DISCUSSION PAPER SERIES

Blurred Boundaries:
A Day in the Life of a Teacher

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I Z A Institute
of Labor Economics
Initiated by Deutsche Post Foundation

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IZA DP No. 15548

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SEPTEMBER 2022

ABSTRACT

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The burnout, stress, and work-life balance challenges faced by teachers have received renewed interest due to the myriad disruptions and changes to K-12 schooling brought about by the COVID-19 pandemic. However, even prior to the pandemic relatively little was known about teachers' time use outside of the classroom, the blurring of work and home boundaries, and how teachers compare to similar professionals in these regards. We use daily time-diary data from the American Time Use Survey (ATUS) for 3,227 teachers and 1,947 professionals in similarly prosocial occupations from 2003 to 2019 to examine occupational differences in time use. Compared to observationally similar non-teachers, teachers spend significantly more time volunteering at their workplace and completing work outside the workplace. On average, teachers spend 12 more minutes working outside of the workplace on weekdays than observably similar non-teachers, and 39 more minutes on weekends. The weekend disparity is particularly large among secondary school teachers. This suggests that before the widespread switch to online and hybrid learning necessitated by the COVID pandemic, teachers were already navigating blurrier work-life boundaries than their counterparts in similar professions. This has important implications for teacher turnover and for the effectiveness and wellness of teachers who remain in the profession.

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1.   Introduction

Teachers are among the most important school-provided inputs (Hanushek & Rivkin, 2010; Gershenson 2021). Accordingly, researchers have investigated teachers' work time and their use of classroom time and instructional strategies (e.g., West 2014; Jones & Young 2012, Rowan & Correnti, 2009; Krantz-Kent 2008; Rowan, Camburn, & Correnti, 2004; Rowan, Harrison, & Hayes, 2004; Jones et al. 2022) including some preliminary evidence about how this was impacted by the disruptions of Covid-19 (Jones, Camburn, Kelcey & Quintero 2022). However, less is known about when and where teachers complete their responsibilities and the potential impact on teachers' work-life balance. The work-family literature refers to the line between the spheres of work and home as a border with working individuals engaging in "border crossing" (Allen et al. 2014). Clark (2000) describes borders as taking three main forms: physical, temporal, and psychological. Using time diary data, this article offers an initial exploration of the permeability of physical and temporal borders for teachers compared to those in similar professions.

Understanding teachers' time allocation – when and where they work and how they balance work and other activities -- is critical to building realistic models of labor supply and to constructing policies that are responsive to the specifics of this market. Starting with a seminal call from Becker (1965), labor economists have included time constraints when describing household maximization problems and have shown that models that imply unconstrained choice in hours do not fit empirical data (Dickens & Lundberg 1993). Whether and how teaching offers a different mix of hours and/or has different demands on time use can inform our understanding on both the extensive and intensive margins – that is who chooses and stays in the profession and as well as differences in work hours. Time diary data like that used in this paper are more

accurate and provide more nuance than standard summary recall measures (West 2014, Barrett & Hamermesh 2019) and will better describe how teachers and similar workers navigate labor-home production tradeoffs.

In addition to the standard utility maximization framework, we draw on theory from industrial psychology to frame our investigation of teacher time use. Key concepts in the work-family literature are integration and segmentation, which describe the degree to which work and family roles are separated. Wepfer et al. (2018) found that workers with high work-to-life integration had less time to "recover" from work, were more exhausted, and had poor work-life balance.[1] Without sufficient recovery, sustained workload can lead to persistent or even irreversible negative effects, which can lower job performance and even cause physical or mental illness (Meijman & Mulder 1998). High job demands (on and off site) and lack of discretion predict a high need for recovery (Sonnentag & Zijlstra 2006).

