CONSTRAINT, NECESSITY AND THE "TIME AVAILABLE" FOR WOMEN'S HOUSEWORK

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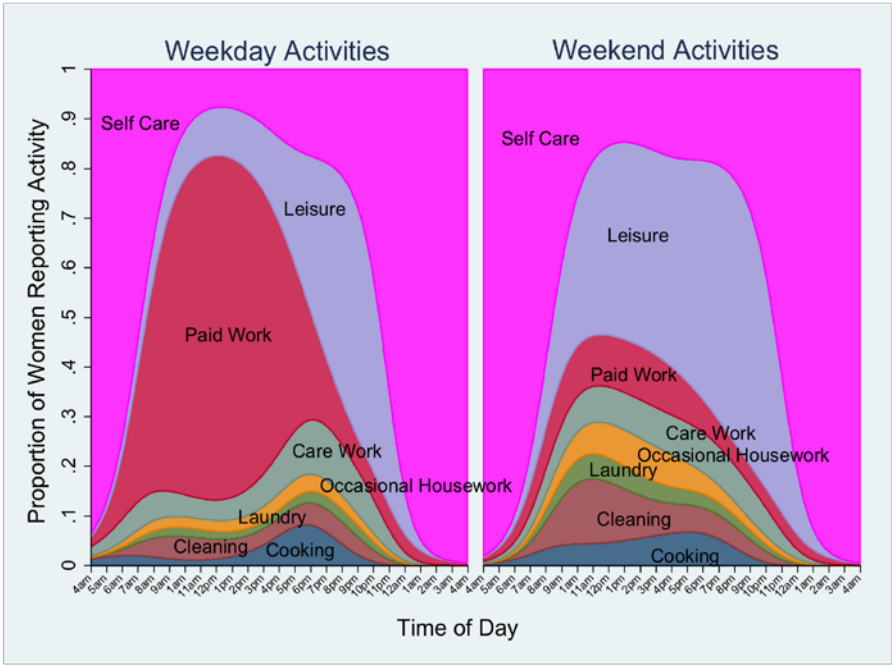
INTRODUCTION

One of the most consistently successful predictors of women's housework time has been their time spent on paid work. The "time availability" hypothesis states simply that women allocate time for unpaid domestic labor from the hours left over from paid employment, and this expected negative relationship between the hours spent on the two kinds of work has been validated by the overwhelming majority of quantitative studies using data from the U.S. and other advanced capitalist countries (Cooke & Baxter 2010).

Here we make explicit and test two hitherto tacit assumptions of the time availability model: (i) that it works equally well across days of the week regardless of employment schedules and (ii) that it operates equally well for all kinds of chores regardless of how frequently they are typically performed.

Figure 1: Proportions of women engaged in selected activities, by type of day



To do so we separate two dimensions of the conventional time availability hypothesis that existing research has folded together: constraint and necessity. The first refers to the bounds placed on housework time by the demands of paid employment on weekdays versus weekends. Despite the emergence of the 24/7 economy and growth of nonstandard work hours (Presser 2003), the majority of employed individuals do most of their paid work on weekdays. For employed women there is therefore markedly less time available for housework on those days compared to weekends. Figure 1 from our sample shows how paid employment structures time availability quite differently on weekdays versus weekends.

Yet the quantitative research to date has ignored the distinction between weekdays and weekends by using measures like "usual weekly hours" spent on activities like domestic labor. Even when it

employs data on separate days, it tends to aggregate them into weekly estimates. To better understand the operation of time constraints, we conduct separate analyses for employed women's time spent doing housework on weekdays and weekends. We distinguish also between the kinds of housework that are more chronically necessary on a daily basis and others that are more easily deferred to weekends. The scholarship to date has already highlighted cooking, cleaning and laundry as chores that are more routine, or less discretionary, than discretionary tasks like yard work. But even among these more "female" chores, some are more imperative than others. Meal preparation, for example, needs to be performed daily, while laundry is easier to defer to days during which there is more time left over from paid work, like weekends. To date the time availability hypothesis has been tested for these tasks taken together; we do so separately for different chores with varying demands in terms of daily necessity.

