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Gender, Job Loss, and Housework: The Time Availability Hypothesis Revisited

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ABSTRACT

Spouses’ time in paid labor is widely assumed to affect housework time, an assumption captured in the time availability hypothesis of housework division. Nonetheless there is no consensus about the extent to which sex differences in paid labor time can explain the gender gap in household labor, and existing estimates are troubled by the endogeneity of time in housework and time in market work. Using the experience of job loss as an exogenous shock to labor market time and panel data from the Panel Study of Income Dynamics we find that even the large changes in market work time resulting from job loss have little effect on spouses’ housework time, suggesting that, despite a prominent position in the housework literature, differences in spouses’ time in market work can explain little of the gender gap in household labor time.
INTRODUCTION

Economic downturns have the potential to disrupt the daily patterns of individuals’ lives and the lives of their families. Job loss is a particularly salient disruption, which has been associated with a multitude of negative consequences, including higher subsequent hazard of divorce (Charles and Stephens 2004) and poor health outcomes (Burgard, Brand, and House 2007). The effects of unemployment may also be felt in the organization of the household, prompting spouses to re-allocate the tasks of wage-earning and caring for the home. Unemployed husbands have the potential to reduce their working wives’ “second shift” by assuming more housework and child care responsibilities at home. However, unemployed husbands’ increased capacity to respond to demands for household labor may be offset by feelings about appropriate gender roles, and they may find increased time in homemaking socially uncomfortable and undesirable. In the former situation, spouses may be able to smoothly re-allocate tasks between one another in the event of a job loss, while in the latter case husbands’ job losses may increase the burden on wives to participate in the labor market, without offering any relief from household labor. These competing responses illustrate two theories for the division of housework—time availability theory and the theory of “doing gender”.

Time availability is typically considered one of the three major theories explaining the division of household labor, along with relative resources theories and theories of doing gender¹. Our work engages directly with time availability theory, which suggests that couples rationally allocate time in housework on the basis of spouses’ relative hours in the paid labor market and the amount of housework to be done (Bianchi et al. 2000; Coverman 1985; England and Farkas 1986). Despite the intuitive appeal of this theory and a long history in sociology, time availability theory has attracted relatively less attention in recent sociological research than have relative resources or doing gender theories, resulting in the still-true claim that it is “one of the least conceptually developed of the approaches to explaining the division of household labor” (Shelton 2000, p.346).

¹ The literature includes a number of different theories for the division of household labor that have a gender-centric, versus gender-neutral, focus. Most of these theories are based in some way around the enactment of gender roles. We use the West and Zimmerman (1987) terminology of “doing gender” to characterize these theories although their scope extends beyond West and Zimmerman’s (1987) original work.
Our study is motivated by this underdevelopment. Both previous empirical studies and review articles on the division of housework refer extensively to time availability theory as one of the three major theories of housework division (Bianchi et al. 2000; Bittman et al. 2003; Brines 1994; Coltrane 2000; Coverman 1985; Evertsson and Nermo 2004; Fuwa 2004; Greenstein 2000; Kamo 1988; Shelton 2000). Thus, time availability is hardly a little-known or inconsequential theory. Yet, the theory has received minimal conceptual development, resulting in a significant disconnect. While empirical analyses of spouses’ time in housework almost invariably review the major tenets of time availability theory (perhaps because of an inertia that encourages scholars to follow the formulations of existing literature reviews closely) much less attention has been given to developing an appropriate test and operationalization of this theory.

This empirical neglect may stem in part from the challenges in finding an appropriate test of the theoretical tenets of time availability. Most evaluations of time availability are limited by their use of cross-sectional data (Bianchi et al. 2000; Burda and Hamermesh 2009; Evertsson and Nermo 2004; South and Spitze 1994). If an individual’s housework hours are negatively associated with his own time in the labor market and positively associated with his spouse’s, this may indicate nothing more than a negative correlation between preferences for paid work and for household labor, coupled with assortative mating on the basis of preferences for specialization. The use of panel data and fixed-effects models can alleviate this concern, as these models will examine whether couples’ divisions of household labor change with changes in spouses’ time in market work.

However, there is a second concern that is not addressed by panel data. Time availability theory assumes that couples first decide how to allocate each spouse’s time in the paid labor market and then decide how to allocate each spouse’s time in household labor based on the number of hours each spends in paid labor. It is common in empirical work to include measures of spouses’ market work time in models of housework hours and to interpret any significant negative relationship between time in market work and time in housework as supportive of the theory of time availability (Bianchi et al. 2000; Bittman et al. 2003; Brines 1994; Cunningham 2005, 2008; Evertsson and Nermo 2004; Gershuny, Bittman, and Brice 2005; Greenstein 2000; South and Spitze 1994). By treating market work hours as an exogenous variable, these models in fact presuppose a major tenet of time availability theory: that spouses’ decisions about time spent in housework follow and respond to the allocation of time to the paid
labor market. An appropriate test of time availability should not make this assumption, but rather test if it is warranted. If housework and labor force hours are jointly determined, with gendered expectations about the allocation of housework influencing spouses’ time in paid labor, modeling time spent in housework in a way that takes the labor force decision as given may understate the effect of gender and overstate the effect of time availability. Because of the potential for joint determinacy, time in the labor force is endogenous to time in housework. Changes in wives’ housework time that are associated with changes in paid labor time may indicate only that wives reduce their time in the labor market when they desire to or feel compelled to spend more time in child care and household labor, consistent with qualitative evidence (Hochschild 1989).