Teachers' time use is important because the prevalence of work-life imbalance in the form of integration or reduced time spent in recovery activities has implications for teacher burnout, turnover, and student outcomes. Work schedules are relevant for the recruitment and retention of individuals to professions. Understanding how teachers spend non-work time, the degree of permeability between work and home activities, and how teachers' non-work time use compares to that of observationally similar non-teachers provides information on how teaching differs from alternative labor market options. One in four teachers reported that they were likely to leave their jobs by the end of the 2020-2021 school year in a nationally representative survey, up from one in six teachers pre-pandemic (Steiner and Woo 2021). Carver-Thomas and Darling-

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[1]Recovery is the temporary relief from an individual's workload and associated stress in order to replenish their physical and mental energy.

Hammond (2017) found that 43% of teachers leaving the profession indicated family/personal reasons as an important factor in their decision.

The current study uses time diaries from a nationally representative U.S. survey to describe how teachers complete work-related activities during the week and across work and home spaces, how such allocations compare to professionals in similar occupations, and whether patterns in teachers' time use varies by teachers' demographic backgrounds. Our primary analyses focus on time spent in three work-related activities: working for pay in the respondent's main job, volunteering at the respondent's place of work, and working on main job duties while outside of the workplace. We also examine differences between weekday and weekend time use and between male and female respondents.

2.   Context

Work-life balance is of particular concern for educators and has implications for student outcomes. In a survey of more than 8,000 Canadian elementary and secondary teachers (Froese-Germain 2014), 54% indicated they felt significantly torn between their teaching responsibilities and their responsibilities outside the workplace. A staggering 85% reported that work-life imbalance affected their ability to teach the way they would like to. Herman et al. (2018) found that 93% of teachers experienced high levels of stress in a study of 121 teachers from nine elementary schools in an urban Midwestern school district. The small share (about 3%) of teachers classified as high stress, low coping, and high burnout were associated with the poorest student outcomes. A small qualitative study of public-school teachers in São Paulo, Brazil similarly found that "teachers endure conflict and imbalance between personal and work life, expressed as poor self-perceived leisure and recovery time" (Silva and Fischer 2020).

In the survey of Canadian teachers, a majority (79%) reported that their stress related to work-life imbalance had increased in the last five years; only 4% said it had decreased over the same period (Froese-Germain 2014). This may be related to the increased use of connecting technologies. In a study of 546 full-time public elementary school teachers recruited through two large teachers' unions in a Midwestern state, Park et al. (2020) found work intrusions at home, specifically being contacted after work hours via smartphones or email, can cause stress, negative rumination, negative affect, and insomnia.

Lastly, there is evidence of differences by gender and parenthood in work and home roles and time spent in recovery activities among educators. Froese-Germain (2014) found that female teachers were more likely than male teachers to report work-life imbalance. In a study of faculty at a research-intensive university, Misra et al. (2012) found that female faculty and mothers in particular carried higher loads of housework and care time but worked for no fewer hours than their male counterparts. Stengård et al. (2022) used a decade of data on a Swedish cohort of teachers to examine gender differences in time use and depressive symptoms. They found more depressive symptoms, emotional work demands, and unpaid work among female teachers, whereas male teachers spent more time on leisure activities.

Krantz-Kent (2008) presented an early descriptive look at teachers' work patterns using ATUS data from2003-2006 and found that compared to other employed professionals, teachers spent more time working on Sundays and more time working outside of their workplace. We confirm and build upon these findings with an expanded data set, a more specific comparison group, and disaggregation by teacher type and gender.

3.   Data

Retrospective time diaries are the preferred way to accurately measure time use, as respondents are prone to overestimating time spent in activities when asked to recall a typical day (Juster & Stafford, 1991; West 2014). As such, we use time diary data collected by the American Time Use Survey (ATUS) (Hamermesh et. al. 2005, Hofferth et. al. 2013). The ATUS is nationally representative and has been consistently administered each year since 2003 by the U.S. Census Bureau's Bureau of Labor Statistics. The ATUS collects a 24-hour retrospective time diary from one individual over age 15 per household from a subset of the Current Population Survey (CPS) sampling frame and links each time diary to demographic, employment, education, and income data from the CPS for all members of the diary respondent's household. We use ATUS data from 2003-2019.

