



## Measuring Time Devoted to Supervisory Care: a Cognitive Study

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### Abstract

The provision of unpaid care meets fundamental needs of present and future generations alike. A number of nationally-representative time use surveys, including many conducted in Latin America, look beyond reports of time devoted to specific *activities* to ask respondents about *responsibilities* for remaining vigilant and physically available to assist young children and /or adults experiencing illness or disability even if not providing active care. Such supervisory care imposes significant constraints on women in particular, but is difficult to accurately measure. The qualitative research reported here, based on intensive interviews conducted with a small group of family care providers in Mexico City, helps explain why respondents often misunderstand questions regarding time devoted to the care of dependents. This misunderstanding has repercussions for reported time in supervisory care, which is usually underreported or omitted in time-use measurement. The paper also offers specific recommendations for improved survey design. Accurate data on supervisory care can inform public policies to broaden the spectrum of public and private services.

**Keywords:** supervisory care; care work; time-use surveys; cognitive testing

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### 1 Introduction

As national time-use surveys have proliferated in official statistics, several issues concerning survey design have arisen. Most time use surveys, whether based on time use diaries or stylized questions, ask respondents what they were *doing*. Yet young children and adults experiencing illness, disability, or the frailty of old age often require unpaid caregivers to be in physical proximity to provide active care if needed. Responsibilities for such “passive” or “on-call” care

are particularly consequential for women, often limiting their opportunities for participation in the labor market and contributing to gender inequality in earnings (UN Women, 2021a). Although men devote far less time to unpaid care work than women do, they are more likely to help meet supervisory than direct care needs.

Supervisory constraints are more difficult to measure accurately than participation in specific activities (Lentz, et al., 2018). Responsibility for minding small children or others who may need direct assistance at unpredictable times is not usually understood as an activity. While supervision is often combined with activities such as domestic work, leisure, and sometimes even employment, it is seldom reported as a secondary activity based on a question such as “What else were you doing” because it is not a *doing*. Vigilance, attention, and physical proximity are often taken for granted, and not reported, even though they are crucial dimensions of care provision. In this respect they resemble the cognitive dimensions of unpaid care, such as anticipating needs, identifying options for meeting those needs, and monitoring results (Daminger, 2019).

Most national time use surveys conducted in Latin America, unlike those in other developing countries, attempt to capture time supervising dependents (“estar al pendiente”) (UN Women, 2021a). However, the relevant survey questions do not appear to have undergone any cognitive testing, and the results are vulnerable to ambiguity and differences in interpretation. As a preliminary to explicit testing of revised survey designs, we conducted an open-ended qualitative study with thirteen women and eight men in Mexico City in 2022 to probe understandings of supervisory care, test household caregivers’ ability to distinguish supervisory from active care, explore perceptions of responsibility when caregivers or care recipients were asleep, and examine the consistency of reports when more than one potential caregiver was present.

After briefly reviewing previous research on supervisory care, we specify the characteristics of participants and their care recipients, the different words associated with supervisory care and the ways in which respondents describe the experience of meeting care demands, including during periods of sleep. Their responses inform our suggestions for revising survey questions regarding supervisory care, which could undergo cognitive testing with a larger sample of respondents in the near future.

## **2 Background**

Over the past twenty years, nationally representative time-use surveys have become an invaluable source of data concerning time devoted to unpaid care work (UN Women, 2021b). Unfortunately, variations and inconsistencies in survey design hamper international comparability. In response, the international statistical community mandated the Expert Group on Innovative and Effective Ways to Collect Time-Use Statistics to identify harmonized tools and modernize data collection methods. In this context, the Expert Group has agreed on a provisional definition of supervisory care, as follows:

“Unpaid supervisory care refers to the time a person is “available and in close proximity” to provide active care for a child or a dependent adult should the need arise. Supervisory care may occur at any location when children or care recipients are also present and in close proximity with the care provider. That is, the respondent is near enough to the care recipient to provide immediate assistance, if necessary. There is no

requirement for the care provider and care recipient to be in the same room nor for the care provider to be aware of what the care recipient is doing.”<sup>1</sup>

While it is expected that such definition will undergo further refinements in the near future, its constituent emphasis focuses on the physical proximity between the caregiver and dependent. Such physical proximity differs from bodily proximity (e.g., in the same room) and yet s establishes a clear distinction from active care, which entails direct interaction (e.g., bathing a child, feeding a dependent adult).

The U.S. Bureau of Labor Statistics (BLS) conducted extensive qualitative research on the wording of a question designed to capture secondary childcare (Schwartz 2002). This research informed the American Time Use Survey (ATUS), which has, since 2003, asked a designated person in selected households if a child under age 13 was “in your care” while they were engaged in other activities (excluding their own sleep and personal care time, and also excluding time when all household children under 13 were asleep).

However, relatively little research based on the ATUS has taken advantage of responses to the “in-your-care” question, probably because researchers are not sure to what extent it limits or constrains other uses of time. Most definitions of secondary care assume that the respondent/caregiver is aware of what the dependent was doing. In contrast, supervisory care, as specified here, entails physical proximity only and in doing so, aligns with the third-party criterion to identify productive activities: someone else can, in principle, be paid to be ‘on call’ for a dependent.

Time-use surveys conducted in Mexico, Ecuador and several other Latin American countries are based on stylized questions rather than time diaries, and variously ask respondents how much time they were minding a child, or an elderly or ill/disabled member of their household. Here too, hours that both women and men devote to supervisory care dwarf their respective hours in active care, but it is difficult to interpret their exact meaning.

