Abstractions of Time: Modern Types of Daily Schedules

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The nature of daily life is rooted in the decisions made about how to use time. Examining how individuals spend time begins with the question of scheduling formal activities, such as work and schooling, and when they undertake more spontaneous activities such as childcare, and leisure activities. The major aspects of time use on any given day are what activities individuals choose to do during non-work time, in what order they do them, how long each one takes, and how much time is spent in each activity over the entire day. Research on the amount of time individuals spend in different activities lacks a guiding theory. This chapter challenges the assumptions made of discrete and ordinal time use made by prior researchers. Instead, I consider the intricacies of daily life to show a new way to conceptualize and measure time by taking a multi-dimensional approach that focuses on the order and timing of activities to tease out the social ordering of time.

This chapter is concerned with the difference between abstract and earthly time. Abstract time is the mathematical consideration of time as a constant, an ever divisible and transportable absolute that provides a continuous level measurement of how long something is done. Social timing relates to time that clings to the natural and social patterns that divide the day in a non-arbitrary way, and focuses on when things occur. I borrow the term abstract time from Postone, who uses it to explain an additional way capitalism dominates workers, by stripping the day of its natural elements (Postone 1993:202). I do not subscribe to his analyses of concrete time as tied to the diurnal day and varying by seasons. His work is rooted in the transition to capitalism, whereas this chapter, and in essences this entire dissertation, is rooted in the movement to a globalized modern workforce, and how the seemingly inherent conflicts between work and non-work life display the social ordering of time.

Throughout this chapter I will focus on the differences between abstract time, where all time is treated the same, and social timing, which corresponds to times that are created by social structure and diurnal realities discussed in historical research about the movement from variable hours based on the shifting lengths of the day across seasons and the abstracted time brought on by the advent of, and reliance on, the mechanical clock to make a purely abstracted form of time in hours divisible to minutes, seconds, and beyond (c.f. Zerubavel 1976). However, the movement towards abstract time is so complete that moments in time are defined socially, so instead of dinner being at sundown it is now at 6pm, but the ideas of social and abstract time still exist. Abstract time is continuous, and social time is nominal, and sometimes ordinal, describing general regions when the majority of a social group performs specific activities. To make things easier, I will discuss abstract time (two hours at work) with social timing (two hours at work *in the evening*). The idea of social timing developed out of diurnal time, but is bounded by, and can be described by, the rationalized mechanization of abstract time. However, the reality of socially designated portions of the day for certain activities still holds true, even if it is explained in a rationalized way. Re-introducing the social nature of timing back into the ideas of abstracted time as a way to measure fully replaceable time-- time as currency-- allows for an examination of not just how much time an individual spends in different activities, but also when. It is this *when*, the social timing, that is most important.

Time as a Social and Historical Process

An easy image of daily scheduling is the post-war American conception of the workday. Mass culture has disseminated the idea of sleep, work, home, then sleep and an ordinal process that shapes the usual day. Individuals wake up, go to work, come home, parent,

see their spouse or other adults once the kids are in bed, then go to sleep. So pervasive is this social definition of time that even in night-time jobs, workers greet each other with good-morning at the beginning of a shift, contrary to whether it is a diurnal morning (R. L. Sharman and C. H. Sharman 2008). Following on this straw-man model, extensions in work time will infringe on time at home, since one works late rather than starting early. Likewise, family time is limited by the other family members who are locked into strict schedules by work or school (Lesnard 2008).

Another example of the social organization time is the advent of 'prime-time' television (and radio). The mass media targets the largest audience possible, and for American adults they are targeted between 8-11pm on weekdays[1]. Prime time is the nationally designated time for leisure, and despite the advent of Tivo and other video-on-demand services, individuals who work evening shifts spend less time watching TV than any other group [Corey, Unpublished]. Prime time can be defined as the time after which work and family maintenance (cooking, eating, cleaning, childcare) are largely complete, but adults are still awake. Of course, this phenomenon may never have been completely true across all individuals, but it was both created for and disseminated by mass media.

There is little reason to believe the simple ordinal schedule discussed above was ever the only mode of American culture, but it makes an effective strawman. Classic works on shifts in industry measure the median time of work, and call it a day, evening, or night shift based on when the median work hour occurs (Presser 2005; Wight, Raley, and Bianchi 2008). Doing so assumes that work is equally distributed around this point, and

[1] The BBC distributed some of the first time use surveys, so they could find out when individuals would be home to listen to radio programming.

that the times outside of work are the only times available for other forms of life. The idea of working two jobs, or splitting work between different parts of the day would not have been uncommon in agricultural or home work—the work day was dictated by weather, external demands, and preferences of the workers (if owner-farmed). But there is little room in a median measure for these idiosyncrasies. The decline of the night shift (Hamermesh 1999) is another reason to develop a new theory to measure the timing of work and life; especially one that does not rely on the rules of the industrial workforce to define the structure of the day.