Voluntary changes in paid labor time and housework time do not establish the direction of causality and therefore cannot test the premise of time availability—that spouses’ time in paid labor is a motivating consideration in the allocation of housework time between spouses. In other words, previous studies have not assessed whether individuals would do more housework if they spent less time in the labor market, or whether the relationship is only spurious.

We address these shortcomings by employing longitudinal data and asking how involuntary changes in couples’ labor force outcomes affect their division of household labor. To understand how couples adjust their housework hours in response to changes in labor force outcomes, we exploit the fact that job loss is an exogenous shock to labor force hours and examine how couples respond to this shock. The involuntary nature of job loss provides us with a situation in which it is appropriate to view labor market outcomes as determined prior to, rather than jointly with, decisions about time in household labor. The longitudinal nature of the data allows us to account for the possibility that the observed relationship between housework hours and time in the labor market is merely driven by unobserved differences across individuals. By exploiting the shock of involuntary job loss in combination with panel data, we are able to evaluate the time availability hypothesis more rigorously than previous tests in the housework literature. If the time availability hypothesis is upheld, we expect to see large changes in spouses’ housework hours in response to the changes in market work hours introduced by unemployment.

We begin by reviewing the existing literature on the division of household labor for spouses with an emphasis on the time availability literature. Next, we discuss the contributions of our work and introduce our data and methods. We then present the results of our main models.
We discuss robustness checks and the limitations of our analysis. We conclude with a summary of our findings and discuss their implications.

THEORETICAL FRAMEWORKS AND PREVIOUS RESEARCH

Existing studies have often produced results consistent with the time availability hypothesis, finding that individuals’ time in housework falls with their own time in market labor and rises with their spouses’ time in market labor (Bianchi et al. 2000; Blair and Lichter 1991; Gershuny et al. 2005; South and Spitze 1994). However, it is not clear whether this negative relationship is sufficient evidence for the time availability hypothesis, because of the endogeneity previously discussed. Including paid labor time as a covariate in models of housework time assumes that housework time responds to time in paid labor and cannot rule out the possibility that the causal relationship runs in the opposite direction.

Furthermore, it is unclear how strong a relationship between market work hours and housework time we should expect in practice. The theoretical framework of time availability suggests not only that spouses’ housework hours will respond to available time, but that this responsiveness should be strong and should explain a significant share of the gendered variation in time spent in housework. From a theoretical standpoint, the time availability hypothesis predicts that housework will be allocated to the spouse who spends the fewest hours in the paid labor market, regardless of gender, presumably up to the point that equal total work (market plus non-market) is achieved for each spouse.

It is perhaps unsurprising that empirical estimates of the relationship between market work hours and time in housework fall far short of the theoretically ideal one-for-one tradeoff. We propose at least three reasons why this might be so. First, time availability theory is gender-neutral and therefore does not consider the ways in which gender-specific norms of behavior may moderate the relationship between market work hours and housework hours. The doing gender perspective in the housework literature suggests that housework is a space for the symbolic enactment of gender relations (Berk 1985; West and Zimmerman 1987). In particular, there are cultural norms about which spouse should dedicate time to the labor force and which should dedicate time to domestic labor. These norms may act as disincentives for couples to adopt non-traditional divisions of household labor, as couples may fear being stigmatized or experience psychological unease (Atkinson and Boles 1984; Blair-Loy 2003; Brines 1994;
Hochschild 1989; Tichenor 2005). This implies that observed behavioral changes in housework hours in response to unemployment may particularly fall short of the theoretical ideal for men, for whom domestic labor may be stigmatized.

Second, the predictions of the time availability hypothesis may be hindered by inertia. Time availability theory makes no provisions for the development of habits or skill specialization. Instead the theory forecasts on the assumption of fluidity. Yet, it is reasonable to expect that decisions about how to allocate domestic labor between partners at one point in time could be path dependent, drawing heavily on past allocation decisions. Decisions early in a marriage about the allocation of spousal time to housework and paid labor may lead to the formation of habits in these two realms, which may inhibit change. Couples may come to view their division of labor as the norm and be reluctant to upset the status quo, consistent with evidence of status quo bias in decision-making in other domains (Samuelson and Zeckhauser 1988). Furthermore, the members of the couple may develop proficiency in the elements of household production in which they specialize, making a change to the status quo costly in terms of productivity. Resistance to change may be especially likely if couples do not perceive their new situation as permanent. If couples are motivated to rely on their existing housework habits and long-term agreements that are fair from the perspective of the long term, this may reduce the responsiveness of spouses’ housework time to changes in time availability, including those occurring with unemployment.

