Occupational Earnings Inequality, Time Use, and Subjective Well-Being: Are Working Mothers in Despair in Winner-Take-All Occupations?

Younghwan Song[†]
Union College and IZA

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Abstract

Due to continued increases in occupational earnings inequality in the United States since the 1970s, more American workers are working longer hours than before, and they also work longer hours than workers in other developed countries. Using time-use data drawn from the American Time Use Surveys, subjective well-being data drawn from the American Time Use Survey Well-Being Modules, and occupational earnings inequality data drawn from the American Community Surveys, this paper examines how earnings inequality in occupations is associated with individuals' allocation of time and subjective well-being in the United States by workers' sex and parental status. The results show that occupational earnings inequality is associated with increased market work hours, mainly at the expense of nonmarket work and leisure for all groups, and decreased sleep among mothers with young children. Among men and non-mothers, occupational earnings inequality is not significantly negatively associated with any measure of subjective well-being. However, occupational earnings inequality is associated with increased pain among mothers. When analyzed by time-use category, occupational pay inequality among mothers with young children is associated with increased pain and sadness during market work; increased sadness during child care; increased pain, stress, and fatigue during leisure; and lower life evaluation. Perhaps this is why occupational earnings inequality and long work hours push mothers out of the labor force.

Keywords: earnings inequality; time use; subjective well-being
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[†] Correspondence: Professor, Department of Economics, Union College, Schenectady, NY 12308, USA.; E-mail: songy@union.edu.

1. Introduction

The continued increases in occupational earnings inequality in the United States since the 1970s have led more American workers to work longer hours than workers in other developed countries (Bell and Freeman 2001; Kuhn and Lozano 2008). These extended hours of work reward wage/salary workers with higher wages and better promotion prospects in the future (Bell and Freeman 2001; Gicheva 2013), just like a tournament where the winner takes it all. However, these long work hours have also exacerbated gender imbalance in male-dominated occupations by pushing mothers out of the labor force (Cha 2013; Cortes and Pan 2017). Furthermore, the increasing prevalence of overwork and the rising hourly wage returns to overwork among men have slowed the convergence of the gender wage gap in the United States (Cha and Weeden 2014).

This paper contributes to this literature by examining how earnings inequality across occupations influences workers' lives, particularly individuals' time allocation and subjective well-being. Due to limited data, existing papers have analyzed only the relationship between occupational pay inequality and hours of market work. Using detailed time diary data from the American Time Use Surveys, this paper examines how occupational pay inequality is associated with hours of market work, as well as child care, home production, leisure, and other time-use categories in the United States.

Many time-use researchers have been interested in the simple tradeoff between market work and other time-use categories. For example, Aguiar, Hurst, and Karabarbounis (2013), using the 2003-2010 American Time Use Surveys, show that about 30 percent and 50 percent of the foregone market work hours during the Great Recession are reallocated to home production and leisure, respectively. Regarding working mothers' time use, Bianchi (2000) finds that

working mothers have not reduced the quality or quantity of time spent with their children. In contrast, Heiland, Price, and Wilson (2017) show that additional hours of maternal market work reduce the quality of time spent with children, which is also consistent with the finding in Stewart (2010) that full-time working mothers shift enriching child care to evenings on workdays after their work, when they are tired. Furthermore, Biddle and Hamermesh (1990) find that increases in labor-market hours are associated with decreased sleep. Nevertheless, this paper is the first to examine the relationship between occupational earnings inequality and all major time use categories, which is essential for understanding how pay inequality influences workers' lives.

This paper further contributes to the literature on occupational earnings inequality using subjective well-being data drawn from the American Time Use Survey Well-Being Modules: it examines what activities are associated with more pain, stress, and fatigue, as well as other measures of subjective well-being, when work hours increase as a result of increased occupational earnings inequality. It is well known that increases in market work time affect workers' subjective well-being. Hamermesh and Lee (2007) show that increases in hours of market work and household earnings raise perceived time stress by increasing the shadow price of time. They find that increases in market work hours have a more significant effect on perceived time stress than increases in household earnings. This research also extends the findings of Alesina, Di Tella, and MacCulloch (2004) about the relationship between inequality, mobility, and subjective well-being to the context of occupational earnings inequality. They find that increased income inequality in Europe makes the poor and those on the left of the political spectrum unhappy due to the perception of living in less mobile societies. They also find, in contrast, that the rich feel less happy about income inequality in the United States, perhaps

because they constantly worry about moving down the income ladder, given the perceived higher income mobility in the United States.

Given the findings in Cha (2013), Cha and Weeden (2014), and Cortes and Pan (2017) that occupational earnings inequality has more detrimental effects on women, particularly mothers, this paper analyzes men and women separately by parental status and by children's age. This approach is also in line with the findings of Buddelmeyer, Hamermesh, and Wooden (2018), which extend the framework of Hamermesh and Lee (2007) and show that childbirths place greater time stress on mothers than on fathers. Furthermore, it is important to consider children's age, as the time costs of children decline with age (Bradbury 2008; Gustafsson and Kjulin 1994).

Higher occupational earnings inequality is expected to increase market work hours and decrease nonmarket work and leisure hours, including sleep (Aguiar, Hurst, and Karabarbounis 2013; Bell and Freeman 2001; Biddle and Hamermesh 1990; Kuhn and Lozano 2008). It would not reduce mothers' childcare time (Bianchi 2000; Heiland, Price, and Wilson 2017). From a time-use perspective, higher earnings inequality would negatively affect subjective well-being by increasing time stress (Hamermesh and Lee 2007; Hopkins and Kornienko 2010). It would have a larger negative impact on mothers' subjective well-being because childcare responsibility constrains their time allocation and perceived mobility within the occupation (Alesina, Di Tella, and MacCulloch 2004; Buddelmeyer, Hamermesh, and Wooden 2018; Hamermesh and Lee 2007). Time costs and time stress of having children would decrease with the child's age (Bradbury 2008; Buddelmeyer, Hamermesh, and Wooden 2018; Gustafsson and Kjulin 1994).

At the same time, these occupations with high earnings inequality reward wage/salary workers with higher wages and better promotion prospects (Bell and Freeman 2001; Gicheva

2013), which could positively affect workers' subjective well-being (Hopkins 2008; Kosteas 2011). Therefore, the relationship between occupational earnings inequality and subjective well-being becomes an empirical question.

To preview the findings of this paper, occupational earnings inequality is associated with increased market work hours, mainly at the expense of nonmarket work and leisure for all groups, and decreased sleep among mothers with young children. Among men and women without children, occupational earnings inequality is not negatively associated with any measure of subjective well-being. However, occupational earnings inequality is associated with increased pain among mothers. When analyzed by major time-use category, occupational pay inequality among mothers with young children is associated with increased pain and sadness during market work; increased sadness during child care; increased pain, stress, and fatigue during leisure; and lower life evaluation.

The remainder of the paper is organized as follows. Section 2 describes the data and the empirical method. Section 3 presents the results, and Section 4 provides concluding remarks.