We limit the analytic sample to respondents who completed the ATUS during the school year (i.e. September – May) because teachers' time use differs substantially during the summer months (Krantz-Kent 2008). The sample of teachers is restricted to the 3,227 respondents who self-reported being employed full-time at the time of the survey with a primary occupation of teacher between the ages of 22 and 62. Because weekends and certain demographic groups and months are oversampled by the ATUS, all subsequent analyses are weighted by person-day weights that account for unequal probabilities of sample selection across households, months, and days of the week. The weights also adjust for non-response based on observable characteristics. In the final sample of teachers, 7% (226) are pre-kindergarten or kindergarten teachers, 60% (1,947) are elementary or middle school teachers), 25% (797) are high school (secondary) teachers, and 8% (257) are special education teachers.

We identify a comparison group employed full-time in similarly prosocial professions, such as therapists, registered nurses, and human resources specialists. Comparison occupations were identified using classifications from the U.S. Department of Labor's online database O*NET (National Center for O*NET Development, 2022); the complete protocol for identifying comparison occupations is detailed in the appendix. Mirroring inclusion criteria for the teacher sample, the comparison group was restricted to those over the age of 22 and under the age of 62, who hold either a four-year or master's degree. There are 1,947 non-teachers in the study sample.

The primary dependent variables of interest are time spent working at the respondent's main job, working for the main job at a location other than their workplace, and volunteering at their workplace. Secondary dependent variables of interest include other out-of-work time use categories, such as sleep, leisure, exercise, time spent working at a second job, and childcare. We divide time spent on childcare into two types: primary and secondary childcare. Primary childcare is computed as the sum of time spent caring for and helping household children under the age of 18 and performing activities related to household children's education. At the end of the survey, respondents are asked about secondary childcare, which includes caring for a child under the age of 13 while simultaneously performing other tasks during the diary day.

Table 1 shows summary statistics for the teachers and non-teachers included in the analytic sample. For the time use variables, the first column reports the average number of minutes devoted to the activity while the second column reports the average conditional on the respondent engaging in the activity during the diary day. The third column reports the percentage of respondents who engage in the activity (i.e., the extensive margin). For example, only 2% of teachers report any time volunteering at their workplace on the diary day so the average time

spent volunteering at work for all teachers is 2 minutes. However, for those who did report

volunteering, the average is 85 minutes.

These summary statistics indicate that teachers spend more time working outside their

place of work, volunteering at their workplace, and engaging in childcare than non-teachers.

They also indicate that 7% of teachers report working a second job on the diary day, compared to

5% of non-teachers, which is a statistically significant difference. Time spent on other non-work

activities such as sleep, leisure, and exercise does not differ between teachers and non-teachers.

As seen in Table 1, the comparison group closely matches the teacher group in age,

household income, percent Hispanic, and percent female. However, teachers are more likely to

be white, more likely to have a master's degree, and less likely to live in a metropolitan area than

non-teachers. They are also more likely to have a spouse or partner in the household, more likely

for that spouse or partner to be employed, more likely to have a child under 13 in the household,

and on average have more total children in the home, compared to non-teachers. These latter

differences especially may contribute to different time allocations. In the next section we

describe regression analyses that adjust for these observable differences.

4.   **Methodology**

We examine the predictors of time use (T) for teachers and non-teachers by estimating

linear time-use regressions of the form:

$$T_i = \alpha + \delta Type_i + \beta X_i + u_i, \qquad\qquad (1)$$

where i indexes respondents, *Type* is a set of categorical indicators that describe the type of

teacher (i.e., preschool, primary, secondary, special education, with non-teacher being the

omitted reference group); X is a vector of respondent, household, and diary characteristics

including day, month, year, and region indicators (fixed effects); and u is an idiosyncratic error term. We estimate equation (1) using the full sample of teacher and comparison group time diaries completed between September and May.