Third, unemployed individuals are likely to spend some portion of their former market labor time in job search activities. Searching for a new job may account for a non-trivial portion of lost paid labor hours, although it is unlikely to replace the entirety of former labor market time.

Existing studies generally provide evidence consistent with time availability, although the magnitudes of the effects vary widely across studies. Extrapolating from the estimated relationships in existing research between hours of paid labor and hours of housework, both husbands and wives in our sample who lose their jobs would be expected to increase their weekly housework time by approximately 2 to 3 hours, depending on the estimate\(^2\) (Evertsson and Nermo 2004; South and Spitze 1994). Examining employment status indicators, rather than

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\(^2\) The estimates are constructed by multiplying each estimated coefficient by the average weekly hours spent in the labor market prior to the year of job loss, for men and women in our sample who lose their jobs.
hours, Bianchi et al. (2000) find that, among married women, those working full time spend 12.8 fewer hours per week in housework than those who are non-employed, while wives who are employed part time spend 8.4 hours per week less in housework than the non-employed. Among married men, compared to the non-employed, those employed full time spend 8.9 fewer hours in housework per week and those employed part time spend 12.9 fewer hours in housework per week. Gershuny et al. (2005), using panel data and fixed-effects models, find that a transition from full-time employment to non-employment is associated with an increase of 7.2 hours of housework per week for women, while women transitioning from part-time work to non-employment increase their housework hours by approximately 2.5 hours per week. Men, by contrast, increase their housework hours by only 0.7 hours per week when they transition from full-time work to non-employment. The results of these previous studies generally suggest large responses to changes in spouses’ time availability, but they should be interpreted cautiously.

While the use of fixed-effects models by Gershuny et al. (2005) reduces some of the concerns that unobserved heterogeneity contributes to the relationship between labor supply and housework hours observed in cross-sectional studies, it does not address the concern that labor supply changes are in general not exogenous.

The generally smaller effects estimated for men as compared to women may indicate that men are less responsive to time availability, perhaps because of gender norms, or may simply indicate that men’s transitions out of the labor market are more likely to be exogenous, and women’s transitions are more likely to be voluntary. Burda and Hamermesh (2009), ignoring voluntary employment transitions and looking only at unemployment, find that those who are unemployed spend about an hour and a half more in domestic production each week, net of other covariates. However, this work is limited by the use of cross-sectional data.

In the two existing longitudinal studies of the relationship between unemployment and housework, the results are consistent in sign with time availability, although the change in housework hours for either spouse following unemployment is small (Shamir 1986; Ström 2003). While the longitudinal component of these studies is valuable, both are limited by a short panel duration and small sample size.

In addition to evaluating the time availability hypothesis, our research design allows us to evaluate the deviance neutralization hypothesis as it relates to unemployment. In opposition to the results discussed previously, Brines (1994) found that long-term unemployed men (working
less than 12 weeks during the year) spend less time in housework than even fully employed men, although the difference is not statistically significant. She argued that these unemployed men were resisting housework because of their position as dependent on their wives and termed this behavior “gender display” (Brines 1994). If the deviance neutralization hypothesis is correct, the psychological effects of job loss, particularly for men, may be enough to counteract the effects of additional time available for household labor. Given the cross-sectional nature of Brines’ (1994) study, it is impossible to determine whether the long-term unemployed men were simply different from fully employed men in a way that affected both their employment status and their willingness to do housework. Our work allows us to test the deviance neutralization hypothesis more rigorously, using panel data. If it is correct, we would expect men to decrease their housework hours upon experiencing unemployment, while women would increase them.

**The Present Study**

We use data from the Panel Study of Income Dynamics (PSID) to assess the effect of unemployment on spouses’ time in household labor. We improve upon earlier research in part by employing long-term longitudinal data, which allows us to use fixed-effects models to net out time-invariant differences between individuals in order to reduce the possibility that the observed relationship between unemployment status and housework hours will be subject to selection bias. To address the endogeneity of labor force hours in estimating time in housework, we treat job loss as an exogenous shock to labor force hours and examine how couples respond to this shock. This identification strategy allows us to recover the effect of time availability on housework hours in a way that previous research has been unable to accomplish.

We test two hypotheses.

1. We hypothesize that a spouse who loses his/her job will increase his/her number of hours in housework, but not at a rate that fully compensates for the lost hours of paid labor and not to the extent that their working spouse no longer performs housework. This may be due to any combination of enactment of gendered norms, inertia, specialized skills, and job search activities. We predict that during unemployment spouses’ housework hours will change by less than the time availability hypothesis suggests—specifically, fewer than 38 hours per week for husbands (the average husbands’ paid work hours in the year prior to his job loss) and fewer than 21 hours per week for wives (the average for wives).