Having a complete picture of the minutiae of daily activities allows for a more complete understanding of how individuals spend their time. Looking at the minutiae of time is not an entirely new idea. The rationalization of the industrial workforce brought with it time-motion studies, where activities were measured down to the millisecond to create complete human efficiency (Taylor 1914). Ritzer's McJobs are often monitored in the same way, with the duration, location, and periodicity of tasks highly regulated by the corporation (Ritzer 1997). While this paper does not advocate the complete rationalization of the daily experience, identifying subtle patterns in time use can help lay bare many of the processes that cause divisions in society, such as the mechanisms by which parents of different classes transmit privilege to their children.

Displays of time use are very important in understanding the social nature of time. Power and importance in modern life is displayed by the amount an individual is hurried. Gershuny and co-authors call this the busyness hypothesis, arguing the modern badge of being upper class is being constantly in demand and at work, rather than at leisure as

Veblen claimed at the turn of the 20th Century began (Gershuny 2005; Sullivan 2008). Constantly being in demand is a way to display importance.

Duration, location, sequence, and periodicity are four major components that allow one to understand the nature of social time. Abstract time relies solely on duration. This categorizaton of time follows the work of Zerubavel, who lays out duration, location, and order among the forms by which one can measure time (Zerubavel 1985).

THE SOCIAL MEANING OF WHEN: TIME AS NOMINAL

When during the day an activity takes place is important to determine how time is socially constructed and used. Doing the same activity at 4am and 4pm may not be the same for its participants; if nothing else, activities at 4am may simply seem more illicit (Melbin 1978). The parts of the day can be characterized as harboring four distinct social patterns. The weekday is a time for work, the evening a time for discretionary action, the night a time for sleep and rest, and the weekend (day) a time for special large contiguous spans of discretionary action.

The (Week)Day

Daytime is a time for work. The workday, even in it's phrasing, implies working during the daytime. This derives from the agricultural background of work, as it required daylight, as did pre-industrial home-based production. The introduction of safe and widespread artificial light during the industrial revolution was necessary to allow for a complete 24-hour society (Melbin 1978). However, the majority of work has continued during the day, with non-day work being performed mainly by marginalized employees, for example the junior employees or minorities (R. L. Sharman and C. H. Sharman 2008).

Where this is not the case, those on the night shift may be duly compensated for working at an abnormal time.

Workers on the night shift retain the nomenclature and attitudes of someone starting their day. Work as a daytime activity is thus engrained as the normal temporal location and the first part of the sequential structure of the day. Beyond the continued standardization of the daytime as a site for work, work continues to be the starting point of the day for workers outside of daytime hours; in both cases night workers are found to say good morning regardless of the actual time (R. L. Sharman and C. H. Sharman 2008; Zerubavel 1979).

Until the second demographic transition, daytime on weekdays was a gendered experience. Women and children existed in a separate social space from men during the day. The unpaid volunteer labor of married women at museums, schools, and other cultural and community institutions helped them function. A large portion of the change in American volunteer time has been the result of women moving into the labor force, rather than spending the day in unpaid labor outside the home (Andersen, Curtis, and Grabb 2006). This same mechanism is at the root of the second shift problem for working women, women are expected to fully participate in work and at home, while their husbands may only be expected to fully participate at work (Hochschild and Machung 1989). This leads to greatly increased rates of stress for working women, especially during the evenings (Offer and Schneider 2011; Saxbe, Repetti, and Graesch 2011).

The movement of women into the workforce makes not being at work during the daytime into a stronger indicator of an abnormal attachment to the labor market. The current

recession has created a situation where newly unemployed men find themselves with no obligations in the daytime, but likely not replacing that daytime work with any meaningful unpaid labor or leisure. Popular media has termed this "The Mancession" (Rampell 2009).

The weekday day is a space for work and for school. It is not necessarily a place for leisure or relaxation, at least among school age children or (most) working adults. Among parents, the daytime hours are not useful for parenting school-age children, as those children will be away at school. The daytime is, however, essential for parenting pre-school age children, and many progressive policies are in place to allow parenting at this time in some countries. Programs that allow parents the freedom to devote their daytime hours to parenting exist at national (Sullivan et al. 2009) and corporate (Kelly, Moen, and Tranby 2011; Kelly and Moen 2007) levels.