The linear model shown in equation (1) is estimated by OLS with standard errors clustered at the state level to make statistical inference robust to arbitrary forms of heteroskedasticity and serial correlation within states over time (Gershenson, 2013; Kalenkoski & Pabilonia, 2014). OLS estimates of linear time-use regressions are preferred despite potential "pile-ups" at zero, as Stewart (2013) shows that OLS estimates are more robust than Tobit estimates when the non-participation is caused by measurement error attributable to the fact that time diary surveys sample days as opposed to longer time frames. For example, even if a respondent reports zero volunteer time on the diary day, it is possible that the respondent did volunteer on another day during the week or month of the time diary.

5.   Results

Estimates of equation (1) for the main time-use variables are presented in Table 2 with diary day controls only (panel A) and with all control variables (panel B). Consistent with West (2014), Table 2 shows that secondary school teachers spend more time working in a given day than other teacher types. On average, secondary teachers work at their main job 30.5 minutes more per day than the comparison group of non-teachers, which is a significant difference.

All four teacher types spend 1 to 3 minutes more per diary day volunteering at their workplace than non-teachers. Both primary and secondary teachers spend approximately 21 more minutes per day completing work at a location other than their workplace than comparable

non-teachers. Pre-Kindergarten/kindergarten and special education teachers also spend more time working outside of school but these differences are smaller and not statistically significant.

Estimated coefficients for the control variables included in the models estimated in Table 2 are reported in Appendix Table 2; with the exception of medium and high household income predicting more time spent volunteering at work, the control variables generally do not significantly predict time use. For time spent volunteering at the workplace and working for the main job outside the workplace we find that the full slate of control variables explains less than 5% of the variation in the data ($R^2 < 0.05$). This is not uncommon in time use research, particularly for activities that are not done on a daily basis, as the single diary day format introduces substantial random measurement error (Kan & Pudney, 2008).

In Table 3 we present regression results for time spent on the three primary outcome variables separately for weekdays (Monday through Friday) and weekends (Saturday and Sunday). On an average weekday, teachers spend two more minutes volunteering at work, and 12 more minutes working not at their workplace, than non-teachers. The two groups do not differ significantly in total time spent working on weekdays. When the data is disaggregated by teacher type, we see that secondary teachers spend 30 more minutes working on weekdays than non-teachers.

Time use on weekend days is particularly relevant to understanding opportunities for recovery, as these are days when school is not in session and that theoretically serve as a break for teachers from work duties. The regression results indicate that weekends contain more work for teachers than for their non-teaching counterparts. Compared to non-teachers, all teachers on average spend 16 more minutes working overall and 39 more minutes working not at their workplace on an average weekend day. These differences are statistically significant for all four

teacher types, ranging from 15.7 more minutes for special education teachers to 56.7 more minutes for secondary teachers.

Tables 4 and 5 report the findings of Table 3 separately for women and men, respectively. Female teachers are spending more time working outside their workplace compared to female non-teachers on both weekdays and weekend days. Male secondary teachers are working for approximately 50 minutes more on both weekdays and weekend days, compared to male non-teachers. This larger occupational difference for male secondary teachers could be driven by male secondary teachers being more likely to serve in coaching roles for school athletic teams compared to female teachers (Knowles et al 2020). Having a child under the age of 13 was a significant predictor of time spent working for females but not males, suggesting a gendered difference in the impact of childcare responsibilities on time spent working.

Finally, Table 6 presents the results of equation (1) for six additional time use activities: sleep; socializing, relaxation and leisure; sports, exercise, and recreation; working a second job; providing primary childcare; and providing secondary childcare. The first three activities are types of recovery activities, activities one could do to reduce stress to a basal level to mitigate the negative impacts of sustained work-related stress. The latter three categories are types of paid and unpaid labor unrelated to the respondent's primary job. Results varied by teacher type. All teacher types were shown to spend more time on average working at a second job, though only secondary teachers to a statistically significant degree. Similarly, results indicated that all teachers spent more time providing secondary childcare, with those teaching grades Pre-K through 8th showing a statistically significant difference from non-teachers. Pre-K/kindergarten and secondary teachers both reported significantly fewer minutes of sleep compared to non-

teachers.

