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Occupational Characteristics and Parents' Child Care Time

Abstract

Objective: This study examines how occupational resources and demands are associated with parents' child care time.

Background: Scholars recognize parental employment as important for understanding parental time use. Yet given data limitations, we know relatively little about how strain-based demands (demands that can produce negative psychological states) are associated with parent's time with children.

Method: Occupational-level data in the O*NET Database are linked to the American Time Use Survey (ATUS) 2011-2019 (n = 10,274 workday diaries from employed parents in 427 occupations). OLS regression is used to examine how occupational resources and demands are associated with parents' time with children and in child care on workdays.

Results: Mothers in occupations with greater strain-based demands – competitive pressure, aggression-conflict, monotony, and physicality-hazards – spend less time with their children and less time on physical child care activities. For fathers, associations are weaker with monotonous jobs also associated with less time with children. Workplace conditions, however, are weakly or even positively associated with parents' time on non-workdays, suggesting that the daily experience of work affects parents' time use at home. Autonomy, an occupational resource, is positively associated with fathers' time with children and with mothers' time in interactive care.

Conclusion: Resources and strain-based demands – measured at the occupational-level -- are associated with parents' time use. The O*NET Database can be linked to the ATUS to better understand families' time use.

Keywords: child care, gender, parent involvement, parenting, work, work-family issues

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Occupational Characteristics and Parents' Child Care Time

Role strain theory posits that individuals hold a series of roles that impose norms, demands and expectations (Pearlin, 1983). Workers balancing competing roles – full-time work and parenting – report more role overload and inter-role strain (Nomaguchi & Milkie, 2003; Umberson, Pudrovska, & Reczek, 2010). Carrying competing work and family role demands leads parents to feel more time pressed and stressed, with stronger effects for mothers than fathers (Lee, Schneider, & Waite, 2003; Roxburgh, 2012; Ruppanner, Perales, & Baxter, 2019). As a consequence, mothers are more likely to report poor mental health as a result of role overload and inter-role strain (Nomaguchi, Milkie, & Bianchi, 2005). Parents' work-family strain is mitigated by workplace characteristics, including greater autonomy, standard work schedules and workplace-based family resources (i.e. flexible work, schedule control, etc.) (Baxter & Alexander, 2008; Fan, Moen, Kelly, Hammer, & Berkman, 2019).

Parents' job characteristics have been linked to a variety of individual and family outcomes, including work-family conflict, well-being, and depression (e.g., Schieman, Glavin, & Milkie, 2009). When it comes to parental time-use, however, we know very little beyond effects of time-based demands (e.g., work hours and schedule). Evidence on resources and strain-based demands (job demands that can produce negative psychological states) is generally limited to a single worksite (e.g., Hill, Tranby, Kelly, & Moen, 2013) because most nationally-representative surveys in the US – including the American Time Use Survey (ATUS) – do not include detailed job characteristics (Casper, Bianchi, & King, 2005). Due to these data limitations time use research has largely neglected occupational characteristics in favor of easily measurable time-based demands.

In this paper, we test hypotheses about how specific occupational conditions are associated with parents' time with children and in child care, paying careful attention to gender. We contribute to theories of parental time use by building on the job demands-

resources (JD-R) perspective (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Voydanoff, 2004) and extending arguments about adjacent individual- and family-level outcomes (e.g. work-family conflict) to parental time use. To remedy the lack of information on parents' occupational resources and demands in the ATUS, we link it to occupational-level data in the Occupational Information Network (O*NET) Database. This allows us to address the main question: do parents who work in more demanding and poorly resourced jobs report less time with children and in child care?

We find that occupational resources and strain-based demands matter for mothers' child care time, even when controlling for time-based demands, large occupational groups, education, and income. Specifically, mothers in occupations with greater strain-based demands – competitive pressure, aggression-conflict, monotony, and physicality-hazards – spend less time with their children and less time on physical child care activities. Associations between occupational characteristics and fathers' time use are generally weaker. We find that these associations are most evident on workdays, suggesting that the daily experience of work – and not only selection into occupations – matters.

Role Strain: The Job Demands and Resources (JD-R) Perspective

Shared work conditions are a primary focus in the work-family literature, with most researchers employing a JD-R perspective (Bakker & Demerouti, 2007; Demerouti et al., 2001; Voydanoff, 2004), building on earlier work in the demand-control tradition (Karasek, 1979). Demands are job stressors that exact physical, emotional, or cognitive tolls, and resources are supportive conditions that help workers meet work goals, cope with stressors, and/or achieve personal aims (Bakker & Demerouti, 2007; Bianchi, Casper, & King, 2005; Bianchi & Milkie, 2010). The JD-R perspective is rooted in broader role strain arguments that posit individuals hold a series of roles with divergent norms, demands and expectations (Pearlin, 1983). Individuals in roles whose demands exceed capacity, experience role

overload (Coverman, 1989). Those in roles that place conflicting expectations on a workers' time create inter-role conflict (Goode, 1960). Parents are likely experiencing both inter-role conflict and role overload – families and workplaces are greedy institutions with norms of complete devotion to each (Blair-Loy, 2003; Coser, 1974). We cannot estimate inter-role conflict due to data limitations but, in an innovation, we can specify which occupational characteristics - through occupational measures in O*NET – impinge upon time with children.

In the following sections we consider how job resources and demands may affect parental time use and how these associations may differ for mothers and fathers. We draw on literature about adjacent individual- and family-level outcomes that may be relevant for understanding parental time use.

Job Resources

Job resources can help workers minimize work-to-family conflict (Kelly et al., 2014). Autonomy at work is associated with less job pressure (Schieman, 2013), greater productivity (Richard & Oldham, 1976) and less burn-out (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Demerouti et al., 2001). For parents, scholars hypothesize employees use autonomy to free up time for children; autonomy is positively related to Dutch parents' frequency of child-related activities, particularly for mothers (Roeters, van der Lippe, Kluwer, & Raub, 2012) and Japanese fathers' involvement in child care among those working in small/medium sized firms (Ishii-Kuntz, 2013).

Autonomy and authority are often linked as workers in high-skilled professional positions often hold both resources as well as more non-routine work and higher pay (Reskin & Ross, 1992; Schieman, 2002; Voydanoff, 2004). Although authority is generally conceptualized as a resource, some research suggests that it can also be a job stressor, the "stress of higher status" hypothesis. Schieman and colleagues found that job authority and

challenging work create more job pressure, work-to-family conflict, and lower well-being (Schieman, 2013; Schieman et al., 2009; Schieman, Whitestone, & Van Gundy, 2006). Thus, workers in high-status well-resourced jobs are often equally vulnerable to negative spillover into their home lives as those in jobs with more demands and fewer resources.