2. Data and Methodology

The Public Use Microdata Sample (PUMS) files of the 2003-2019 American Community Surveys (ACS), the largest US household survey collected by the US Census Bureau, are used to generate occupational earnings inequality data used in this paper. Compared with the Outgoing Rotation Groups in the Current Population Survey (CPS) used by Kuhn and Lozano (2008),[1] the ACS is better suited for analyzing occupational earnings inequality because of its larger sample size and more accurate earnings measurement, as described below. First, to get reliable measures

[1] Kuhn and Lozano (2008) analyze the period that began before the first release of the ACS data in 1996. Bell and Freeman (2001) use data from the National Longitudinal Survey of Youth for the period of 1989-1996.

of earnings inequality for detailed occupations, it is imperative to have large data. The ACS PUMS files have detailed information on employment and earnings from about one percent of the US population, over 3 million representative individual respondents, each year. In contrast, although the CPS data is collected from about 60,000 households (or around 200,000 individuals) each month, only one-fourth of the data, the Outgoing Rotation Groups, have employment and earnings information, which provides at most around 600,000 individuals each year for the analysis of earnings inequality. Second, because of the lower top-coding threshold, the CPS is less suitable than the ACS for studying earnings inequality over time. The weekly earnings in the CPS are top-coded at $2,884.61 for all years, which amounts to only about $150,000 per year. In contrast, the wages/salary income from the past 12 months in the ACS is top-coded at $999,999.

The sample used to measure occupational earnings inequality includes full-time (working 35 hours or more per week) and full-year (working 50 weeks or more) civilian wage and salary workers aged 18 to 64 from the ACS. Using the ACS data on weeks worked and usual hours worked over the past 12 months, I have converted annual wages to hourly wages. Nominal hourly wages were converted to real hourly wages in 2017 dollars using the Consumer Price Index. Following Bell and Freeman (2001), I calculated the mean and the standard deviation of log hourly wages by occupation category and year. I used the standard deviation of log hourly wages for 93 occupations as a measure of occupational earnings inequality.[2] The mean of log

[2] Both the ATUS and the ACS have the four-digit Census Occupation Codes, which correspond to the detailed occupations of the Standard Occupational Classification System. However, whereas the ACS changed from the 2000 Standard Occupational Classification System to the 2010 Standard Occupational Classification System beginning with the 2010 ACS, the exact change was made in the ATUS beginning with the January 2011 ATUS. Moreover, the ACS was later changed to the 2018 Standard Occupational Classification System. Therefore, it is not feasible to generate measures of earnings inequality at the four-digit Census Occupation Code or detailed occupation level of the Standard Occupational Classification System from the ACS to merge with the ATUS. To make occupation categories comparable across the 2000, 2010, and 2018 Standard Occupational Classification Systems, I used the 93 occupation categories based on the 96 minor groups of the 2000 Standard Occupational Classification System,

hourly wages by occupation controls for variation in wage levels by occupation. The person weights available in the ACS have been used to obtain the mean and standard deviation of log hourly earnings.

For the analysis of time use, the sample of full-time wage and salary workers aged 18 to 64 is drawn from the 2003-2019 American Time Use Surveys (ATUS). The ATUS is a time-diary study conducted continuously since 2003 by the US Census Bureau, based on a nationally representative sample aged 15 or over. Through telephone interviews, this survey collects a detailed account of respondents' activities for 24 hours, from 4 am to 4 am, on a preassigned day, which is called the diary day. Only one person from each household is interviewed. While Aguiar, Hurst, and Karabarbounis (2013) use all ATUS respondents, including the unemployed and part-time workers, this paper analyzes only full-time workers. The respondent must be working to be matched to an occupation, and part-timers are likely to be less attached to the occupation and motivated by different reasons than full-time workers (Bell and Freeman 2001). Those with more than one job have also been excluded. Following Aguiar, Hurst, and Karabarbounis (2013), I have aggregated detailed time-use categories into the following five major time-use categories: market work, child care, nonmarket work, leisure, and other activities. Also analyzed is the time spent sleeping, which is a part of leisure. Appendix Table A1 shows the details of this aggregation by ATUS classification code.

The 2010, 2012, and 2013 ATUS Well-Being (WB) Modules, a supplemental survey to the ATUS, are the data source for analyzing subjective well-being.[3] The ATUS WB Modules

excluding the 3 minor groups for military-specific occupations. https://www.bls.gov/soc/2000/soc-structure-2000.pdf

[3] The ATUS WB Module was also collected in 2021. However, it is not included in this paper's analysis because during the COVID-19 pandemic between 2020 and 2023, compared to the pre-pandemic period, people's time use and subjective well-being changed drastically and heterogeneously by age, parental status, and occupation (Qian and Fan 2025; Shi, Su, and Goulias 2023; Song 2025). For the same reason, the ATUS data after 2019 were not included in the time-use analysis.

randomly selected three activities reported by each ATUS respondent on the diary day. Then it asked the respondents to rate the happiness, pain, sadness, stress, tiredness, and meaningfulness they felt during the activity, using a scale from 0 to 6, where 0 means no feeling at all, and 6 means the strongest feeling. The selected activity must have lasted at least 5 minutes, and sleeping, grooming, and personal activities have been excluded. The survey method used in the Well-Being Module is called the day reconstruction method, which combines how people spend their day with affective experiences reported in activities (Kahneman et al. 2004). In addition to these six episode-level measures of subjective well-being, the 2012 and 2013 ATUS WB Modules also have a standard life-evaluation question using the Cantril ladder (Cantril 1965). It asked respondents where they feel they stand on the 10-step ladder, with the bottom representing the worst possible life for them and the top the best possible life. As a result, the ATUS WB Modules collect both affective (or hedonic) measures of subjective well-being—happiness, pain, sadness, stress, and tiredness—and cognitive (or attitudinal) measures—meaningfulness and the Cantril ladder (Angner 2010; Brülde 2007).

To analyze the relationship between pay inequality and time use, I first merged the means and standard deviations of log hourly earnings by occupation and year from the 2003-2019 ACS with the 2003-2019 ATUS data, using 93 occupational categories. I then estimated Ordinary Least Squares (OLS) regressions by gender and parental status using the amount of time, in hours, spent on each of the five time-use categories, as well as sleeping, as the dependent variable. In addition to the measure of occupational earnings inequality and the mean log hourly wages by occupation, I control for the following respondents' characteristics: the logarithm of hourly wages, age and its square; three dummies for race/ethnicity (black, Hispanic, and other; the reference category is white); five education dummies (some high school, high school, some

college, college, and graduate; the reference category is less than some high school education); two marriage/partner dummies (married and partnered; the reference category being single); the number of children; a dummy for school enrollment; a metropolitan status dummy; an immigrant dummy; eight dummies for family income during the last 12 months ($10,000-$19,999, $20,000-$34,999, $35,000-$49,999, $50,000-$74,999, $75,000-$99,999, $100,000-$149,999, $150,000 and over, and family income missing; the reference group being less than $10,000); a holiday dummy; a weekday dummy; three season dummies; year dummies; and state dummies. The regressions are weighted using the ATUS final weights.

To analyze the relationship between occupational earnings inequality and subjective well-being, I estimated OLS regressions by gender and parental status, using episode-level measures of six subjective well-being indicators. In addition to the same set of independent variables included in the time-use regressions described above, the following independent variables are additionally controlled: the number of disabilities; a dummy for interacting with anyone during the activity; activity duration in hours; dummies for detailed six-digit activity codes; dummies for activity locations; and dummies for activity start time at the one-hour interval. The proportion of men in the occupation, estimated from the ACS, is also included because Qian and Fan (2019) find that women, but not men, working in occupations with higher proportions of men have lower levels of subjective well-being. These regressions are weighted using the ATUS WB Module activity weights.

To examine the relationship between pay inequality and life evaluation, I ran OLS regressions by gender and parental status, using the individual-level responses to the Cantril ladder as the dependent variable. In these regressions, the number of disabilities and the proportion of men in the occupation are added to the same independent variables as in the time-

use regressions described above, excluding a holiday dummy, a weekday dummy, and three season dummies. These regressions are weighted using the ATUS WB Module respondent weights. The standard errors have been clustered at the occupation level in all regressions.