### **3 Methods**

This research employed cognitive testing with a small number of respondents as a first step toward developing testable survey questions and to better understand potential ambiguities. Testing of survey instruments can take the form of administering draft survey questions to a large number of respondents and assessing the accuracy and consistency of results through interaction with respondents. However, effective drafting of survey questions requires an understanding of how respondents are likely to interpret unfamiliar concepts (Benes and Walsh 2018).

Because the measurement of constraints on time use necessarily differs from the measurement of time spent in activities, the cognitive testing protocol included various tools designed to shed light on respondents’ self-identified words associated with supervisory care and potential sources of cognitive biases. First, an open-ended questionnaire collected background information on the social organization of care alongside household and individual characteristics. It then asked respondents to list words associated with the concept of supervisory care and identify the most appropriate one to refer to supervisory care. This was deemed necessary as it was expected that respondents were not necessarily familiar with the

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<sup>1</sup> United Nations Statistical Commission. (2022). [Background document. Minimum Harmonized Instrument for the Production of Time-Use Statistics](#). Annex 5.

technical taxonomy of care provision. It also allowed for coupling the definition of supervisory care with the language most used by respondents in their daily living.

To test the conceptual boundary between active and supervisory care, the protocol then involved administration of an activity with cards describing hypothetical situations of daily living associated with supervisory and active care, respectively. The main objectives were to identify whether respondents were able to distinguish active from supervisory care, and whether they would misclassify situations unrelated to care. This activity also served the purpose of observing respondents' reporting of supervisory care alongside sleeping time.

The administration of the questionnaire and the activity cards allowed researchers and respondents to identify a key word to define supervisory care. This word was then employed in mock time-use instruments (time-use diary and stylized retrospective questions) to assess the performance of probing questions to capture time spent on supervisory care. Finally, some previously selected words associated with supervisory care were read by the interviewer, asking participants if they considered these words related to or dissonant with the concept of supervisory care. More specifically, the protocol aimed at testing whether probing questions were needed to aid recall and whether the respondent would spontaneously report supervisory care as an activity.

Field work in Mexico City was conducted from February 18 to March 3, 2022, when the country was returning to normality after two years of mobility restrictions to contain the spread of COVID-19 virus. At this time, parents had the prerogative to decide on children's school attendance with obvious implications for childcare dynamics in some households. The interviews lasted about an hour and a half, and they were carried out in Gesell chambers.<sup>2</sup>

Study participants were specifically selected from dual- and single-parent households with varying care needs (i.e., children with disabilities, children in different age groups), and different socioeconomic strata; the interviewees were selected from a list of participants in previous qualitative research or surveys. The qualitative study was conducted with the participation of 13 women and 8 men from a total of 15 households. More specifically, six individuals resided in dual-parent households with children between 0 and 13 years of age; three were single mothers and two single fathers with children in the same age group; two women were the main provider of elderly care and two of disability care.

Most interviewees (15 out of 21) had no educational credentials beyond high school. All men self-identified themselves as heads of household, and all described themselves as participating in the provision of childcare. Respondents from dual-parent households were interviewed simultaneously in separate spaces to avoid contaminating responses.

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<sup>2</sup> The Gesell Chamber is a room divided in two by a unidirectional mirror that allows the researcher to observe what is happening on the other side of the mirror without getting involved or interfering with the interview. This is a research tool that is used for personal interviews or focal groups in different fields when it is necessary to create an environment for spontaneous discussion, allowing the conclusions to be more reliable in qualitative research.

## 4 Results

### 4.1 Words Associated with Supervisory Care

We invited respondents to share their wording associated with supervisory care with the following question: “What would you call the situation or the moments of the day when you are not interacting with (NAME), but rather remain nearby in case she/he needs immediate care, help or support?” Respondents offered a variety of responses; since linguistic nuances are sometimes lost in translation, the Spanish wording is included in italics.

“Minding” (*estar al pendiente*) was the most common wording spontaneously associated with the concept of supervisory care (16 out of 21 of participants mentioned it). The second most common wording was “being aware of” (*estar atenta*), while there were other phrases that were mentioned once or twice by participants, such as “being available” (*estar disponible*) or keeping an eye on ( *echar un ojo*). Most participants proposed more than one wording and therefore were asked to identify the most appropriate one to refer to supervisory care; the word of their choice was then used in the remaining sections of the interview.

“Minding” (*estar al pendiente*) was associated with situations where the care recipient could be heard and/or seen but was not necessarily engaged in direct interaction. It was also associated with responsibility, such as “constantly checking on her/him,” and attentiveness to prevent harm: “You have to mind that [she/he] does not make mischief or that nothing happens to [her/him]– that [she/he] does not do anything harmful, while at the same time you are in the kitchen.” Caregivers described being alert and ready to react even while engaged in other tasks: “Although I am doing other activities, I am always minding my parents.” However, “minding” was also occasionally associated with emotional awareness and abstract concern: “Minding my daughter to make sure she doesn’t need anything, isn’t sad, or needs clothes.”

“Being aware of,” (*estar atenta*) was the second most-used phrase. Its meaning was perceived to be similar to “minding.” However, “being aware of” has polysemic implications such as “being aware of what she/he is saying,” and does not communicate willingness to act should the need arrive. “Minding” implies a higher disposition to action as in, “keep an eye on her/him, make sure that she/he is doing what you told her/him to do.” Therefore, “minding” is likely a better option for describing supervisory care.