The Evening

While the daytime is for work, the evening is traditionally a time for socialization. The evening space is family time, courtship time, or a time for civic action. The growing threat of bowling alone (sic) arises in part from lengthened workdays and decentralized communities: it is hard to meet up for bowling if everyone is suddenly busy at night (Putnam 2001). This change shows the traditionally static nature of the evening as a source of private time. The private nature of the evening also shows how working during the evening can have jarring effects on home and personal life. There is cross-national variation in the use of the evening as a malleable time for family, work, or leisure. Schultz (2012) studies the use of the evening in the San Francisco, Oslo, and Paris, finding the use of the evening varies based on social norms and childcare options.

The evening is a time for personal and family care, though these results may be gendered. One of the main differences in the amount of time parents spend with children derives not only from work-schedules, but also from the choices made about how to spend time in the evenings. The evening is a time that is socially ascribed to be used for leisure, family, and winding down from work. Deviations from these norms have negative consequences for health, marital stability, and time with the family. Men spend less time with their children because they prioritize leisure in the evenings, whereas women spend more time with their children by sacrificing this same amount of leisure (Aguiar and Hurst 2007; Kimmel and Connelly 2007). In fact, mothers face increased pressure in the evenings because they are trying to balance a wind-down from work, childcare, and leisure all at the same time. This leads mothers to report unusually high levels of stress during the evenings (Offer and Schneider 2011). These stress effects are gender specific: husbands who spend more time on leisure in the evenings, and have wives who spend less time on leisure, show better cortisol recovery patterns, while wives who spend more time in housework and who have husbands spending less time in housework show the opposite effect (Saxbe et al. 2011). The biological effects are rooted in the social expectation to transition from work to home.

Evening time can be offset if the actor and the people they want to interact with are also able to shift this time. For example, someone working a 4-midnight shift may have his or her evening from 1-4am, before going to bed at 5am. Doing that requires that their alters and the services they wish to engage with are also available at those times. If the actor has children, however, the conflict becomes clear: the children will have to be at school during the day, so the evening workers may miss part or all of the time children are

available. Equally important are those individuals working later in the evening. The decision (or occurrence, if the worker has poor schedule control) to work later has a direct impact on evening time. These issues are teased out further in a later section. This impact needs to be understood and worked into the cost-benefit analysis of workday decisions, both by individuals and by companies.

Given the static nature of the evening as free time for children, one hypothesis that can be drawn from these theories is:

Hypothesis 1: W*orking during the evening will cause a decrease in the amount of time parents spend with children*.

The result stated here will differ from prior findings showing individuals whose median time at work is in the evening increase their time with children (Presser 1988). The social time measure allows for a direct measurement of evening work, which will give different results than the broad approximation that has been used previously.

Nights

The night has been theorized as a frontier, where time is undefined and unregulated (Melbin 1978). The rules of the daytime are certainly relaxed at night, with night shift workers having much more freedom at work than their dayshift peers, primarily because managers have the power to avoid working at night (Paules 1991; R. L. Sharman and C. H. Sharman 2008). Visits to any condensed area of bars and taverns around closing time will let even the most naïve ethnographer know that the night can be a domain of illicit activities (Melbin 1978). Even teenagers find the draw of the night to be the high point of their weeks (Larson and Richards 1998). The reason the night can be used to break from

the usual patterns of the daytime is that the night remains a space for private time for the majority of the population, many of whom are asleep.

At the turn of the 21st century, the rates of night work are dropping, being replaced by evening work (Hamermesh 1999). The types of work at night are also changing, as the manufacturing core is being replaced by service occupations. At the same time as manufacturing at night becomes less common, the need for services at night is rising, creating high levels of stratification and even animosity between those working at night and those customers they service (Paules 1991; Sassen 2001; R. L. Sharman and C. H. Sharman 2008). These interactions highlight the marginalization of workers who work at night. At the same time, these same workers may have far more control of their own work, perhaps in response to how immaterial their contributions are since they are working at night (Paules 1991; R. L. Sharman and C. H. Sharman 2008).

Work at night, if initiated after the evening is mostly over,t encroaches less on social and family time, but more on sleep (Presser 2005). Deviating from a nighttime sleeping regimen has dire physical consequences, including a decreased ability to manage cortisol levels. It has been found that study participants forced to change shifts can only physiologically adapt one to two hours per night (Griefahn and Robens n.d.) Night workers are also found to have higher rates of accidents and lost productivity, while the physical effects of working at night linger into days off (Åkerstedt 1998).