To our knowledge, O*NET measures of workplace authority have not been explicitly linked to time with children. Other research has focused on specific workplace resources that may be associated with autonomy and authority – for example, schedule control. In one high-skilled workplace, professional workers with greater schedule control were more satisfied with their time spent with children even though their actual time with children remained unchanged (Hill, Tranby, Kelly, & Moen, 2013). As previous research indicates, authority and workplace resources like schedule control are clearly linked to higher-status professional work. Here, we weigh these resources against broad occupational categories to understand how the daily experience of work is associated with time use. We acknowledge the nuance in these relationships noting the direction of these relationships could be positive or negative.

Job Demands

Job demands can deplete employees physically, cognitively, and emotionally, with negative consequences for parental attention and monitoring (Repetti & Wang, 2009). Job demands are often divided into time-based and strain-based demands (Steiber, 2009; Voydanoff, 2004). Time-based demands highlight the fixed nature of time, such as the number of hours spent at paid work. Time spent in one domain limits the potential time spent in another. The literature on parents' time with children generally examines two sources of time-based demands: work hours and work schedule. Time at work reduces time with children, although the relationship is far from one-to-one (see Bianchi, 2000). Previous research has found that working hours are central to explaining parents' time with children, and that work characteristics, such as those studied here, have little additional explanatory

value (Roeters et al., 2012; among parents in the Netherlands). Although evening work interferes with family activities, parents who work non-standard schedules spend more time with children and more time alone with children than parents who work standard schedules (Wight, Raley, & Bianchi, 2008). Parents may work evenings or nights in order to provide parental care to their children during the day (Casper & O'Connell, 1998), with evidence suggesting that nonstandard hours may be particularly beneficial for preserving mothers' time with children (Roeters et al., 2012).

Strain-based demands focus on job demands that can produce negative psychological states and can manifest as stress, exhaustion, and social withdrawal (Voydanoff, 2004). For example, research finds that both mothers and fathers display social withdrawal after stressful, conflictual days at work (Repetti, 1994; Repetti & Wood, 1997) which may be associated with less time with children. The work, family, and health literatures have identified a number of job characteristics associated with negative psychological and physical states that may impinge on parent-child time. (1) Job pressure – which encompasses pressure resulting from the pace or amount of work – has been linked to more work-to-family conflict, exhaustion and distress (Kristensen, Bjorner, Christensen, & Borg, 2004; Schieman & Glavin, 2011; Voydanoff, 2005). (2) The workplace aggression literature has found that workplace aggression and incivility, whether arising from supervisors, co-workers, or customers, is associated with negative affect, burnout, stress-related physical symptoms, and work-to-family conflict (Chen, 2018; Yragui, Demsky, Hammer, Van Dyck, & Neradilek, 2017; Zhou, Meier, & Spector, 2019). Conflict is also associated with work interfering with nonwork life (Schieman et al., 2009). (3) Repetitive monotony has been linked to under stimulation and underutilization of skills, perceived strain, anxiety, depression, poor sleep, and work interfering with nonwork (Johansson, 1989; Schieman et al., 2009; Schieman, McBrier, & Gundy, 2003). (4) Physical and hazardous work, or noxious work conditions

increase distress, anxiety, depression, and work interfering with nonwork (Loscocco & Spitze, 1990; Schieman et al., 2009; Schieman et al., 2003). We hypothesize that job demands will deteriorate parents' energy to engage family after work and thus negatively associated with parents' time with children.

JD-R and Gender

Although job demands and resources are generally conceptualized in a gender-neutral way, there are reasons to suspect the relationships will vary by gender with respect to parents' time with children. First, mothers spend more time with children than fathers and mothers and fathers allocate this time in different ways (Craig, 2006). Second, fathers generally work longer hours than mothers (Maume, 2006). Third, men and women are occupationally sex segregated (Blau, Brummund, & Liu, 2013; Cohen, 2013), and thus have differential exposure to demands and resources.

But why would mothers and fathers respond to the same occupational demands and resources differently? Drawing on Bielby (1992), Roeters and colleagues (2012) argue that men let work interfere with family whereas women let family interfere with work. Thus, we might anticipate that fathers' occupational conditions matter more for time with children. But evidence is inconsistent with this. Research on work schedules and work-to-family conflict suggest mothers are more impacted (Keene & Reynolds, 2005; Schieman & Young, 2011), possibly because women remain largely responsible for family life (Bianchi, Sayer, Milkie, & Robinson, 2012; Maume, 2008). Fathers are generally more time constrained by work, which may leave little additional explanatory power for specific occupational conditions.

Mothers in jobs with greater autonomy should report more time with children as flexible work is a key resource mothers employ to protect child care time (Landivar, 2017). The relationship for strain-based demands on child care time is less clear. Mothers in jobs with greater strain-based demands may report less time with children as the stress and strain

of these jobs deplete their energy leading them to spend more time in recovery. Alternatively, mothers in jobs with high strain-based demands may maintain time with children at the expense of their time in recovery. New fatherhood norms emphasize men equally sharing the burdens of child care (Coltrane, 1997) suggesting these relationships may mirror those for women. But, a wider literature shows persisting gender gaps in paid and unpaid work (Sayer, 2005). Thus, fathers' child care time may be less affected by workplace strains.

Parents' Educational Attainment

Parents' occupational characteristics are correlated with their educational attainment. Studies find college-educated parents spend more time with children and on childcare than non-college-educated parents (e.g., Dotti Sani & Treas, 2016). This difference is hypothesized to reflect class-based norms and/or disparities in time and monetary resources, including occupational resources such as autonomy (Bianchi, Cohen, Raley, & Nomaguchi, 2004; Gracia & Ghysels, 2017). The most rigorous investigations of the resources hypothesis have included work hours, work schedule, and income (e.g., Gracia & Ghysels, 2017). Occupational categories are sometimes included, but generally as an indicator for managerial and professional occupations (Hook, 2012) or white-collar occupations (Sayer, Bianchi, & Robinson, 2004) due to data limitations. Given that we are able to measure parents' occupational characteristics, our study is also able to examine whether these account for some of the educational gap observed in previous studies.

Data and Sample

American Time Use Survey (ATUS)

To investigate how job demands impinge upon family time, we pool cross-sections of the ATUS (2011-2019) using the ATUS Extract Builder (ATUS-X) (Hofferth, Flood, & Sobek, 2018). Pooling the data ensures an adequate number of parents per occupation. We truncate the sample in 2011 because of changes in occupational coding. ATUS is a large,

nationally representative survey sponsored by the Bureau of Labor Statistics (BLS) to gain insight into how, where, and with whom people spend their time. One adult is randomly drawn from households that have completed their eighth and final Current Population Survey (CPS) interview; they are interviewed for the ATUS two to five months after their final CPS interview. The CPS, including occupational data, can be merged to ATUS. The sample is randomized by day; weekdays account for 10% each, and weekends for 25% each. Respondents are interviewed using computer-assisted telephone interviewing about their time use in the 24 hours prior to 4 a.m. on the day of the interview. Overall response rates for these years ranged from 43.0% to 54.6%. Nonresponse has a very small effect on estimates of time use (Abraham, Maitland, & Bianchi, 2006). The official ATUS weights adjust for differential nonresponse rates across days of the week and demographic groups (Bureau of Labor Statistics, 2018b); All analyses are weighted.