“Being available,” (*estar disponible*) communicates responsiveness and a disposition to assist should the need arise, an important characteristic of supervisory care. However, it implies an unconditional ability to drop everything else, to be at another person’s beck and call. The interviewees rejected two of the offered phrases that seemed impersonal. “Being on call” (*estar de guardia*) evoked the permanent presence characteristic of a night watchman, a guard, or a policeman, implying a duty to remain standing up in the presence of the dependent, without engaging in possibly distracting activities. It was considered applicable to care provided at nighttime as in “spending a sleepless night taking care of a sick person,” but not to everyday care provisioning. Likewise, the phrase “watch over” (*vigilar*) implied a lack of affective involvement: “Watching over is not taking your eyes off her/him, as if you were a private guard.” Some caregivers of people with disabilities associated the phrase with an overprotective stance discouraging the care recipient’s sense of autonomy.

## 4.2 Activity cards

While international statistical standards relevant to time-use measurement have progressed in accounting for different types of care, such taxonomy may be aliened to survey respondents.<sup>3</sup> To further examine respondents' interpretation of survey wording, their cognitive capacity to set boundaries between different types of care provision, and thus to identify potential sources of measurement error, cards displayed hypothetical situations of daily living. Study participants were asked to classify them as supervisory care, active care, neither or uncertain.

Results show that participants classified as *supervisory care* those instances when they were doing simultaneous activities, such as carrying out domestic chores or telework from home. However, most respondents classified as active care those instances when caregivers devoted time to supervisory care to avoid leaving the dependent alone or to ensure children did their homework (You need to go shopping for home supplies and you take your (child/elderly/or person with disabilities) with you, so that she/he is not left alone. Card activities that included the word "minding" or the phrase "being aware of" appeared to be more likely to be associated with supervisory care by participants (see Table 1).

A potential source of measurement error that emerged during the administration of this activity lay in instances when caregivers reported "minding" dependents via cellphone as provision of supervisory care, for instance when the caregiver was dining with a neighbor and the dependent was at home alone or when the caregiver was working at the office. It became evident that texts, voice calls, and video calls helped caregivers ensure that dependents were safe and not in need of active care. The generalized use of cell phones for technologically mediated supervision influenced the respondents' classification of active and supervisory care and reports on time spent on supervisory care in the mock time-use diary. However, this should not be characterized as provision of supervisory care since the lack of physical proximity would foreclose possibilities for immediate assistance.

The administration of the activity cards also illustrated the treatment of supervisory care during sleeping time. Supervisory care is a productive activity in an economic sense because its provision can be outsourced, and a monetary value attached to this service. When a paid caregiver is not accessible or affordable, supervisory care responsibilities can constrain time allocation, influence decisions to seek employment and affect occupational choices.

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<sup>3</sup> [International Classification of Activities for Time Use Statistics 2016 \(ICATUS 2016\)](#). Please see also: [Resolution concerning statistics on work, employment and labour underutilization](#).

**Table 1. Examples of hypothetical situations classified by participants as active care, supervisory care, neither, or uncertain**

Hypothetical situations	Number of respondents			
	Active care <sup>1</sup>	Supervisory care <sup>2</sup>	Neither or uncertain	Total
You are doing various household chores; and <i>you are minding your</i> (child / elderly / or person with disabilities) in case she/he needs anything.	1	20	0	21
You are engaged in home office work, your child is playing in her/his room, there are no other adults at home.	0	19	2	21
You stay home in the afternoon to make sure the children do their homework and to be available in case they need anything.	10	11	0	21
You need to go shopping for home supplies and you take your (child/elderly/or person with disabilities) with you, so that she/he is not left alone.	13	8	0	21
You wake up your (children/elderly /or dependent persons), dress them, and give them breakfast so they can go to school, the daycare center, or the nursing home.	20	1	0	21
You are playing a board game with your child.	17	0	4	21
You go to the movies; you choose a picture that your child can see.	14	2	5	21
You are at your neighbor's house for dinner in the evening, your (child/elderly/or dependent person) is sleeping at home, any other adult household members are still at work.	0	5	16	21
You are working at the office; your (child/elderly/or person with disabilities) is sick and home alone.	0	8	13	21
You are sleeping, there are no other adults at home, and your child is watching TV in the living room.	0	5	16	21

<sup>1</sup> At the onset of the interview, participants were told that the phrase "providing care" would be used to refer to activities such as bathing, feeding, or playing with children.

<sup>2</sup> The phrasing chosen by participants as best associated with supervisory care was used.

In our study, most participants designated dependents' daytime sleep hours (especially those in younger age groups) as supervisory care: "You are aware because you know they are going to wake up and need you." However, most did not classify caregivers' sleeping time as supervisory care, with only few exceptions who considered themselves to be "on call." For most, sleeping implied a total loss of control and consciousness in which "one lets go" ("When you are sleeping you cannot mind or care for anybody; you are just asleep and lost in your dreams"; "You lose knowledge of everything, you die."). Some asserted an implicit claim to a natural right to rest, a physiological reward that enables recovery and renewal of the ability to provide care, as it requires energy and effort. In contrast, some respondents classified caregivers' daytime sleep and naps as supervisory care, explaining that maternal and paternal instinct allows for light sleep and dozing without completely losing consciousness.