Beyond the physical problems with night work, being on a schedule that does not conform to that of your social network can have long-reaching negative social impacts. Previous research on night workers finds that night workers spend more time with their

children (Presser 1988, 2005). However, these same schedules are highly destabilizing for marriages, as the two adult partners will rarely be able to see each other (Lesnard 2008; Presser 2000, 2005). Despite some possible advantages at work, the research seems to show night work has negative effects on children, while employers, employees, and customers largely experience jobs at night as marginalized forms of employment.

The Weekend

The weekend is a special case for large 'chunks' of discretionary time. Any activity requiring more than a few hours will need to be done on a day off, and the weekend is the usual location for time off. The same caveats apply as in the evening, if an individual is living a completely non-standard schedule with their life, including their social network, they may not be effected by working on the weekends. However, adding in children means they are only free for large chunks of time on the weekend. The weekend, for families, is the crucial time for doing long bouts of parenting. Indeed, much of the difference in parenting by education is only noticeable when looking at the weekend, rather than the weekday (Kalil, Ryan, and Corey 2012).

The weekend was first determined to be non-work time by being set aside as sacred time for reflection as the Sabbath (Zerubavel 1985). In the Orthodox Jewish tradition, this day of rest is entirely divorced from work and the economy-- both activities are banned on the Sabbath. The calendar day for this rest varies by culture, and it is often argued that this variation was created to allow distinctions between Abrahamic religions (Zerubavel 1980). The alignment of the day of rest and reflection is important when considering contact across cultures and religions. However, for the purposes of this essay it is enough

to consider the segregation of a portion of time away from economic pursuits and work itself.

The modern weekend is generally used as a time for both family and social activities. The weekend holds special significance as a time when large blocks of time, often during daylight hours, is available for socialization and activities. The weekend is also a time to promote marital stability, and weekend work is related to marital disruption, as are evening and night work (Presser 2000).

The weekend also is used as a time for decompression from work; it stands as the time and space for common activity, relaxation, and togetherness as a family. The intrusion of work into this space can wreak havoc in two ways. Work on the weekend can simply take away time from other activities on the weekend. This can be a 1:1 relationship, time at work takes away time elsewhere. However, time at work on the weekend may occur in the middle of the day, or at a time that may interrupt other potential activities. This second collision of work and non-work time is more damaging, as it precludes participation in activities that require longer spans of time. For example, if weekend time could be used for an overnight trip, having to do any work on the weekend, unless it is before leaving or after returning, would interrupt or preclude the trip. As such, an hour of work on a weekend day or evening my disrupt a much longer series of events by breaking up the uniquely significant 'chunk' of time that is set aside on weekend days. The exchange between weekend work and non-work time may be amplified far beyond the 1:1 nature of the number of minutes that are spent at work. Instead, it negates entire activities, which may in fact be 1:infinity if work activity disrupts even the possibility of the doing a non-work activity. This same process may hold true for other days off, such

as holidays. The modern weekend shows no signs of slipping permanently away, but the encroachment of any work on the weekend, especially work outside of the house, may be a more serious threat than currently realized.

TIME AS ORDINAL: THE SEQUENCING OF ACTIVITIES

Schedules vary among the adult population, but it is reasonable to expect some patterns to emerge more than others. Work is a useful example because of the large body of literature on the work-family balance. Recent research finds patterns of workdays that conform roughly to daytime work days, evening work days, long or short work days, and fragmented workdays (Lesnard and Kan 2011; Lesnard and de Saint Pol 2009). These categorizations are empirically driven, rather than theoretically, but are useful to keep in mind as regards the theoretically constructed typology presented below.

Type of work, and the related time in other activities, can be considered along the four definitions of time laid out above: when activities occur, how much time is spent in them, if the activity repeats, and the order of activities. The standard day is easy to explain: the worker wakes up in the morning, gets ready for the day, has breakfast, commutes to work, is at work for the whole day (minus lunch, if it is not a working lunch), commutes home, has dinner with the family, spends time in childcare/family time, has adult-specific time, then goes to sleep and sleeps continuously until the next morning. So:

Wake Up → Work (w/ commute) → Family Time → Adult/Leisure Time → Sleep.