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3 Greenstein (2000) and others refer to this behavior as “deviance neutralization”, which is the terminology we use here to distinguish it from the doing gender theories of the division of housework.
2. Second, in keeping with the assumption that cultural norms may play an important role in couples’ allocation decisions, we expect that wives who lose their jobs will increase their time spent in housework to a greater extent than husbands who lose their jobs, as this is consistent with the traditional division of labor.

DATA AND METHODS

We use the 1979-2003 waves of the Panel Study of Income Dynamics (PSID) for our analyses. The panel nature of the PSID makes it an ideal dataset for evaluating how couples change their time spent in household labor in response to changes in their labor force participation and rewards, as well as in response to changes in household composition, particularly the arrival and subsequent aging of children. A priori, it is unclear whether a first unemployment spell will have the same effect on household labor as subsequent spells. It is therefore desirable to identify a sample for which the first observed spell of unemployment is likely to be the first spell of unemployment. Thus, we restrict our analysis to married and cohabiting couples in which any spouse who experiences a job loss is observed for at least one year prior to the occurrence of a job loss and is between the ages of 25 and 35 when he or she is first observed to have experienced unemployment. We follow couples until the older spouse reaches age 40. Restricting the sample to younger respondents maximizes the possibility of finding evidence for time availability, since young couples are less likely to have well-formed habits that might make spouses’ domestic labor time insensitive to spells of unemployment. We drop observations in which the survey respondent is not the head of household or the wife, as we

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4 The PSID began with a sample of 4,800 households in 1968 and has since re-interviewed members of that original household and their descendants annually or biannually. Our period of study begins in 1979, rather than 1968, because it was the first year that the PSID collected reports of both spouses’ employment statuses. Labor force data is collected in each wave of the PSID, referring to the calendar year prior to the survey year. Therefore, it is necessary to match the labor market information collected in survey year t+1 to the demographic and housework information collected in survey year t. This exact matching is no longer possible after the PSID switched to a biannual format in 1997. We use an average of the earnings in t-1 and in t+1 to construct an approximation of the earnings in t for the period 1997-2003. Data on job loss are available for every year.

5 In the PSID, for a household containing a single married couple, the head of the household is by default the husband, although there are exceptions. A woman is considered the “wife” of the head of the household if the couple has been cohabiting for at least a year. Prior to 1983, wives and “wives” of the head of the household are not distinguished, so it is not possible to separately identify cohabiting couples during this period. For consistency, we include both married and cohabiting couples together throughout the period. Excluding cohabiters from the sample in the years where this is possible did not substantially alter the results. For brevity, we refer to “spouses”, “husbands”, and “wives”, although not all couples are married.
suspect significantly greater measurement error in the reporting of spouses’ housework hours and periods of unemployment when neither spouse is the respondent. This results in the exclusion of 1,332 observations. Our sample includes 4,014 couples, who are observed approximately five times each on average, for a total of 26,873 observations.

We estimate two models. Each model uses match-specific individual-level fixed effects, which allow us to control for time-invariant unobserved heterogeneity in housework hours that may be correlated with unemployment status. The reduced-form model includes the indicator for job loss as the only covariate. This model estimates the gross effect of job loss on housework hours. The second model, which we refer to as the full model, includes time-varying covariates as controls. This model estimates the effect of job loss on housework hours net of both the unobserved time-invariant traits and time-varying exogenous covariates. If job loss tends to occur at the same time as changes in other determinants of household labor, such as the birth of children, the reduced-form model may provide a biased estimate of the causal association between job loss and housework time. In the full model we control for these changes. All results are based on data weighted according to the PSID core sample weights, which have been re-scaled so that they average one in each year. For the fixed-effects models, it is necessary to assign each couple a single, time-invariant weight. Arbitrarily, we assign the couple their household sample weight from the first year in which they appear in the sample.

**Dependent Variable.** The key dependent variable is the spouse’s weekly hours spent in housework. The question asks, “About how much time do you spend on housework in an average week? I mean time spent cooking, cleaning, and doing other work around the house.” We recode values above the 99\textsuperscript{th} percentile to the 99\textsuperscript{th} percentile to guard against outliers that would unduly influence the results, and because we believe that at least some of these values reflect measurement error. Using time spent in housework, rather than the division of total time in household labor by the couple, draws attention to factors that affect both the total level of production in the household and the division of household labor between spouses.

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\textsuperscript{6} Because housework hours may be affected by relationship context, we assume that fixed effects for the individual are fixed only within the context of that couple, so we treat subsequent marriages as separate observations.

\textsuperscript{7} We do not, however, control for time-varying covariates that are potentially endogenous with job loss, such as family income. As a result, our estimates of the relationship between job loss and housework time include both the direct effect and indirect effects that operate through other time-varying covariates.
Independent Variable. Our independent variable of interest is job loss. A dummy variable for job loss is set to one if the spouse reports a non-zero number of unemployed hours in that year and that s/he did not choose to leave his/her most recent job but rather his/her employer implemented layoffs, went out of business, etc. Otherwise, the variable is set to zero. Spouses are permitted to experience multiple spells of unemployment. Each spell was initially considered unique, but subsequent tests revealed only small differences between spells so we chose not to distinguish between the first and subsequent spells.

