster of household children who are younger than 13 years old) in your care?”

*If “Yes”* – “At which times or during which activities was/were (fill with name(s) from roster of household children who are younger than 13 years old) in your care?”

Similar questions were then asked about the respondents' care of non-household children during the previous day. If respondents reported unpaid care for non-household children 12-years old and younger, they were asked to identify whether they were related to the children for whom they provided care.

### 2.3. COGNITIVE INTERVIEW

Upon completion of the *time diary* and *summary questions*, the interviewer returned to the testing room and engaged the respondent in a face-to-face intensive cognitive interview in order to assess the impact of cognitive and linguistic factors on data quality. Respondents first provided their reactions to a general question about what it was like for them to discuss their day in such detail. The remainder of the interview focused on the collection of secondary childcare information.

#### 2.3.1. CARD-SORT TASK

At the outset of the card-sort task, respondents were presented with a large envelope on which it was written, "looking after means" or "in your care means," depending upon the experimental condition to which the respondent had been assigned. Respondents were then instructed to write down their own definitions of those phrases.

Once respondents completed their own definition, they were presented with another large envelope on which the researchers' definition was printed,

*"You are generally aware of what your child is doing and you are near enough that you could provide immediate assistance, if necessary."*

Respondents were then presented with a deck of cards. Each card depicted a different situation involving at least one adult and one child. Respondents were instructed to pretend that they, themselves, were the "you" referred to in the scenarios and were then asked to make the following decisions:

- Is this a situation in which I am looking after a child<sup>2</sup>?
- If this is a situation in which I am looking after a child, does it best fit my definition or the one that the interviewer provided?

Table 1 presents the scenarios used in the card-sort task.

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<sup>2</sup> For respondents in the "In your care" condition, the instructions were to decide if the situation was one in which a child was in their care.

Table 1. Card Sort Scenarios

You and your 8-year old child are alone at home. Your child is asleep upstairs while you are in the kitchen cooking dinner.	You went grocery shopping while your friend was at your house with your 3-year old child.	Your 12-year old child is in the house while you are outside mowing the grass. Your spouse is out of town.
You went grocery shopping and took your 3-year old with you.	You are upstairs reading, your 6-year old is in the basement watching a video, and your spouse is also in the basement, talking on the phone.	Your spouse is working late at the office. You are asleep upstairs while your 11-year old child is downstairs.
You and your 10-year old child are in the yard. Your child is playing and you are doing yard work.	Your spouse is in the basement trying to fix an old lamp. Your 16-year old and 10-year old children are playing outside. You are inside cleaning a bathroom.	You are doing yard work, your spouse and your 4-year old child are in the house. Your spouse is doing housework and your child is watching TV.
Your friend and her 9-year old child are at your house. Your 10-year old child is away at day camp.	Your 7-year old child is at the next-door neighbor's house. You are out shopping.	Your 12-year old child has 5 friends sleeping over. They are upstairs in your child's bedroom listening to music. You are watching TV downstairs.
You and your 2-year old are at a playgroup with 6 other parents and their children.	You and your spouse are eating dinner. Your 6- and 12-year old children are outside, down the street.	You and your spouse are at work and your 12-year old is sick at home.
You are out walking your dog and your neighbor's 8- and 9-year old children are walking with you. (The neighbor is not with you.)	You and your 15-year old child are talking in the kitchen while your spouse cooks dinner.	As a volunteer with Big Brothers/Big Sisters, you take your "little sister" to the movies.
You are at home doing paper work, your 16-year old child is hanging out with friend down the street. Your spouse is not yet home from work.		

Two additional envelopes were then placed on the table in front of the respondent – one marked “Both” for those situations that fit equally well with the respondents’ and the researchers’ definitions, and one marked “Neither.”

Respondents were told to sort the cards by placing them on top of the appropriate envelope. Respondents were given an unlimited amount of time to complete this task and were told to use whatever criteria they wanted in deciding how to sort the cards.

Upon completion of the card sort, respondents explained why they sorted the cards as they did, and discussed their reaction to the researchers’ definition.

### 2.3.2. COGNITIVE ISSUES

Respondents were asked to engage in a short retrospective think-aloud during which they described the thought processes they had engaged in as they had mentally reviewed their *time diary* and selected items in response to the secondary childcare summary question.

### 2.3.3. DIARY REVIEW

During the diary review portion of the cognitive interview, respondents were queried about any discrepancies that had emerged in their identification of episodes of secondary childcare. Two particular types of discrepancies were specifically queried. Respondents were asked about instances in which they reported that a child was “with” them but they did not report being engaged in secondary childcare and they were asked about inconsistent reports of secondary childcare when another adult was “with” the respondent.

### 2.3.4. LINGUISTIC ISSUES

All respondents were exposed to both versions of the secondary childcare summary question. During the cognitive interview, respondents were asked to listen to the wording of the summary question that had not been used during the telephone interview. For example, respondents who had been asked about times when they were looking after children were later asked,

*“What if I had used a different expression instead of looking after? What if I had said, ‘I’d like you to think back over your day yesterday. Were there any times during the day yesterday when a child who is 12 years old or younger was in your care?’”*

Respondents discussed the linguistic similarities and differences between the two question wordings and then selected their preferred wording of the secondary childcare summary question. Preferences were explained in detail.

### 2.3.5. OTHER ISSUES

The final issue addressed during the cognitive interview centered on the appropriateness of asking the secondary childcare question about children who are twelve years old and younger.

## 3. ANALYTICAL PROCEDURES

### 3.1. DATA ANALYSIS

The following information was collected and analyzed from the time diaries:

- Length of interview, including time to read the instructions, collect the previous day's activities, and administer the summary questions.
- Total number of activities reported for the previous day.
- Total number of primary childcare activities. Primary childcare is an activity that includes physical and/or emotional care for children (e.g., helping a child do something, reading to a child), waiting for children and attendance at children's events. By current definition, primary childcare does not include eating with children or travel related to childcare (e.g., driving children to school) because, in those situations the primary activity is something else (e.g., eating or driving).
- Total amount of time spent providing primary childcare. This is the sum of the amount of time spent in each activity coded as primary childcare.
- Total amount of time spent with a child. Throughout the time diary, respondents are asked to report who was with them. Time spent with a child is the sum of the amount of time spent in activities for which respondents reported that a child was with them.

The following information was collected and analyzed from the respondents' answers to the summary questions:

- Secondary childcare is, by definition, a simultaneous activity. Responses to the secondary childcare summary question could include secondary care done simultaneously with primary childcare. For example, a respondent may have said, "My son was in my care in the morning from the time I got him up until I dropped him off at school." All of the activities that fell within that time block would be coded as secondary care, unless the respondent specifically excluded an activity (e.g., "Except for the time when I was fixing breakfast"). If the reported time block included primary childcare like "helping my child with his homework" then that activity would be coded as primary and secondary childcare. For estimation purposes, time in simultaneous primary and secondary childcare is counted toward primary childcare only.
- Total number of distinct secondary childcare activities. This is the sum of all activities coded as secondary childcare for which the reported activity in the time diary was not primary childcare.
- Total amount of time spent in secondary childcare. This is the sum of hours spent in distinct secondary childcare, i.e., sum of hours spent in an activity other than primary childcare for which secondary care also occurred.

Two additional measures of childcare were calculated:

- Total number of childcare activities. This is the sum of activities that were coded as primary childcare + other primary activities also coded as secondary care.
- Total amount of time spent providing childcare. This is the sum of the amount of time spent providing active care + the amount of time spent in other activities also coded as secondary care.

Table 3 depicts the coding and analytical procedures described above:

Table 3. Example of coded portion of a time diary

A	B	C	D	E	F <sup>3</sup>	G <sup>4</sup>
Start Time	Stop Time	Activity	With whom	Where	Primary Childcare	Secondary Childcare
6:30 A	7:00 A	Shower		Home	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7:00 A	7:05 A	Got son up	Child < 13	Home	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7:05 A	7:10 A	Fixed breakfast	Spouse, Child < 13	Home	<input type="checkbox"/>	<input type="checkbox"/>
7:10 A	7:30 A	Called clients	Alone	Home	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7:30 A	8:00 A	Helped son with school work	Child < 13	Home	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8:00 A	8:20 A	Drove son to school and dropped him off	Child < 13	Transit/ Car	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8:20 A	8:55 A	Drove to work	Alone	Transit/ Car	<input type="checkbox"/>	<input type="checkbox"/>
8:55 A	9:10 A	Walked to work	Alone	Transit/ walk	<input type="checkbox"/>	<input type="checkbox"/>
9:10 A	4:30 P	Working	Alone	Work	<input type="checkbox"/>	<input type="checkbox"/>

**Comment:**

**Comment:** This table doesn't refer to the same interview included in the example. Is that confusing? Should I change it so that it does? If it did correspond to the example, then what you said is absolutely correct – this box should be filled.

- Column D is used to calculate time spent with a child.
- Column F is used to calculate the number of primary childcare activities and time spent providing primary care.
- Those activities that are checked in Column F and are also checked in Column G (e.g., got son up, helped son with school work) were included in estimates of time spent providing primary care.
- Activities that are checked in Column G but are not checked in column F (e.g., called clients, drove son to school) were included in estimates of secondary care.
- Persons listed in the “with whom” column provide further contextual information.

<sup>3</sup> This column would be coded after the interview using the coding lexicon.

<sup>4</sup> This column would get filled in with responses to the secondary childcare summary question.

## 4. RESULTS

### 4.1. DEMOGRAPHIC DIFFERENCES BETWEEN GROUPS

Five men and 6 women were assigned to the *looking after* experimental group. Five of these 11 respondents were single parents. Seven of the eleven respondents (64%) were Black.

Four men and 7 women comprised the *in your care* group. Five of these 11 respondents were single parents and 5/11 (45%) of this sample was Black. For a closer examination of sample composition, see Table 2.

<b>Table 2. Demographic Comparisons Between Conditions</b>				
	<b>IN YOUR CARE</b>		<b>LOOKING AFTER</b>	
	White	Black	White	Black
Married	6	0	3	3
Single	0	5	1	4
Education (in years)	17.5	16.8	16.0	13.7
Income	\$69.1K	\$46.6K	\$35.7K	\$26.1K
Male	2	2	2	3
Female	4	3	2	4

The experimental groups were significantly different from one another with respect to education and income. Respondents in the *looking after* group average 14.5 years of education (sd = 2.0) whereas respondents in the *in your care* group averaged 17.2 years of education (sd = 1.9). This difference was statistically significant,  $F(1,20) = 9.76$ ,  $p < .01$ . Similarly, respondents in the *in your care* group earned significantly more income than did respondents in the *looking after* group. Respondents in the *looking after* group earned an average household income of \$35,727 (sd = 21,227.77, median = 25,000), whereas respondents in the *in your care* group reported an average household income of \$58,909 (sd = 25,141.42, median = 63,000),  $F(1,20) = 5.46$ ,  $p < .03$ .

### 4.2. TIME DIARIES

Time diaries were collected via telephone in the Behavioral Science Research Laboratory at the BLS.

Interviewers first read the time diary instructions to respondents. Previous research (Stinson, 2000) found that it took interviewers approximately 3 minutes to read the original time diary instructions to respondents. Stinson (2000) also reported that some respondents found the introduction and instructions too long and scripted. Interviewers in the current study noted that respondents did not seem to listen to all of the information contained in the instructions. For example, despite being told to report who was with them and where they were, few if any respondents provided this kind of information without being explicitly prompted for it. More importantly, the instructions did not indicate that respondents should estimate the amount of time they spent engaged in various activities. Thus, respondents tended to report a laundry list of activities that the interviewer then needed to query for start and stop times.