### 4.3 Reporting supervisory care

The design of time-use surveys typically varies by country.<sup>4</sup> Nevertheless, diary-based surveys tend to assume that passive care can be captured through questions regarding secondary activities. Accordingly, most stand-alone time-use diaries devote a column to simultaneous activities in the form of a question such as “What else were you doing?” A previous study conducted by Oxfam found, however, that women and men usually do not report supervisory time in time-use surveys even when secondary activities are captured (Rost, 2018).

To test respondents’ behavior in reporting supervisory care, a mock time-use diary also included a probing question to aid recall of time spent on supervisory care (Table 2). During the interview it became apparent that the reporting of supervisory care was unlikely in the absence of a probing question.<sup>5</sup>

**Table 2. Mock time-use instrument with probing questions on supervisory care**

1. First tell me at what time you got up and what you did afterwards.  You got up at _____, and then?	2. From what time to what time did this take place?	3. In those moments, were you providing supervisory care (using the respondent’s preferred phrasing) for your child/dependent adult? NOTE: Mark according to the answer		4. If you were not providing active care or “or supervisory care (using the respondent’s preferred phrasing) your child/dependent adult? can you tell me why? 1. You were not near enough to provide her/him with care, help, or immediate support if necessary. 2. There was another adult in charge, _____ (specify). 3. She/he was sleeping. Other _____ (specify).
		1. Yes GO to the following activity.	2. No	

Reflecting gendered social norms in the organization of care, women assumed the greatest responsibility for the provision of care services, including domestic work, with men more likely to participate in the provision of care on rest days (Table 3). Qualitative findings illustrated that men engaged in active or supervisory care at times when women could provide unpaid domestic services, including shopping for the household. In some instances, men reported taking on care responsibilities as a concession to women in the household; a way to give them a space of rest or freedom. “I know she's here with the girl all week, so I tell her, if you want, I'll give you a hand so you can do something.”

Analysis of the administration of the mock time-use diary also showed that respondents reported time spent on supervisory care even when resting. “Even when we are watching TV or lying down and relaxed, anyway, we are minding my parents in case they need something.” This helps explain the paucity of cases when “minding” is reported as a primary activity and highlights the necessity of including probing question to elicit reporting of supervisory care.

<sup>4</sup> ILO. Survey methods to improve measurement of paid and unpaid work: Country practices in time-use measurement. ICLS/20/2018/Room document 18

<sup>5</sup> This conclusion stems from the fact that the interviewers first asked questions 1 and 2, referring to the activities carried out by the participants during the previous day, and then applied the probing question on supervisory care.



**Table 3. Time reported in waking hours by type of care (supervisory and active), and socio-demographic characteristics (hours reported in a day, number of cases in brackets) <sup>a</sup>**

	Supervisory care	Active care	Other activities <sup>b</sup>	Total <sup>6</sup>
Total (21)	6h. 54	4h. 54	3h. 48	15h. 36
<b>Day of the week</b>				
Workday (13)	6h. 42	5h. 24	3h. 12	15h. 24
Rest day (8)	7h. 12	2h. 48	3h. 42	14h. 48
<b>Sex</b>				
Women (13)	6h. 6	5h. 24	3h. 48	15h. 18
Men (8)	8h. 12	3h. 54	3h. 48	15h. 54
<b>Characteristics of the recipient</b>				
Minors less than 2 years old (5)	8h. 6	5h. 6	3h.	16h. 18
Minors between 6 and 13 years old (12)	6h. 24	4h. 54	4h. 12	15h. 30
Elderly adult (2)	8h.	2h. 36	4h. 24	15h.
Person with disabilities (2)	4h. 54	8h. 36	2h. 30	16h.

<sup>a</sup> Activities were classified according to participants' responses.

<sup>b</sup> Personal care, paid work, leisure, etc.

Reported time spent on supervisory care greatly varied by household and individual characteristics, including age of the dependent, the intensity of care needs of people living with disability, household type, and sex of the caregiver (Table 3). Caregivers of toddlers and dependent adults reported a greater number of hours of supervision, while women caring for people with disabilities reported a greater number of hours of active care; this is probably a function of the type and degree of dependency.

A clear demarcation also emerged with the status of labor force participation of the caregiver and access to kinship care at the household level. Single mothers, as well as women in employment and living in dual-parent households identified kinship care provided by grandmothers, mothers-in-law, and sisters, as a critical coping strategy, reducing the demands of care, including supervisory care.

Due to increasing cultural and social pressures for men's involvement in the provision of care, social desirability bias may also affect the reporting of time spent on supervisory care. Most male caregivers holding a job from home reported their working hours as time devoted to supervisory care. This coupled with COVID-19 induced home schooling, may have resulted in an upward bias in men's reported time spent on supervisory care. Male respondents were especially likely to report supervisory care on a weekend or holiday. Among employed mothers in dual-parent households and single parents, the time devoted to both active and supervisory care tended to increase on weekends. Qualitative interviews indicated that during weekends family commitments intensified and boundaries between work and leisure tended to blur. While other household and family members were more likely to share supervisory

<sup>6</sup> No inferences should be drawn regarding population estimates, since the sample is small and unrepresentative; only waking time was reported, since the diary did not inquire about hours of sleep (average waking time was plausible, at 15.6 hours).

responsibilities, the increased variety of activities posed challenges to reporting due to heterogenous patterns.