Control Variables. In the full model, we control for time-varying covariates that may be correlated with both unemployment and the amount of housework each spouse performs. We control for the presence of at least one, at least two, and at least three children in the household, using individual indicator variables, as well as the age of the youngest child. These controls are motivated by research that has indicated the number of children in the household has a significant positive effect on time spent in housework for both spouses, but particularly for women (Baxter, Hewitt, and Haynes 2008; Bianchi et al. 2000; Sanchez and Thomson 1997). We also include a continuous measure of the year, to account for secular trends in spouses’ housework time. Finally, we include a dummy variable to indicate whether the husband or wife provided the PSID interview for each year, since previous research has suggested the gender of the respondent may affect their reports of time spent in housework, particularly for men (Achen and Stafford 2005).

RESULTS

The data in our sample span the years 1979-2003. In Table 1 we present descriptive statistics for our primary analytic sample for three periods: 1979-1986, 1987-1993, and 1994-2003. The average couple in our sample is observed in their early 30s, and approximately 6 percent of couples include an African-American husband. The percentages of husbands and wives with college degrees rise over the period from 28 percent to 31 percent for husbands and from 22 percent to 30 percent for wives. Median husband’s income (in 2008 dollars) declines over the period, from $53,200 to $47,475, most likely reflective of stagnating men’s wages as documented elsewhere (Cotter, Hermsen, and Vanneman 1999). By contrast, median wife’s income rises, from $11,000 to $20,720, mostly likely reflecting increasing women’s education and experience over time. The trends in wives’ average time in housework observed in this
sample follow trends documented elsewhere (Bianchi et al. 2000; Gershuny and Robinson 1988), declining from 26.7 hours per week in the early period to 18.9 in the latest period. However, we find little change in husbands’ housework hours across the periods, which average around 7 hours per week, while others have documented a rise in men’s housework time (Bianchi et al. 2000; Gershuny and Robinson 1988). This may reflect under-reporting of husbands’ housework time or of time in male-typed household tasks by PSID respondents. Between 2.0 and 5.9 percent of husbands and between 3.4 and 5.1 percent of wives in the sample experienced a job loss in each period. Among job losers, husbands in all three periods experienced more job losses than wives, with averages ranging from 1.5 losses to 1.8 losses for husbands, and 1.3 losses to 1.6 losses for wives.

Tables 2 and 3 show results for the two models: for both husbands and wives we estimate a reduced-form (job loss only) model and a full model including all covariates. The results for husbands are presented in Table 2, and the results for wives are presented in Table 3.

In models of husbands’ housework hours, a job loss is associated with an increase in his time spent in housework, although the coefficient is much smaller than we would expect if husbands made one-for-one tradeoffs between time in paid labor and time in housework. It is also smaller than the results found in most previous research. In both the reduced-form and the full models, a husband’s job loss is associated with only 1.1 additional hours per week of housework. A wife’s job loss is associated with a significant decrease in men’s housework hours of about 0.4 hours (24 minutes) per week.

In the reduced-form model of wives’ housework time, wives spend about 1 hour per week more in housework when unemployed than in other years, but the coefficient is reduced to 0.5 hours (30 minutes) in the full model and becomes insignificant. A husband’s job loss is not associated with significant changes in wives’ housework hours in either model.

Turning to covariates, we find that in the model of husbands’ housework, each year is expected to increase husbands’ time in housework by about 0.05 hours (3 minutes) per week, while in the model of wives’ housework, each year is expected to decrease wives’ time in housework by 0.19 hours (11 minutes) per week. If the husband is the respondent for the survey year that includes the housework hours, he is reported to spend 2.3 hours per week more in housework than if the wife is the respondent.
In the model of wives’ housework hours, a first child is associated with an average increase of 9.1 hours per week in housework. A second child is associated with an additional 3.9 hours of housework per week and a third child with an additional 2.2 hours per week. Wives’ time in housework is predicted to decline by 0.8 hours (48 minutes) per year as the youngest child ages.

Children are also associated with increases in housework time for husbands, but the coefficients are much smaller. A first child is associated with an increase of about 0.9 hours per week in the husband’s time in housework, while subsequent children add no more than 0.34 hours (20 minutes) per week to the husband’s housework time. Husbands’ housework time is predicted to decline by 0.05 hours (3 minutes) per year as the youngest child ages.

**Alternative Specifications**

In order to test the robustness of the results presented in the previous section, we performed a variety of robustness checks. We discuss our alternative specifications and results in more detail in this section.

First, we check the robustness of our results for various subgroups. In models that allow the effect of job loss on housework hours to vary by race and education we find minimal differences. We additionally consider whether the results may be influenced by the inclusion of cohabiters in our sample. Taking out the cohabiters in the years where cohabitation status can be separated from marriage does not significantly change the main results. We also consider that the presence of children may inhibit couples’ responsiveness to job losses but find that results for couples with and without children are not substantially different from the main results.