The precise ordering of family versus leisure time, as well as how much time could be spent in each activity, is a topic of heated debate, though most scholars agree that the balance of family and leisure time varies by class and gender, with working women

having the least leisure (Aguiar and Hurst 2007; Kimmel and Connelly 2007; Offer and Schneider 2011; Saxbe et al. 2011). If primarily interested in work, one can break this process down into a more simple model of the traditional or 'straw-man' workday (see fig 1, example 1):

Sleep → Work → Discretionary Non-Work Time → Sleep

This model largely holds true as an assumption for the work-life balance. One conflict is what individuals do with non-work time, usually couched in the leisure debate as discussed above. The second question is what happens if work overlaps with family time, since family time is (usually) externally controlled by children's rigid schedules, imposed by schools or biological needs. A third popular question is what happens when the timing of work shifts, how do parents re-order their days (Presser 2005; Stewart and Allard 2008; Stewart 2009; Wight et al. 2008). The third question advances the issue of when something occurs, in an absolute way. Presser and colleagues generally find that workers who do the majority of their work outside of the hours of 8am to 4pm spend more time with their children and less time with spouses (Presser 2005; Stewart and Allard 2008; Stewart 2009; Wight et al. 2008). However, throughout those texts is the assumption that parents are only spending time with children and spouses in the evening, so the movement of the workday necessitates (or was necessitated by) matching childcare to a specific time. Presser hypothesizes that much of this happens via a re-ordering of the day for these workers. Rather than having a day go (from 4am to 4am):

Sleep→ Work → Non-Work → Sleep *Fig 1, ex. 1*

The schedule of a night worker is thus offset as follows (assuming they are in a non-synchronous schedule with their spouse/other childcare giver):

Work → Non-Work → Sleep →Work *Fig 1, ex. 2*

Comparing the two schedules, it can easily be imagined how two parents could cover most of the wakeful times for a child, and provide around the clock childcare. An evening shift could also fit this parenting pattern:

Sleep → Non-Work → Work → Sleep *Fig 1, ex. 3*

These schedules line up in theory, but Presser worked exclusively with survey data. As such, she did not know the order, duration, or periodicity of these tasks, only that evening and night workers tended to spend more time with their children. It needs to be noted here that there is ethnographic research that shows these types of arrangements do exist (Hochschild and Machung 1989; Hochschild 2001; R. L. Sharman and C. H. Sharman 2008). However, one important task in using the ATUS is to test the sequential patterns of parents who work these types of shifts, something that others using the ATUS have not done, though they have done admirable jobs showing Presser's findings hold up with time use data (Wight et al. 2008). However, this leaves open a new hypothesis:

Hypothesis 2_a: *The majority of childcare is done outside the evening if work interferes with evening hours.*

The Fragmenting of Work

The shift model assumes a single contiguous workday. There are two reasons to be suspicious of this. The first is that holding two or more jobs may split the workday. If these jobs are not in the same place, time for commuting between them may be necessary.

The two jobs also may not be scheduled contiguously. Imagine an individual with a job during the day, and also working as a paid actor at night to try to establish a career in the arts. If the day job is full-time, their schedule may look like this:

Sleep → Work → Non-Work → Work → Sleep *Fig 1, ex. 4*

This schedule shows multiple periods of work broken up by some non-work time in the early evening. The individual also moves directly from work to sleep—or may sacrifice sleep to have a non-work period to wind down from work. Another option for multiple-job holders is that they are working more than one job simply to maximize earnings—so they are working two (or more) part-time jobs, for example:

Sleep→Work→Non-Work→Work→Sleep *Fig 1, ex. 4*

Fragmented jobs have been recorded in recent research on job scheduling at the daily and weekly level using UK data, though they may be conflated with part-time work (Lesnard and Kan 2011). Research using American survey data lumps all non-standard work together (Presser 2005), and more recent research on work schedules using the ATUS explicitly ignores individuals holding two or more jobs (Wight et al. 2008). Part-time jobs may be in the service sector, meaning they are only working when individuals on a typical schedule may need services:

Sleep → Work → Non-Work *Fig 1, ex. 2*

This is the same ordering listed in the typical schedule above, but is offset later in the day, with sleep initiated some time before 4am but running into the middle of the day, then work when children and adults on a usual schedule most need services. However, another

option to fit this same work pattern allows for an re-ordered day that lines up with the typical schedule:

Sleep → Non Work → Work → Sleep *Fig 1, ex. 5*

Here the worker has a distinct pattern to the day, but has their non-work time while the typical worker is awake, but more will be written on how they may overlap in the section on multi-tasking.