These regressions estimate the associations between occupational pay inequality and time use/subjective well-being by sex and parental status. As described above, the control variables include the occupational mean earnings, individual earnings, and numerous individual characteristics. Nevertheless, endogeneity may still bias estimates of the relationships between earnings inequality and time use/subjective well-being by sex and parental status. First, workers sort into occupations based on their preferences (Bonin et al. 2007; Fouarge, Kriechel, and Dohmen 2014; Heywood, Siebert, and Wei 2002; Krueger and Schkade 2008), and this matching between preferences and job characteristics increases workers' subjective well-being (Heywood, Siebert, and Wei 2002; Krueger and Schkade 2008). Then, such occupational sorting could positively bias estimates of the relationships between earnings inequality and time use/subjective well-being in this paper. Second, long work hours push mothers out of the labor force (Cha 2013; Cortes and Pan 2017). Assuming that these mothers leave the labor force because their time/subjective well-being costs are too high, the estimated relationships between earnings inequality and time use/subjective well-being in this paper among mothers are likely to be positively biased. Third, Bell and Freeman (2001) note that measurement errors in work hours can bias the estimated relationship between individual-level wages and hours of work. However, there is no apparent effect of measurement error on the relationship between occupational earnings inequality and work hours at the individual level, aside from attenuation bias. Furthermore, there is no reason to suspect that the estimated correlation between occupational pay inequality and other time-use categories/subjective well-being at the individual level is due

to measurement error. Therefore, if anything, endogeneity would lead to a positive bias in the estimated relationships between earnings inequality and time use/subjective well-being in this paper.

Tables 1 and 2 report the descriptive statistics of the key variables from the 2003-2019 ATUS sample of full-time wage/salary workers and the 2010, 2012, and 2013 ATUS WB Modules sample of full-time wage/salary workers, respectively.[4] Even among full-time workers who work at least 35 hours per week, Table 1 shows substantial variation in hours of market work by sex and parental status. Column 3 shows that fathers have the most extended market work hours at about 6.53 hours per day (or about 46 hours per week), and mothers, in column 4, spend less time in market work (5.51 hours per day or about 39 hours per week) and leisure, but more time in child care and nonmarket work than any other group.[5] Table 2 also shows variation in subjective well-being by sex and parental status: mothers (column 4) report higher levels of happiness, stress, tiredness, and meaningfulness than any other group. In both tables, the mean and the standard deviation of the measure of earnings inequality (the standard deviation of log hourly earnings) are about 0.55 and 0.08, respectively, for all groups. In Table 2, the proportion of men in each occupation shows that men are more likely to work in occupations with higher proportions of men (about 66 percent). In contrast, women are more likely to work in occupations with fewer men (about 38 percent). All other common independent variables show approximately the same means and standard deviations in Tables 1 and 2.

[4] In both tables, the dependent variables are weighted, whereas the independent variables are unweighted. Because about 50 percent of the ATUS sample is surveyed on the weekend days and the other half is surveyed on the weekdays, to correctly estimate the daily hours spent in various activities, it is necessary to use the ATUS final weights (Bureau of Labor Statistics 2020). Similarly, to estimate the average level of subjective well-being during a day, it is necessary to use the ATUS WB Module activity weights, which also account for the duration of each activity (Bureau of Labor Statistics 2014).

[5] As shown in Table A1, child care includes providing care for household and non-household children. Therefore, childless men and women can have non-zero child care hours if they provided care for their non-own household/non-household children.

3. Results

3.1 Time-Use Analysis

Table 3 presents the coefficients on the measure of earnings inequality—the standard deviation of the log hourly earnings by occupation and year—in the time-use regressions by sex and parental status. Each coefficient is from a separate time-use regression, with all other independent variables described in the previous section also controlled. The percentages of each time-use regression coefficient relative to the coefficient in the market-work regression in each column are reported in brackets. The first row of Table 3 shows that, consistent with the findings in Bell and Freeman (2001) and Kuhn and Lozano (2008), the coefficients on occupational pay inequality are positive and mostly significant when the dependent variable is market-work hours, regardless of sex and parental status. The coefficient is the smallest for childless women (1.402), whereas fathers have the largest coefficient (3.463). A 0.1 increase in the measure of pay inequality, slightly larger than one standard deviation of 0.08 in Table 1 for all four groups, is associated with an increase of the hours of market work by 8 minutes per day[6] (or about 1 hour per week) among childless women, 12 minutes per day (or about 1.4 hours per week) among mothers, 14 minutes per day (or about 1.6 hours per week) among childless men, and 21 minutes per day (or about 2.4 hours per week) among fathers. Similar to Aguiar, Hurst, and Karabarbounis (2013), the percentages in brackets indicate that this increase in market-work hours is mainly at the expense of nonmarket-work and leisure hours for all groups. However, there is some variability in the ratios between the two among the groups. Among childless women (column 2), a larger share, about 61 percent, is from nonmarket work hours; among

[6] $1.402\ hours \times 60\ minutes \times 0.1 = 8.412\ minutes$

childless men (column 1) and mothers (column 4), a more significant decrease is from leisure hours, about 61 percent. Though not statistically significant, sleep time, a part of leisure time, slightly decreases as market-work hours increase for all groups. This result is somewhat consistent with the findings of Biddle and Hamermesh (1990), who reported that increases in labor-market hours are associated with decreased sleep. Occupational earnings inequality is not significantly associated with parents' childcare time, consistent with Bianchi's (2000) findings.

The literature shows that the time costs and time stress of having children decrease with the child's age (Bradbury 2008; Buddelmeyer, Hamermesh, and Wooden 2018; Gustafsson and Kjulin 1994). Therefore, I further divided the samples of fathers and mothers into those with and without children under age six, based on the age of the youngest child, and reported the same time-use regression results in Table 4. Columns 1 and 2 of Table 4 show that the relationship between pay inequality and time use does not substantially vary among fathers by the presence of children under age six. The estimated pay inequality coefficients in the first row of the market-work regression are almost identical between columns 1 and 2. The corresponding changes in other time-use categories are also very similar. However, among mothers, the presence of children under age six drastically changes the relationship between occupational earnings inequality and time use. Among mothers without children under age six, the coefficient on pay inequality became smaller in the regression for market-work hours in the first row of column 4 of Table 4. The coefficient on pay inequality for leisure hours is also smaller in magnitude and insignificant in column 4 of Table 4. Overall, the time-use pattern related to occupational pay inequality among mothers without children reported in column 4 of Table 4 appears similar to that of childless women reported in column 2 of Table 3.

Column 3 of Table 4 shows that for mothers with young children, about 13 percent of the increase in market-work hours associated with occupational earnings inequality comes from child care hours. However, the coefficient is not statistically significant. Furthermore, unlike the other three groups in columns 1, 2, and 4 of Table 4, mothers with young children do not substantially decrease their nonmarket-work hours to increase market-work hours in response to pay inequality. Instead, more than 81 percent of the increase in market-work hours associated with occupational earnings inequality is driven by a decrease in leisure hours, including a significant decrease in sleep.