We limit the sample to parents with at least one household child under the age of 13. Starting from 25,889 respondents age 25-64 with a child under age 13 in the 2011-2019 ATUS, we omit respondents who are not employed (n = 6,367) or who are self-employed (n = 1,919) for a sample of 17,603 parents. We match occupational data (described below) to 98.5 percent of respondents in the sample, listwise deleting 258 observations. Unmatched cases result from Census Occupational Codes ending in “all others” (e.g., sales and related workers, all others), which are too general to provide a match. The final sample size is 17,345 parents in 463 occupations.

Following previous research (e.g., Stewart, 2010; Wight et al., 2008) we split the sample by selecting diaries with any paid work on the diary day (i.e., one minute). The main analysis focuses on workdays because from a JD-R perspective, we would expect that the daily experience of work affects parental time use most acutely on workdays. We present analyses for non-workdays in Appendix A as non-workdays may provide purchase on

selection and/or spill-over or time-shifting effects from workdays to non-workdays. The main analysis includes 10,274 workdays across 427 occupations, including 4,933 mothers in 310 occupations and 5,341 fathers in 391 occupations. The non-workday sample includes diaries from 3,820 mothers and 3,251 fathers. A replication package will be made available via the Harvard Dataverse (Hook, Ruppanner, and Casper 2021).

*Occupational Information Network (O*NET) Database*

The U.S. Department of Labor's Employment and Training Administration (USDOL/ETA) released the O*NET database in 1998 to replace the Dictionary of Occupational Titles (DOT). The O*NET database provides nationally representative data on hundreds of aspects of occupational conditions for the entire catalogue of occupations (USDOL/ETA, 2018b). Its focus is cross-occupation descriptors, or variables that can be measured meaningfully in all occupations (Tippins & Hilton, 2010). The O*NET Database is *partially* updated each year, with approximately 100 occupations updated per year. Version 23.0 (2018) includes data ranging from 2004 to 2018 (USDOL/ETA, 2018b). Given the annual partial updating of O*NET, each release can best be considered a snapshot of occupations within a decade.

Data are collected by RTI International from incumbents, occupational experts, and occupational analysts. Data for most content areas come from nationally-representative surveys of job holders. When surveying job incumbents proves problematic, RTI surveys occupational experts, such as supervisors and trainers. Data for approximately 25 percent of occupations are collected from occupational experts. Estimates are weighted to account for sample selection and nonresponse (USDOL/ETA, 2018c). Occupational analysts provide data on content areas measuring skills and abilities. Eight raters score each occupation on 35 skills and 52 abilities, using updated information from job incumbents and experts. An analysis of the analyst data indicates high inter-rater agreement (Reeder & Tsacoumis, 2017).

The O*NET Database 23.0 uses a more detailed variant of occupational codes based on the 2010 Standard Occupational Classification (SOC). We used O*NET's crosswalk to match O*NET data to SOC codes (USDOL/ETA, 2018a). We then used the BLS's crosswalk to match SOC codes to the 2010 Census Occupational Classification System (Bureau of Labor Statistics, 2018a), which is used for ATUS from 2011 onward.

Measures

Time use outcomes (ATUS)

We create four measures to capture various aspects of parents' time use using diary accounts of what they were doing and who else was present when they were doing the activity. Time with Children is time spent in the company of children; that is, the parent reports that they were with the child (co-present in the same room) during an activity. It measures parental time with and accessibility to children (Craig, 2006; Raley, Bianchi, & Wang, 2012). Child care captures parental care and engagement activities, or primary care, including all physical and interactive activities (the definition used in BLS's published tables of "caring for and helping household children"). Physical and interactive care are subsets of (and sum to) child care time. Physical care includes episodes such as feeding, bathing, dressing, supervising, transporting, waiting. Interactive care includes espisodes such as talking, reading, teaching, and playing. Time use measures are top-coded to the 99th percentile (13.9 hours for time with children, 5.6 hours for child care, 5 hours for physical and 5.5 hours for interactive care).

*Occupational Variables (O*NET Database)*

The O*NET Database has six content modules. We focused on two, "Occupational Requirements" and "Worker Characteristics", because these modules contain cross-occupation descriptors applicable to any occupation (Tippins & Hilton, 2010) and most effectively operationalize JD-R's concepts. We reviewed the five content areas including

work activities (41 generalized activities), work context (57 descriptors of work conditions, structural job characteristics, and interpersonal relationships), work values (21 characteristics of the work environment), work styles (16 dispositional characteristics), and abilities (52 abilities) – for measures of the six constructs identified in the literature reviewed above: autonomy, authority, job pressure, aggression and conflict, repetitive monotony, and physicality-hazards. All items are measured on a scale of 1 to 5. For most items the scale ranges from "never" to "everyday." For three items, indicated below by "importance of", the scale ranges from "not important" to "extremely important." We standardized occupational variables (mean of zero and a standard deviation of one) at the individual-level for ease of interpretation. For constructs measured with multiple O*NET variables we created scales using the mean of standardized variables and report Cronbach's alpha.

Occupational Resources

Autonomy is measured with two items: (1) How much decision making freedom, without supervision, does the job offer? (2) To what extent is this job structured for the worker, rather than allowing the worker to determine tasks, priorities, and goals? ($\alpha = .90$).

Authority is measured with one item: How frequently is the worker required to make decisions that affect other people, the financial resources, and/or the image and reputation of the organization?

Occupational Demands

Aggression-Conflict is measured with five items: (1) How frequently does this job require the worker to deal with physical aggression of violent individuals? (2) How frequently does the worker have to deal with unpleasant, angry, or discourteous individuals as part of the job requirements? (3) How often are there conflict situations the employee has to face in this job? (4) (Importance of) Handling complaints, settling disputes, and resolving grievances and conflicts, or otherwise negotiating with others. (5) (Importance of) Job

requires maintaining composure, keeping emotions in check, controlling anger, and avoiding aggressive behavior, even in very difficult situations ($\alpha = .86$).

Job Pressure is measured with two variables, which are only weakly correlated (corr = 0.21). Competitive Pressure is measured with one question: To what extent does this job require the worker to compete or to be aware of competitive pressures? Time Pressure is measured with one item: How often does this job require the worker to meet strict deadlines?

Repetitive Monotony is measured with one item: How important is repeating the same physical activities (e.g., key entry) or mental activities (e.g., checking entries in a ledger) over and over, without stopping, to performing this job?