Hypothesis 2_b: *Some workdays in the ATUS will be fragmented and cannot be easily defined as occurring at any one point in time.*

Hypothesis 2_c: *Working in the service sector will be a predictor of having highly a fragmented workday outside of the home.*

"Working": Not Just For Work Anymore

The section above discusses how sequence and the temporal location of activities during a day combine to provide a lot more information about the interplay between work, non-work, and sleep than simply considering the amount of time spent in each activity. Using a framework that considers multiple dimensions of time allows for a better understanding of how time is used and socially ordered. The examples above consider each activity to be a discrete entity, but major implications are raised when this assumption is relaxed. The advent of cheap and widespread telecommunications has allowed for the office to be brought into the home. Among workers with low monitoring and high human capital (Williamson 2010), there is the ability to work from home. Working from home, at least

in the evening, may allow for the worker to return to work after family time. In this instance the worker may have a day where work is fitted around family time:

Sleep → Work → Non-Work → Work → Non-Work → Sleep *Fig 1, ex. 6*

The example listed above treats work and non-work as discrete entities, and it is easy to imagine a lot more switching between work and non-work, especially as the amount of time this switching may be happening. In addition to the hypothesis about evening work stated above, an additional hypothesis about the location of evening work can be included:

Hypothesis 1_b: *Evening work at home will have less effect on time with children than evening work outside of the home.*

USING TIME AT THE MICRO LEVEL

The periodicity of an activity is the frequency of reoccurrence within the bounds of a larger period of time. For example, an hour of childcare can be one contiguous hour, or six ten-minute care periods interspersed with working at home, cooking, and cleaning. Another example of the importance of periodicity is the research into sleep: having one contiguous sleep cycle is far healthier than having interrupted sleep, be it sleeping small amounts at different times of day or having one spell that contains interrupted sleep (Åkerstedt et al. 2002; Burgard and Ailshire 2009; Knauth et al. 1980; Maume, Sebastian, and Bardo 2009, 2010). Measuring periodicity compliments measuring how much time is spent in an activity and when it occurs.

It is easy to imagine all activities are discrete. A wholly focused individual will work for eight hours, parent for four, relax for four, and sleep for eight. This is the data available from surveys that consider the amount of time in an activity on a day or week, and researchers often use this information to make comprehensive claims about how respondents spend their time (c.f. Fragile Families, NSFH, NLSY). These surveys are excellent and efficient at getting reliable information from a large part of the population, and as such have very good response rates. Indeed, the results from stylized survey questions are consistently different but comparable to those gathered from time use surveys, if the total time in any given activity across the day is measured in both (Kan and Pudney 2008; Kan 2007; Sonnenberg et al. 2012). The arguments for the consistent difference between stylized and diary estimates of an activity have largely rested on questions of recall and accuracy of reporting of activities. However, it is also possible that individuals have a hard time separating out the activities they do on a day, let alone a week. Activities that are switched between quickly, such as doing work email while having dinner with children, can be easily forgotten in a survey question. Likewise, the quick switching between watching a child and taking phone calls can also be easily forgotten when trying to recall the amount of time spent in childcare for an entire week of activities.

Time diaries have tried to get around the problem of fast switching and multi-tasking in two different ways. The diaries that descended from the work by Szalai (1966) measure two concurrent activities, giving some idea of multi-tasking across the 15-minute windows the diaries collect information about. The 15-minute diaries also ask respondents to specify their primary and secondary activity. As such, the Szalai style

surveys record which activity the respondent thinks they are focusing on most. The Longitudinal Study of Australian Children (LSAC) goes further and collects all activities a child engages in during each fifteen minute period, but he LSAC does not differentiate in importance between activities, leaving an ambiguous path for researchers trying to count multiple activities within one time period (Baxter 2007).

The ATUS asks for only one activity at a time, but the individuals are allowed to state the start and end time of each activity. An activity can be as short as one minute and as long as the respondent wants. This approach allows a closer study of fast-switching but a less detailed study of multiple concurrent activities than past time use surveys. The ability to record switching between who else is present at an activity has already been exploited to measure social isolation among older populations (Cornwell 2011). However, up until now no one has researched how the fast-switching of activities shows the process of home life, especially if parents give long or short periods of "quality time" to their children.

The ATUS records secondary activity in a very different way than the Szalai style time diaries. The ATUS records any secondary childcare or work done during each activity. Recording this information is slightly less useful for the purposes of counting the amount of time in an activity, as an individual could be doing any amount of childcare or work during this activity and still have it recorded for the entire activity. However, it is an excellent way to measure focus on an activity—is the respondent only doing one thing, or are they multi-tasking. One imagines that they would report two distinct activities if they were fast-switching. The difference here is between doing activities in quick succession, or trying to split focus across two or more activities at one time. That the ATUS records

secondary time in childcare a work is very helpful for researchers trying to determine the scheduling patterns between work and family.