For the purposes of this study, the time diary instructions were revised. The revised instructions read,

*“Now I’d like to find out how you spent your time yesterday, designated day, from 4:00 in the morning until 4:00 am this morning. For each activity, please try to tell me, as accurately as you can, how much time you spent doing it.*

*If we get to times you spent working for pay, just tell me what time you started working and what time you stopped.*

*There is no need to report any activities that take less than 5 minutes, and if any activity is too personal, there is no need to even mention it.”*

The administration of the instructions was not timed in this round of testing. However, the instructions are dramatically shorter than the earlier version. Despite the limited amount of information contained in the revised instructions, all respondents understood the nature of the task and were able to reconstruct their previous day’s activities and could estimate the duration of those activities with varying degrees of confidence and ease.

### **4.3. INTERVIEWER EFFECTS**

Two interviewers conducted a total of 27 telephone ATUS interviews. Interviewer 1 conducted 17 interviews, whereas Interviewer 2 conducted 10 interviews. Both interviewers conducted interviews for each of the experimental conditions: *looking after, in your care*, and *care for non-household children*.

The average length of an interview conducted by Interviewer 1 was 0:17:25 (sd = 0:05:43). An average of 32 activities (sd = 10.5) were listed in each time diary. In comparison, the average length of an interview conducted by Interviewer 2 was 0:19:42 (sd = 0:05:49) and an average of 30 activities (sd = 8.2) were listed. These differences were not statistically significant.

#### 4.4. COMPARISONS WITH FACE-TO-FACE COLLECTION OF YESTERDAY’S ACTIVITIES

Stinson (2000) conducted 30 face-to-face interviews to obtain time diaries from a diverse group of participants. She found that most participants found the recall task enjoyable and interesting. Overall, participants took an average of 19:8 minutes to complete the time diary during a personal interview. Respondents reported an average of 37.1 episodes or activities per diary. In comparison, respondents in this study completed the time diary over the telephone. Like the participants in Stinson’s study, respondents in this study found the ATUS interview to be both interesting and enjoyable. The average interview length was 18.2 minutes and respondents reported an average of 31.5 activities per diary. Table 3 summarizes the findings of twenty-seven telephone interviews conducted as part of this study.

Table 3. Hours and Number of Activities reported in the Time Diaries

	Mean	SD	Median
Interview length	0:18:02	0:05:45	0:18:00
Number of activities per diary	31.5	9.6	31.0
Number of primary childcare activities per diary	4.9	3.2	4.0
Time spent in primary childcare	2:23	1:47	2:20
Total time spent “with” a child	5:45	3:26	4:42

#### 4.5. SUMMARY QUESTION

Most respondents answered the secondary childcare summary question by reporting a large block of time that encompassed multiple activities. Examples of this style of reporting include:

- *The whole time after I came home from work.*
- *In the morning and then after school.*
- *In the morning until I dropped him at before-school care and then all evening until he went to sleep.*
- *Between 5:00-9:00 PM<sup>5</sup>*
- *From the moment I got up until my husband came home that evening.*

<sup>5</sup> Only one respondent reported secondary childcare in this manner. In this case, the times reported did not coincide with discrete activities. Requests for clarification of the type exemplified above suggested that the respondent had reported usual times at which he provides childcare. The actual times during which he provided childcare during the previous day were reported in response to the interviewer’s requests for clarification.

Of necessity, when presented with this style of reporting, the interviewer verified which activities respondents meant to include in their time block. The following exchange exemplifies one way in which an interviewer can obtain clarification.

I: “At which times or during which activities was Marcus in your care?”

R: Well, in the morning until I dropped him at my friend’s house and in the evening when I came home until he went to sleep.”

I: “So, in the morning...from when you got up or from when you woke your son up?”

R: “From when I woke him up.”

I: “Until you dropped him at your friend’s house? That was around 7:00 AM. Is that right?”

R: “Yeah, that’s right.”

I: “And how about in the evening?”

R: “From when I met him at the rec center. What time was that?”

I: “You got there around 4:40 PM.”

R: “Right, so from there until I guess when I got home and took my shower. He was in his room then, doing homework. So not when I was taking my shower. But after my shower until I put him to bed around 9:30 PM.”

Some respondents reported a series of activities, such as:

- *I was reading to her when I did the laundry.*
- *When we were taking out the trash together.*
- *When we were at the grocery store.*
- *When we were playing with his trucks.*

No one reported a time block that corresponded to a single activity and no one reported a string of times (e.g., “*Oh, from 8:00-9:30, then from 12:00-1:00, and again from 5:00-9:30 PM.*”).

Responses to the retrospective think-aloud protocol (i.e., “*How did you go about figuring out what you should include as looking after/in your care? What went through your mind?*”) suggested that most respondents stated that they thought about times when they were physically with their child or the child was nearby. For example:

- *I thought about the times when he’s with me and the times when he is not. If he’s with me, I’m looking after him.*
- *My children were either at home with me or at school. When they’re at school, they aren’t in my care. When they’re at home, they’re in my care.*

Respondents also emphasized feelings of responsibility as underlying their reports of secondary childcare.

- *I thought about the times when we are physically interacting, when I'm watching him, and when I still feel responsible, even when he's doing other things, even when he's sleeping.*
- *I thought about when I feel responsible.*

#### 4.6. DISCREPANCIES IN RESPONDENTS' SELF-REPORTS OF SECONDARY CHILDCARE

The most noticeable discrepancy in respondents' self-reports occurred for single-parents reporting about a weekday. Three of eleven single parents (27%) did not report any secondary childcare in the morning, prior to their leaving for work. All of these parents engaged in activities like getting their children ready for school, giving them breakfast and, in some instances, dropping them off at before-school care. When asked about this discrepancy, respondents' answers indicated that they did not think about their morning activities in the same way as they think of their evening routines.

- *I don't really know why I didn't count getting her up for school and all but I guess it's because I'm just so focused on getting them to school and me to work that it doesn't feel like looking after, it feels like what you do. They go to school. I go to work.*

In situations such as this, interviewers may need to probe about the part of the day the respondent may be forgetting. For example, interviewers could say, "*What about the morning. Was ...in your care in the morning?*"

Another notable discrepancy highlighted inconsistencies in respondents' perceptions of their ability to provide care when they, themselves, were sleeping. Five of 22 parents (23%) reported that their children were in their care even when the respondent was sleeping. Not only were there inconsistencies across subjects with respect to their perceived ability to provide care while they were sleeping, there were inconsistencies within individual reports. For example, one respondent reported taking two naps during the day. The first nap lasted 1 hour and 50 minutes. The respondent reported that during that time period, she was looking after her children. Later in the day, the respondent reported taking a one-hour nap. She did not report looking after her children during this time period. Similarly, the father of a 14-month old child reported going to sleep at 9:20 PM and sleeping until midnight. During that time period, the respondent reported that he was looking after his daughter. The respondent woke up at midnight and consoled his daughter for twenty minutes, after which he went back to sleep. The respondent did not report looking after his daughter from the time he went back to sleep (12:20 AM) until he woke up the next morning. These inconsistencies dramatically affect the data. The inclusion of times when a parent is sleeping in estimates of secondary childcare increased the estimate by an average of 2:47 for those who reported some sleep as childcare (Frazis, personal communication).

In general, parents seemed to unconsciously impose one of three time boundaries on their reports of secondary care. They reported care that occurred between the time

they woke up and they went to sleep, or they reported care that occurred from the time the first child got up and the last child went to sleep, or some combination of the two. For example, some parents began their report with the time they woke up but reported no secondary care after the child went to sleep. Others began reports of secondary care from the time the child woke up but reported care activities that occurred after the child went to sleep at night. While it makes logical sense that parents could feel that their children are in their care even when the children are sleeping, these inconsistent reporting styles dramatically influenced the results. The inclusion of times when children were sleeping further increased the estimate of secondary childcare by an average of 1:49 for those who reported secondary childcare in that way (Frazis, personal communication).

#### **4.7. CLASSIFICATION OF CHILDCARE SCENARIOS**

Respondents were initially presented with 17 scenarios to classify as childcare either according to the respondent's definition, the researchers' definition, both or neither. Two additional scenarios were added mid-way through testing to further examine the impact that the age of the child has on interpretations of childcare. Respondents generally were in agreement regarding which scenarios were representative of childcare and which were not. Table 4 lists those scenarios which respondents felt clearly exemplified childcare.

Table 4. Scenarios classified as definitely and definitely not childcare.

<b>Definitely Childcare</b>		<b>Definitely Not Childcare</b>	
Your 12-year old child has 5 friends sleeping over. They are upstairs in your child's bedroom listening to music. You are watching TV downstairs.	100%	Your 7-year old child is at the next-door neighbor's house. You are out shopping.	92%
You and your 2-year old are at a playgroup with 6 other parents and their children.	100%	You and your spouse are at work and your 12-year old is sick at home.	77%
You and your 10-year old child are in the yard. Your child is playing and you are doing yard work.	100%	You and your spouse are eating dinner. Your 6- and 12-year old children are outside, down the street.	77%
You went grocery shopping and took your 3-year old with you.	100%	You are at home doing paper work, your 16-year old is hanging out with friends down the street. Your spouse is not yet home from work.	71%
You and your 8-year old child are alone at home. Your child is sleeping upstairs while you are in the kitchen cooking dinner.	100%		
As a volunteer with Big Brothers/Big Sisters, you take your "little sister" to the movies.	100%		
You and your 15-year old are talking in the kitchen while your spouse cooks dinner.	100%		
Your 12-year old child is in the house watching TV while you are outside mowing the lawn.	92%		
You are out walking your dog and your neighbor's 8- and 9-year old children are walking with you.	85%		

Some situations appeared to be ambiguous and were inconsistently classified as childcare. Respondents identified three types of ambiguous situations.

- Situations in which a spouse is in closer physical proximity to a child. In these situations, some respondents felt that the child was in the nearer spouse's care whereas others indicated that they would still feel responsible for that child. Some of this difference may be attributable to differences in marital status.
- Situations in which the parent might not be at least generally aware of what the child was doing. For example, most respondents felt that parents are not looking after their children if they are asleep while their child is still awake and alone at home on the grounds that the parents cannot be generally aware of what the child is doing. On the other hand, most respondents felt that parents met the generally aware requirement if their children were playing outside while the parents were engaged in activities inside the house.
- Situations in which parents arranged to have someone else care for their child. Single parents, but not married parents, were likely to include this type of situation as providing childcare. They argued that they would only leave their child with someone they trusted completely and by providing that type of responsible care for their child, they were, in effect, looking after their child.

Respondent-identified ambiguous situations and their relative endorsements are listed in Table 5.

Table 5. Ambiguous childcare situations.