Physicality-Hazards is measured with ten items: (1) (Importance of) Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials. (2) How much does this job require walking and running? (3) bending or twisting your body? (4) standing? How often does this job require (5) exposure to hazardous conditions?, (6) exposure to hazardous equipment?, (7) working exposed to contaminants (such as pollutants, gases, dust or odors)?, (8) working exposed to sounds and noise levels that are distracting or uncomfortable? (9) working in very hot (above 90 F/32 C degrees) or very cold (below 32 F/0 C degrees) temperatures? (10) climbing ladders, scaffolds, or poles? ($\alpha = .94$).

Table 1 shows how the O*NET-derived occupational variables vary between and within broad occupational groupings. There are two things to note. First, means differ in expected ways. Management, Business, and Financial occupations rank highest in authority, autonomy, and competition. Production and Transportation occupations rank highest in time pressure, Service in aggression-conflict, Sales and Office in monotonous work, and Construction and Maintenance in physicality-hazards. Second, although the groups differ in

expected ways, the range within each occupational group is substantial, as shown by the standard deviations. Occupational groups are associated with occupational conditions as anticipated, but considerable heterogeneity within occupations indicates that they do not serve as adequate proxies for these conditions. Online Appendix Table A1 disaggregates Table 1 by gender. Due to occupational sex segregation, mothers and fathers differ in average occupational characteristics, even within broad occupational groupings. For example, within the category Management, Business, and Financial occupations, mothers are in occupations with less competitive pressure than fathers, but more time pressure and monotony.

Control Variables (ATUS)

We control for occupational category following the large groupings of Census Occupational Codes as listed in Table 1. To assess the importance of occupational conditions it is essential that we control for other aspects of work that may be associated with occupational conditions and time use. We control for time-based job demands by including

Table 1. Descriptive Statistics of Respondents' Occupational Characteristics, by Occupational Group, Weighted (N = 10,274 Parents in 427 Occupations)

	Authority	Autonomy	Competitive Pressure	Time Pressure	Aggression -Conflict	Monotony	Physicality -Hazards
	Mean/SD	Mean/SD	Mean/SD	Mean/SD	Mean/SD	Mean/SD	Mean/SD
Management, Business, & Financial (0010-0950)	.22	.63	.55	.34	.11	.15	- .70
	(.82)	(.75)	(.90)	(.74)	(.84)	(.91)	(.61)
Professional & Related (1000-3540)	- .05	.25	.01	- .08	.12	- .26	- .33
	(1.24)	(.77)	(1.09)	(1.04)	(1.26)	(1.03)	(.64)
Service (3600-4650)	- .41	- .71	- .50	- .75	.26	- .16	.61
	(.87)	(1.01)	(.73)	(1.02)	(1.05)	(.83)	(.58)
Sales & Office (4700-5940)	.11	- .19	- .19	- .06	.06	.79	- .48
	(.96)	(1.04)	(1.09)	(1.01)	(.62)	(.97)	(.57)
Construction & Maintenance (6005-7630)	- .06	- .29	- .07	.03	- .73	- .69	1.97
	(.85)	(.89)	(.84)	(.78)	(.48)	(.64)	(.52)
Production & Transportation (7700-9750)	- .12	- .92	- .22	.52	- .75	- .24	1.18
	(.87)	(.83)	(.66)	(.86)	(.60)	(.71)	(.50)
All Occupations	- .04	- .08	- .04	- .02	- .05	- .03	.11
	(1.01)	(1.03)	(.99)	(1.01)	(.99)	(.99)	(1.04)

work hours and work shift. Work hours reports the hours usually worked per week. We top-code to the 99th percentile, 75 hours per week. Respondents could report that their usual hours vary; 4.25% of respondents have variable hours. To retain these cases, we code those that report full-time employment to mean hours for full-time employees (44.3 hours) and part-timers to the mean for part-time employees (24.0 hours). Results are not sensitive to the inclusion of these cases. Consistent with previous research (Hook & Wolfe, 2013; Presser, 2003; Wight et al., 2008), we classify respondents reporting the majority of their work time on their diary day between 8 a.m. and 4 p.m. as working a day shift, between 4 p.m. to 8 a.m. as working an evening/night shift. In models predicting time spent on non-workdays we omit work shift as both are calculated from the daily diary (see Appendix Tables A1 and A2).

Resources include college degree and family income. Education is measured with a dummy variable indicating that the respondent reported obtaining a Bachelor's degree or higher. Family income is reported in 16 categories; we assign mid-points and use family income in the thousands as a continuous variable. Family demands are measured via the number of children (top-coded at 4) and by the presence of a young child, age 0 to 5.

We also include standard demographic controls including age, partnership status, and race-ethnicity. Age is measured continuously; partnered indicates that the respondent lives with a partner; race-ethnicity is included as a series of dummy variables as shown in Table 2. We also control for whether the diary was collected on a weekend and the year of the survey.

Given the inclusion of seven O*NET-derived variables assessing occupational characteristics, five dummy variables for occupational group, education, income, and family size/stage, we were concerned about multicollinearity. We present correlations of the above variables in Online Appendix Table A2. Of the 171 pair-wise correlations reported in the table only six have an absolute value of .40 or higher, ranging from .40 to .58. Online Appendix Tables A3 and A4 report step-wise regressions incrementally adding blocks of

control variables for mothers' and fathers' time with children. The substantive conclusions about the association between occupational characteristics and time use are highly consistent across models. For mothers, authority and aggression-conflict become statistically insignificant once time-based demands are added to the model. For fathers, a negative association between physicality-hazards becomes statistically insignificant once resources and family demands are added to the model. Variance inflations factors (VIF) are generally small (Online Appendix Tables A3 and A4) lending further evidence that multi-collinearity is not an issue. We also examined step-wise regressions incrementally adding each O*NET-derived variable to models of mothers' and fathers' time with children. These are reported in Online Appendix Tables A5 and A6. Results suggest that observed negative effects of authority may be explained by other strain-based occupational conditions.

Method

Most time use variables have a significant number of zeros, creating a non-normal distribution. These zeros arise from either a mismatch between the observation window (one day) and the period of interest (routine time use) or from respondents never engaging in an activity (Stewart, 2013). We assume that zeros arise from this mismatch and not from a group of parents who never engage in child care. We use OLS models because they are preferred over Tobit and two-part models. Stewart (2013) finds that a two-part model performs similar to OLS, but OLS is preferred if a covariate predicts performance and time spent; thus, we use a linear model. Standard errors are clustered by occupation because individuals are nested within occupations.