When the sample is further restricted to mothers with infants (children whose age is zero in the data), column 5 of Table 4 shows that the coefficient on earnings inequality in the market-work hours regression becomes even larger. A 0.1 increase in the measure of pay inequality increases is associated with an increase of 26 minutes per day (or about 3 hours per week) in the hours of market work, which is larger than the increase observed among fathers in columns 1 and 2 of Table 4. Moreover, more than 56 percent of the rise in market-work hours comes from reduced sleep time among mothers with infants. Nevertheless, these results do not necessarily imply that mothers with infants in occupations with significant earnings inequality work even more hours right after birth. The average daily market-work hours are 4.60 hours among mothers with infants (not reported in tables) and 5.51 hours among all mothers in column 4 of Table 1. Therefore, although mothers with infants work fewer hours than other mothers, those working in occupations with large pay inequality do not reduce their market work hours as much as other mothers with infants do in occupations with less pay inequality. However, the average daily hours of sleep are 8.22 among mothers with infants (not reported in the tables) and 8.35 among

all mothers in column 4 of Table 1, indicating that mothers of infants working in occupations with significant earnings inequality indeed get less sleep.

In sum, the results in Tables 3 and 4 confirm the literature's findings that greater occupational pay inequality is associated with increased market-work hours across all groups. The time diverted to increased market work hours mostly comes from nonmarket work and leisure hours. However, among mothers with children under age six, particularly those with infants, a large portion of it comes from sleep.

3.2 Subjective Well-Being Analysis

How would the differences in the time-use pattern associated with earnings inequality observed in the previous section reflect on the measures of subjective well-being? Table 5 presents the coefficients for the earnings inequality measure in the subjective well-being regressions by sex and parental status. It is based on all activities reported in the ATUS WB Modules. Again, each coefficient is from a separate well-being regression where all other independent variables described in the data and methodology section are also controlled.

Among childless men, as shown in row 1 of Table 5, occupational earnings inequality is associated with increased happiness. This finding could be because occupational sorting based on preferences (Heywood, Siebert, and Wei 2002; Krueger and Schkade 2008) dominates the adverse effect of time stress. Among childless women and fathers, as shown in rows 2 and 3 of Table 5, in contrast, occupational earnings inequality is not significantly associated with any measure of subjective well-being at the five percent level of significance. However, among mothers, greater occupational earnings inequality is associated with increased levels of pain. A 0.1 increase in the measure of earnings inequality is associated with about a 17 percent increase

in the pain level among mothers (calculated at the mean for mothers in column 4 of Table 2: 0.1279/0.75). Moreover, the bottom three rows of Table 5 show that the increase in pain associated with occupational pay inequality is more prominent among mothers with younger children. Among mothers with children under age six, a 0.1 increase in pay inequality is associated with about a 30 percent increase in pain (calculated at the mean of 0.58, not reported in tables), and among mothers with infants, the level of pain increases by about 104 percent (calculated at the mean of 0.47, not reported in tables). Considering the findings in the previous section that working mothers with young children in occupations with greater pay inequality are somewhat sleep-deprived, it is surprising that it is not the level of tiredness but the elevated level of pain that is associated with pay inequality among these working mothers with young children. However, this relationship between sleep deprivation and pain is well documented in the medical literature on sleep (Schrimpf et al. 2015; Smith et al. 2007).

To further examine the source of the significant effects of earnings inequality on pain among mothers with children under age six reported in Table 5, Table 6 presents the coefficients on the earnings inequality measure in the subjective well-being regressions by time-use category for these mothers.[7] The first row of Table 6 is a copy of the results reported in the fifth row of Table 5 for mothers with children under age six. Column 2 of Table 6 shows that the increased overall pain level associated with greater earnings inequality among mothers with children under age six, reported in the first row, is primarily during market work, as shown in the second row. Mothers working in occupations with greater earnings inequality also feel sadder during market work, as shown in row 2.

[7] Although the mothers with infants in the last row of Table 5 show the largest increase in the level of pain, it is not feasible to carry out detailed analyses by time-use category due to the small sample size of 588 episodes. Therefore, Table 6 shows the results for mothers with children under age six.

Furthermore, row 3 of Table 6 shows that greater earnings inequality is associated with higher sadness during child care among these mothers. Considering the finding in column 3 of Table 4 that mothers do not significantly reduce their child care hours, this may be because full-time working mothers shift enriching child care to evenings on workdays after their work, when they are tired (Stewart 2010).

Row 5 of Table 6 shows that greater pay inequality is also associated with increased pain, stress, and tiredness during leisure among these mothers. These results on leisure are consistent with the time-use pattern observed in column 3 of Table 4, that mothers with children under six increase market-work hours at the expense of leisure hours, including sleep, in response to greater occupational earnings inequality.

When the responses to the Cantril ladder are used as the dependent variable in Table 7, higher occupational earnings inequality is significantly associated with lower life evaluation among mothers in column 4. A 0.1 increase in the measure of earnings inequality lowers the Cantril ladder by about 3 percent (calculated at the mean for mothers in Table 2: 0.2177/7.28) among all mothers. In contrast, no statistical significance is observed among other groups in columns 1 through 3. Additional analysis by the age of the youngest child shows that mothers with children younger than six years of age have an even larger decrease in the Cantril ladder associated with larger occupational earnings inequality in column 5 of Table 7: about a 5 percent decline in the Cantril ladder for a 0.1 increase in pay inequality (calculated at the mean for mothers with children under age six of 7.32, not reported in tables). Column 7 of Table 7 shows that the largest decline is found among mothers with infants: about a 9 percent decline in the Cantril ladder for a 0.1 increase in earnings inequality (calculated at the mean for mothers with infants of 7.65, not reported in tables). However, the results are not significant at the

conventional level, perhaps due to the small sample size of 115 observations, which led to a larger standard error.

These findings in Tables 6 and 7 align with those in Alesina, Di Tella, and MacCulloch (2004). Mothers report lower levels of subjective well-being as occupational earnings inequality increases, because they may feel that childcare responsibilities constrain their progress up their occupational career ladder. Perhaps this is why occupational earnings inequality and long work hours push mothers out of the labor force, as found in Cha (2013) and Cortes and Pan (2017).

One may argue that the insignificance of the coefficients on the earnings inequality measure in the regressions for other groups could be due to measurement error in that measure. However, the fact that the coefficient for the same variable is significant among mothers refutes this argument.

4. Conclusions

This paper examines how earnings inequality across occupations is associated with individuals' time allocation and subjective well-being in the United States, by sex and parental status. The results show that greater occupational earnings inequality is associated with increased market-work hours, mainly at the expense of nonmarket work and leisure for all groups, but at the cost of sleep among mothers with young children. The relationship between occupational earnings inequality and subjective well-being reflects this time-use pattern by sex and parental status. Among childless men, childless women, and fathers, occupational earnings inequality is not negatively associated with any measure of subjective well-being. However, occupational earnings inequality is associated with increased pain among mothers, and the association between pay inequality and pain further increases among working mothers with young children.

Additional analyses by major activity among mothers with young children show that greater occupational earnings inequality is associated with increased sadness during child care, increased pain and sadness during market work, increased pain, stress, and tiredness during leisure, and lower levels of life evaluation.

The findings in this paper indicate that, in addition to child penalties in the labor market (Kleven, Landais, and Søgaard 2019), mothers incur substantial subjective well-being costs for working in occupations with long hours and large earnings inequality, whereas men and non-mothers do not. These mothers do not reduce child care time in response to increased market-work hours. Nevertheless, they may be concerned about the quality of their time with their children, including the timing of their child care, and, as a result, may not fully appreciate it. Furthermore, recognizing that their childcare responsibilities also work against them in occupations like the rat race, they feel less satisfied with their lives. Overall, these results are consistent with the literature, which finds that mothers are more likely to leave occupations with long hours and significant earnings inequality in the United States (Cha 2013; Cortes and Pan 2017).