We consider whether the responsiveness of spouses to a job loss of their own or their partner might be different over time, consistent with well-documented changing gender roles over the period of study. We estimate models separately for 1979-1986, 1987-1993, and 1994-2003. We find no evidence that couples become more responsive over the three periods with regard to time in housework following the job loss of either spouse.

We also consider models that allow the effect of job loss to vary by the employment status of the spouses. We anticipate that unemployed spouses will increase their housework hours more when their spouse is employed longer hours, as the time availability disparity between the spouses will be largest in this case. Our hypothesis is confirmed by the data. We
find that unemployed husbands increase their housework hours significantly following a job loss only when their wives work full-time. Similarly, we find that working wives experience a reduction in housework hours following a husband’s job loss, suggesting that increased household labor by unemployed husbands does substitute for a portion of their wives’ household labor time. By contrast, housewives whose husbands lose their jobs experience significant increases in their housework time. Although the reason for this increase is not immediately apparent, it may be that when a husband is home during the day, he creates more of a mess than when he spends his days at work, which a housewife may be more available to clean up.

Next, we perform a variety of specification checks. We consider the possibility that long-term or chronic unemployment may exert stronger influences on spouses’ housework hours. To test this possibility, we repeat the main models, but consider only job losses that last at least four months (approximately the median duration). Although the estimated effect of job loss on husbands’ weekly housework hours increases to 1.5 hours from 1.1 hours, it is still quite small. Furthermore, this result is inconsistent with the deviance neutralization hypothesis and is not consistent with Brines’ (1994) finding that long-term unemployed men do less housework than fully employed men. When considering that the effects of job loss may vary with repeated spells of unemployment, we find significant differences only for husbands’ housework hours and husbands’ job losses. Husbands losing jobs for the second time increase their time in housework in the year of the loss to a greater extent than those experiencing a first job loss (from 0.68 hours to 1.45 hours), and this upward trend continues between a second and third job loss (from 1.45 hours to 1.98 hours). This suggests the potential for some renegotiation between spouses, though it may apply only to chronic job losers. Nonetheless, even at the third job loss, the absolute increase in housework time is still small—just under two hours per week.

It has been suggested that for studying how the allocation of housework changes between spouses due to a job loss, it is better to model how the share of housework changes rather than the absolute hours (Ström 2002). Although we believe absolute hours are more informative, we estimate models using the share of housework hours completed by each spouse as the dependent variable. The patterns are consistent with our previous results in that they are consistent in sign with time availability, statistically significant, and small in magnitude. When a husband loses his

8 To avoid the endogeneity of job loss and spouse’s employment, we classify spouses’ employment status on the basis of their work hours in the year prior to the job loss.
job, his share of housework increases by about 2.7 percent while his wife’s share decreases correspondingly. When a wife loses her job, her share of housework increases by about 1.2 percent while her husband’s share decreases accordingly. Given this consistency, we continue in our main models to estimate changes in absolute hours of housework as that is both intuitive and in keeping with the broader literature on division of household labor.

Finally, we consider the possibility that job losses are endogenous with changes in housework hours. Spouses who increase their time in housework may be at greater risk for job loss, or spouses who anticipate a job loss may spend increased time in home production. In the model of wives’ housework hours we see a significant increase of 1.23 (p<0.01) housework hours in the year prior to job loss. However, this result actually weakens the little evidence we find in favor of time availability: since wives’ housework hours are not significantly different in the year of a job loss compared to other years, this means that the pre-loss increase not only doesn’t increase further in the year of job loss, as predicted by time availability, but does not even persist.

In sum, results are remarkably consistent across specifications, and all results indicate at best weak support for the time availability hypothesis.

**Limitations**

Despite the overall robustness of our results with regard to these specification checks, we also encounter a number of limitations. First, the sample is representative of the population from which it is drawn—heterosexual married or long-term cohabiting couples under age 40 in the years 1979-2003. We cannot extend the findings of our study to older spouses or spouses experiencing a job loss later in their careers.

A second limitation is that we do not have data on time spent in child care. Time spent in child care is not available in the PSID and is typically excluded from analyses of housework time (Coltrane 2000) because it is difficult to separate the work and leisure components of child care (Blair and Lichter 1991). It is possible that although we see very little change in spouses’ time spent in housework following a job loss, large and significant changes occur in the allocation of spouses’ time to child care. If child care services are no longer affordable due to a job loss, the unemployed parent may take on the child care responsibilities. We do not capture this other possible use of time previously dedicated to paid labor.
Third, in empirical work it is very difficult to separate time availability effects from those of relative resources, a theory that argues spouses’ ability to achieve their desired outcomes is affected by their relative power, with earnings being a primary determinant of power (Blood and Wolfe 1960; Lundberg and Pollak 1996; Manser and Brown 1980; McElroy and Horney 1981). In the context of relative resources theory housework is undesirable, so the more powerful spouse will use his/her resources to minimize his/her time spent in housework while maximizing the time of the spouse (Kamo 1988; Shelton and John 1996). Thus, if one spouse works fewer hours in paid labor and consequently has lower earnings, both the time availability hypothesis and the relative resources hypothesis predict that spouse would spend more time in housework, but it is not clear which mechanism is at work in this division—having more non-market time for housework or having less power to get out of housework. For our purposes, the result of this confounding will be to over-state the strength of the response to changes in time availability, as any observed change will be the product of changes in time availability and relative resources, which will tend to go in the same direction.