6.   Discussion

We present rich descriptive statistics about how teachers and observationally similar non-teachers spend time in three work-related activities and six activities outside of their primary jobs during the school year. The results described above have a variety of implications for education policy and research.

We found that teachers spend more time volunteering (completing unpaid labor) at work on weekdays and more time completing work for their main job outside of work on weekend days than non-teachers. This may suggest a more permeable border between the work and non-work spheres for teachers compared to non-teachers. This type of work-life integration has been linked to reduced well-being and increased stress, which have implications for job satisfaction and turnover. Increased planning time during the school day could reduce the need to complete work on weekends. Also, supporting clear boundaries for both parents and colleagues as to when a teacher may be contacted regarding school-related issues outside of work may support less permeable borders, as suggested by Park et al. (2020).

The most significant differences in time spent in recovery activities and other labor were seen between non-teachers and secondary teachers. Secondary teachers are spending more time working on both weekdays and weekend days, getting less sleep, less socialization, relaxation, and leisure time, and spending more time working a second job. These findings suggest that teachers' work demands may negatively impact their time for recovery activities. Insufficient recovery has serious implications for stress management and wellness, which in turn have implications for turnover. The heightened effect seen among secondary teachers may be of

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particular concern because secondary teachers often teach more specialized subjects or hold additional certifications, making vacancies for these positions potentially more challenging to fill than primary school teacher vacancies. More research is needed on the connection between recovery activities, teacher job satisfaction and well-being, and intent to leave the profession.

A final interesting, and policy relevant, finding is that teachers spend significantly more time engaged in secondary childcare than non-teachers. Additional investigation of time use data to tease out which primary activities are most associated with concurrent secondary childcare of household children could be helpful to understand the impact on teacher's work and recovery time and border-crossing practices. For instance, providing secondary childcare while completing work for their main job may suggest further work-life integration, or providing secondary childcare while engaging in activities typically deemed recovery activities may diminish the quality of recovery time.

In sum, a nuanced understanding of how teachers spend their non-work time, coupled with an analysis of work time, such as Krantz-Kent (2008) and West (2014), will lead to a better understanding of the pressures and commitments that teachers, the most important school-provided input, face on a daily basis and inform our understanding of teachers' extensive and intensive margin labor supply choices. Our findings affirm that teaching is not a job that one can "leave at the office" so bringing teachers' non-work time use into the conversation is essential.

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Table 1: Descriptive Statistics

	Teachers [N = 3,227]			Non-Teachers [N = 1,947]		
	(1)	(2)	(3)	(4)	(5)	(6)
A: Activity (in minutes)	All	If time > 0	1{time = 1}	All	If time > 0	1{time = 1}
Work for main job	329	444*	0.74	331	462	0.72
	(251)	(188)		(254)	(167)	
Work not at workplace	52***	148	0.35***	33	163	0.20
	(119)	(164)		(105)	(179)	
Volunteer at workplace	2***	85	0.02**	0	57	0.01
	(14)	(52)		(6)	(61)	
Socializing/relaxation	186	198	0.94	190	206	0.92
	(151)	(148)		(153)	(149)	
Sleep	490	490	1.00	491	492	1.00
	(109)	(108)		(117)	(115)	
Sports/recreation/exercise	13	71	0.19	13	64	0.20
	(38)	(59)		(35)	(54)	
Work for second job	13	197	0.07*	10	191	0.05
	(67)	(166)		(55)	(174)	
Primary childcare	37*	103	0.36***	32	107	0.30
	(76)	(95)		(72)	(98)	
Secondary childcare	124***	344*	0.36***	91	316	0.29
	(215)	(230)		(193)	(242)	
B: Demographics						
Pre-K-Kindergarten	0.07			n/a		
Special Education	0.08			n/a		
Primary school	0.60			n/a		
Secondary school	0.25			n/a		
Hispanic	0.08			0.09		
White	0.89***			0.79		
Black	0.08***			0.15		
Asian	0.02**			0.04		
Female	0.77			0.75		
Age	40.7			40.4		
Masters	0.49***			0.38		
Metro	0.84**			0.87		
Own child under 13	0.37***			0.30		
Number of own children in HH	.81***			0.64		
Spouse/partner in HH	0.72***			0.64		
Spouse/partner employed	0.90***			0.84		
HH inc.< $20k	0.02			0.02		
HH inc. $20k to $75k	0.42			0.43		
HH inc.> $75k	0.53			0.50		