Although this paper finds that the relationship between occupational earnings inequality and subjective well-being becomes relatively stronger among mothers with young children, if anything, it is likely to have been underestimated. Some mothers with young children or infants might have become part-time workers or dropped out of the labor force, as shown in Cha (2013) and Cortes and Pan (2017), if they felt the subjective well-being costs of working in winner-take-all occupations were too significant. These mothers are not included in the sample used in this paper, which is restricted to full-time workers.

This paper found that mothers of infants cut their sleep and incur the highest subjective well-being costs for working in these occupations with significant earnings inequality. One policy that could be proposed to alleviate this burden is expanding paid maternity leave in the United States. However, the literature shows that expanding paid maternity leave hinders women's promotion to management positions (Blau and Kahn 2013; Stearns 2018). Then it makes us wonder how many of these mothers working full-time in winner-take-all occupations would take paid maternity leave that could seriously jeopardize their career progress.

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References

Aguiar, Mark, Erik Hurst, and Loukas Karabarbounis. "Time use during the great recession." *American Economic Review* 103, no. 5 (2013): 1664-96.

Alesina, Alberto, Rafael Di Tella, and Robert MacCulloch. "Inequality and happiness: are Europeans and Americans different?." *Journal of public economics* 88, no. 9-10 (2004): 2009-2042.

Angner, Erik. "Subjective well-being." *The Journal of Socio-Economics* 39, no. 3 (2010): 361-368.

Bell, Linda A., and Richard B. Freeman. "The incentive for working hard: explaining hours worked differences in the US and Germany." *Labour Economics* 8, no. 2 (2001): 181-202.

Bianchi, Suzanne M. "Maternal employment and time with children: Dramatic change or surprising continuity?." *Demography* 37, no. 4 (2000): 401-414.

Biddle, Jeff E., and Daniel S. Hamermesh. "Sleep and the Allocation of Time." *Journal of Political Economy* 98, no. 5, Part 1 (1990): 922-943.

Blau, Francine D., and Lawrence M. Kahn. "Female labor supply: Why is the United States falling behind?" *American Economic Review,* 103 (3) (2013): 251-56.

Bonin, Holger, Thomas Dohmen, Armin Falk, David Huffman, and Uwe Sunde. "Cross-sectional earnings risk and occupational sorting: The role of risk attitudes." *Labour Economics* 14, no. 6 (2007): 926-937.

Bradbury, Bruce. "Time and the cost of children." *Review of Income and Wealth* 54, no. 3 (2008): 305-323.

Brülde, Bengt. "Happiness theories of the good life." *Journal of Happiness Studies* 8, no. 1 (2007): 15-49.

Buddelmeyer, Hielke, Daniel S. Hamermesh, and Mark Wooden. "The stress cost of children on moms and dads." *European Economic Review* 109 (2018): 148-161.

Bureau of Labor Statistics. "American Time Use Survey Data Dictionary: 2010, 2012, and 2013 Well-being Module Data Variables collected in the ATUS Well-being Module." (2014). https://www.bls.gov/tus/wbmintcodebk.pdf

_____. "American Time Use Survey user's guide: Understanding ATUS 2003 to 2019." (2020). https://www.bls.gov/tus/atususersguide.pdf

Cantril, Hadley. "Pattern of human concerns." (1965).

Cha, Youngjoo. "Overwork and the persistence of gender segregation in occupations." *Gender & Society* 27, no. 2 (2013): 158-184.

Cha, Youngjoo, and Kim A. Weeden. "Overwork and the slow convergence in the gender gap in wages." *American Sociological Review* 79, no. 3 (2014): 457-484.

Cortes, Patricia, and Jessica Pan. "Cross-country evidence on the relationship between overwork and skilled women's job choices." *American Economic Review* 107, no. 5 (2017): 105-09.

Fouarge, Didier, Ben Kriechel, and Thomas Dohmen. "Occupational sorting of school graduates: The role of economic preferences." *Journal of Economic Behavior & Organization* 106 (2014): 335-351.

Gicheva, Dora. "Working long hours and early career outcomes in the high-end labor market." *Journal of Labor Economics* 31, no. 4 (2013): 785-824.

Gustafsson, Björn, and Urban Kjulin. "Time use in child care and housework and the total cost of children." *Journal of Population Economics* 7, no. 3 (1994): 287-306.

Hamermesh, Daniel S., and Jungmin Lee. "Stressed out on four continents: Time crunch or yuppie kvetch?." *The Review of Economics and Statistics* 89, no. 2 (2007): 374-383.

Hamermesh, Daniel S., and Elena Stancanelli. "Long workweeks and strange hours." *ILR Review* 68, no. 5 (2015): 1007-1018.

Heiland, Frank, Joseph Price, and Riley Wilson. "Maternal employment and time investments in children." *Review of Economics of the Household* 15, no. 1 (2017): 53-67.

Heywood, John S., W. Stanley Siebert, and Xiangdong Wei. "Worker sorting and job satisfaction: The case of union and government jobs." *ILR Review* 55, no. 4 (2002): 595-609.

Hopkins, Ed, and Tatiana Kornienko. "Which inequality? The inequality of endowments versus the inequality of rewards." *American Economic Journal: Microeconomics* 2, no. 3 (2010): 106-137.

Kahneman, Daniel, Alan B. Krueger, David A. Schkade, Norbert Schwarz, and Arthur A. Stone. "A survey method for characterizing daily life experience: The day reconstruction method." *Science* 306, no. 5702 (2004): 1776-1780.

Kleven, Henrik, Camille Landais, and Jakob Egholt Søgaard. "Children and gender inequality: Evidence from Denmark." *American Economic Journal: Applied Economics* 11, no. 4 (2019): 181-209.

Kosteas, Vasilios D. "Job satisfaction and promotions." *Industrial Relations: A Journal of Economy and Society* 50, no. 1 (2011): 174-194.

Krueger, Alan B., Daniel Kahneman, David Schkade, Norbert Schwarz, and Arthur A. Stone. "National time accounting: The currency of life." In *Measuring the subjective well-being of nations: National accounts of time use and well-being*, pp. 9-86. University of Chicago Press, 2009.

Krueger, Alan B., and David Schkade. "Sorting in the labor market: do gregarious workers flock to interactive jobs?" *Journal of Human Resources* 43, no. 4 (2008): 859-883.

Kuhn, Peter, and Fernando Lozano. "The expanding workweek? Understanding trends in long work hours among US men, 1979–2006." *Journal of Labor Economics* 26, no. 2 (2008): 311-343.

Qian, Yue, and Wen Fan. "Men and women at work: Occupational gender composition and affective well-being in the United States." *Journal of Happiness Studies* 20, no. 7 (2019): 2077-2099.

_____. "Did the COVID-19 Pandemic Make It Worse? Working from Home and Affective Well-Being at the Intersections of Parental Status and Occupation." *ILR Review* (2025).

Schrimpf, Marlene, Gregor Liegl, Markus Boeckle, Anton Leitner, Peter Geisler, and Christoph Pieh. "The effect of sleep deprivation on pain perception in healthy subjects: a meta-analysis." *Sleep medicine* 16, no. 11 (2015): 1313-1320.

Shi, Hui, Rongxiang Su, and Konstadinos G. Goulias. "Exploring the impact of COVID-19 pandemic on Americans time use related subjective wellbeing." *Wellbeing, Space and Society* (2023): 100148.

Smith, Michael T., Robert R. Edwards, Una D. McCann, and Jennifer A. Haythornthwaite. "The effects of sleep deprivation on pain inhibition and spontaneous pain in women." *Sleep* 30, no. 4 (2007): 494-505.