Scenario	Childcare	Not Childcare
Your spouse is in the basement trying to fix to an old lamp. Your 16-year old and 10-year old children are playing outside. You are inside cleaning a bathroom.	69%	31%
You are upstairs reading, your 6-year old is in the basement watching a video, and your spouse is also in the basement, talking on the phone.	62%	38%
You are doing yard work, your spouse and your 4-year old child are in the house. Your spouse is doing housework and your child is watching TV.	54%	46%
Your spouse is working late at the office. You are asleep upstairs while your 11-year old child is downstairs.	38%	62%
Your friend and her 9-year old are at your house. Your 10-year old child is away at day camp.	31%	69%
You went grocery shopping while your friend was at your house with your 3-year old child.	31%	69%

#### 4.8. COMPARISONS BETWEEN RESEARCHERS' DEFINITION AND RESPONDENTS' DEFINITIONS OF SECONDARY CHILDCARE

In general, respondents offered definitions of both *looking after* and *in your care* that were more active than the corresponding researchers' definition. Respondents tended to list specific parenting tasks that they felt were encapsulated in *looking after* or *in your care*. Examples of respondent-generated parenting tasks that are more active than the secondary childcare summary question is intended to measure include:

- Spending time with my child
- Feeding
- Talking with my child
- Tucking my child in at night
- Playing with my child
- Changing diapers
- Reading to my child
- Ironing school clothes
- Hugs and kisses, cuddling

Respondents' definitions emphasized safety and well-being. Most respondents felt that the researchers' definition addressed parental concerns for children's safety ("*provide immediate assistance, if necessary*") but did not include parental concerns for children's well-being. Additionally, respondents' definitions emphasized supervision and responsibility. Most respondents felt that supervision was included in the researchers' definition ("*generally aware*" and "*near enough*") but could not identify a component of the researchers' definition that suggested responsibility. However, one respondent whose own definition stated, "*I am the responsible adult,*" strongly approved of the researchers' definition. This respondent argued, "*I think that sounds good. It gives a clear definition... my definition says that you're responsible but doesn't say what that connotes. Yours says what is meant by being responsible.*"

Other positive reactions to the researchers' definition emphasized its applicability to older children and its basis in reality. Parents of school age children reported that the definition makes sense for older children who need to be within voice's call not within eyesight. One respondent was especially pleased with pragmatic realism of the researchers' definition. She said, "*This is exactly what it is like. I mean, parents want to think that they know what their children are doing, know exactly what their children are doing all of the time. But, the reality is that a parent is generally aware of what their children are doing most of the time.*"

A number of respondents had a negative reaction to the researchers' definition. Most of their dissatisfaction with the researchers' definition centered on the use of the expression, "*generally aware.*" Parents felt that generally aware was inadequate and indicated a level of attentiveness that is insufficient for good parenting. Their comments included:

- *You're not concentrating on your child*
- *You could tune the child out if you wanted to*
- *You're just there, you don't really know what they're doing*
- *It's not attentive enough*

Other elements of the researchers' definition that met with criticism were its non-interactive and reactive connotations. Respondents felt that the definition should include a reference to spending time with children and should highlight concern for children's well-being. As one respondent stated, "*This is just too reactive. Part of being a parent is being proactive – it's making sure ahead of time that everything is okay with your child.*"

Despite the differences between respondents' definitions and the researchers' definition, most respondents felt their definition and the researchers' definition meant essentially the same thing.

#### 4.9. INTERPRETATIONS OF THE COMPONENTS OF THE RESEARCHERS' DEFINITION

Respondents interpreted being "*generally aware*" as meaning that you know:

- Where the child is
- Who the child is with, and
- What the child is doing, to some extent.

Respondents understood "*generally aware*" to mean that the child did not need to be in the same room as the parent, but should, at least, be within earshot.

"*Near enough*" was broadly interpreted as meaning:

- In the general vicinity

However, there was no consensus about the meaning of *general vicinity*. Respondents with young children (e.g., under the age of 3), felt that their children were *near enough* when they were in the same room. In comparison, parents of older children felt that their children could be in the house, within walking distance, and even a phone call away, and could still be *near enough*. In general, the distance between parent and child increased with the child's age.

The meaning of "*immediate assistance*" was consistent across respondents with some variability in respondents' perceptions of how the meaning of *immediate assistance* changes when other adults are present. Respondents agreed that *immediate assistance* means:

- You would notice if something harmful were about to happen
- You might not be able to prevent something harmful from happening, but
- You could help right away.

#### 4.10. CHANGES IN RESPONDENTS SELF-REPORTS WHEN SUPPLIED WITH THE RESEARCHERS' DEFINITION

Mid-way through testing, a question was added to the cognitive interview protocol to determine how respondents' answers to the secondary childcare summary question might have changed had they been given the researchers' definition.

Only one respondent said that he would have changed his answer to the secondary childcare summary question had he had the researchers' definition available to him. This respondent, the parent of an 11-year old child said,

- *I would have added the time when we went to the grocery store together and the time in the morning when I was up, my wife was asleep and my daughter was downstairs. I didn't report those times because I didn't feel like I was really taking care of my daughter then, but according to your definition, I was looking after her – I was generally aware of what she was doing and I could have provided assistance.*

All other respondents reported that there would have been no change in their self-reports, primarily because respondents felt that their definitions and the researchers' definition meant the same thing.

## 5. ANALYSIS OF RESPONSES TO THE SECONDARY CHILDCARE SUMMARY QUESTION

### 5.1. EFFECTIVENESS OF THE SUMMARY QUESTION

The inclusion of a secondary childcare summary question increased estimates of time spent providing childcare. During the collection of the *time diary*, respondents reported an average of 4.9 (sd = 3.2) activities that were coded as primary childcare. This resulted in a mean estimate of 2:23 (sd = 1:47) spent providing primary childcare. The inclusion of other activities identified as times when children were in respondents' care (i.e., secondary care) added a mean of 3:26 (sd = 3:36) to the estimated amount of time spent providing childcare.

### 5.2. DIFFERENCES BETWEEN GROUPS

The secondary childcare summary question was administered immediately upon completion of the *time diary*. Respondents did not have access to their *time diaries* when they were asked to recall the times or activities during the previous day when they were engaged in secondary childcare. Table 6 summarizes the responses of three different experimental groups: (1) respondents in the "looking after" condition; (2) respondents in the "in your care" condition; and, (3) respondents who provided care to non-household children<sup>6</sup>. Estimates of secondary childcare activities and of time spent in secondary care refer only to those activities that were not coded as primary childcare in the *time diary*. Estimates of both the overall number of childcare activities and of overall time spent providing childcare are aggregates of primary and secondary care.

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<sup>6</sup> Respondents who provided care for non-household children were randomly assigned to one of the summary question wordings being tested in this study. However, too few respondents who cared for non-household children participated in the study to permit comparisons between groups. Their pooled data is reported throughout this report.

Table 6. Responses to the secondary childcare summary question.

	Mean	SD	Median
<b>Secondary childcare activities reported per diary</b>			
“Looking after”	3.9	1.9	4.0
“In your care”	10	5.2	12.0
Care for non-household children	5.0	3.9	4.0
<b>Total number of childcare reports</b>			
“Looking after”	8.4	3.5	7
“In your care”	15.2	5.6	16
Care for non-household children	10.4	7.9	13
<b>Time spent in secondary childcare</b>			
“Looking after”	1:26	1:01	1:15
“In your care”	5:22	4:38	4:40
Care for non-household children	3:36	2:35	2:35
<b>Total time spent providing childcare</b>			
“Looking after”	3:43	1:53	2:55
“In your care”	7:45	4:47	6:50
Care for non-household children	6:14	2:52	6:45

Analyses of variance (ANOVAs) were conducted with condition (“looking after” and “in your care”) as the between-subjects variable. The results indicated that there were no differences between groups with respect to the overall number of activities that they reported per diary. However, there were significant differences between groups with respect to a number of important dependent variables. Compared to respondents in the “looking after” condition, respondents in the “in your care” condition reported:

- significantly more secondary childcare activities,
- significantly more time spent in secondary childcare, and
- significantly more time spent in childcare overall.

These data are presented in Table 7.

Table 7. Reporting differences between groups.

	Mean	SD	F-value	p-value
<b>Secondary childcare activities</b>				
“Looking after”	3.9	1.9	13.472	.002
“In your care”	10.0	5.2		
<b>Time spent in secondary childcare</b>				
“Looking after”	1:26	1:01	7.564	.012
“In your care”	5:22	4:38		
<b>Time spent in childcare</b>				
“Looking after”	3:43	1:53	6.753	.017
“In your care”	7:45	4:47		

There are a number of possible interpretations of these findings. First, the observed differences between groups may reflect underlying differences in recall strategies used in order to answer the secondary childcare summary question. A post-hoc review of respondents responses to the summary question suggested that their answers could be grouped into three broad classes based on the presumed strategy respondents used to complete the task:

- **Recallers** appeared to try to mentally review their report of the previous day’s activities and identify times during which their children were in their care. As one respondent remarked, *“Answering the question about child care was a lot easier because I just went through that sequential list of activities with you. It would have been much harder if I hadn’t first done that.”* Reports made by recallers contained few, if any, illogical gaps and indicated that the respondent distinguished between activities within a single time period. Seven of 22 respondents (3 “looking after,” 4 “in your care”) were classified as recallers.
- **Schematizers** tended to report large chunks of time that corresponded to their usual routines. Seven respondents (2 “looking after,” 5 “in your care”) provided reports that looked like they had activated their schema, or mental models, of times when they usually provide child care rather than recalling the details of the previous day. For example, one respondent said, *“Oh that’s easy. My wife and I have an agreement. She takes care of our daughter during the day and I take care of her when I come home from work and on weekends. So let’s see – I almost always get home from work around 6:00 PM...”* To the extent that their previous day adhered to their usual routine, schematizers’ responses were quite accurate. However, their reporting style could permit two types of errors. First, they may inappropriately include activities that occurred during their usual tour of

duty but during which their child was not in their care. Second, they might omit times when their child was in their care because the activity fell outside their usual tour of duty.

- **Satisficers** tended to report a few isolated activities. Eight respondents (6 “*looking after*,” 2 “*in your care*”) were classified as satisficers. These reports are the most error-prone and largely under-estimate the amount of time respondents spent caring for children.

The *looking after* group was comprised primarily of satisficers, the type of respondent who is most likely to omit times during the day during which secondary care occurred. On average, recallers reported 7.4 (sd = 4.0) secondary care activities and spent an average of 2:57 (sd = 1:27) providing secondary care. In comparison, schematizers reported an average of 11.4 secondary care activities (sd = 4.1) and spent 6:44 (sd = 5:15) providing secondary care. As expected, satisficers reported significantly fewer secondary care activities ( $M = 2.6$ ,  $sd = 1.5$ ) than either recallers or schematizers (Scheffe post hoc comparisons,  $p < .05$ ). Recallers and schematizers were not significantly different from one another. The relationship between strategy use and experimental condition is depicted graphically in Figures 1 and 2.

Figure 1.