Notes: Standard deviation reported in parentheses. Means and standard deviations are weighted by sampling weights that adjust for unequal probability of selection across both days and households. HH = household. $^+p<0.10$, $^*p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$ indicate the statistical significance of the mean differences between teachers and non-teachers.

Table 2: Time Use Compared to Non-Teachers

A:Without controls [N=5,174]	(1)	(2)	(3)
Activity (in minutes)	Work for primary job	Volunteer at workplace	Work for main job, not at workplace
All Teachers	3.0	1.4**	18.6***
	(6.8)	(0.5)	(4.5)
R^2	0.468	0.020	0.025
Pre K-Kindergarten	7.6	1.9	8.1
	(15.5)	(1.5)	(10.6)
Special Education	-19.3	1.1	11.0
	(13.7)	(0.8)	(8.7)
Primary (Elementary Middle)	-4.3	1.3*	20.6***
	(7.8)	(0.6)	(5.0)
Secondary (High School)	26.0*	1.8+	18.8**
	(10.2)	(1.1)	(5.8)
R^2	0.470	0.020	0.026
B: With controls [N=4,896]	(1)	(2)	(3)
All Teachers	7.3	1.7***	19.5***
	(6.4)	(0.4)	(4.8)
R^2	0.480	0.029	0.031
Pre K-Kindergarten	8.7	2.5	9.6
	(16.2)	(1.6)	(10.6)
Special Education	-16.2	1.5+	12.2
	(13.9)	(0.9)	(8.8)
Primary (Elementary Middle)	0.4	1.6*	20.9***
	(7.6)	(0.6)	(5.5)
Secondary (High School)	30.5**	1.6+	21.4**
	(9.7)	(0.9)	(6.1)
R^2	0.482	0.029	0.032

Notes: Standard errors in parentheses, all standard errors are clustered by state. Non-teacher is used as a reference category and is omitted from output.+$p<0.10$ *$p< 0.05$, **$p< 0.01$, ***$p< 0.001$
A:Regressions condition on day of week, month, year, and holiday indicators.
B: Regressions condition on region, diary day, demographic, and household indicators (see Appendix 2 for control variable details and coefficients).