Song, Younghwan. "COVID-19 and Subjective Well-Being in the United States: Age Matters." *Journal of Happiness Studies* 26, no. 6 (2025): 83.

Stearns, Jenna. "The long-run effects of wage replacement and job protection: Evidence from two maternity leave reforms in Great Britain." *Available at SSRN 3030808* (2018).

Stewart, Jay. "The timing of maternal work and time with children." *ILR Review* 64, no. 1 (2010): 181-200.

Table 1 Descriptive Statistics of the 2003-2019 ATUS Sample, Full-time Wage/Salary Workers

Variables	(1) Childless Men	(2) Childless Women	(3) Fathers	(4) Mothers
Dependent variables				
Market work (in hours)	6.47 (.04)	5.91 (.04)	6.53 (.04)	5.51 (.04)
Child care (in hours)	.06 (.003)	.13 (.006)	.98 (.01)	1.51 (.02)
Nonmarket work (in hours)	1.95 (.02)	2.61 (.03)	2.00 (.02)	2.79 (.02)
Leisure (in hours)	15.04 (.04)	14.71 (.03)	13.94 (.03)	13.57 (.03)
Sleep (in hours)	8.33 (.02)	8.45 (.02)	8.14 (.02)	8.35 (.02)
Other activities (in hours)	.49 (.01)	.64 (.02)	.55 (.01)	.62 (.01)
Independent variables				
Standard deviation of log hourly earnings	.55 (.08)	.55 (.08)	.56 (.08)	.54 (.08)
Mean of log hourly earnings	3.07 (.37)	3.05 (.36)	3.15 (.36)	3.06 (.35)
Log hourly earnings of the respondent	3.10 (.62)	3.01 (.59)	3.27 (.60)	3.01 (.62)
Age	43.59 (12.91)	45.89 (12.55)	39.98 (8.01)	38.23 (7.75)
White	.67 (.47)	.65 (.48)	.71 (.45)	.67 (.47)
Black	.12 (.33)	.18 (.38)	.06 (.24)	.13 (.33)
Hispanic	.16 (.37)	.12 (.33)	.15 (.36)	.14 (.35)
Other	.05 (.21)	.05 (.21)	.07 (.26)	.07 (.25)
Less than some high school	.03 (.16)	.01 (.11)	.03 (.18)	.02 (.13)
Some high school	.05 (.22)	.03 (.17)	.05 (.21)	.03 (.18)
High school graduate	.28 (.45)	.23 (.42)	.23 (.42)	.21 (.41)
Some college	.28 (.45)	.30 (.46)	.25 (.43)	.30 (.46)
College graduate	.24 (.43)	.27 (.44)	.26 (.44)	.27 (.44)
Graduate	.12 (.33)	.16 (.37)	.17 (.38)	.18 (.38)
Married	.38 (.49)	.37 (.48)	.87 (.34)	.64 (.48)
Partnered	.06 (.23)	.05 (.22)	.03 (.18)	.04 (.20)
Single	.56 (.50)	.58 (.49)	.10 (.30)	.32 (.47)
Number of children	0	0	1.90 (.91)	1.71 (.82)
Enrolled in school	.04 (.20)	.05 (.22)	.03 (.18)	.06 (.25)
MSA	.73 (.44)	.73 (.44)	.73 (.44)	.72 (.44)
Immigrant	.14 (.35)	.11 (.31)	.19 (.39)	.15 (.35)
Family income missing	.06 (.23)	.06 (.24)	.05 (.22)	.05 (.22)
Family income less than $10,000	.02 (.15)	.02 (.14)	.01 (.11)	.03 (.16)
Family income $10,000-$19,999	.05 (.23)	.06 (.23)	.04 (.19)	.06 (.24)
Family income $20,000-$34,999	.15 (.36)	.16 (.37)	.11 (.31)	.14 (.35)
Family income $35,000-$49,999	.16 (.37)	.17 (.37)	.12 (.32)	.13 (.33)
Family income $50,000-$74,999	.22 (.41)	.22 (.41)	.21 (.41)	.20 (.40)
Family income $75,000-$99,999	.15 (.36)	.15 (.35)	.19 (.39)	.16 (.37)
Family income $100,000-$149,999	.11 (.32)	.10 (.30)	.16 (.37)	.13 (.34)
Family income $150,000 and over	.07 (.26)	.07 (.25)	.12 (.33)	.10 (.30)
Number of respondents	20,320	19,269	21,323	18,273

Note: For the dependent variables, the means weighted by the ATUS final weights are reported and standard errors are in parentheses. For the independent variables, the unweighted means are reported and standard deviations are in parentheses. Childless men and women could have non-zero child care hours if they provided care for their non-own household/non-household children.

Table 2 Descriptive Statistics of the 2010, 2012, and 2013 ATUS WB Modules Sample

Variables	(1) Childless Men	(2) Childless Women	(3) Fathers	(4) Mothers
Dependent variables				
Happiness	4.16 (.04)	4.23 (.04)	4.31 (.04)	4.41 (.04)
Pain	.72 (.03)	.80 (.04)	.63 (.03)	.75 (.04)
Sadness	.56 (.03)	.58 (.03)	.45 (.03)	.58 (.04)
Stress	1.38 (.04)	1.76 (.05)	1.49 (.04)	1.83 (.05)
Tiredness	2.30 (.04)	2.55 (.05)	2.26 (.04)	2.75 (.05)
Meaningfulness	4.12 (.04)	4.33 (.04)	4.40 (.04)	4.54 (.04)
Independent variables				
Standard deviation of log hourly earnings	.56 (.07)	.55 (.08)	.57 (.08)	.55 (.08)
Mean of log hourly earnings	3.05 (.37)	3.05 (.36)	3.14 (.36)	3.07 (.36)
Log hourly earnings of the respondent	3.08 (.64)	3.02 (.55)	3.25 (.65)	3.00 (.64)
Proportion of men in the occupation	0.66 (0.23)	0.39 (0.22)	0.66 (0.23)	0.38 (0.21)
Age	43.69 (12.87)	46.18 (12.43)	39.96 (8.03)	38.25 (7.75)
White	.66 (.47)	.62 (.49)	.71 (.45)	.68 (.46)
Black	.14 (.34)	.20 (.40)	.06 (.24)	.12 (.33)
Hispanic	.15 (.36)	.13 (.33)	.15 (.36)	.14 (.34)
Other	.05 (.22)	.05 (.22)	.07 (.26)	.06 (.24)
Less than some high school	.02 (.14)	.01 (.12)	.03 (.17)	.01 (.12)
Some high school	.04 (.20)	.03 (.17)	.04 (.21)	.02 (.16)
High school graduate	.28 (.45)	.21 (.41)	.23 (.42)	.18 (.39)
Some college	.27 (.45)	.31 (.46)	.25 (.43)	.31 (.46)
College graduate	.25 (.44)	.27 (.44)	.27 (.45)	.29 (.45)
Graduate	.13 (.33)	.17 (.38)	.18 (.38)	.18 (.39)
Married	.36 (.48)	.35 (.48)	.86 (.35)	.63 (.48)
Partnered	.06 (.23)	.06 (.23)	.03 (.18)	.04 (.21)
Single	.59 (.49)	.59 (.49)	.11 (.31)	.33 (.47)
Number of children	0	0	1.90 (.92)	1.72 (.83)
Enrolled in school	.04 (.20)	.06 (.23)	.03 (.18)	.06 (.24)
MSA	.85 (.36)	.87 (.34)	.84 (.36)	.82 (.38)
Immigrant	.14 (.35)	.12 (.32)	.19 (.39)	.14 (.35)
Number of disabilities	.05 (.30)	.05 (.31)	.02 (.19)	.03 (.23)
Interacted with anyone during the episode	.50 (.50)	.55 (.50)	.66 (.47)	.70 (.46)
Activity duration (in hours)	1.30 (1.83)	1.14 (1.60)	1.21 (1.69)	.97 (1.44)
Family income missing	.01 (.12)	.01 (.10)	.01 (.09)	.01 (.11)
Family income less than $10,000	.03 (.16)	.02 (.14)	.01 (.11)	.02 (.15)
Family income $10,000-$19,999	.06 (.24)	.06 (.23)	.04 (.20)	.06 (.24)
Family income $20,000-$34,999	.15 (.36)	.17 (.37)	.10 (.30)	.14 (.35)
Family income $35,000-$49,999	.17 (.37)	.17 (.38)	.12 (.32)	.13 (.34)
Family income $50,000-$74,999	.23 (.42)	.23 (.42)	.22 (.41)	.20 (.40)
Family income $75,000-$99,999	.15 (.36)	.15 (.35)	.17 (.38)	.16 (.37)
Family income $100,000-$149,999	.13 (.33)	.12 (.33)	.19 (.40)	.15 (.36)
Family income $150,000 and over	.08 (.27)	.07 (.26)	.14 (.34)	.11 (.32)
Number of episodes	9,726	9,060	9,945	8,527
Cantril ladder	7.00 (.05)	7.18 (.05)	7.35 (.05)	7.28 (.06)
Number of respondents	2,129	1,904	2,132	1,783