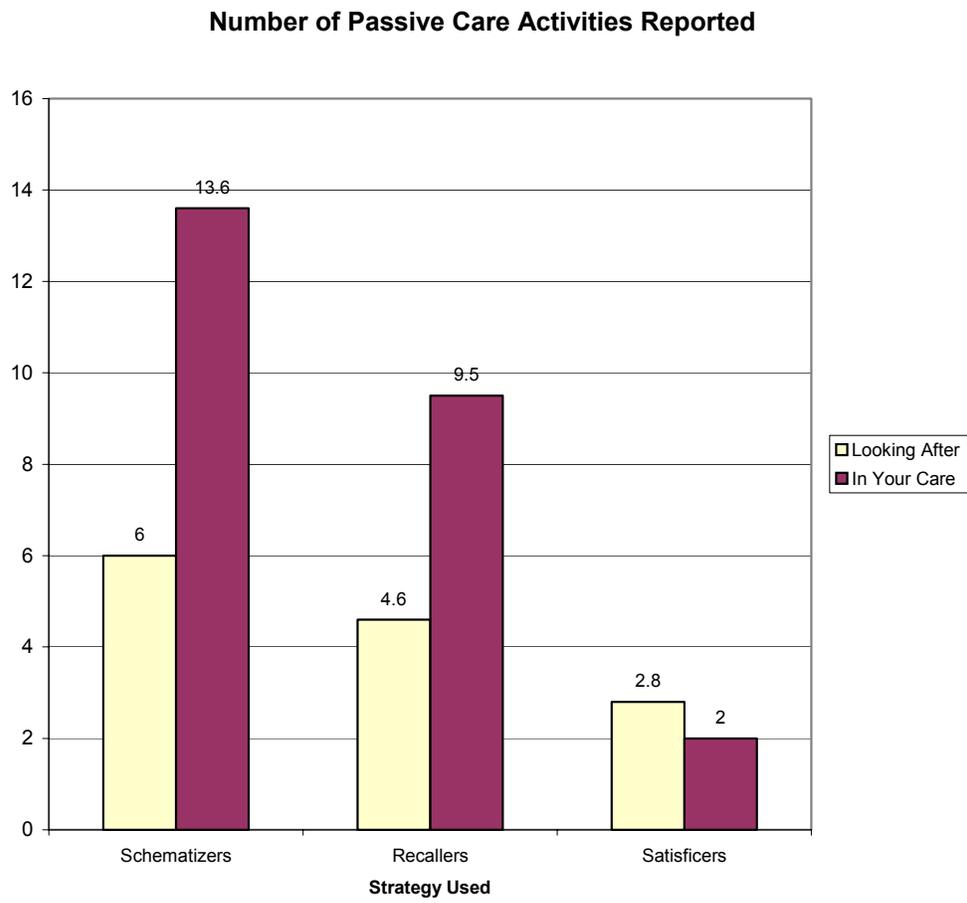
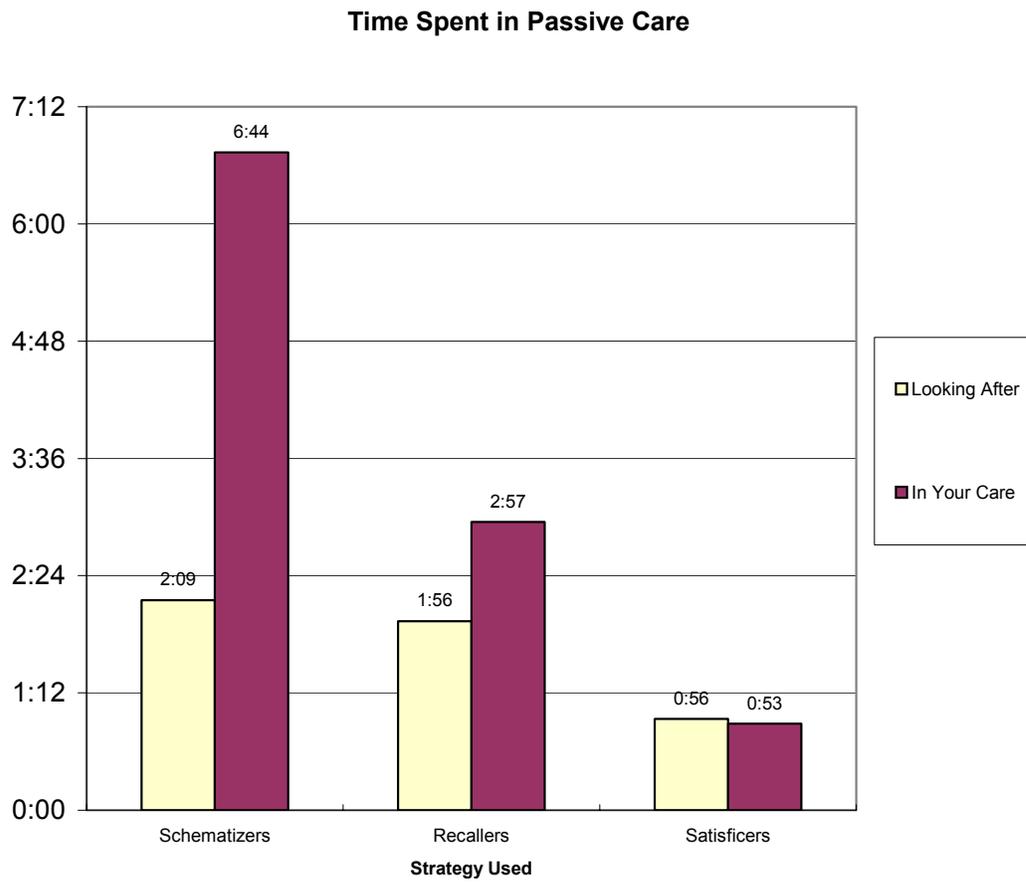


Figure 2.



Alternatively, the observed differences might reflect the underlying demographic differences between the two experimental groups. Respondents in the *in your care* group had attained a significantly higher level of education than did respondents in the *looking after* group. A separate ANOVA was conducted with level of education as the between-subjects variable. Level of education was dichotomized as “less than a college degree” and “a college degree and higher.” This analysis resulted in the following results – respondents with a higher level of education reported significantly more secondary childcare activities ( $M = 9.5$ ,  $sd = 4.8$ ) than did respondents with a lower level of education ( $M = 3.3$ ,  $sd = 1.8$ ),  $F(1,20) = 13.00$ ,  $p < .01$ . Similarly, respondents with a higher level of education reported more time spent providing secondary care ( $M = 5:00$ ,  $sd = 4:19$ ) than did respondents with a lower level of education ( $M = 1:06$ ,  $sd = 0:54$ ),  $F(1, 20) = 7.023$ ,  $p < .02$ .

Alternatively, or perhaps additionally, the differences between the two experimental conditions may reflect respondents’ slightly different interpretations of “*looking after*” and “*in your care*.” During the cognitive interview, respondents said that *looking after* could be construed as watching or looking at. This narrower interpretation of the secondary care summary question would necessarily result in fewer reports of secondary care. Conversely, respondents reported that *in your care* connotes responsibility for a child that could encompass a broader array of daily activities.

Interpretation, strategy use and educational level may all interact to influence the results. Of the respondents with a college degree or higher ( $n = 13$ ), only one was classified as a satisficer. The other 12 higher educated respondents were equally divided between schematizers and recallers. In comparison, 7 of the 9 respondents who had less than a college education were classified as satisficers. One of the other two respondents was classified as a recaller and the other was classified as a schematizer.

## 6. OPTIMAL WORDING OF THE SECONDARY CHILDCARE SUMMARY QUESTION

### 6.1. RESPONDENTS’ PREFERENCES

Across experimental conditions, respondents preferred the expression “*in your care*” to “*looking after*.” Seventeen of 26 respondents<sup>7</sup> (65%) preferred “*in your care*.” Educational level did not appear to be associated with preference for wording of the secondary childcare summary question. Sixty-six percent of the respondents with less than a college education preferred the wording “*in your care*,” whereas 54% of the respondents with a college degree or higher level of education preferred “*in your care*” to “*looking after*.” Table 8 summarizes respondents’ reactions to both phrases.

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<sup>7</sup> One respondent who cares for non-household children reported that both expressions mean the same thing and that she did not prefer one expression to the other.

Table 8. Respondents' reactions to "Looking After" and "In Your Care."

	Reasons for	Reasons against
<b>Looking after</b>	<ul style="list-style-type: none"> <li>▪ <i>Sounds more active and attentive</i></li> <li>▪ <i>Emphasizes watching and monitoring</i></li> <li>▪ <i>More familiar term</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Could be construed as <u>watching</u>, and you don't watch your children all the time.</i></li> <li>▪ <i>Emphasizes having your child in your sight.</i></li> <li>▪ <i>Doesn't get at that sense of parental responsibility. Anybody could look after your child.</i></li> </ul>
<b>In your care</b>	<ul style="list-style-type: none"> <li>▪ <i>Seems to include being responsible for your child</i></li> <li>▪ <i>Gets at the idea of guiding and protecting your child</i></li> <li>▪ <i>Sounds like you're invested in the child</i></li> <li>▪ <i>Emphasizes caring</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Sounds too custodial, like something a daycare provider or teacher would do.</i></li> <li>▪ <i>Emphasizes <u>my</u> too much. It makes me think I shouldn't include times when my spouse and I were both taking care of our child and I would want to count those times.</i></li> </ul>

## 7. RECALL CUES

### 7.1. EASE RATINGS

Respondents found it easy to recall specific activities during which they were looking after children. Respondents found it more difficult to recall specific times. Twenty-five of 27 respondents (93%) said that it was *somewhat easy* or *very easy* to remember specific activities. Sixteen of 27 respondents (59%) said that it was *somewhat easy* or *very easy* to remember specific times.

### 7.2. RESPONDENTS' PREFERENCES

Fifteen of 27 respondents (55%) stated that it was easier for them to recall activities than it was to recall specific times. In comparison, six respondents (22%) reported that it was easier for them to remember times, and six respondents (22%) said that it was equally easy to remember times and activities. Respondents' preference for

reporting times or activities was tied to the degree to which they felt that they attended to time. For example, a stay-at-home mother of a 14-month old child made the following statement about remembering specific activities,

- *It was kind of hard. The days all seem to blend together and it was hard to be sure if we did something yesterday or maybe a couple of days ago.*

The same respondent said that remembering specific times was easier because she had clear time anchors during the day.

- *I try really hard to keep my daughter on a schedule for things like napping and feeding. I also know what time my husband comes home from work and that's when my childcare duties are over.*

## 8. POTENTIAL SOURCES OF RESPONSE BIAS

### 8.1. RESPONDENT CHARACTERISTICS<sup>8</sup>

Three respondent-level characteristics were examined for their potential impact on response patterns -- level of educational attainment, race and gender. Childcare estimates were reliably affected by two of the three variables.

- As noted earlier, education had a significant effect on response patterns. Respondents with at least a college degree (n = 13) reported significantly more secondary care activities ( $F(1, 20) = 13.00, p < .01$ ) and more hours spent providing secondary care ( $F(1,20) = 7.023, p < .02$ ) than did respondents with less than a college degree (n=9). No other differences between groups were statistically significant. The relevant data are presented in Table 9.
- Race of respondent also had a significant effect on response patterns. White respondents (n = 10) reported significantly more time spent providing primary childcare than did Black respondents (n = 12). On average, White respondents reported 3:11 (sd = 1:55) of total childcare whereas Black respondents reported an average of 1:37 (sd = 0:58).
- Gender of respondent did not affect responses to either the time diary or summary question. Previous research (Frederick, 1992) has found that men tend to report more hours spent “with” children than hours spent providing childcare<sup>9</sup>. In contrast, women report just the opposite pattern. The present study did not yield similar findings. Women and men both reported more time “with” children than time spent providing active and secondary care.

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<sup>8</sup> The data reported in this section correspond to the 22 parents who were assigned to either “looking after” or “in your care.” Data from adults who care for non-household children are not included.

<sup>9</sup> Time “with” is collected during the collection of the time diary through the administration of the “who was with you” contextual probe.

Women reported an average of 5:46 hours (sd = 3:24) spent “with” children and an average of 6:31 hours (sd = 4:57) spent providing active and secondary care. In comparison, men reported spending an average of 4:54 hours (sd = 2:18) “with” children and an average of 4:37 hours (sd = 2:17) providing childcare. It is important to note that time “with” a child is not automatically coded as secondary childcare. Respondents may report that a child is with them (i.e., in the room with them, in the house with them) but may not be providing care at that time. Respondents in two-parent households reported that they considered the parent who was in closer physical proximity to the child to be the one providing care.