Parenthood further ratchets up the demand for and gendered expectations of housework, both the daily chore of cooking but also chores that are less daily like cleaning and laundry. Employed mothers are the only group of women in the USA to experience a "2nd Shift" (Milkie, Raley, and Bianchi 2009). Employed mothers also have shifted some time from housework to child care, and studies comparing child care time on weekdays and weekends indicate mothers do less child care on weekends compared to weekdays (Yeung, Sandberg, Davis-Kean, and Hofferth 2001). The studies have not compared mothers' weekday and weekend child care by employment status, however. We anticipate that mothers will do more housework than non-mothers on both weekdays and weekends, and have the weakest negative association of employment with weekday housework. We also expect, though, that employed mothers will manage the "second shift" by shifting some housework to weekends and thus the influences of employment on weekend housework will be stronger for mothers than non-mothers.

DATA AND METHOD

Our sample is drawn from pooled time diaries from the 2003-2007 waves of the American Time Use Study (ATUS) covering 4 am to 4 pm on a single day prior to the telephone interview. The population consisted of non-institutionalized U.S. residents over age 15. We limited our sample to 19,132 diaries of married and cohabiting women 18-65 years of age who were not self-employed or employed in family businesses. These are nearly evenly split between 9,434 weekday diaries and 9,698 weekend diaries. The ATUS sampled different individuals on weekdays and weekends, so we do not have data on the weekday and weekend behavior of the same women. Our dependent variable is hours spent during the diary day on four routine household tasks: meal preparation, washing the dishes, cleaning house and laundry. We further separate these into two kinds of tasks, one that needs doing daily or frequently (meal preparation plus dishes) and another that is more

easily deferred (housecleaning plus laundry). Our independent variables are an indicator variable for weekday or weekend diary day and the usual number of weekly hours employed.

HYPOTHESES AND INITIAL FINDINGS

Table 1 summarizes our argument and hypotheses. The standard time availability hypothesis and finding, undifferentiated by day or task type, is that housework hours are negatively associated with paid work hours. This is represented by the regression coefficient β_{ta} in the table.

Table 1: Time availability coefficients, by day and task type

	all days	weekday	Sat/Sun (weekend)
all chores	β_{ta}	β_{w}	β_{s}
meals + dishes	β_{m}	β_{mw}	β_{ms}
cleaning + laundry	β_{c}	β_{cw}	β_{cs}

Conventional time availability hypothesis (undifferentiated by day or task type)

$\beta_{ta} < 0$: The association between women's housework and paid work time is negative

We test separate hypotheses for two independent dimensions of this hypothesis, time constraint and task necessity. The constraint dimension is operationalized by day type (weekday vs weekend). The second is captured by the greater imperative to prepare meals daily, or more frequently, than to perform housecleaning. In Table 1, the constraint dimension forms the columns and the necessity component forms the rows.

Constraint dimension of time availability (differentiated by type of day)

$\beta_{w} < \beta_{s} < 0$: The association is more negative on weekdays than on weekends

Figure 1 shows that paid work dominates the weekdays for most women, who focus their housework during the evening hours. On weekends, however, more women engage in domestic labor throughout the day. These fundamental differences motivate our day-specific version of the time availability hypothesis, namely that the association between employment and housework hours is more negative on weekdays than on weekends.

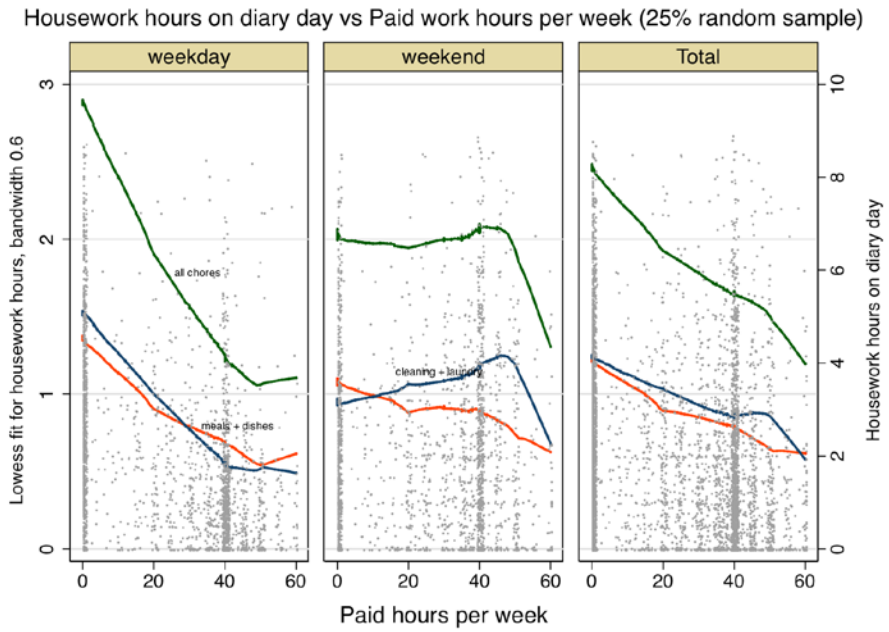
Next we hypothesize that the time constraints imposed by employment are easier to respect for tasks that can be deferred, like cleaning and laundry, than for tasks like meal preparation and cleanup which are more necessary on a daily basis. Most people eat every day; although all meals can be eaten out, stylized and diary estimates indicate more women report some cooking and meal cleanup on a regular basis compared to reports of other types of housework (Sayer 2005; author ATUS calculations). We therefore anticipate that the time availability slope is smaller, i.e. more negative, for cleaning and laundry than it is for meal preparation and cleanup..