Results

Table 2 provides descriptive statistics, separately for mothers and fathers. On workdays, mothers spend more time with children, and on total child care and physical care than fathers. Mothers and fathers spend similar time on interactive care. Men and women also

differ in their occupational characteristics, occupational category, and hours of work. Mothers' occupations rate higher on aggression-conflict and monotony. Fathers' occupations rate higher on competition, time pressure, and physicality-hazards. Mothers are clustered into fewer occupational categories than are fathers, with little representation in Construction & Maintenance and Production & Transportation. Fathers work more hours per week, on average, than mothers.

Table 3 provides results for mothers. Results for job-based time demands are consistent with previous findings. Controlling for factors typically available in nationally-representative surveys, we find that occupational resources and demands derived from the O*NET Database are associated with mothers' time with children and time on child care activities. Mothers in occupations with greater strain-based demands – specifically competitive pressure, aggression-conflict, monotony, and physicality-hazards – spend less time with their children or less time on child care activities. Most associations between occupational characteristics and child care time are driven by physical care, which may suggest that these patterns are driven by fatigue from daily work. Autonomy is weakly, but positively associated with interactive care time. Effect sizes can be interpreted as a change in minutes per day for a one standard deviation (SD) change in the occupational characteristic. For example, a one SD increase in mothers' physicality-hazards is associated with a decline in physical care of 8.6 minutes. The mean of physical care is 59 minutes per day, amounting to a 15% reduction. We find few associations between broad occupational group and mothers' time use. Mothers in Service occupations, however, are predicted to spend more time with children and on physical child care on workdays than mothers in Management, Business, and Financial occupations, suggesting there are additional aspects of occupations that may be important for understanding parental time use, above and beyond occupational characteristics measured here.

Table 2. Descriptive Statistics on a Workday (N = 10,274), Weighted

	Total Mean/SD	Mothers Mean/SD	Fathers Mean/SD	
Time Use				
With Child	223.2	255.8	197.3	***
	(155.7)	(163.5)	(145.4)	
Child Care	65.9	81.2	53.8	***
	(66.4)	(72.1)	(59.8)	
Physical Care	42.7	58.7	30.1	***
	(48.9)	(56.3)	(39.5)	
Interactive Care	23.3	22.8	23.7	
	(42.4)	(43.0)	(41.7)	
Occupational Resources				
Authority	- .03	- .05	- .01	
	(.92)	(.89)	(.94)	
Autonomy	- .06	- .06	- .05	
	(.94)	(.97)	(.92)	
Occupational Strain-based Demands				
Competitive Pressure	- .01	- .27	.20	***
	(.91)	(.95)	(.83)	
Time Pressure	- .01	- .12	.08	***
	(.91)	(1.02)	(.82)	
Aggression-Conflict	- .05	.14	- .21	***
	(.90)	(.88)	(.90)	
Monotony	- .05	.09	- .16	***
	(.90)	(1.02)	(.80)	
Physicality-Hazards	.09	- .22	.34	***
	(.96)	(.70)	(1.04)	
Occupation (ref = Management...(0010-0950))	.20	.19	.20	*
Professional & Related (1000-3540)	.29	.34	.24	***
Service (3600-4650)	.14	.18	.11	***
Sales & Office (4700-5940)	.17	.23	.12	***
Construction & Maintenance (6005-7630)	.10	.01	.17	***
Production & Transportation (7700-9750)	.11	.05	.15	***
Job Time-based Demands				
Usual weekly work hours	42.46	38.56	45.54	***
	(9.85)	(9.81)	(8.93)	
Evening or night shift	.15	.15	.15	
Resources				
College degree +	.46	.48	.44	***
Household income (in 1,000s)	80.90	78.45	82.83	***
	(41.37)	(43.95)	(39.22)	
Family Demands				

Number of children in HH	2.02	1.97	2.06	***
	(.81)	(.83)	(.79)	
Presence of young child (0-5)	.54	.50	.57	***
Controls				
Age	37.95	37.05	38.66	***
	(6.48)	(6.32)	(6.49)	
Partnered	.87	.76	.95	***
Race/ethnicity (ref = white, non-Hispanic)	.62	.60	.63	**
Hispanic	.19	.18	.20	
Black, non-Hispanic	.10	.14	.08	***
Other, non-Hispanic	.08	.08	.09	
Weekend	.13	.12	.13	
N	10,274	4,933	5,341	

Note: ***p<.001, **p < .01, *p<.05 indicating a significant difference between mothers and fathers.

Table 3. OLS Mother's Time Use on a Workday, N=4,933

	With Child		Child Care		Physical Care		Interactive Care	
	B/SE		B/SE		B/SE		B/SE	
Occupational Characteristics								
Authority	5.11		1.36		2.44		-0.85	
	(4.66)		(2.10)		(1.67)		(1.10)	
Autonomy	3.80		2.27		0.31		1.83	*
	(3.81)		(1.83)		(1.47)		(0.83)	
Competitive Pressure	-12.49	***	-1.54		-2.26		0.64	
	(3.47)		(1.51)		(1.22)		(0.80)	
Time Pressure	2.96		0.53		1.44		-0.85	
	(2.94)		(1.30)		(0.93)		(0.70)	
Aggression-Conflict	-7.81		-3.37	*	-3.13	*	-0.34	
	(4.82)		(1.69)		(1.25)		(0.98)	
Monotony	-11.99	**	-4.06	**	-3.71	**	-0.49	
	(3.73)		(1.56)		(1.35)		(0.78)	
Physicality-Hazards	-23.91	***	-8.77	***	-8.63	***	-0.73	
	(5.23)		(2.49)		(2.07)		(1.33)	
Occupation (ref = Management)								
Professional & Related	12.17		4.58		2.86		1.77	
	(8.43)		(3.77)		(2.92)		(2.04)	
Service	35.16	**	7.36		9.51	*	-1.52	
	(13.04)		(5.75)		(4.81)		(2.75)	