Note: For the dependent variables, the means weighted by the ATUS WB Module activity weights are reported and standard errors are in parentheses. For the independent variables, the unweighted means are reported and standard deviations are in parentheses. The Cantril ladder is from the 2012 and 2013 ATUS WB Modules. The means weighted by the ATUS WB Module respondent weights are reported and standard errors are in parentheses.

Table 3 Earnings Inequality and Time use, Full-time Wage/salary Workers from the 2003-2019 ATUS

Time-use category	(1) Childless Men	(2) Childless Women	(3) Fathers	(4) Mothers
Market work (in hours)	2.251***	1.402*	3.463***	2.061**
	(0.681)	(0.829)	(0.694)	(0.852)
	[100]	[100]	[100]	[100]
Child care (in hours)	-0.016	-0.083	-0.103	-0.042
	(0.042)	(0.087)	(0.223)	(0.269)
	[-0.71]	[-5.92]	[-2.97]	[-2.04]
Nonmarket work (in hours)	-0.896***	-0.862**	-1.600***	-0.754**
	(0.328)	(0.375)	(0.279)	(0.324)
	[-39.80]	[-61.48]	[-46.28]	[-36.58]
Leisure (in hours)	-1.311**	-0.487	-1.663***	-1.256**
	(0.521)	(0.572)	(0.507)	(0.542)
	[-58.24]	[-34.74]	[-48.02]	[-60.94]
Sleep (in hours)	-0.149	-0.104	-0.273	-0.184
	(0.298)	(0.309)	(0.272)	(0.280)
	[-6.62]	[-7.42]	[-7.88]	[-8.93]
Other activities (in hours)	-0.027	0.030	-0.096	-0.008
	(0.169)	(0.292)	(0.159)	(0.209)
	[-1.20]	[2.14]	[-2.77]	[-0.39]
Number of respondents	20,320	19,269	21,323	18,273

Note: Regression coefficients on the standard deviation of log hourly earnings by occupation and year are reported. Each coefficient is from a separate regression. All models control for the mean of log hourly wage by occupation; the logarithm of the hourly wage of the respondent; age and its square; three dummies for race/ethnicity; five education dummies; two marriage/partner dummies; the number of children; a dummy for school enrollment; a metropolitan status dummy; an immigrant dummy; eight dummies for family income; a holiday dummy; a weekday dummy; three season dummies; year dummies; and state dummies. Standard errors clustered at the occupation level are in parentheses. Regressions are weighted using the ATUS final weights. The percentages of each coefficient relative to the coefficient in the market-work regression in each column are in brackets. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 4 Earnings Inequality and Time use, Full-time Wage/salary Workers from the 2003-2019 ATUS, Parents by the Age of the Youngest Child

Time-use category	(1) Fathers with Children under six	(2) Fathers without Children under six	(3) Mothers with Children under six	(4) Mothers without Children under six	(5) Mothers with infants
Market work (in hours)	3.503***	3.498***	2.375**	1.903*	4.271**
	(0.818)	(0.691)	(0.957)	(1.010)	(1.726)
	[100]	[100]	[100]	[100]	[100]
Child care (in hours)	-0.033	-0.084	-0.315	0.218	-0.340
	(0.305)	(0.210)	(0.438)	(0.257)	(1.272)
	[-0.94]	[-2.40]	[-13.16]	[11.46]	[-7.96]
Nonmarket work (in hours)	-1.689***	-1.570***	-0.353	-1.096**	-0.617
	(0.371)	(0.303)	(0.451)	(0.433)	(0.920)
	[-48.22]	[-44.88]	[-14.86]	[-57.59]	[-14.45]
Leisure (in hours)	-1.743**	-1.664***	-1.929**	-0.846	-2.452*
	(0.731)	(0.470)	(0.792)	(0.584)	(1.311)
	[-49.76]	[-47.57]	[-81.22]	[-44.46]	[-57.41]
Sleep (in hours)	-0.125	-0.376	-0.999**	0.287	-2.412***
	(0.437)	(0.245)	(0.426)	(0.331)	(0.705)
	[-3.57]	[-10.76]	[-42.06]	[15.08]	[-56.47]
Other activities (in hours)	-0.038	-0.180	0.223	-0.178	-0.862**
	(0.183)	(0.220)	(0.256)	(0.247)	(0.406)
	[-1.08]	[-5.15]	[9.39]	[-9.35]	[-20.18]
Number of respondents	10,202	11,121	7,330	10,943	1,277

Note: Regression coefficients on the standard deviation of log hourly earnings by occupation and year are reported. Each coefficient is from a separate regression. All models control for the mean of log hourly wage by occupation; the logarithm of the hourly wage of the respondent; age and its square; three dummies for race/ethnicity; five education dummies; two marriage/partner dummies; the number of children; a dummy for school enrollment; a metropolitan status dummy; an immigrant dummy; eight dummies for family income; a holiday dummy; a weekday dummy; three season dummies; year dummies; and state dummies. Standard errors clustered at the occupation level are in parentheses. Regressions are weighted using the ATUS final weights. The percentages of each coefficient relative to the coefficient in the market-work regression in each column are in brackets. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 5 Earnings Inequality and Subjective Well-being, Full-time Wage/salary Workers from the 2010, 2012, and 2013 ATUS WB Modules, by Sex and Parental Status

VARIABLES	(1) Happiness	(2) Pain	(3) Sadness	(4) Stress	(5) Tiredness	(6) Meaningfulness	Number of episodes
Childless men	1.168**	0.205	0.388	0.169	0.202	0.003	9,726
	(0.555)	(0.318)	(0.445)	(0.489)	(0.542)	(0.523)	
Childless women	-0.134	-0.596	-0.502	-0.578	-0.220	0.109	9,060
	(0.536)	(0.445)	(0.402)	(0.539)	(0.698)	(0.769)	
Fathers	0.087	0.474	-0.287	0.195	0.551	-0.241	9.945
	(0.366)	(0.380)	(0.291)	(0.449)	(0.563)	(0.446)	
Mothers	-0.740	1.279**	0.073	1.012	0.112	-0.349	8,527
	(0.582)	(0.563)	(0.518)	(0.668)	(0.642)	(0.764)	
Mothers with children under six	0.758	1.729***	0.602	1.293	1.165	1.403	3,476
	(1.034)	(0.537)	(0.883)	(1.030)	(0.895)	(1.009)	
Mothers without children under six	-1.320*	0.851	-0.438	0.453	-0.901	-1.351	5,051
	(0.719)	(0.945)	(0.823)	(0.799)	(0.922)	(0.827)	
Mothers with infants	0.859	4.897***	-0.560	0.755	0.655	2.266	588
	(1.509)	(1.760)	(1.316)	(2.369)	(1.762)	(1.863)	