Necessity dimension of time availability (differentiated by type of chore)

$\beta_c < \beta_m < 0$: The association is more negative for cleaning and laundry than for meal preparation and dishes

Our descriptive findings lend support to our "constraint" modification of the time availability hypothesis. The Lowess fit in the last panel ('Total') of Figure 2 below shows the overall negative association between time spent on all chores versus paid work hours predicted by the conventional time availability hypothesis. The other two panels, however, suggest that this association is driven primarily by weekdays. On weekends the slope is relatively mild for most of the data, though it is markedly negatively for women with very high employment hours. The descriptive fits are less supportive of our "necessity" version of the time availability hypothesis. In the 'Total' panel undifferentiated by day type, we observe comparable slopes for the two kinds of chore.

Figure 2: Nonparametric (Lowess) bivariate "time availability" slopes



However, the 'weekday' panel of the figure does show a somewhat more negative slope for the tasks that are easier to defer to the weekend. The Lowess fit for weekend days actually shows a more *positive* slope for such chores, suggesting that the more hours of paid work women put in during the week, the more time they spend on cleaning during weekends. This motivates an additional set of hypotheses for degrees of necessity within the same level of constraint (type of day), and for degrees of constraint within the same level of necessity (type of chore).

Intersection of constraint and necessity

$\beta_{cw} < \beta_{mw} < 0$: On weekdays, the association is more negative for cleaning and laundry than for meal preparation and dishes

$\beta_{cs} \sim \beta_{ms} \leq 0$: On weekends, the association is comparable for meals and cleaning, and possibly not significantly different from zero

$\beta_{mw} \sim \beta_{ms} \leq 0$: For meals, the association is about the same on weekdays and weekends, and possibly not significantly different from zero

$\beta_{cw} < \beta_{cs} < 0$: For cleaning, the association is more negative on weekdays than on weekends

Finally we illustrate our multivariate approach with the table below of predicted values from models including age, occupation and other standard controls. We report the predictions by three employment statuses—'NE' or not employed, 'PT' or part-time and 'FT' or full-time. Within each employment status, the table shows predictions separately for women with children under age 18 present and not present. Somewhat contrary to our expectation, the "time availability" gradients by employment status appear to be comparable for women with and without children present, though those with children present spend more time on all tasks. In the paper we will refine our tests to determine whether or not the negative association between the paid and unpaid work time is significantly different between these two groups of women.

TABLE 3. Predicted Values of Women's Weekday and Weekend Minutes of Housework by Employment and Presence of Children

weekday (*N*=9434)

	NE w/child	NE w/o child	PT w/ child	PT w/o child	FT w/ child	FT w/o child
All core tasks	195	157	103	83	83	71
SE	3.3	4.8	2.9	4.2	1.8	2.5
Meals + Dishes	91	69	53	39	44	36
SE	1.8	2.6	1.5	2.5	1.0	1.4
Cleaning + Laundry	105	89	51	45	40	35
SE	2.7	4.1	2.5	3.2	1.5	2.0

weekend (*N*=9698)

	NE w/child	NE w/o child	PT w/ child	PT w/o child	FT w/ child	FT w/o child
All core tasks	152	119	141	121	139	119
SE	3.4	4.4	3.6	5.3	2.6	3.4
Meals + Dishes	75	59	61	51	57	48
SE	1.8	2.6	2.0	2.8	1.4	1.9
Cleaning + Laundry	78	60	81	71	82	72
SE	2.7	3.4	2.9	4.5	2.2	2.8

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