Additional measurement challenges emerged when the protocol administered stylized questions with reference to the previous week: “Now I would like you to remember how many hours you devoted last week to (preferred phrasing for supervisory care), from Monday to Friday \_\_\_\_\_ (h.), and Saturday to Sunday \_\_\_\_\_ (h).”

In answering the stylized question regarding the total time spent on specific activities over a multi-day period, the distinction between active and supervisory care time was deemed difficult as respondents did not exclude active care from their reporting. “I think it is easier to remember the day before because it is more recent, but to calculate the hours of the previous week... there the difficulty increases.” Responses appeared heavily based on the respondents’ perception of what constitutes a “regular or normal” workday or rest day and this affected the estimation strategy of respondents. For instance, in some instances, female caregivers counted the time devoted to domestic chores when children were at home as supervisory care, and then multiplied it by five to estimate the time dedicated to supervision from Monday to Friday. Overall, the number of hours reported as supervisory care time in the time diary consistently exceeded the number reported in response to the stylized question (6 h. 54m. compared to 5 h. 30 m.).

#### **4.4 Intra-household allocation of supervisory care**

While gender analysis of time allocation can shed light on persistent gaps in the world of work, it requires a specific design with multiple household members being interviewed. To shed light on the reporting of supervisory care in dual parent households and associated challenges, illustrative case studies using pseudonyms are presented (Tables 4, 5 and 6).

Celia and Roberto, parents of a six-year-old Joe, are out and in employment respectively, and reported their time allocation with reference to a Monday (Table 4). As main unpaid household caregiver and in comparison, to Roberto, Celia reported higher time spent on active care provision with supervisory care taking place mostly in the morning and evening. During the day, Celia reported many hours spent on unpaid domestic work while her son was at school or under his grandmother’s care. The instances when Celia and Robert overlapped in the provision of active care were few (highlighted in blue).

As Table 4 shows, Roberto reported that he arrived home at 7 p.m., while his wife said 9 p.m. During those two hours both reported to be taking care of their son. We can suggest that these kinds of contradictions can arise when parents feel that they are not fulfilling their duty and report devoting time to caregiving, even though they did not. In this case, during the interview, Roberto stated that normally his wife was responsible for the care of his son, since his “work prevents [him] from doing so”.

**Table 4. Time-use report on a monday by a two-parent household in which the woman is not employed**

Hr.	Celia		Roberto	
	Activities <sup>a</sup>	Details <sup>b</sup>	Details <sup>b</sup>	Activities <sup>a</sup>
5			I woke up at 5:30, then took a shower, had breakfast quickly, it was 6:30.	Personal care / travelling to paid work
6				
7	Active care / supervisory care / personal care	I got up around 7:00-7:10, I woke Joe up, he saw some cartoons, I asked him to take a bath and I helped him get dressed, well, I brought him his uniform, it's like a way to help him. I gave him a loaf of bread, his milk, and some chopped fruit. After that, we took a "combi" (public transport) to go to his school.	I went to work, I arrived between 7:15-7:20.	Paid work
8	Domestic work	I went home, did some housework (washed dishes, swept and moped the floor, put a bunch of clothes in the washing machine, washed the bathroom), and cooked lunch.	I did some pending work that I had from last week.	Paid work
9				
10				
11	Sports and personal care	I went to the gym.	At about 11-12 I went out to have breakfast near my work	Personal care
12				
13	Personal care / travel associated with active care	I took a shower, got dressed and went to pick up Joe.	I went back to my office to continue working; I was there until 4 p.m. and then went out to eat.	Paid work and personal care
14	Active care	I took Joe to the park because he asked me to. We were there for about 1 hour.		
15	Active care	From there we went home ... I gave him his lunch.		
16	Domestic work /leisure	He saw some cartoons, then my mom came to take him with her to collect her rents in the State of Mexico and brought him to me at about 7:00 at night. While he was away, I did more housework and watched television.	I got back to my office around 5 and at 6 p.m. I went home. I arrived at 7.	Paid work Travelling from paid work
17				
18				
19	Active care Domestic work	When Joe arrived, I got him to do his homework, and then gave him some dinner and put him to sleep.	From 7 to 9 I was with my son, we were playing with his toys, the Paw Patrol, after playing with him I helped his mom prepare his clothes ... she was ironing his uniform. Then I took him for a bath.	Active care
20				
21	Domestic work	My husband arrived around 9 pm ... Joe was already starting to fall asleep; they greeted each other, Joe fell asleep ... And then I served my husband dinner.	I was with him until 9:30, we had some pancakes with milk for dinner and at 9:15-9:30 he fell asleep.	
22	Other activities /Supervisory care	We (she and her husband) were talking for a while, and then we had an argument. As Joe often talks in his sleep, when I heard him talking, we stopped fighting, and I went to see if he woke up or if he was talking in his sleep.	After that, I had to send some emails that were still pending from work, and at about 10:30-11:00, I went to sleep too.	Paid work / Personal care
23				

<sup>a</sup> Activities were grouped according to a pre-coded list based on the international classifications of time use.

<sup>b</sup> Detail of activities reported by respondents in the time use diary.