Sales & Office	8.62		2.41		2.61		-0.52	
	(8.60)		(4.18)		(3.47)		(2.15)	
Construction & Maint.	21.76		-2.42		-8.73		6.30	
	(49.41)		(16.27)		(12.16)		(7.92)	
Production & Transport	22.07		2.69		1.04		2.09	
	(16.54)		(7.05)		(5.95)		(3.85)	
Job Time-based Demands								
Weekly working hours	-2.24	***	-1.22	***	-0.87	***	-0.37	***
	(0.33)		(0.13)		(0.10)		(0.08)	
Evening or night shift	49.52	**	4.69		-0.72		5.79	*
	(15.10)		(4.37)		(3.36)		(2.32)	
Resources								
College degree+	27.11	***	13.84	***	7.75	***	6.38	***
	(6.16)		(2.59)		(2.13)		(1.84)	
Family income (in 1,000s)	-0.01		0.09	*	0.04		0.04	
	(0.08)		(0.04)		(0.03)		(0.02)	
Family Demands								
Number of children	14.44	***	5.57	***	6.73	***	-1.37	
	(4.28)		(1.45)		(1.03)		(0.88)	
Young child (0-5)	44.80	***	34.37	***	23.77	***	11.52	***
	(6.39)		(2.49)		(2.13)		(1.75)	
Controls								
Age	-0.81		-1.03	***	-0.70	**	-0.32	**
	(0.56)		(0.24)		(0.22)		(0.12)	
Partnered	16.10	*	5.01		1.52		3.97	*
	(7.19)		(3.11)		(2.45)		(1.75)	
Race-Ethnicity (ref = non-Hispanic white)								
Hispanic	-11.47		-8.37		-1.57		-6.94	***
	(9.20)		(4.38)		(4.06)		(1.91)	
Black (not Hispanic)	-36.12	***	-14.28	***	-7.33	*	-7.26	***
	(8.92)		(4.12)		(3.69)		(2.02)	
Other (not Hispanic)	-12.05		-10.41	**	-5.72		-4.90	
	(8.42)		(3.57)		(2.93)		(2.52)	
Weekend	104.21	***	-11.43	**	-19.42	***	8.75	***
	(17.08)		(4.10)		(3.17)		(2.11)	
Constant	263.96	***	112.19	***	78.17	***	34.45	***
	(31.50)		(11.57)		(10.46)		(6.76)	
R^2	0.15		0.16		0.14		0.07	

Notes: ***p<.001, **p < .01, *p<.05. Year dummy variables (ref= 2011) not shown. Standard errors are clustered on occupation.

These associations, however, are mostly evident on workdays. We replicated the analyses for mothers' non-workdays, reported in Appendix Table A1. Only aggression-conflict is associated with less time with children on non-workdays. Aggression-conflict, however, is not associated with time with children on workdays, suggesting potential spill-over for workdays to non-workdays. The only association with child care time is a positive one, with mothers in physical-hazardous jobs "making up" lower time on workdays with higher time on non-workdays. This suggests that results for workdays are not solely driven by people with different proclivities for time use sorting into different occupations, but that the daily experience of occupations is associated with mothers' time use.

Table 4 provides results for fathers. In contrast to mothers, occupational resources and demands show fewer associations with fathers' time with children or child care time. Autonomy is associated with more time with children and, similar to mothers, monotony with less time with children. There are no associations with child care time. We find that fathers employed in managerial, professional, and service occupations spend more time with children and on child care than fathers in other occupations; however, these associations generally disappear once we add O*NET derived variables (effect sizes decline and are no longer statistically significant, see Online Appendix Table A6 models 1 versus 7). In the final model, fathers in Constructions & Maintenance are predicted to spend less time on child care on workdays than fathers in Management, Business, and Financial occupations.

Similar to fathers' workdays, there are few associations between occupational characteristics and fathers' time with children on non-workdays (Appendix A2). Physicality-hazards is associated with less time on child care, but more time with children. Authority is associated with more time in interactive care.

Table 4. OLS Father's Time Use on a Workday, N=5,341Fathers

	With Child		Child Care		Physical Care		Interactive Care	
	B/SE		B/SE		B/SE		B/SE	
Occupational Characteristics								
Authority	-2.22		0.18		-0.65		0.80	
	(3.45)		(1.57)		(0.93)		(1.05)	
Autonomy	8.71	*	1.40		0.96		0.52	
	(3.39)		(1.32)		(0.94)		(0.79)	
Competitive Pressure	-4.53		1.30		0.74	a	0.49	
	(3.06)		(1.28)		(0.88)		(0.76)	
Time Pressure	1.08		-0.43		0.08		-0.31	
	(2.81)		(1.24)		(0.83)		(0.80)	
Aggression-Conflict	-3.63		-0.23		0.56	a	-0.88	
	(3.80)		(1.40)		(0.89)		(0.96)	
Monotony	-7.32	*	-1.63		-0.80	a	-0.84	
	(3.01)		(1.15)		(0.70)		(0.83)	
Physicality-Hazards	-5.27	a	-0.76	a	-0.46	a	-0.49	
	(4.17)		(1.39)		(0.96)		(1.00)	
Occupation (ref = Management)								
Professional & Related	-7.99		-1.15		-0.36		-0.83	
	(7.27)		(2.63)		(1.77)		(1.62)	
Service	-3.94		-5.38		-0.99		-3.70	
	(13.07)		(4.48)		(3.41)		(3.07)	
Sales & Office	-16.63		-3.83		-0.13		-3.47	
	(9.24)		(4.39)		(2.86)		(2.67)	
Construction & Maint.	-13.50		-10.00	*	-5.27		-4.21	
	(14.36)		(5.06)		(3.41)		(3.53)	
Production & Transport	-15.05		-5.79		-3.82		-1.77	
	(13.39)		(4.94)		(3.30)		(3.21)	
Job Time-based Demands								
Weekly working hours	-2.26	***	-0.86	***	-0.52	***	-0.35	***
	(0.26)		(0.10)		(0.07)		(0.06)	
Evening or night shift	42.19	***	9.95	**	5.20	*	5.29	*
	(9.25)		(3.38)		(2.13)		(2.47)	
Resources								
College degree+	3.91		1.10		1.31		-0.10	
	(6.35)		(2.44)		(1.87)		(1.93)	
Family income (in 1,000s)	0.22	**	0.19	***	0.14	***	0.05	*
	(0.07)		(0.03)		(0.02)		(0.02)	
Family Demands								

Number of children	12.23	***	1.70		2.88	***	-1.14	
	(2.81)		(1.29)		(0.82)		(0.82)	
Young child (0-5)	34.91	***	29.49	***	14.31	***	15.26	***
	(5.86)		(1.99)		(1.56)		(1.72)	
Controls								
Age	-0.09		-0.43	**	-0.21	*	-0.22	
	(0.39)		(0.15)		(0.09)		(0.12)	
Partnered	20.81	*	-2.25		-9.63	**	7.52	**
	(9.20)		(4.39)		(3.32)		(2.58)	
Race-Ethnicity (ref = non-Hispanic white)								
Hispanic	-2.69		-10.97	***	-6.42	**	-4.69	*
	(6.48)		(2.63)		(1.96)		(1.90)	
Black (not Hispanic)	-49.17	***	-16.39	***	-5.22		-11.49	***
	(10.64)		(4.10)		(2.86)		(2.53)	
Other (not Hispanic)	-0.93		-1.35		0.03		-1.54	
	(8.14)		(3.63)		(2.66)		(2.45)	
Weekend	151.67	***	5.08		-4.34	*	9.50	***
	(11.94)		(3.19)		(1.74)		(2.24)	
Constant	205.46	***	79.51	***	48.32	***	30.74	***
	(25.84)		(9.12)		(6.41)		(6.77)	
R^2	0.17		0.11		0.08		0.06	

Notes: ***p<.001, **p < .01, *p<.05. [a] indicates that the coefficient for fathers differs from mothers at p<.05 based on seemingly unrelated regression (SUR) tests of cross-model hypotheses via Wald tests. Year dummy variables (ref= 2011) not shown. Standard errors are clustered on occupation.