Table 9. Time diaries and responses to the secondary childcare summary question based on level of educational attainment<sup>10</sup>

	Mean	SD	Median
<b>Interview Length</b>			
Less than a college degree	0:18:26	0:07:06	0:17:55
College degree +	0:17:04	0:06:44	0:17:00
<b>Number of activities reported per diary</b>			
Less than a college degree	28.4	6.2	30.0
College degree +	33.1	11.2	31.0
<b>Primary childcare activities</b>			
Less than a college degree	4.1	2.6	4.0
College degree +	5.3	2.5	4.0
<b>Secondary childcare activities</b>			
Less than a college degree	3.3	1.9	3.0
College degree +	9.5	4.8	11.0
<b>Time spent in active care</b>			
Less than a college degree	2:01	1:34	1:55
College degree +	2:33	1:43	2:25
<b>Time spent in secondary care</b>			
Less than a college degree	1:06	0:54	1:00
College degree +	5:00	4:19	4:00
<b>Time spent with children</b>			
Less than a college degree	4:49	2:41	4:00
College degree +	5:50	3:11	4:30

## 8.2. HOUSEHOLD CHARACTERISTICS

Two household-level variables -- marital status (single vs. two-parent households) and self-reported household income -- were examined for the effects on response patterns. A third variable which may affect response patterns, age of youngest child, could not be analyzed due to an insufficient number of respondents whose youngest child was three years old or younger. Neither marital status nor household income level significantly affected response patterns.

<sup>10</sup> Two respondents did not provide information about their educational attainment.

### 8.3. CARING FOR HOUSEHOLD VS. NON-HOUSEHOLD CHILDREN

It proved difficult to recruit adults who regularly provide unpaid care for non-household children. Five respondents met the initial screening criteria for inclusion in this study<sup>11</sup>. Of the five respondents who participated in this study, only one provided unpaid care for children who were unrelated to the respondent. The remaining four respondents provided care for children of family members. One respondent was in the process of becoming a certified day care provider, one respondent cared for her grandchildren, some of whom resided with her and some of whom did not, and one other respondent was engaged in volunteer work with children but did not provide informal care of the nature considered relevant to this study.

The relevant quantitative data were summarized in Table 3.

### 8.4. REPORTING ABOUT WORK VS. NON-WORK DAYS

Respondents who reported about non-work days ( $n = 11$ ) spent significantly more time engaged in active care than did respondents who reported about work days ( $n = 11$ ),  $F(1,20) = 9.423, p < .01$ . The difference between the two groups with respect to the amount of time respondents spent “with” children approached significance,  $F(1,20) = 4.130, p = .056$ . Interestingly, there were no differences between groups with respect to either the number of secondary care activities they reported or the amount of time they spent providing secondary care. The relevant data are presented in Table 10

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<sup>11</sup> Respondents were asked over the phone whether they regularly provided unpaid care to children who did not live with them. The five respondents included in this study all responded “yes” to this question and could guarantee that they would provide care during the day before their scheduled appointment for this study.

Table 10. Reporting patterns for non-work and work days.

	Mean	SD	Median
<b>Number of reports of active care</b>			
Non-work days	6.9	3.1	9.0
Work days	3.9	1.6	4.0
<b>Number of reports of secondary care</b>			
Non-work days	6.1	4.3	5.0
Work days	7.3	5.3	6.0
<b>Time spent in active care</b>			
Non-work days	3:27	2:03	2:40
Work days	1:48	1:09	1:55
<b>Time spent in secondary care</b>			
Non-work days	2:53	2:00	2:10
Work days	3:38	4:30	2:05
<b>Total time spent providing childcare</b>			
Non-work days	6:21	3:40	5:15
Work days	5:27	4:23	4:40
<b>Total time spent <u>with</u> a child</b>			
Non-work days	6:37	2:13	7:10
Work days	4:51	3:10	4:00

## 9. CONCLUSIONS

### 9.1. SECONDARY CHILDCARE SUMMARY QUESTION

The secondary childcare summary question successfully elicited reports of times when parents felt mindful of and responsible for their children. Respondents seemed to review the day in their minds and were able to identify times and/or activities during which children were in their care. Some respondents reported that completing the sequential time diary prior to the summary question facilitated their recall of childcare episodes. They day was *“fresh in mind which made it easier to think about the times when [s/he] was in my care.”*

Reporting inconsistencies, particularly those that introduce substantial variability in the estimates of time spent providing care, need to be addressed. Two inconsistencies related to the provision of care when either the respondent or the child is asleep need to be remedied. One way to control for reporting style inconsistencies is to set rules that bound the time within which childcare can occur. For example, it would be possible, and reasonable, to stipulate that childcare can only occur when the

respondent is awake. Respondents would not need to be informed of this rule. Interviewers simply would not code “sleeping” as a secondary care activity, even if the respondent reported that their children were in their care at that time. It would also be possible to require that childcare can only occur when both the respondent and at least one child under the age of 13 are awake. This rule would further reduce some “noise” in the data but would require interviewers to collect additional information (e.g., children’s wake and sleep times) along with the summary question.

A related issue centers on the wording of the ATUS secondary childcare definition. Parents of very young children, in particular, felt that the use of the phrase *generally aware* was inappropriate to their childcare situation. These parents said that their child must be in the same room as them, and must be in sight at nearly all times. Parents of very young children argued that their safety concerns for their children and the rapidity with which very young children can put themselves in harm’s way necessitated a far more focused kind of attention than is suggested by the phrase *generally aware*. For parents of very young children, a more appropriate definition might be, “You are aware of what your child is doing and you are near enough that you could provide immediate assistance, if necessary.”

The final problem raised by the collection of secondary childcare information is really a training and design issue. Given that respondents tend to report their secondary childcare in broad chunks of time, interviewers must be diligent in verifying start and stop times for childcare. The ability to verify start and stop times requires that the interviewer be able to see large portions of the diary in a single glance. Design limitations of the CATI instrument may make this problematic.

## 10. RECOMMENDATIONS

### 10.1. WORDING OF SUMMARY QUESTION

Based on respondents’ preferences and interpretations of the concepts “*looking after*” and “*in your care*,” it is recommended that the wording *in your care* be used in the secondary childcare summary question. In order to control for inconsistencies in reporting styles, it is recommended further that the secondary childcare summary question be bounded by times during which parent and child are in the same location and both parent and child are awake. In order to apply these rules accurately, additional information will need to be collected during the administration of the summary question.

### 10.2. DEFINITION OF SECONDARY CHILDCARE

It is recommended that the current definition be maintained and should be offered to respondents only if they ask for clarification. Otherwise, respondents “native constructs” are sufficiently accurate and, using their own intuitive definitions, respondents accurately report times when children were in their care. The ATUS definition is:

*By “in your care” I mean that you were generally aware of what your child was doing, and you were near enough that you could provide immediate assistance, if necessary.*

Despite respondents’ negative reactions, this definition does provide reliable information about secondary childcare. It is recommended that the word “*generally*” be removed from the definition for parents of children under the age of 4 years. The proposed definition for parents of very young children is:

*By “in your care” I mean that you were aware of what your child was doing, and you were near enough that you could provide immediate assistance, if necessary.*

### **10.3. RECALL AIDS**

The wording of the summary question should make it explicitly or implicitly clear to respondents that they can report either times or activities during which a child was in their care. It is recommended that the explicit option be read the first time the respondent is asked about secondary care. Subsequent questions about secondary care could implicitly offer either recall option. For example, if the respondent were a parent with an 8-year old child living in the household, the sequence would flow as follows:

*During any part of the day, was . . . in your care?*  
*[Explicit] At which times or during which activities was ...in your care?*

*What about children who don’t live with you. Other than ..., during any part of the day yesterday was a child who is 12-years old or younger in your care?*  
*[Implicit] When was that?*

### **10.4. FUTURE DIRECTIONS**

Two versions of the secondary childcare summary question were tested in Study 1. What were assumed to be minor wording differences resulted in surprisingly large differences in the estimates of time spent providing care. Furthermore, level of educational attainment and question wording were confounded in this study. Further investigation into these issues is warranted.

## **Study 2**

### **1. BACKGROUND**

Among the principle findings from Study 1 were two that were especially troubling: First, what were presumed to be minor differences in the wording of the summary question resulted in large differences in the estimates of time spent providing care for children. Second, differences in respondents’ level of educational attainment were associated with large differences in the estimates of time spent providing care for children.

### **1.1. PURPOSE OF TESTING**

Study 2 was conducted to help determine the extent to which recall and conceptual issues influence responses to a secondary childcare summary question. The results of Study 1 were used to refine the operationalization of the concept of secondary childcare. Specifically, Study 2 attempts to control for some inconsistencies in response patterns observed in Study 1 by implementing rules that bound the time during which secondary care can occur. Because respondents inconsistently reported secondary care when they, themselves, were asleep, Rule 1 states that respondents must be awake in order to provide secondary care. However, secondary care can occur when the respondent is napping. Because respondents inconsistently reported secondary care when their children were asleep, Rule 2 states that secondary care can only occur during times when at least one child under the age of 13 is awake. Implementation of Rule 2 requires that interviewers collect information about the times that the first child woke and last child went to bed in order to bound the secondary care time period.

The results of Study 1 and earlier work on the ATUS (Stinson, 2000) indicated that respondents did not interpret the question “who was with you?” in a uniform and consistent manner. During the administration of the time diary, respondents are asked, “who was with you?” for each activity listed. Information gleaned from “who was with you” probes can be used to determine social context and may be potentially useful for understanding responses to the secondary childcare summary question. In Study 2, the “who was with you” probe is refined based on location of the respondent. When the respondent reports being at home, the probe “who was in the room with you?” is used. When the respondent reports being away from home, the probe “who accompanied you?” is used.

## **2. METHODOLOGY AND DESIGN**

### **2.1. PARTICIPANTS**

Eighteen adults (3 men, 15 women) participated in a single experimental session. Eleven of the respondents were married and 7 were single. Twelve participants were Black and 6 were White. Respondents were recruited through the Office of Survey Methods Research (OSMR) and through an email announcement. Respondents were compensated \$25 for their participation.

Table 11 summarizes the demographic characteristics of the research participants.

Table 11. Demographic Characteristics

	Mean	SD	Median	Range
<b>Age</b>	36.9	9.3	38	21 – 54
<b>Years of Education</b>	14.8	2.2	14.8	12 – 18
<b># of children</b>	2.1	1.1	2	1 – 5
<b>Age of youngest child</b>	5.6	3.4	6	2 months – 11 years

## 2.2. RESEARCH DESIGN

Respondents participated in a one-hour experimental session comprised of a 30-minute mock ATUS interview and a 30-minute debriefing. As in Study 1, the mock ATUS interview was conducted over the telephone followed by a face-to-face cognitive interview. With the exception of one interview, a single interviewer conducted all interviews in this study.

Based on the results of Study 1, all respondents were asked about times when children 12-years old and younger were *in their care*. The implementation of Rule 2 required the interviewer to determine the time the first child got up and the time the last child went to bed on the reporting day. The wording of the childcare summary question was as follows:

*CC1* I'd like you to think back over the day yesterday. At what time, yesterday, did the first child who is 12 years old or younger get up?

*CC2* At what time the last child who is 12 years old or younger go to bed?

*CC3* *Okay, a child was awake between [insert time from CC1 and time from CC2]. At which times or during which activities during that time period was/were (fill with names of household children from roster 1) in your care?*

Any other times or activities?

**If respondent has own/non-household children, and did not report being “with” that child during the time diary, ask CC4.**

**If respondent reported being “with” own/non-household child, ask CC5, else go to CC6.**

*CC4* Now I'd like to ask you about children who don't live with you. During any part of the day yesterday, was/were (names of own/nonhousehold children from roster 2 who are 12-years old or younger) in your care?