Adding multi-tasking and fast-switching to the examples listed above creates a distinct model of behavior compared to the sequences laid out above. For example, the non-work time can be explored more concretely if considering along with fast switching between activities, such as the following:

Eating → Child Care → Work e-mails → TV → Childcare → Time with Spouse → Work emails… (figure 2, ex. 1)

If the respondent instead uses the secondary flags to respond, the same set of activities could be read as the following (secondary in parentheses):

Eating (child-care) → Childcare (Work) → Work (Childcare) →TV (childcare) → Childcare → Time with spouse (childcare) → Work emails (figure 2, ex 2.)

These are two different ways of reporting what could be the same set of activities. However, they may also be two different ways of conceiving the same activity. A parent who is focusing on only one activity at a time may not report doing childcare while simultaneously eating, doing emails, or watching TV. This parent may not report these activities because their spouse or another person is watching the child. However, the same parent may be active in both activities, and monitoring the child while also eating, doing emails, etc, in which case they should be most likely to report the second form of activity, where they are doing secondary childcare or work while doing a primary activity, or switching between childcare and work, as in

It is important to note here that the ATUS records activity, not focus or thoughts about other things during an activity. Yes, there is some overlap, but it is based in action, not in thought. For example, if an individual is working on outside of the house but thinking about their child's schedule, it is hard to imagine this being a case of doing secondary childcare while working. However, if this same individual is actively on the phone with their child or making arrangements for childcare while at work (and presumably recording work as the primary activity) then this may indeed be reported as secondary childcare. It must be noted here that this instance would also not have a child as a present during the activity, and as such may or may not be recorded in the data.

Hypothesis 3_a: *Working from home means work and home overlap, and are not cleanly divided, but instead involves switching back and forth between activities.*

AGENCY AND ACCESSIBILITY

Of course, the examples above rely on the question of accessibility of parents to children, and are more complicated than they may seem. Before everyone carried a phone and computer in their pockets, activities had to be conducted in person or via mail. Work with customers was at work, and parenting was at home. While a quick phone call home was not uncommon, there is little likelihood of parenting by distance, or splitting time between work and family at home. Yes, it could happen, but it would be scheduled by the worker, not by the (near) constant pressure coming in from ICTs as virtual communications and ties between work and home[2]. While Hochschild (2001) talked about work and home taking each other's place for individuals, she could not predict the

[2] Consider the difference between brining home paperwork to do and responding to a cascade of emails to which superiors expect immediate answers.

fast switching that can now regularly occur because of the advent of ICTs into daily life. The fact that work and home can exist simultaneously is a paradigm shift, and turns the traditional distinctions between work and family into an interactive ballet between the two.

The ability to multitask across space, at the same time, is not evenly distributed across the population. There are two types of accessibility that must be considered in a world so full of information communication technologies (ICTs). One aspect is physical accessibility, can you be physically present for work or home activities at a given time of day. The second question is one of virtual accessibility, can you engage in work and home activities while not physically present.

Compare the busyness of the upper classes to that of factory workers, who are busy at work because an assembly line runs at its own speed, causing the worker to have to keep up or be fired. In fact, one of the major innovations of Japanese manufacturing has been the advent of individuals being able to stop the line for problems, rather than let errors go by just to keep pace (Lincoln and Kalleberg 1992). Empowering factory level workers with control of their own work allowed for increased quality control and morale in manufacturing. Unlike deciding how fast work is done (or at least the ability to stop working when necessary for the product at hand), the allocation of choice in when work is done is probably limited among most working class employees, especially those whose work is tied to external entities, be they machines, customers, or managers who need to be present while the individuals do their work. Having discretion over time at work requires independence in scheduling work, trust from employers, and an absence of frequent demands to interact with others.

Accessibility

There are two types of accessibility: physical and virtual. Physical accessibility means the ability to interact in a meaningful way with others. Virtual accessibility is the ability to communicate with the others in your life. This typology can be broken out in the following 2x2 table:

		Virtual Accessibility	
		High	*Low*
Physical Accessibility	*High*	Contract Work from Home	Monitored Work from Home
	Low	Contract/Management Work from Away	Assembly Line Work

Physical accessibility is the ability to be directly reached by other people during work. This includes activities like chatting, meeting up, or being interrupted. A good example of this at the workplace is the ability to exclude distractions. In a modern office, managers have doors, while employees have cubicles. Employees can be directly monitored and constantly bothered. Meanwhile, managers can send a clear message to not be disturbed when they have their doors shut.