Finally, as noted previously, it is necessary to match the labor market information collected in survey year t+1 to the demographic and housework information collected in survey year t. Because we do not know precisely when the respondent was unemployed in relation to the survey collection date, we cannot be certain whether the unemployment period and measurement of housework hours coincide precisely. This would downwardly bias the results, but the specification check of long-term unemployment (at least four months in length) did not reveal substantially different results from the main models.

**DISCUSSION AND CONCLUSION**

This study improves upon previous evaluations of time availability theory by using panel data and by exploiting job loss as an exogenous shock to labor force time. Our results overall are more supportive of the inertia of couples’ time in household labor than they are of either time availability or deviance neutralization. Although spouses’ housework hours do increase following a job loss, the increase in the full panel models is only about 1.1 hours per week for husbands and 0.5 hours per week for wives, which is far less than would be expected if the unemployed compensated for their lost market time with increases in time in household production. It is also less than is implied by most existing estimates of the relationship between
hours in the paid labor market and time in housework. Perhaps surprisingly, we do not find evidence that unemployed wives increase their time in housework more than unemployed husbands as we had expected, but instead find greater responsiveness by unemployed husbands than unemployed wives. This may be because wives are already at a ceiling for their time in housework.

Our findings are consistent with the lowest existing estimates of the relationship between housework and time in paid labor. We attribute previous findings that have shown greater support for the time availability hypothesis to failure to control for unobserved differences across couples and to employing an endogenous measure to test the hypothesis. Furthermore, though earlier studies have ranged widely in their estimates of increases in housework time by non-working spouses, we note surprising consistency across specifications, strengthening our claim that the effect of job loss on housework time is very small. Our results indicate the relative weakness of the time availability hypothesis as an explanation for the gender gap in average housework time. Even substantial changes in the average labor force hours of husbands and wives, such as those experienced during job loss, alter their weekly time in housework by less than 2 hours – far less than the existing gender gap of 12 hours per week of housework.

Our work is designed not only to revise existing estimates of the strength of time availability as an explanatory theory, but to highlight the inconsistency between time availability as it is discussed theoretically in existing empirical literature on housework and as it is operationalized in the same literature. While time availability is often cited in contemporary research on housework, it is at the same time undertheorized. It is mentioned in almost every empirical paper on housework, while it is the main focus of almost none. Existing literature tends to discuss time availability in its ideal form, which suggests that spouses’ time availability should have large effects on their relative housework time, yet it looks no further than the signs of the coefficients on spouses’ labor market hours before concluding that the time availability hypothesis is supported. The degree to which the empirical estimates fall short of what would be predicted by time availability as it is articulated theoretically has rarely been discussed, nor has the potential that time availability may be a stronger explanation for some couples’ housework hours than for others. Furthermore, there has been little acknowledgment that adding controls for spouses’ employment status or time in market work to cross-sectional models of housework time may capture much more than time availability: instead, it may be reflective of attributes like
couples’ preferences for a traditional division of labor, or their taste for domestic labor as opposed to market labor. Since, for most couples, labor force hours are not exogenously determined, it is inappropriate to conclude from such studies that the negative association between labor force hours and housework hours indicates a causal relationship.

Our results suggest that, while time availability has some explanatory power in models of spouses’ time in housework, it is far less powerful as a determinant of gendered variation than is suggested by the attention it receives in reviews of the housework literature. Although time availability is typically listed, along with relative resources and doing gender theories, as one of the “big three” theoretical explanations for spouses’ time in household labor, our estimates suggest that whether the husband’s housework hours are reported by himself or his wife has a larger effect on his estimated housework hours than does his time availability. Indeed, relatively neglected determinants of husbands’ time in household labor, such as time spent living alone prior to entering into marriage or cohabitation, may have greater explanatory power for husbands’ housework hours than the oft-cited theory of time availability does. It is time for the theoretical discussions in the housework literature to overcome their inertia and break out of the “big three” framework that has privileged time availability theory, despite its relatively poor explanatory power, and empirical and theoretical neglect by contemporary scholars.
REFERENCES