The illustrative example of Sandra and Jorge, parents of Louis, a six-year-old, highlights the impact of pandemic-related changes in the social organization of care, with women taking on the greatest burden (Seck et al., 2021). Both Sandra and Jorge have paid jobs and work from home while homeschooling Louis. Sandra noted that she was “the one in charge of feeding the child, also of knowing what is needed at home, what needs buying, of ordering groceries or remembering to buy groceries.”

The reporting of time use of Sandra and Jorge clearly shows issues emerging with interviewing multiple household members, such as the associated overlaps in the reporting of care (Table 5). For instance, in the morning (8-9 a.m.) Sandra was taking care of Louis and, according to her, he stayed with her the entire time she worked. However, as table 5 shows, both parents noted providing supervisory care while carrying out paid work-related activities between 9 am and 2 pm.

**Table 5. Time-use report on a paid workday in a two-parent household in which both parents engaged in paid employment at home, have a paid job and are still working from home: monday**

Hr.	Sandra		Jorge	
	Activities <sup>a</sup>	Details <sup>b</sup>	Details <sup>b</sup>	Activities <sup>a</sup>
8	Domestic work, personal care, and active care	At 8 o'clock, I got up, made breakfast, and started working at home. My son was with me. He always wants to be with me. If I go to the kitchen, he follows me. Then I gave him breakfast.	Well, I got up like 7:30-8, made breakfast, at 8:30 I started working, I sat down at the computer.	Domestic work, personal care, and paid work
9	Paid work / supervisory care	At some point, while I was working, [he started] saying ‘mom I am thirsty,’ or ‘mom, I am hungry’, I had to tell him to “go over there, you won't let me concentrate”. Then he got distracted, but he was by my side all day.	Well, broadly speaking, yesterday I worked until to 2 p.m., but while I was working, I had to stop because suddenly my son came to me and said, “Dad I'm thirsty”, then I told him to pick up his toys and kept asking him ‘have you cleaned up?’ And then someone rang the doorbell, I mean, I had little things to attend.	Paid work / supervisory care
10				
11				
12	Active/ supervisory care and paid work	Around 11 I asked him to do his homework. I kept working.		
13				
14	Active care, personal care	I didn't feel like cooking, so we went to buy something to eat. We returned around 3:30.	At 2 o'clock we went out for lunch.	Active care, personal care
15				
16	Paid work/ Supervisory care	I kept working and he said “Mom, tell me a story”, so I started the story, and [at some point] I said, “Now it's your turn” He did it and I was listening, but I kept working, and then he told me, it's your turn, and I did it, but for a little while because I had to work.	And then I had to work another little while from 4 to 5:45, I have my alarm because I had to take Louis to karate nearby.	Paid work Active care
17				
18	Paid work	I kept working until 6:00 in the afternoon.	I went home to work some more, about 40 minutes.	Paid work
19	Active care / shopping personal care and leisure	We went to buy bread for dinner, came home and had dinner. Then I was there with him watching a movie and I fell asleep at 10:00.	I picked up Louis at 7.	Active care
20			I worked a little longer, from 7:20 to 8 p.m.; then we had some dinner and I started playing Nintendo with Louis.	Paid work /Personal care / active care, and leisure
21				
22				
23			When Louis fell asleep, I kept playing on the computer and then sent work emails.	Leisure and paid work

<sup>a</sup> Activities were grouped accordingly with a pre-coded list based on the international classifications of time use.

<sup>b</sup> Detail of activities reported by respondents in the time use diary.

For the same time slot, Jorge also declared having “little things to attend,” and said: “I told him to pick up his toys and kept asking him ‘have you cleaned up?’ Or he suddenly came and told me, ‘Dad I am thirsty,’ and I poured him a glass of water...” Again, in the late afternoon, when both parents ceased their market work, they reported simultaneous active care time. While they both insisted that they were able to disconnect from supervisory care for a few moments during the day, these moments were rare. Their experience reveals how carrying out paid work from home blurs the boundaries between the time dedicated to employment and unpaid care.

Reported overlapping activities are not necessarily only caused by measurement error. Later in the day, the whole family went out to a street stall to purchase food, and both parents reported this time as active care. Sandra explicitly stated the idea—common among the participants—that the presence of both parents is experienced as shared caregiving time: “Caring for my son is more relaxed [...] because we share the responsibility, but we have to provide a lot of care anyway.” Nonetheless, according to the type of activities reported by both parents, Sandra had the burden of performing more gendered activities, such as unpaid housework and caring activities (active and supervisory care), while performing her paid work at home.

Dora and Salvador provide the third illustration of care time reporting in a dual-parent household (Table 6). The provision of unpaid domestic and care work is Dora’s main activity, while Salvador refurbishes houses and apartments, and runs a street market stand on Saturdays with little time spent at home. The couple have a six-year-old child, Dario, who at the time of the interview had partially returned to in-person schooling. This couple was asked to report on a weekend, so the collected information refers to activities carried out the Sunday before the interview. Both parents reported having gone to the market with their son, eating at home, and watched a movie together in the evening.

They, too, reported overlaps of supervisory care, particularly during periods of shopping together and leisure. However, reporting of active care was more marked, probably due to social desirability bias as the Salvador wished to compensate for his lack of active care provision on days other than Sunday. In this example, overlaps occurred when one of them reported active and the other one supervisory care; for example, while the whole family was at the market, the woman reported minding her son, although she acknowledged in the interview that her husband was providing active care while she was buying their groceries. Dora assumes the greater responsibilities for childcare and domestic work. During the interview she said that that normally on Sundays her son spends most the time with his dad and, because of that, she can use her “free time” to “fold laundry, iron, talk on the phone with a friend or [her] mom”. This example shows how during the weekends, while men can provide care (active or supervisory), women tend to engage in gendered activities in their “free time”, without differentiating them from those associated to entertainment and socialization.