Virtual accessibility is the ability to be bothered electronically. Electronic interruptions may include phone calls, emails, and chat. These services are increasingly used by businesses and families to keep in contact with their members when they are engaged in the opposing sphere. Constant contact between home and family leads to the syndrome of everyone being everywhere at all times (Conley 2009). It also further dilutes the differences between work and home (Hochschild 2001). The blurring of these lines occurs differentially across different types of work, and different incomes.

Public Accessibility and Monitoring

Physical accessibility also indicates the ability to leave work and deal with a problem outside of work. This can further be broken down into a question of authority to leave work, or being accessible to others at work.

		Public Accessibility	
		High	*Low*
Authority / Difficulty of Monitoring	*High*	Service Sector Manager	Assembly Line Manager
	Low	Service Sector Employee	Assembly Line Employee

The table above shows the breakdown of authority and accessibility, and four hypothetical situations that typify these interactions. Consider an employee who is highly accessible to their family and have the authority to leave or invite their family into the workplace, either in a physical or a virtual way. The discretion to leave work, either physically or mentally, should determine how much conflict work could have with life. For example, a manager can choose to leave work much more easily than an employee. Also, someone for whom there is high difficulty monitoring their work is more likely to be able to take a physical or virtual break from work to interact with family needs.

Authority to be accessible at work is only necessary where monitoring is easy. If monitoring is difficult, then the employee can easily consider family during the workday, both virtually and physically. The model of the industrial assembly line worker is one case where the worker is easy to monitor and the worker has little authority in determining their physical and virtual location. These jobs are notoriously loud and the pace of work is controlled by machines and fellow workers. The worker cannot interact physically or virtually with their family during the workday (except for breaks). Any sort

of multi-tasking is nearly impossible and the locations are difficult to leave or to allow family members to enter. The low distractibility, when combined with the highly private nature of the workplace, makes any work of this type have a high rate of isolation from the family. Work with a high isolation rate will also have a high probability of generating work-life balance problems. The ATUS only allows for evaluation of multi-tasking at home, and as such:

Hypothesis 3_b: *Parents will vary in how much they tradeoff between work and childcare in the evenings at home depending on characteristics of their work.*

CONCLUSIONS

A series of testable and falsifiable hypotheses are laid out above, grouped into three broad categories. Testing these hypotheses will allow for a test of the broader multifaceted approach to measuring time discussed above, by applying it to work and home life, a topic that has been widely studied using survey data. These hypotheses will be tested in a series of three broad sections that comprise the remainder of this dissertation.

Since the majority of work-family research focuses either implicitly or explicitly on the evening, the first empirical section will address the question of work in the evening. First, the efficacy of existing measures on non-day or non-standard work are effective at measuring work in the evening. The results will show they are not. Next, the question of where evening work occurs, by education as a proxy for socio-economic status will be tested. The results will show that while people of many educational backgrounds do evening work, highly educated individuals are much more likely to do this work at home

than the less educated. As such, the highly educated, and especially highly educated women, will be more likely to have the opportunity to split their evenings between work and childcare, while any less educated people who have to work in the evenings will be separated from their children. These results in total will show the question of evening work requires focusing specifically on the evening, not just when most hours are worked, and considering where the work takes place. The first empirical section will strengthen the claim that all work is not equal in timing, location, or type, showing again that aggregate measures of what is done across a single day are inadequate to truly understand the balance between work and family.

The second empirical section of this dissertation will look at how individuals restructure their days, especially their time in childcare, to cope with evening work. The hypotheses laid out above will test first if the temporal location of childcare shifts in response to work during the evenings, when most childcare is considered to occur (and, it will be shown, actually occurs). This section will also look at the structure of the modern workday, testing if specific patterns of workdays match with specific patterns of childcare. In effect, it tests the typologies laid out in figure 1 against the ATUS data using sequence analysis techniques, starting with and expanding on techniques of optimal matching that are currently being pioneered by Lesnard and Kan (2011).

The third empirical section of this dissertation will examine the prevalence of multitasking of parents on weekday afternoons and evenings, when children are most likely to be at home. This section will consider the patterns of doing quick switches between activities at home, doing only secondary childcare, or taking time to do only one

or the other activity. The results will show the variation in concerted quality time between parents of different educational backgrounds, genders, and types of work.

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Figure 1: Ideal Types of Time in Different Activities