Table 3: Time Use Compared to Non-Teachers, Weekdays versus Weekends

A:Without controls	Weekday [N=2,606]			Weekend [N=2,568]		
	(1) Work for primary job	(2) Volunteer at workplace	(3) Work for main job, not at workplace	(4) Work for primary job	(5) Volunteer at workplace	(6) Work for main job, not at workplace
All Teachers	0.8	2.0***	11.8*	12.0+	-0.0	37.7***
	(9.5)	(0.6)	(5.4)	(6.1)	(0.2)	(4.9)
R^2	0.105	0.024	0.032	0.031	0.009	0.052
Pre K-Kindergarten	8.4	1.8	-3.9	6.5	1.4	35.0**
	(21.8)	(2.2)	(12.6)	(11.8)	(1.5)	(10.3)
Special Education	-14.5	1.5	11.9	-20.5*	-0.2	15.6+
	(17.2)	(1.1)	(12.4)	(9.6)	(0.1)	(8.9)
Primary	-8.9	1.8*	15.5*	9.6	-0.1	35.2***
	(11.1)	(0.8)	(6.3)	(6.0)	(0.1)	(5.4)
Secondary	27.0*	2.6+	6.9	29.4**	-0.2	51.2***
	(13.4)	(1.4)	(6.2)	(8.6)	(0.1)	(7.3)
R^2	0.109	0.024	0.033	0.036	0.014	0.058
B: With controls	**Weekday [N= 2,462]**			**Weekend [N= 2,434]**		
All Teachers	5.5	2.3***	12.4*	16.6**	-0.0	39.0***
	(8.9)	(0.6)	(5.9)	(5.0)	(0.2)	(5.1)
R^2	0.118	0.037	0.041	0.053	0.012	0.061
Pre K-Kindergarten	11.4	2.6	-1.1	6.7	1.4	32.2**
	(23.4)	(2.3)	(12.9)	(11.4)	(1.5)	(10.5)
Special Education	-12.7	2.3+	14.3	-15.4+	-0.2	15.7
	(17.3)	(0.9)	(12.9)	(9.2)	(0.2)	(9.5)
Primary	-4.1	2.3*	14.9*	14.6**	-0.2	35.9***
	(10.7)	(0.9)	(6.9)	(5.4)	(0.2)	(5.6)
Secondary	32.1*	2.3+	9.1	35.6**	-0.2*	56.7***
	(13.0)	(1.2)	(6.9)	(8.0)	(0.1)	(8.0)
R^2	0.121	0.037	0.042	0.058	0.017	0.068

Notes: Standard errors in parentheses, all standard errors are clustered by state. HH = household. $^+p<0.10, ^*p< 0.05,$ $^{**}p< 0.01, ^{***}p< 0.001$
A: Regressions condition on day of week, month, year, and holiday indicators.
B: Regressions condition on region, diary day, demographic, and household indicators (see Appendix 3 for control variable details and coefficients).

Table 4:Time Use Compared to Non-Teachers, Weekdays versus Weekends, Females Only

	Weekday [N= 1,905]			Weekend [N= 1,882]		
	(1) Work for primary job	(2) Volunteer at workplace	(3) Work for main job, not at workplace	(4) Work for primary job	(5) Volunteer at workplace	(6) Work for main job, not at workplace
Pre K-Kindergarten	15.5	2.4	9.6	7.4	1.4	31.2**
	(21.1)	(2.2)	(13.4)	(12.8)	(1.5)	(11.4)
Special Education	-18.3	1.2	17.3	-13.6	-0.2	18.6+
	(18.9)	(1.0)	(13.5)	(11.5)	(0.2)	(10.2)
Elementary Middle	4.4	1.8*	27.1***	13.3+	-0.3	39.1***
	(12.1)	(0.8)	(7.1)	(6.8)	(0.2)	(6.5)
High School	21.6	1.1	22.6**	31.1*	-0.1	58.1***
	(13.6)	(0.8)	(7.7)	(11.7)	(0.2)	(11.6)
HH Characteristics						
Own child under 13	-42.6+	0.8+	-0.8	-26.8*	0.2	-13.3
	(23.3)	(0.4)	(9.2)	(11.9)	(0.6)	(10.0)
Total number of own children in HH	6.8	-0.6+	-2.2	8.1	0.0	4.0
	(7.8)	(0.3)	(3.9)	(5.7)	(0.2)	(4.8)
Spouse/partner not employed	10.3	-0.5	21.6	18.0	-0.2	18.3
	(28.8)	(0.9)	(18.3)	(15.8)	(0.2)	(14.2)
Spouse/partner employed	6.1	-0.6	-0.6	-1.4	-0.0	-5.9
	(13.0)	(0.7)	(8.4)	(9.9)	(0.2)	(6.5)
Middle HH income	-20.5	0.3	-4.2	-32.9	0.1	-28.8
	(44.9)	(0.8)	(20.3)	(25.3)	(0.2)	(21.0)
High HH income	-16.7	1.3	-1.1	-34.3	0.2	-27.5
	(46.1)	(0.8)	(18.1)	(27.1)	(0.2)	(22.1)
Demographics						
Black only	-3.1	1.2	3.8	9.0	0.1	1.4
	(15.6)	(1.2)	(10.4)	(14.2)	(0.3)	(10.5)
American Indian, Alaska Native only	-30.9	-1.5	-40.1*	-5.9	0.3	7.1
	(100.5)	(1.7)	(17.6)	(34.4)	(0.4)	(36.8)
Asian only	-9.9	-0.1	6.9	-10.5	-0.3	-13.9
	(58.2)	(0.7)	(25.0)	(17.1)	(0.2)	(14.2)
Hawaiian Pacific Islander only	53.0	0.2	111.9	85.7	-0.6	-16.2
	(180.0)	(1.3)	(67.4)	(137.9)	(0.5)	(15.1)
More than one race	10.7	2.3	6.2	-14.2	-0.4	-18.9
	(48.6)	(2.1)	(23.5)	(25.1)	(0.4)	(11.9)
Hispanic	11.1	1.4	0.8	-19.4*	-0.3	-11.4
	(28.7)	(1.2)	(6.4)	(9.3)	(0.2)	(8.3)
age	0.6	0.0	0.2	0.1	0.0	0.4
	(0.6)	(0.0)	(0.3)	(0.4)	(0.0)	(0.3)
Metro area	-11.2	-0.7	-6.3	20.3*	0.2	20.9**
	(11.4)	(1.1)	(9.1)	(9.1)	(0.1)	(7.3)
R^2	0.114	0.038	0.057	0.046	0.023	0.082