**Table 6. Time-use report on day-off of a two-parent household in which the mother is not employed**

Hr.	Dora		Salvador	
	Activities <sup>a</sup>	Details <sup>b</sup>	Details <sup>b</sup>	Activities <sup>a</sup>
8	Leisure / <b>supervisory care</b>	I got up at 8 on Sunday.		
9		I stood there watching a movie.	I got up at 9:30.	
10	<b>Domestic work / active care/ supervisory care / personal care</b>	I prepared breakfast. Darío woke up around 10:30 and the three of us had breakfast.	We had breakfast and we (his son and himself) took a bath.	<b>Personal care / supervisory care</b>
11	Personal care	After breakfast we took a shower, my husband helped to take a bath to my son, and then went out to the market.	Then I ironed some clothes, and we got ready to go to the market.	Domestic work Personal care / <b>active care</b>
12				
13	<b>Shopping / supervisory care</b>	We were at the market for about an hour and a half or so. My husband was taking care of Darío while I did the shopping. I was also minding on what Darío was doing.	Around 2:00 we arrived at the market to buy clothes for my son.	<b>Shopping / active care</b>
14				
15	Domestic work	I cooked lunch, and Darío started to do his homework with his dad and then he started watching a movie with his dad.		
16	<b>Supervisory care / personal care</b>	We had lunch.	My wife and I cooked lunch. Diego was playing video games in the living room. We ate our lunch.	<b>Supervisory care / personal care</b>
17	<b>Leisure / Supervisory care</b>	Then we watched a movie. Before that, we had a debate about what movie we were going to see.	We watched Tarzan.	Leisure / <b>supervisory care</b>
18			Halfway through the movie we craved a dessert and went out to buy it at a nearby place.	<b>Active care / personal care</b>
19				
20	<b>Domestic work</b>	I prepared things for Darío to go to school the next day and my husband took care of him.	We came back and continued watching the movie	Leisure / <b>supervisory care</b>
21	<b>Supervisory care</b>	Diego said, “I’m going to bed”, he went and watched a movie alone. I was lying on one side of the other bed.	We had something light for dinner.	Personal care <b>Supervisory care</b>
22			Darío went to sleep at 10:00, 10:30, watched Netflix for a while and then fell asleep.	<b>Supervisory care</b>
23			I went to bed around 11-11:30	Personal care

<sup>a</sup> Activities were grouped accordingly with a pre-coded list based on the international classifications of time use.

<sup>b</sup> Detail of activities reported by respondents in the time use diary.

Based on the three previous examples, overlaps in reports of both active and supervisory care can give rise to measurement error due to social desirability bias but can also genuinely occur when both parents are present. This suggests the usefulness of including contextual questions such as “who else was present?” and “in what location?” to increase accuracy.

#### 4.5 Cognitive Factors and Daily Experiences

While capturing supervisory care can increase the accuracy of time use measurement and shed light on persistent gender gaps in the world of work, the design of time-use survey instruments could benefit from the following insights.

First, lack of familiarity with the terminology and concept among respondents should be expected. As one single mother noted, “I think I had never thought about how long you are really totally caring for your kid, or you are just minding her...it confused me.” At the onset

of interviews, some participants tended to merge active and supervisory care into one single count. This coupled with an impulse to include all hours into a single general concept of care carried out over 24 hours a day. In these instances, the task of identifying and counting supervisory care required clarification, as clearly revealed in the following comment: “If we had not seen the difference, well, I would have told you that I was minding [my child] 24 hours a day.” The challenge of accurate reporting increased when participants were asked to calculate supervisory care time for the preceding week, with estimation strategies at play and resulting in a gross value.

Second, the constant switching back and forth between active and supervisory care throughout the day is another complicating factor. A caregiver of her elderly parents described:

“I take my mom to the bathroom and then back to her room and then I go to the kitchen. I do not say ‘oh I have just taken care of my mom’, no... Knowing exactly how many hours a day you are minding someone is very difficult because days are never the same”.

Some caregivers, mainly women, describe processes of care intermingled and ubiquitous with daily routines. As a female interviewee stated, “I totally include her in everything we do together... all my activities I do with her.” Combined with considerable switching back and forth between care activities, this renders efforts to report specific times difficult, even baffling. One caregiver noted: “I really do not say I am minding my parents, as ‘oh! I have been minding during an hour’; I already do it by instinct.” This difficulty in reporting is compounded when respondents are asked to calculate time spent during an entire week: “I do not prepare meals at the exact same hour, nor do I take the same time to bathe him.” It is also compounded when caring for more than one person at a time (such as two children or child and a dependent adult). Switching back and forth between types of care provisioning may even take place unconsciously and automatically: “It is very complicated to know exactly how many hours a day you are minding others. I do not keep it in mind.”

Third, difficulties with recall and social desirability bias are apparent. In some instances, active and supervisory care are double counted, such as when a father reported supervisory care as all time between arrival at home from work and putting children to sleep, while the mother reported the same time slot as either active or supervisory time, effectively doubling the reported care time per care recipient. This double counting, however, may also genuinely reflect shared household responsibilities.