- Yes – Go to CC5
- No – Go CC6

**CC5** At which times or during which activities was/were (names of own/nonhousehold children from roster 2 who are 12-years old or younger) in your care?

Approximately mid-way through testing, it became apparent that some respondents had trouble with the wording of the secondary care summary question. A number of respondents had difficulty with answering questions about the time their children got up and went to bed. Parents with more than one child often misinterpreted the question as asking about the time their first born child woke up and the time the last born child went to bed. Respondents also did not attend to the part of the instructions that specified that the question referred to children 12-years old and younger. Therefore, respondents often reported going to bed times for older children who stayed up later than the younger ones. To help clarify the time bounding questions, two modifications were implemented. First, the interviewer used the names of the children to whom the question applies rather than the generic “children who are 12-years old and younger.” Second, the interviewer broke the time bounding questions down into smaller components, first establishing which child got up first and then obtaining the wake time followed by establishing which child went to bed last and then obtaining the sleep time.

To illustrate, assume the following household roster had been obtained:

First name	Last name	Relationship	Age
Mary	Smith	Self	35
John	Smith	Husband	37
Joe	Smith	Son	15
Jane	Smith	Daughter	12
Tim	Smith	Son	9

The revised summary question read as follows:

- CC1** I'd like you to think back over the day yesterday. Who got up first yesterday, Jane or Tim?
- CC2** At what time, yesterday, did [*fill with response to CC1*] get up?
- CC3** Who went to bed last, Jane or Tim?
- CC4** At what time did [*Fill with response to CC3*] go to bed?
- CC5** Okay, a child was awake between [insert time from CC2 and time from CC4]. At which times or during which activities during that time period was/were (fill with names of household children from roster 1) in your care?
- Any other times or activities?

### 2.3. COGNITIVE INTERVIEW

Upon completion of the time diary and summary question, respondents engaged in a face-to-face debriefing. During the first part of the debriefing, respondents completed a six-item self-administered questionnaire that asked them to rate the ease or difficulty of recalling specific types of information required for the time diary or summary question. The questionnaire evaluated the ease or difficulty of remembering:

- The previous day's activities
- Who was in the room with the respondent during an activity
- Who accompanied the respondent to different activities
- The time the first child woke up
- The time the last child went to bed
- Times or activities when the child was in the respondent's care

Upon completion of the questionnaire, respondents provided more information about their ratings. First, respondents were asked to provide their own verbal labels for each point on the rating scale that they used. For example, the interviewer might ask, "*I see that you rated remembering yesterday's activities as a four. What does a rating of 4 mean to you?*" Respondents were also asked to describe the aspects of each task that contributed to its rating. For example, the interviewer might ask, "*What was it about remembering what time your child woke up that made it ... for you? Why was that harder/easier to remember than...?*" Lastly, respondents were asked to rank order any items that received the same rating. For example, if respondents rated 3/6 items as "very easy," they were asked to rank the three items from 1 to 3, where 1 indicated which of the three tasks was easiest to remember.

Upon completion of the questionnaire and review of respondents' ratings, respondents reviewed their time diary with the interviewer. This review focused on the following points:

- An activity-by-activity review of the diary to clarify why certain activities were reported as secondary childcare and others were not. Reports of simultaneous active and secondary childcare were not probed (e.g., respondent reports in the time diary spending one hour *reading to my child* and also reports, in response to the summary question that *my child was in my care while I was reading to him*). The activity-by-activity review is intended to help identify the main causes of omissions in response to the secondary childcare summary question. Omissions may be due to the difficulty of the recall task (e.g., "*Oh, that's right, I forgot to mention that.*") or other contextual factors such as another adult being present (e.g., "*My husband was watching her at that time.*") or the child's ability to take care of him/herself for some period of time (e.g., "*He was in his room while I was talking to my neighbor. I wouldn't say he was really in my care at that time*").
  
- The identification of who else was at home with the respondent during times that the respondent reported being at home. This information will help determine whether time at home with a child, either with or without other adults present, can be used to supplement, or as a proxy for, the information collected with the secondary childcare summary question.

### 3. ANALYTICAL PROCEDURES

The analytical procedures that were followed in Study 1 were followed in Study 2.

## 4. RESULTS

### 4.1. TIME DIARIES

The ATUS introduction, roster update, instructions, time diary and summary question were administered over the phone. Overall, respondents took an average of 0:20 minutes to complete the interview (SD = 0:04, range: 0:14-0:30) and reported an average of 31 activities (SD = 9.3, range: 15-45). The duration for each section of the interview is provided in Table 12.

Table 12. Length of Interview

	Mean	SD	Median	Range
Introduction	0:01	0:00	0:01	0:01-0:01
Roster	0:01:14	0:00:34	0:01	0:01-0:03
Instructions	0:01	0:00	0:01	0:01-0:01
Diary	0:15:49	0:06:08	0:13	0:09-0:32
Summary Question	0:02:32	0:01:07	0:02	0:01-0:05
<b>Total Duration</b>	<b>0:21:35</b>	<b>0:06</b>	<b>0:19</b>	<b>0:14-0:38</b>

In comparison, 27 telephone interviews using a paper-and-pencil questionnaire were conducted in Study 1. The average interview length in their study was 18.2 minutes (SD = 0:05:45) and respondents reported an average of 31.5 activities per diary (SD = 9.6). These differences were not statistically significant.

The results Study 1 indicated that a relationship might exist between respondents' reports of time spent providing secondary childcare and their level of educational attainment. In order to examine this issue, separate analyses of variance (ANOVA) were conducted comparing performance by respondents in Study 2 with each of the experimental conditions in Study 1.

Respondents in Study 2 were not significantly different from respondents in the "looking after" group who participated in Study 1 with respect to their average years of education. In their time diaries, both groups of respondents reported a comparable amount of time spent primary childcare. In contrast, respondents in Study 2 were significantly different from respondents in the "in your care" group from Study 1 with respect to their level of educational attainment. Respondents in Study 2 had significantly fewer years of education ( $M = 14.8$ ) than did respondents in the *in your care* group in Study 1 ( $M = 17.2$ ),  $F(1, 27) = 12.056$ ,  $p < .01$ . These educational differences did not appear to influence time diary reports. In comparison to respondents in the "in your care" group in Study 1, respondents in Study 2 reported similar amounts of time spent "with" children or in active care. The relevant data are presented in Table 13.

Table 13. Comparisons of Time Diaries Across Studies

	Mean	SD
<u>Years of Education</u>		
Study 1: Looking After	14.5	2.0
Study 1: In Your Care	17.2	1.9
Study 2: In Your Care	14.8	2.2
<u>Time Spent “With” a Child</u>		
Study 1: Looking After	5:09	2:18
Study 1: In Your Care	5:41	3:37
Study 2: In Your Care	6:23	4:44 <sup>12</sup>
<u>Time in Active Care</u>		
Study 1: Looking After	2:17	1:22
Study 1: In Your Care	2:23	1:57
Study 2: In Your Care	2:10	1:41

#### 4.2. SUMMARY QUESTION

In Study 2, upon completion of the time diary and while still on the phone, respondents were asked to mentally review the previous day. They were first asked to report the time that the first child got up in the morning and the time the last child went to bed in the evening. This information was used to bound the period of time within which secondary childcare could occur<sup>13</sup>. Once these time boundaries were established, respondents were asked,

*“Okay, a child was awake between [insert time from CC1 and time from CC2]. At which times or during which activities during that time period was/were (fill with names of household children from roster 1) in your care?”*

In response to this summary question, respondents reported an average of 12.5 (SD = 5.7) activities during which their children were in their care. This number excludes activities for which secondary and active care overlapped. Reports of simultaneous active and secondary care are included in estimates of active care only. The inclusion of the secondary childcare summary question contributed an average of 8:14 (SD = 5:13) to the total estimate of time spent providing childcare.

The results from the time diary and summary question are summarized in Table 14 and are depicted graphically in Figure 3.

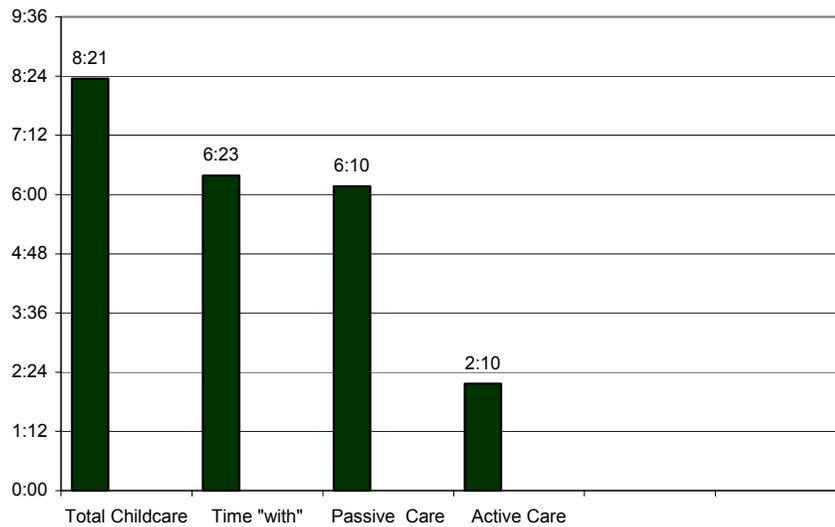
<sup>12</sup> There is considerably more variability in time spent “with” children in Study 2. This issue is addressed later in this report.

<sup>13</sup> Rule 1 states that respondents cannot provide childcare when they, themselves, are asleep. Therefore, if respondents reported that the first child got up before they did or the last child went to bed later than they did, the time boundary was adjusted in accordance with Rule 1.

Table 14. Time Diary and Summary Question Findings

	Mean	SD	Median
Interview length	0:21:35	0:06	0:19
Number of activities per diary	36	13.5	34
Number of primary childcare reports	6	2	6
Number of secondary childcare reports	12.5	5.7	14
Time spent in primary childcare	2:10:00	1:41:00	1:45:00
Time spent with a household child	6:23:00	4:44:00	4:50:00
Time spent in secondary childcare	6:10:00	4:31:00	5:15:00
<b>Total time spent in childcare (Primary + secondary)</b>	<b>8:20:35</b>	<b>5:28:46</b>	<b>7:00</b>

It is encouraging to note that in this study, time spent “with” a household child seems like it may be a reasonable proxy for time spent providing secondary care.

Figure 3. Time Spent Providing Childcare

Summary question comparisons across studies were complicated by the fact that different wordings were used in Studies 1 and 2. The perceptual approach was used in

both studies, but in Study 2, the childcare time period was bounded by questions about the times that the first child got up and the last child went to bed. The main question, “At which times or during which activities was a child who is 12-years old or younger in your care?” was unchanged across studies.

In contrast to across studies comparisons of respondents’ time diaries, a different pattern of results emerged between respondents in Study 2 and each of the experimental groups in Study 1 with respect to their responses to the summary question. In comparison to respondents in the “*looking after*” group, to whom respondents in Study 2 were demographically similar, respondents in Study 2 reported significantly more time in secondary care,  $F(1,27) = 11.548$ ,  $p < .01$ . Respondents in the “*in your care*” group in Study 1 and respondents in Study 2 reported comparable amounts of time spent in secondary care, despite the demographic differences between the two groups. The relevant data are summarized in Table 15.