Note: Regression coefficients on the standard deviation of log hourly earnings by occupation and year are reported. Each coefficient is from a separate regression. All models control for the mean of log hourly wage by occupation; the logarithm of the hourly wage of the respondent; the proportion of men in the occupation; age and its square; three dummies for race/ethnicity; five education dummies; two marriage/partner dummies; the number of children; a dummy for school enrollment; a metropolitan status dummy; an immigrant dummy; the number of disabilities; a dummy for interacting with anyone during the activity; activity duration; eight dummies for family income; a holiday dummy; a weekday dummy; three season dummies; year dummies; state dummies; dummies for detailed six-digit activity codes; dummies for activity locations and dummies for activity start time. Standard errors clustered at the occupation level are in parentheses. Regressions are weighted using the ATUS WB Module activity weights. *** p<0.01, ** p<0.05, * p<0.1

Table 6 Earnings Inequality and Subjective Well-being, Full-time Wage/salary Workers from the 2010, 2012, and 2013 ATUS WB Modules, Mothers with Children Under Age Six

VARIABLES	(1) Happiness	(2) Pain	(3) Sadness	(4) Stress	(5) Tiredness	(6) Meaningfulness	Number of episodes
All activities	0.758	1.729***	0.602	1.293	1.165	1.403	3,476
	(1.034)	(0.537)	(0.883)	(1.030)	(0.895)	(1.009)	
Market work	1.056	2.784**	4.151**	-0.346	-0.241	4.163*	441
	(1.759)	(1.125)	(1.795)	(2.169)	(2.278)	(2.083)	
Child care	-1.005	1.600*	1.628**	1.052	-1.614	-1.065	891
	(1.221)	(0.838)	(0.619)	(1.143)	(1.427)	(0.999)	
Nonmarket work	-0.767	1.350	1.395*	0.050	2.061	1.100	912
	(1.658)	(0.871)	(0.772)	(1.491)	(1.623)	(1.333)	
Leisure	-0.491	1.492**	-0.370	2.453**	3.895***	-0.134	1,098
	(0.713)	(0.733)	(0.698)	(1.002)	(1.135)	(1.143)	
Other activities	-1.572	-3.921	1.454	10.285	-2.425	0.473	134
	(14.228)	(20.793)	(13.869)	(31.910)	(21.219)	(13.936)	

Note: Regression coefficients on the standard deviation of log hourly earnings by occupation and year are reported. Each coefficient is from a separate regression. All models control for the mean of log hourly wage by occupation; the logarithm of the hourly wage of the respondent; the proportion of men in the occupation; age and its square; three dummies for race/ethnicity; five education dummies; two marriage/partner dummies; the number of children; a dummy for school enrollment; a metropolitan status dummy; an immigrant dummy; the number of disabilities; a dummy for interacting with anyone during the activity; activity duration; eight dummies for family income; a holiday dummy; a weekday dummy; three season dummies; year dummies; state dummies; dummies for detailed six-digit activity codes; dummies for activity locations and dummies for activity start time. Standard errors clustered at the occupation level are in parentheses. Regressions are weighted using the ATUS WB Module activity weights. *** p<0.01, ** p<0.05, * p<0.1

Table 7 Earnings Inequality and the Cantril Ladder, Full-time Wage/salary Workers from the 2012, and 2013 ATUS WB Modules, by Sex and Parental Status

VARIABLES	(1) Childless men	(2) Childless women	(3) Fathers	(4) Mothers	(5) Mothers with children under six	(6) Mothers without children under six	(7) Mothers with infants
Standard deviation of log hourly earnings	-0.107	-0.508	0.461	-2.177**	-3.781***	-1.095	-6.874*
	(0.644)	(0.907)	(0.851)	(0.956)	(1.188)	(1.439)	(3.777)
Number of respondents	2,129	1,904	2,132	1,783	716	1,067	115
R-squared	0.120	0.105	0.111	0.121	0.254	0.128	0.698

Note: Regression coefficients on the standard deviation of log hourly wage by occupation and year are reported. Each coefficient is from a separate regression. All models control for the mean of log hourly wage by occupation; the logarithm of the hourly wage of the respondent; the proportion of men in the occupation; age and its square; three dummies for race/ethnicity; five education dummies; two marriage/partner dummies; the number of children; a dummy for school enrollment; a metropolitan status dummy; an immigrant dummy; the number of disabilities; eight dummies for family income; year dummies; and state dummies. Standard errors clustered at the occupation level are in parentheses. Regressions are weighted using the ATUS WB Module respondent weights. *** p<0.01, ** p<0.05, * p<0.1

Appendix

Table A1 Time-use Variables and the ATUS Classification Codes

Time-use variable	Activities and ATUS classification codes
Market work	Work and work-related activities (05); Travel related to work (1805)
Child care	Caring for & helping HH children (0301); Activities related to HH children's education (0302); Activities related to HH children's health (0303); Travel related to caring for and helping HH children (180381); Caring for & helping nonHH children (0401); Activities related to nonHH children's education (0402); Activities related to nonHH children's health (0403); Travel related to caring for and helping nonHH children (180481)
Nonmarket work	Household activities (02); Travel related to household activities (1802); Caring for HH adults (0304); Helping HH adults (0305); Caring for & helping HH members (0399); Travel related to caring for and helping HH adults (180382); Travel related to caring for & helping HH members, n.e.c. (180399); Caring for nonHH adults (0404); Helping nonHH adults (0405); Caring for & helping nonHH adults, n.e.c. (0499); Travel related to caring for and helping nonHH adults (180482); Travel related to caring for helping nonHH members, n.e.c. (180499); Consumer purchases (07); Travel related to consumer purchases (1807); Professional & personal care services (08), excluding Medical and care services (0804); Travel related to using professional and personal care services (1808), excluding Travel related to using medical services (180804); Household services (09); Travel related to using household services (1809); Government services & civic obligations (10); Travel related to using government services & civic obligations (1810)
Leisure	Sleeping (0101); Grooming (0102); Personal activities (0104); Personal care emergencies (0105); Personal care, n.e.c. (0199); Travel related to personal care (1801); Eating and drinking (11); Travel related to eating and drinking (1811); Socializing, relaxing, and leisure (12); Travel related to socializing, relaxing, and leisure (1812); Sports, exercise & recreation (13); Travel related to sports, exercise, and recreation (1813); Telephone calls (16); Travel related to telephone calls (1816)
Other activities	Health-related self-care (0103); Education (06); Travel related to education (1806); Medical and care services (0804); Travel related to using medical services (180804); Religious and spiritual activities (14); Travel related to religious and spiritual activities (1814); Volunteer activities (15); Travel related to volunteer activities (1815); Security procedures related to traveling (1818); Traveling, n.e.c. (1899); Data codes (50)

Note: In the six-digit classification codes, the first two digits represent the major activity category, the next two digits the 2nd-tier level of detail, and the final two digits the 3rd level of activity.