## 5 Conclusion

All surveys are vulnerable to “ambiguity in survey questions, different interpretations made by the participants about the meanings of the questions, and memory recall problems [that] can be an important source of errors,” and cognitive testing can substantially improve their design (Benes and Walsh 2018: 8). It is reassuring that the phrase that a small group of respondents from Mexico most frequently associated with supervisory care was “minding” (*estar pendiente*), since this is the term used in many Latin American time use surveys (UN Women, 2021). However, our qualitative analysis demonstrates the need for more detailed specification to elicit accurate responses. This research can be considered as a preliminary study for broader methodological studies and may be useful for the development of new methodologies and recommendations for time-use surveys used by governments and by international institutions interested in developing tools to better capture care supervision requirements. We offer three

specific recommendations that could be further tested in larger focus groups, followed by several more general observations.

Recommendation 1: Time-use survey instruments should clearly apply the Expert Group's definition of supervisory care and provide specific examples or vignettes to help respondents make accurate distinctions. For surveys based on time-diaries, probing questions such as those included in the American Time Use Survey ("during this activity...was a child under the age of 13 in your care?"), can be asked after recording time spent in activities, (Allard et al., 2007). However, this wording alone is insufficient. The importance of physical proximity should be emphasized, by adding, for instance, "Were you physically available to provide active care, if needed?" Stylized activity list questions could be modified to read, "How much time did you spend minding a child, in close enough proximity to provide active care if needed?" Similar wording could be applied to supervisory care of those who are sick, ill, disabled or frail.

Recommendation 2: Respondents reporting supervisory care should be asked if another person in close proximity was available to provide substitute supervision, or not. In surveys based on stylized activity lists, questions could clarify the difference by asking "Were you solely responsible for supervision or was another person sharing this task?" This would make it possible to determine whether supervision constrained participation in activities that could not take place in the same location. Surveys designed specifically to determine constraints on employment could ask specifically if supervisory responsibility made it difficult to engage in income-earning activities. At the same time, measurement of joint supervision would respect its social and emotional contributions.

Recommendation 3: Contextual questions regarding active care and its overlaps with supervisory care should be included in time-diary based surveys in order to add precision. Our interviews reveal that men were especially likely to report supervisory care during periods of the day that women were providing active care and, in general, interpreted supervisory responsibilities more broadly. Women are probably likely than men to provide "solo" care, for more than one care recipient, especially in the home. Contextual questions such as "who else was there"? and "Where was the activity/responsibility located?" could lead to more accurate picture of the gender division of labor and also shed light on differences among single-adult, dual-adult, and multiple-adult households.

The novelty of the recommendations lies in the call for having ad-hoc summary questions dedicated to aid recall of time spent on supervisory care. The analysis of these data should be conducted alongside relevant contextual variables, such as location and with whom? Our study also yields some important general insights and suggestions for further research. On the one hand, it confirms the advantages of a time-diary instrument over a stylized activity list that asks respondents to recall the time devoted to care activities and responsibilities in the preceding week. Variations in daily routines, unforeseen events, and the flexibility necessary for effective care provision amplify the difficulty of accurate recall. A related issue concerns social desirability bias, which may lead care providers to overstate their contributions, with differential effects on women and men driven by cultural norms of femininity and masculinity (Damián, 2014; Moro-Egido 2012; Serrano-Pascual 2019). Time-use diaries that simply allow respondents to report time in specific activities on the preceding day are probably less susceptible to this bias than stylized questions regarding time spent during the previous week (or a "typical" week). On the other hand, stylized questions may more successfully capture respondents' perceptions of their own care contributions, especially those that are less salient



than primary activities. Few time-use diaries successfully capture secondary time use. More attention to this general issue is sorely needed.

Consideration of the specific needs of care recipients could also improve our understanding of supervisory constraints. While there is some agreement on the age at which young children can be left alone, this may vary according to local context. For instance, supervision is a less binding constraint in close-knit neighborhoods where many adults are on close personal terms with local children and are likely to keep an eye on them. In many urban environments, social interaction among residents is limited and many working-age adults are away from the home during employment hours. Another question concerns the age at which older children can, outside of school hours, provide adequate supervision for their younger siblings. The need for supervision of those who are dependent on household members as a result of illness or disability is variable. Many people with disabilities are fully capable not only of self-care, but also of care for others (Shandra and Penner 2017). A person confined to a wheelchair may be able to engage in self-maintenance for long periods of time, while a person experiencing dementia or infirmities such as cerebral palsy may require constant supervision and standby assistance.

More attention to technological innovations, cell phones in particular, is needed. While phone contact is not a substitute for physical proximity, it does enable possibilities for remote assistance, especially for older children or adults who are not seriously impaired. Video monitoring and assistive technologies for monitoring heart rate and blood pressure of people experiencing illness or disability are also relevant. Exploration of the impact of these technologies on time use requires more focused analysis that should probably be accompanied by qualitative research.

In sum, time use surveys could and should improve their measurement of supervisory care. Considerable evidence suggests that women take more responsibility for the care and supervision of dependents than men do. It seems likely that supervisory constraints do even more to reduce women's opportunities for paid employment than performance of specific care activities, which typically require far less time daily (Folbre, 2022). Improved measurement of supervisory constraints could help identify the relative impact of public policies likely to reduce these constraints in ways that both protect the quality of dependent care and enhance women's income-earning opportunities.

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