Table 15. Secondary Care Comparisons Across Groups

	Mean	SD
Study 1: Looking After	1:26	1:01
Study 1: In Your Care	5:22	4:38
Study 2: In Your Care	6:10	4:31

There are two important points to note. First, one respondent in Study 2 was ill on her reporting day. As a result, she spent no time with her daughter, and no time in either primary or secondary care. The respondent’s husband was solely responsible for their daughter on the reported day. Separate analyses of variance were conducted excluding this respondent’s data from the analyses. The exclusion of this respondent’s data did not dramatically change the results.

These data, while certainly not conclusive, shed some light on one of the more troubling findings from Study 1. In Study 1, experimental condition and education were confounded. Despite random assignment of participants to groups, a disproportionate number of participants with less than a college education comprised the “*looking after*” group. It was impossible to distinguish response effects due to question wording from those associated with differences in level of educational attainment. The findings from Study 2 suggest that the expression *in your care* may convey a broader concept of care than does the expression *looking after* and that this broader interpretation is shared across educational levels.

Additionally, it should be noted that different “who was with you” probes were used during Studies 1 and 2. During the collection of the time diary, respondents are asked to report where they were and who was with them during each activity. Previous research (Stinson, 2000) asked respondents “Who was with you?” and found that respondents interpreted this question in a variety of ways. The present study asked respondents “Who was in the room with you?” when respondents reported being at home and asked “Who accompanied you?” when respondents reported being elsewhere. Using the

generic “who was with you” probe, we found that across respondents an average of 5:25 (SD = 2:58) were reported as time spent with children. We were unable to determine if all of this time was spent with children who lived in the respondents’ households or if some of this time was spent with non-household children. The present study found that respondents spent an average of 6:22 (SD = 4:44) with children (either in the room or in accompaniment). All of that time was spent with household children.

#### 4.3. RATING SCALES

Respondents rated 6 aspects of the time diary and summary question task for their ease of recall. No items received a rating of 1 (very difficult) from any of the respondents. All items received average ratings of 4.5 or higher on a 6-point scale. Table 16 summarizes respondents’ ratings of the 6 recall tasks and Table 17 lists respondents’ interpretations of each point on the 6-point rating scale.

Table 16. Respondent Ratings

	Mean	SD	Median	Range
Yesterday’s activities	4.8	1.4	5.1	2-6.6
Who was in the room	5.8	0.7	6.1	4-6.5
Who accompanied me	6.1	0.4	6.2	5.1-6.6
What time child got up	4.9	1.7	5.2	2-6.5
What time child went to bed	5.4	1.7	5.2	2-6.5
Times/activities when child in my care	5.5	1.2	6.1	2-6.5

Table 18. Interpretation of rating scales

Rating	What it means
6	<ul style="list-style-type: none"> <li>▪ I knew it without having to think about it.</li> <li>▪ It's something that's especially salient, something you pay attention to. I always pay attention to the time my daughter goes to bed, because that's when I can finally shift my attention away from her and to other things.</li> <li>▪ It comes to mind right away.</li> <li>▪ You know the time exactly, you definitely know what you did and for how long.</li> </ul>
5	<ul style="list-style-type: none"> <li>▪ I needed to think about it</li> <li>▪ I might have forgotten some small things</li> <li>▪ It was fairly easy. I could remember it but I needed to take some time to think about it.</li> <li>▪ Something that I generally remember and was probably accurate within a half-hour but couldn't be precise.</li> <li>▪ You almost know it exactly, but could be off. For example, if I was doing something small, like pouring myself a cup of tea, maybe I have a sense of who is in the room with me, but I don't look over my shoulder to check, so I could get it wrong.</li> <li>▪ I have a general sense but don't know specifically.</li> </ul>
4	<ul style="list-style-type: none"> <li>▪ I knew I was forgetting some things but couldn't remember when they occurred. For example, I know I vacuumed yesterday, but I couldn't remember when I did it, so I didn't mention it.</li> <li>▪ Something that isn't always easy to account for, I had some uncertainty.</li> <li>▪ I could only give a general and qualified answer. For example, remembering who was in the room with me, I can't be precise about. My wife comes in and out. I may walk around the house doing the same activity (like cleaning up) and wouldn't even know how to answer the question.</li> <li>▪ Something that wasn't easy to remember but also wasn't hard. I just had to really think about it. Like, it feels like my grandson is always in my care so that would have been my automatic response to that question. I had to think about and remember that actually he's not in my care when I'm at work and he's at daycare. It's not like I forget that, it's just that it's not how I automatically feel about the situation.</li> </ul>
3	<ul style="list-style-type: none"> <li>▪ It was hard to remember. I would say about 50% of what I did yesterday I could remember easily but the other 50% was hard.</li> <li>▪ It was frustrating. I didn't pay any attention to the time yesterday so having to assign times to the things I did was really hard and really frustrating. Also, I was doing a bunch of things at once so having to pick out the main thing I was doing was also hard and frustrating.</li> </ul>
2	<ul style="list-style-type: none"> <li>▪ It's not that it's really hard, it's that I don't know how long I did some things for, like hanging out at home or at my cousins. I could only be accurate within 30-60 minutes.</li> <li>▪ It was kind of difficult. I was sleeping when my daughter got up yesterday so I don't really know what time she got up. I had to guess using what I know about the time she usually gets up.</li> </ul>
1	No ratings of 1.

#### 4.4. QUALITATIVE DATA

##### 4.4.1. REMEMBERING WHAT I DID YESTERDAY

Respondents assigned the lowest average rating to remembering what they did yesterday. In general, respondents felt that their reports of the previous day's activities lacked the accuracy that was probably needed by the survey. They also acknowledged that they might have done better, i.e., been more accurate if they had known in advance that they would be asked to recall the day. Their comments about this task resonated with findings from previous studies (Stinson, 2000). First, respondents were likely to forget small, everyday tasks like housework. Second, the degree to which respondents felt that they could accurately recall the previous day's activities was strongly influenced by the degree to which the day adhered to their regular, scheduled routine.

- *This wasn't as easy as remembering some other things (like who was in the room with me) because I could forget some little things, like a routine phone call to my mother. I make it every Sunday but I don't remember at what time or for how long.*
- *I knew I was forgetting some little things, like vacuuming.*
- *I knew I couldn't be as precise about the times as you probably needed.*
- *The routine things were fine, but when I broke from routine it got harder. Like, I don't usually take breaks at work, but yesterday I did and I stopped at the grocery store on the way home and that's not something that I usually do, either. So it was harder to remember those non-routine things.*
- *I think I really only remembered 50% clearly, the other half of the things I did were pretty vague.*

One respondent found it especially difficult to put her daily activities into sequential order. She felt like she did the same tasks sporadically throughout the day and was engaged in simultaneous activities like media use and talking with her child consistently throughout the day.

- *This was really frustrating for me. I did a lot of things at the same time and I did some things like packing and cleaning up throughout the day. Trying to put it in sequence and assign times was really hard for me. I wanted to just list out my activities and then have you say something like, "So you cleaned off and on throughout the day. How much time, in total, do you think you spent cleaning."*

In comparison, a respondent who reported about a particularly salient activity – a successful job interview – found reporting about her own activities the easiest of all required recall tasks.

- *This was easiest of all for me to remember, after all, I'm the person doing it.*

#### 4.4.2. REMEMBERING WHAT TIME MY CHILD GOT UP

Ratings of this task varied considerably across respondents and the ease with which parents could recall this information appears not to be associated with the age of the youngest child in the household. For example, the parents of the two youngest children in this sample (both children are less than one-year old) have very different perceptions of the ease of this particular task.

- *This is pretty easy to remember. I have to get up when she gets up, and it's so early in the morning that I remember it.*
- *It was a little hard to say what time my son got up because he wakes so many times during the night. I counted from the time he got up and neither one of us went back to sleep.*

Similarly, mothers of two three-year olds differed considerably in their ratings of this task.

- *This was the easiest thing for me to remember because my son comes into my room, hands me my glasses and tells me he wants juice or something.*
- *I was already awake and doing things by the time my son got up yesterday. I didn't look at the time to see what time it was when he got up.*

Lastly, two respondents did not know the precise time the first child got up. They both resorted to their general sense of their child's usual wake-up time to answer this question.

- *I was sleeping when my daughter got up, so I didn't know the real answer to this question. I guessed based on the time I know she usually gets up.*
- *I'm asleep in the morning when they get up and go to school, but my eldest daughter always gets up at 7:00 and gets the rest of them up and ready to catch the school bus at 7:30.*

#### 4.4.3. REMEMBERING WHAT TIME MY CHILD WENT TO BED

Most respondents reported that it was even more difficult to know what time their children went to bed. Fourteen of 18 participants in this study (78%) acknowledged some difficulty with this task.

- *My daughter falls asleep in my arms, so it's hard to say what time she went to sleep. I sort of know what time I put her to bed, but she was asleep before that*
- *This was a little harder to know than other things because my daughter really isn't on a schedule. She doesn't have a regular time that she goes to bed.*

- *It's hard to know what time my daughter went to bed. She goes to bed later than I do. I stay up until I hear her turning off the lights and things and getting ready for bed, but I couldn't be sure about the time she really goes to bed.*
- *It's hard to know what time my grandson goes to bed. We sleep in the same room but we each get into bed and watch TV for awhile. He watches until I tell him to go to sleep. So, we get into bed well before he goes to sleep but I don't know what time he really falls asleep.*
- *I couldn't answer this with any really precision. I saw my daughter go off to bed last night. I know around what time it must have been and I know what time she usually goes to bed, but I couldn't tell you any more definitely than that*
- *Going to bed is harder to know because I know what time it is when I tell them to go to bed, but there's always one who wants the others to stay up. So, until they all wind down and actually go to bed, it could be awhile.*

Four respondents reported that it was very easy for them to know what time their children went to bed.

- *This was pretty easy to know because we went to bed at the same time.*
- *I always know when my daughter goes to bed because that's when I can stop focusing on her and pay attention to other things.*

#### **4.4.4. REMEMBERING WHO WAS IN THE ROOM WITH ME**

In general, respondents found it relatively easy (easier than remembering sleep/wake times, not as easy as remembering who accompanied them places) to remember who was in the room with them.

- *This was the second easiest thing to remember because one of my children is always in the room with me.*
- *This was easy, someone was either in the room with you or not. There's nothing to interpret.*
- *I just had to think about whether anyone left or anyone else came in, but this is something I would definitely know.*
- *My son follows me around all day and I'm the only other person at home, so there was nothing to think about. My son was always in the room with me.*

Respondents also acknowledged that under some circumstances, remembering who was in the room with them could become complicated and less clear-cut.

- *The only tricky thing was that sometimes my daughter will follow me around and other times she goes back and forth between her father and me.*
- *I was only moderately confident of my answers to this question. My wife comes in and out of the room a lot. I wasn't sure if I should count her as in the room with me. Also, during the course of a single activity, I could move from room to room in the house. Someone might be in one room with me for part of the time*

*that I'm doing the activity, but not in other rooms while I was still doing the same activity (e.g., cleaning the house).*

- *I wouldn't always know if someone were in the room with me. If I was pouring myself a cup of tea, I might not look over my shoulder to see if anyone else came in the kitchen.*
- *It's not always easy to know who is in the room with me. I have so many kids that I might start off knowing which one of them is in the room, but if I turn my back, that one could leave and a different child is in there.*

#### **4.4.5. REMEMBERING WHO ACCOMPANIED ME**

Respondents uniformly agreed that this was one of the easiest recall tasks involved in the collection of time-use information. Respondents felt that the idea of accompaniment is precise and that remembering who accompanies them to various places or activities is unambiguous.