Table 1

DESCRIPTIVE STATISTICS FOR THE SAMPLE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Husband’s Weekly Housework Hours</td>
<td>6.84</td>
<td>7.55</td>
<td>7.06</td>
</tr>
<tr>
<td>Mean Wife’s Weekly Housework Hours</td>
<td>26.71</td>
<td>22.05</td>
<td>18.88</td>
</tr>
<tr>
<td>Median Husband’s Earnings ($)</td>
<td>53,200</td>
<td>51,134</td>
<td>47,475</td>
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<tr>
<td>Median Wife’s Earnings ($)</td>
<td>11,000</td>
<td>17,940</td>
<td>20,720</td>
</tr>
<tr>
<td>Husbands with Job Loss (%)</td>
<td>5.87</td>
<td>5.11</td>
<td>3.00</td>
</tr>
<tr>
<td>Wives with Job Loss (%)</td>
<td>4.37</td>
<td>5.14</td>
<td>3.41</td>
</tr>
<tr>
<td>Mean Total Husband’s Job Losses</td>
<td>1.48</td>
<td>1.80</td>
<td>1.73</td>
</tr>
<tr>
<td>Mean Total Wife’s Job Losses</td>
<td>1.27</td>
<td>1.55</td>
<td>1.57</td>
</tr>
<tr>
<td>Mean Husband’s Age</td>
<td>31.61</td>
<td>32.39</td>
<td>32.60</td>
</tr>
<tr>
<td>Mean Wife’s Age</td>
<td>29.85</td>
<td>30.73</td>
<td>31.10</td>
</tr>
<tr>
<td>Proportion African-American Husbands</td>
<td>0.06</td>
<td>0.07</td>
<td>0.05</td>
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<tr>
<td>Proportion Husbands with College Degree</td>
<td>0.28</td>
<td>0.30</td>
<td>0.31</td>
</tr>
<tr>
<td>Proportion Wives with College Degree</td>
<td>0.22</td>
<td>0.25</td>
<td>0.30</td>
</tr>
<tr>
<td>N</td>
<td>10164</td>
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<td>6791</td>
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Table 2

**Fixed-effects Models of Husbands’ Housework Hours**

<table>
<thead>
<tr>
<th></th>
<th>Reduced-Form Model</th>
<th>Full Model with Covariates</th>
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</thead>
<tbody>
<tr>
<td>Unemployment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Husband’s Job Loss</td>
<td>1.104 (0.17)***</td>
<td>1.108 (0.17)***</td>
</tr>
<tr>
<td>Wife’s Job Loss</td>
<td>-0.352 (0.17)*</td>
<td>-0.405 (0.17)*</td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of youngest child+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;=1 child</td>
<td>0.857 (0.13)***</td>
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</tr>
<tr>
<td>&gt;=2 children</td>
<td>0.168 (0.12)</td>
<td></td>
</tr>
<tr>
<td>&gt;=3 children</td>
<td>0.339 (0.15)*</td>
<td></td>
</tr>
<tr>
<td>Respondent Identity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hswk hours R is husband</td>
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<td></td>
</tr>
<tr>
<td>Labor force R is husband</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>0.051 (0.02)**</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>7.057 (0.03)***</td>
<td>-95.752 (34.66)**</td>
</tr>
<tr>
<td>r^2 overall</td>
<td>0.0013</td>
<td>0.0402</td>
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<tr>
<td>Rho (fraction of variance due to individual-specific fixed effects)</td>
<td>0.475</td>
<td>0.466</td>
</tr>
</tbody>
</table>

*p<.05.

**p<.01.

***p<0.001.
### Table 3
**Fixed-Effects Models of Wives’ Housework Hours**

<table>
<thead>
<tr>
<th></th>
<th>Reduced-Form Model</th>
<th>Full Model with Covariates</th>
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</thead>
<tbody>
<tr>
<td><strong>Unemployment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Husband’s Job Loss</td>
<td>0.500 (0.37)</td>
<td>-0.376 (0.36)</td>
</tr>
<tr>
<td>Wife’s Job Loss</td>
<td>0.969 (0.38)*</td>
<td>0.468 (0.36)</td>
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<tr>
<td><strong>Children</strong></td>
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</tr>
<tr>
<td>Age of youngest child*</td>
<td>-0.756 (0.04)***</td>
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<tr>
<td>&gt;=1 child</td>
<td>9.133 (0.28)***</td>
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</tr>
<tr>
<td>&gt;=2 children</td>
<td>3.922 (0.26)***</td>
<td></td>
</tr>
<tr>
<td>&gt;=3 children</td>
<td>2.197 (0.32)***</td>
<td></td>
</tr>
<tr>
<td><strong>Respondent Identity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hswk hours R is husband</td>
<td>0.495 (0.27)</td>
<td></td>
</tr>
<tr>
<td>Labor force R is husband</td>
<td>0.450 (0.28)</td>
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</tr>
<tr>
<td><strong>Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.192 (0.04)***</td>
<td></td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>22.587 (0.07)***</td>
<td>396.538 (72.61)***</td>
</tr>
<tr>
<td><strong>Rho</strong></td>
<td>0.0012</td>
<td>0.1574</td>
</tr>
<tr>
<td>r² overall</td>
<td>0.528</td>
<td>0.487</td>
</tr>
</tbody>
</table>

* p<.05.
** p<.01.
*** p<0.001.
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