To test for gender differences in the associations between occupational conditions and time use, we use seemingly unrelated regression (SUR) to test the equality of coefficients across sub-samples. Postestimation command "suest" (Stata 15) combines estimation results – both parameter estimates and (co)variance matrices – allowing tests of cross-model hypotheses via Wald tests. Statistically significant differences between mothers and fathers in the seven occupational conditions are noted in Table 4. The six noted gender differences in Table 4 all reflect larger negative associations between strain-based demands and time use among mothers.

The data are cross-sectional, and thus, we are not able to conclude that relationships are

causal. That is, parents could choose occupations based, in part, on their desired level of parental time. However, we include a strong series of controls to isolate potential causal effect of occupational characteristics, including broad occupational groupings, work hours, education and income. Additionally, based on JD-R we anticipate the strongest associations between occupational conditions and time use on workdays. Comparisons of workdays to non-workdays (Appendices A1 and A2), cast doubt on occupational selection based on desired levels of time use as the central explanation for our findings.

Finally, we are interested in whether these relationships can explain some of the observed educational-gap in parents' time use. Online Appendix Table A7 displays results for time with children and Table A8 for child care time. Adding occupational categories and conditions reduces the association between education and time with children by 18% for mothers (3% from categories and 15% from conditions) and by 75% for fathers (59% from categories and 16% from conditions). For both mothers and fathers, occupational conditions derived from O*NET explain about one-sixth of the educational effect in time with children (beyond occupational category). Results for child care time are similar, with a 22% reduction for mothers and 82% reduction for fathers.

Supplementary Analysis

We conducted two supplementary analyses: (1) controlling for daily working hours on the diary day instead of usual weekly work hours, and (2) disaggregating by partnership status and controlling for spouses' employment. Results are in the Online Appendix.

Daily working hours is endogenous, but provides a precise measure of working hours by capturing the amount of time spent working on the diary day (Flood & Genadek, 2016). It is not highly correlated with usual weekly hours for parents observed on workdays (r = .24). Results

for mothers are shown in Online Appendix Table A9 and for fathers in A10. Daily hours is a powerful endogenous predictor of other uses of time. The R^2 for mothers' time with children increases from .15 in the model with weekly hours to .33 in the model with daily hours and from .17 to .37 for fathers. Although the magnitudes of coefficients for occupational characteristics generally decline, substantive results are generally similar, except the association between monotony and time use disappears. This suggests that there may be daily time-based demands associated with monotony that are especially relevant for parents' time use.

Online Appendix Table A11 restricts the models to partnered mothers and fathers and single mothers and adds spousal employment as a control variable for partnered parents. Results are highly similar to the main models as the majority of the sample is partnered (76% of mothers and 95% of fathers). The sample is too small to examine single fathers, but Model 3 shows results for single mothers. For single mothers and partnered fathers, workplace autonomy is associated with more time with children, a pattern distinct from married mothers. Married and single mothers spend less time with children when working in physically hazardous jobs, a pattern distinct to mothers. Married mothers also spend less time with children when working in jobs with greater competitive pressure. Only one workplace characteristic – monotonous work – is associated with less time with children across all groups. Collectively, these results indicate single mothers look more similar to partnered fathers suggesting that single mothers are managing similar pressures to partnered fathers. Of course, these conclusions are tentative given the absence of single fathers as a comparison group; this is an important area for future research.

Discussion

We set out to explore how occupational resources and demands are associated with parents' time use, asking whether parents who work in more demanding and poorly resourced

occupations report less time with children and in child care. We were particularly interested in understanding strain-based demands, which are typically not captured in nationally-representative time use data. We drew on the job demands-resources (JD-R) perspective to build hypotheses about how specific occupational conditions may influence parents' non-work time above and beyond time-based mechanisms.

Occupational indicators derived from O*NET are associated with parents' time with children. Mothers in occupations with greater strain-based demands – specifically competitive pressure, aggression-conflict, monotonous work, and physical-hazardous work – spend less time with their children or less time on child care activities, specifically on physical care. Only one of these conditions, however, is negatively associated with mothers' time on non-workdays, suggesting that the daily experience of work, and not only selection into occupations, affects mothers' time use at home. Decreases in physical care time, but not interactive care time suggests that mothers manage to preserve interactive time with their children regardless of job strains (Roeters et al, 2012) and use autonomy to boost interactive care time on workdays (although the magnitude of this effect is quite small). Mothers may be too fatigued to engage in physical care of children prioritizing interactive childcare time which is shown to be particularly beneficial to children's development (Coley, Kruzik, and Votruba-Drzal, 2020). Although beyond the scope of this research, understanding how mothers make these trades between rest and different forms of childcare on workdays is an important area for future research.

Compared to mothers, fathers' time is less strongly associated with the occupational strain-based demands measured. This is consistent with research on work schedules and work-to-family conflict that finds mothers' family life is more impacted than fathers' (Keene & Reynolds, 2005; Schieman & Young, 2011), possibly because women remain largely responsible

for family life (Bianchi, et al., 2012; Maume, 2008). Our supplementary analysis suggests that replacing fathers' weekly with daily work hours eliminates associations between strain-based demands and fathers' time use, suggesting that fathers are more constrained by time-based demands than mothers. Fathers work more hours per day, on average, than do mothers which may constrain their abilities to engage with children on workdays.

Importantly, we find that fathers in occupations with greater autonomy spend more time with children on workdays. Autonomy is shown to be positively associated with fathers' frequency of child-related activities in Japan and the Netherlands (Ishii-Kuntz, 2013; Roeters, van der Lippe, Kluwer, & Raub, 2012). Here, we provide a parallel finding for American fathers' time use. It has been over two decades since the new fatherhood norm was first articulated (Coltrane, 1997) and young men exhibit stronger preferences to be engaged in primary care of children (Pedulla & Thebaud, 2015). We demonstrate that access to autonomy is key to facilitating time with children for fathers.

Our findings provide an important avenue for investigating the parental education-gap in child care time. We find that occupational characteristics and categories account for some of the educational gap observed in previous studies. The highly educated are better able to access better resourced jobs (Schieman et al., 2009). We show that these differences help explain parents' time with children with autonomy, in particular, translating into more time with children. Better accounting for occupational resources and demands may provide better purchase on how disparities in time, money, and occupational resources influence parents' time with children as well as the locus of class-based norms. That is, whether parental norms are most closely tied to educational attainment or occupation.