- *This is the easiest; it's the only time I get to spend with my husband.*
- *One of my children usually accompanies me when I go out during the day, so this is pretty easy.*
- *It's easy because there's nothing ambiguous about it. Someone went with you or they didn't.*
- *This is even easier than remembering who was in the room because you don't even have to think about whether anyone left or anyone else came in.*
- *Yesterday, I was alone for the things I did outside the home, so that made this really easy, but in general, only one of my children actually likes going places with me, so this would still be really easy.*

#### **4.4.6. REMEMBERING TIMES/ACTIVITIES WHEN MY CHILDREN WERE IN MY CARE**

Respondents were split with respect to their perceptions of the ease of this recall task. Respondents who did not share childcare responsibilities during the course of the previous day found this question easier to answer than did those who shared responsibility with either the other parent or a non-household adult.

- *I definitely know when my son is in my care. I have part-custody and so I always have him on the weekends, from Friday afternoon until Monday morning. He's in my care and only my care the entire time.*
- *I was sick yesterday. My daughter was in my husband's care the entire day*
- *My son is always in my care. I'm not working anymore and my husband is already in Kansas setting up our new home. My son is in my care and only my care.*

Respondents who have a clear division of childcare responsibilities found this task to be easier than did those who do not.

- *This was pretty easy. During the week, we have a set schedule. My son is in my care and my daughter is in my husband's care. They all leave the house together around 8:00 AM. Then, in the evening, my son is in my care again from the time I come home until the next morning. He sleeps in our room so that I can get up and take care of him when he wakes during the night.*

In comparison, respondents who share childcare responsibilities with another adult reported some difficulty with this task.

- *This was a little tricky. It was the weekend, so she was also in my husband's care but I'm used to her just being in my care all the time.*
- *I had a little difficulty with this because I feel like my grandson is always in my care. I had to think logically about the day yesterday – while I was at work, he was at daycare and so, not in my care. I had to sort of override the feeling that he's always in my care.*

Two respondents reported different types of difficulties with this task. The mother of 5 children ranging in age from 21 to 9 found it difficult to know which child was in her care at any given point during the day.

- *This can be hard because I want to keep an eye on all of them, but there are too many and I can't. If my grandchildren are staying with us, then I really only keep an eye on them. Of my children, my older ones keep an eye on the younger ones for me. I guess I'm still the parent though so ultimately they are all in my care.*

One respondent reported some confusion stemming from the use of the word “activities” in the summary question, itself. For this respondent, the use of the word “activities” suggested times when she was actively engaged in doing something with her child. Her comments also suggest that the use of responses to “who was in the room with you” may be inadequate proxies for childcare.

- *The word “activities” threw me a little bit. It made me think I had to think of things we actually did together. We could be in different rooms in the house doing our own activities, but my children are still in my care. I'm the only adult at home; I'm the parent.*

## 4.5. ACTIVITY-BY ACTIVITY REVIEW

### 4.5.1. BOUNDING CARE BY TIMES WHEN CHILDREN ARE AWAKE

A number of respondents had difficulty with answering questions about the time their children got up and went to bed. Parents with more than one child often misinterpreted the question as asking about the time their first born child woke up and the time the last born child went to bed. Respondents also did not attend to the part of the instructions that specified that the question referred to children 12-years old and younger. Therefore, respondents often reported going to bed times for older children who stayed up later than the younger ones.

One respondent found it difficult to determine the precise time at which his child got up or went to bed. He had difficulty knowing which wake and sleep times he should report.

- *I had trouble figuring out the times. I said my son got up around 6:00 AM but that was only to have his diaper changed. We both went back to sleep. He really got up around 9:30 AM. I wasn't sure what to tell you for the time he went to bed. I said 1:30 AM but really he was put to bed at 8:00 PM and he slept for awhile. It's just that he got up around 11:00 and was up for a few hours with me because he couldn't sleep. We both went to sleep at 1:30 AM.*

Some respondents felt that this bounding period was arbitrary and inaccurate. Respondents with young children (less than 3 years old) in particular were likely to report that their children are in their care even when both parent and child are sleeping.

- *I think of my daughter as being in my care even when she's asleep. I'm listening for her. She's in my care even when I'm sleeping. We have a baby monitor – I'm listening for her and as soon as she's awake, I'm awake and taking care of her.*
- *I don't think that this is right. My son is only 5-months old. He's always in my care, even if he's asleep or I'm asleep. He sleeps in my room so I can get up and take care of him during the night.*
- *I'm always taking care of my children. As a single parent, I'm the only person who is responsible for them. Even if they aren't in the room with me, they're in my care. I'm talking to them, keeping an eye on them. One of my children has Cerebral Palsy, so I have to always keep an eye on her to make sure that she isn't slumping in her chair. My son is only 2, going on 3, and he's into everything. You have to always watch him. When we go to visit my mom, my children are still my children and are in my care. My sister is there, but she's watching her own children and I'm watching mine. So, my niece isn't in my care, she's in my sister's care.*

#### 4.5.2. MISSED ACTIVITIES

The activity-by activity review identified a number of instances during which respondents were providing childcare that were not reported in response to the summary question. For the most part, missed instances of childcare occurred after the bounding period determined by the child's sleep/wake times. However, every activity for which the respondent would have reported secondary care had it fallen within the bounding period would have been coded as active care. Therefore, those missed instances would have contributed to an estimate of total time spent caring for children and would have had no effect on estimates of secondary care.

- *I forgot to mention the time when I got up to feed her after she went to bed. I think that's because you asked about the time in between when she got up and when she went to bed. Feeding her happened after she went to bed.*
- *I have to get up during the night to turn my daughter who has CP. Because you bounded it by times when my children were awake, you missed this but it's an important part of caring for my daughter.*

#### 4.5.3. ERRORS IN REPORTS

Respondents from dual-parent households had two types of difficulty with the summary question. Stay-at-home parents who reported for a weekend day had to override their "knee-jerk reaction" to say that their child is always in their care. They had to put forth effort to think of times when their child may have been in the other parent's care. Respondents from dual-parent households also had trouble interpreting the summary question. They were uncertain if they could report times of shared responsibility or were we interested only in times during which they were solely responsible for their children.

- *Twice I made a mistake in what I said. When I took my shower and when I was talking on the phone, my daughter was really in my husband's care, not my care. It's just that during the week, she's always in my care, so I'm used to thinking of it that way.*
- *I wasn't sure if you meant only my care of if I could report times of shared care, when my daughter was in my care and also in my wife's care. If you look at my diary, my daughter was almost always in the room with me. The times when she wasn't and I reported that she was in my care must have coincided with times when my wife wasn't at home.*

#### 4.6. USING "WHO WAS HOME WITH YOU" INFORMATION

In general, respondents had no problem answering this question. Single parents reported that they were the only adult at home with their children, so regardless of whether their children were in the room with them, their children were in their care. Married couples generally reported that the whole family was home together. Times

when one parent was at home and the other was away from home were reported like single parents – children could be elsewhere in the house and still be in the parent’s care.

## **5. RECOMMENDATIONS**

### **5.1. BOUNDING THE CHILDCARE TIME PERIOD.**

As noted earlier, some respondents found it difficult to clearly remember the times at which their children got up and went to bed the previous day. Some of this difficulty was probably due to the original wording of the question, which some respondents found confusing. The revised wording seemed to correct for this difficulty. However, reporting that you “don’t know” what time a child got up or went to bed remains a valid response. In these instances, it is recommended that the respondents wake and sleep times be used to bound the childcare time period.

Despite some respondents’ difficulties with these questions, bounding the childcare time period seems to be both worthwhile and important. In the absence of a clearly defined time period, respondents in Study 1 varied widely in their own perceptions of when childcare begins and ends. Some respondents reported that they are always responsible and hence their children are in their care even when the respondents, themselves, are sleeping. Some respondents report that their children are in their care even when the children are sleeping, and still other respondents naturally restrict their care responsibilities to the period during which their children are awake. These real differences in perceptions of care result in very large differences in estimates of time spent providing care. In this study, the imposition of rules regarding when childcare can occur corrected for a number of errors in respondents’ reports and decreased the variability in our time-use estimates.

It is recommended that the childcare summary question collect information about the time the first child got up and the last child went to bed. The use of the names of the children to whom these questions applied worked well in testing. However, no households with four or more children under the age of 13 were tested. For large households with many, young children, the use of all of the children’s names may become too cumbersome to use as a fill in the summary questions.

### **5.2. RESTRICTING REPORTS TO CHILDREN 12-YEARS OLD AND YOUNGER**

A separate problem, related to the bounding of the childcare interval, has to do with respondents’ desire to report care for their older children, as well. Respondents with both older (13 years old and older) and younger children (12-years old and younger) were able to restrict their reports of care to the children who were named in the summary question. However, they also reported being surprised that they were not asked about their older children. It is recommended that the lead-in to the childcare

summary question be revised so that it specifies that, for the purposes of this survey, childcare summary question is restricted to children 12-years old and younger.

### **5.3. DEMONSTRATING ACTIVE LISTENING**

The findings from Study 1 demonstrated that respondents with very young children (e.g., 3-years old and younger) report a considerable amount of time spent with their children. This information is captured in the time diary. It is recommended that the lead-in to the summary question be worded in such a way that it allows interviewers to indicate that they realize the respondent has already reported a large number of activities that could be construed as childcare. There are a number of ways in which this issue could be addressed. An edit check procedure could be implemented at the end of the time diary and before the interviewer asks the summary question. The edit check would review the information generated in response to the “who was in the room/who accompanied you” probe and would sum the amount of time spent with a child who is 12-years old or younger. If the total amount of time spent with a child 12-years old or younger is equal to or exceeds 8 hours over the course of the day, then the summary question lead-in should acknowledge that the respondent has reported a substantial amount of time with a child. Alternatively, this issue could be addressed in interviewer training.

#### 5.4. RECOMMENDED WORDING OF THE SECONDARY CHILDCARE SUMMARY QUESTION

- Lead** (I know you've already told me about the time you spent with (a child/children) yesterday). Now I'd like to talk with you in a little more detail about childcare. Childcare activities are often missed in a survey like this because children can be in your care even while you are doing other things.
- CC1** I'd like you to think back over the day yesterday. Who got up first yesterday, [*fill with names of household children 12-years old and younger from roster*]?
- CC2** At what time, yesterday, did [*fill with response to CC1*] get up?
- CC3** Who went to bed last, [*fill with names of household children 12-years old and younger from roster*]?
- CC4** At what time did [*Fill with response to CC3*] go to bed?
- CC5** Okay, a child was awake between [*insert time from CC2 and time from CC4*]. At which times or during which activities during that time period [*repeat time period, if necessary*] was/were (*Fill with names of household children 12-years old and younger from roster*) in your care?
- Any other times or activities?
- CK1** *If respondent has own/non-household children, and did not report being with that child during the time diary, ask CC6*
- If respondent reported being with own/non-household children, ask CC7, else go to CC8.*
- CC6** Now I'd like to ask you about children who don't live with you. During any part of the day yesterday, was/were (fill with names of own/nonhousehold children from roster who are 12-years old or younger) in your care?
- Yes – Go to CC8
- No – Go CC9
- CC7** At which times or during which activities was/were (fill with names of own/nonhousehold children from roster who are 12-years old or younger) in your care?
- CC8** Other than (fill with names of all children under 13 years old from roster), during any part of the day yesterday was a child who is 12-years old or younger in your care? Please do not include any activities for which you were paid.
- Yes – Go to CC9
- No – Go End
- CC9** When was that?
- CC10** Is that child/are those children related to you?
- Yes
- No
- Some are, some are not
- End** Thank you, those are all my questions.

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