Although we have theoretical reasons to anticipate gender differences, it is also possible that we are not examining the most salient resources and demands for fathers. The O*NET Database allows us to explore many facets of occupational conditions, but not all. We could not build measures of some constructs. For example, we anticipate that "everwork", defined as "a combination of overwork, face time, constant availability, and unpredictability" (Wynn, 2018) negatively impacts parents' time with children. Although we have demonstrated that O*NET data can be an important addition to existing data sources, it has limitations.

Furthermore, although occupational data are a vast improvement over existing employment measures available in the CPS, there is heterogeneity within occupations that we cannot examine (e.g., at the workplace level). Researchers linking the O*NET Database to individual-level outcomes acknowledge that individual-level data on job conditions would be preferable to broad occupational measurements. Scholars, however, have made advances to theory and public health by adding O*NET data to existing nationally-representative datasets (e.g., Bell, Zimmerman, & Diehr, 2008 examining birth outcomes in the NLSY; Johnson & Allen, 2013 examining child health in the PSID). Here, we link O*NET to parental time use and add insights into education-based differences but more work should look at intersections of single-parenthood, race-ethnicity, and income. We echo previous calls for greater use of O*NET data in family research (Crouter et al., 2006).

Our findings echo those from the Work, Family, and Health Network's research in two worksites showing access to schedule control and supervisor support increased mothers' time with children (Davis et al., 2015), reduced work-family conflict and improved reports of spending adequate time with family (Kelly et al., 2014). Occupational conditions matter and employers and policy makers could institute policies that reduce the conditions that interfere

with family life. Providing employees with more autonomy and reducing strain-based demands in daily work would facilitate time with children. Our results indicate that these resources will be particularly valuable to mothers, a group shown to be especially vulnerable to labor market exits. Our research provides clear links between workplace conditions and time with children and in child care. Future research should pay particular attention to the job conditions across a broad array of occupations that hinder of facilitate involvement with children.

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Appendix Table A1. OLS of Mothers' Time Use on a Non-workday, N = 3,820

	With Child		Child Care		Physical Care		Interactive Care	
	B/SE		B/SE		B/SE		B/SE	
Authority	3.89		1.87		-0.75		2.44	
	(5.98)		(3.02)		(2.44)		(2.41)	
Autonomy	1.11		-1.81		1.54		-3.45	a
	(5.94)		(3.06)		(2.18)		(1.80)	
Competitive Pressure	-2.76		1.53		2.10		0.09	
	(5.33)		(2.24)		(1.88)		(1.94)	
Time Pressure	-3.41		-0.97		0.45		-1.71	
	(5.65)		(3.20)		(2.23)		(1.99)	
Aggression-Conflict	-15.39	**	-5.41		-2.91		-2.75	
	(5.63)		(2.89)		(2.36)		(2.19)	
Monotony	2.70	a	-2.30		-2.51		0.23	
	(4.68)		(2.40)		(2.00)		(1.53)	
Physicality-Hazards	11.51	a	9.02	*a	9.31	**a	0.91	
	(8.48)		(3.85)		(3.24)		(3.01)	
Occupation (ref = Management)								
Professional & Related	-3.80		1.62		-1.51		3.57	
	(13.20)		(6.61)		(5.63)		(4.67)	
Service	-16.79		-7.74		-2.08		-7.74	
	(21.57)		(10.27)		(8.36)		(6.70)	
Sales & Office	-7.01		6.14		9.82		-3.48	
	(14.93)		(7.94)		(6.37)		(4.84)	
Construction & Maintenance	-92.09		-62.54	***	-44.27	***	-22.29	*
	(55.43)		(14.63)		(11.61)		(10.34)	
Production & Transportation	-39.09		-45.22	***	-29.59	**	-18.74	*
	(28.06)		(13.34)		(9.93)		(9.47)	
Weekly working hours	0.18		-0.85	***	-0.49	**	-0.37	*
	(0.50)		(0.19)		(0.16)		(0.15)	
R^2	0.10		0.21		0.18		0.11	

Notes: ***p<.001, **p < .01, *p<.05. [a] indicates that the coefficient for mothers differs between workdays and non-workdays at p<.05 based on seemingly unrelated regression (SUR) tests of cross-model hypotheses via Wald tests. Control variables not shown include: college degree; family income; number of children; presence of a young child (0-5); age; partnered; race-ethnicity Hispanic, Black non-Hispanic, other non-Hispanic (ref = white, non-Hispanic); weekend; year dummy variables (ref= 2011). Standard errors are clustered on occupation.

Appendix Table A2. OLS of Fathers' Time Use on a Non-workday, N = 3,251

	With Child		Child Care		Physical Care		Interactive Care	
	B/SE		B/SE		B/SE		B/SE	
Authority	-1.66		5.93		0.67		5.82	*
	(8.89)		(3.37)		(2.09)		(2.48)	
Autonomy	3.51		0.53		2.94		-1.89	
	(8.54)		(3.02)		(1.99)		(2.08)	
Competitive Pressure	-3.22		-0.69		-0.16		-1.27	
	(6.36)		(2.47)		(1.46)		(1.83)	
Time Pressure	-10.36		-2.51		-1.88		-0.28	
	(6.74)		(2.91)		(1.62)		(2.23)	
Aggression-Conflict	3.76		-1.07		-0.38		-0.64	
	(7.11)		(2.86)		(1.80)		(2.27)	
Monotony	-3.33		0.64		3.41	*a	-2.57	
	(6.83)		(2.42)		(1.56)		(1.86)	
Physicality-Hazards	18.01	*a	-8.03	*	-3.39		-5.47	*
	(8.98)		(3.24)		(2.19)		(2.61)	
Occupation (ref = Management)								
Professional & Related	15.18		-4.26		3.50		-6.44	
	(13.01)		(6.64)		(3.64)		(6.26)	
Service	-67.99	*	-0.58		5.06		-5.38	
	(27.93)		(10.18)		(6.21)		(8.22)	
Sales & Office	-10.12		-8.15		2.01		-9.23	
	(18.97)		(7.93)		(4.44)		(6.88)	
Construction & Maintenance	-53.35		9.59		7.52		3.17	
	(29.98)		(10.52)		(7.17)		(7.98)	
Production & Transportation	-32.93		3.37		10.33		-5.06	
	(26.94)		(10.05)		(6.65)		(7.92)	
Weekly working hours	0.86		-0.23		-0.29		-0.01	
	(0.57)		(0.24)		(0.16)		(0.18)	
R^2	0.08		0.11		0.09		0.06	

Notes: ***p<.001, **p < .01, *p<.05. [a] indicates that the coefficient for fathers differs between workdays and non-workdays at p<.05 based on seemingly unrelated regression (SUR) tests of cross-model hypotheses via Wald tests. Control variables not shown include: college degree; family income; number of children; presence of a young child (0-5); age; partnered; race-ethnicity Hispanic, Black non-Hispanic, other non-Hispanic (ref = white, non-Hispanic); weekend; year dummy variables (ref= 2011). Standard errors are clustered on occupation.