Notes: Standard errors in parentheses, all standard errors are clustered by state. HH = household. $^+p<0.10, ^*p< 0.05,$ $^{**}p< 0.01, ^{***}p< 0.001$. Regressions condition on region (northeast, Midwest, south, and west), day of week, month, year, and holiday indicators. Low HH income (omitted) < $20,000, middle HH income >=$20,000 and < $75,000, high HH income >=$75,000. Non-teachers, spouse/partner not present and white race are used as reference categories and are omitted from output.

Table 5:Time Use Compared to Non-Teachers, Weekdays versus Weekends, Males Only

	Weekday [N= 557]			Weekend [N= 552]		
	(1) Work for primary job	(2) Volunteer at workplace	(3) Work for main job, not at workplace	(4) Work for primary job	(5) Volunteer at workplace	(6) Work for main job, not at workplace
Pre K-Kindergarten	11.7	-12.6	-17.0	-47.1	-0.3	14.4
	(62.1)	(12.0)	(43.1)	(42.4)	(0.4)	(34.2)
Special Education	47.4	4.8	40.6	-15.6	-0.6	12.2
	(37.5)	(4.5)	(43.2)	(20.1)	(0.5)	(15.0)
Primary	-21.9	3.4	-15.6	27.8	0.3	29.5*
	(21.4)	(2.2)	(12.7)	(19.1)	(0.5)	(12.2)
Secondary	53.1**	4.3*	-8.1	47.7**	-0.1	58.9***
	(20.2)	(2.1)	(13.0)	(17.8)	(0.2)	(13.3)
HH Characteristics						
Own child under 13	13.7	-2.3	11.1	9.5	0.5	-5.5
	(35.3)	(3.0)	(19.5)	(27.9)	(0.6)	(18.3)
Total number of own children in HH	-1.8	0.2	3.5	-6.9	0.1	2.0
	(14.1)	(1.1)	(8.3)	(9.9)	(0.1)	(7.6)
Spouse/partner not employed	-33.7	4.6	26.1	-26.1	-0.6	-10.2
	(35.6)	(4.2)	(26.1)	(20.0)	(0.4)	(16.2)
Spouse/partner employed	-33.7	-1.0	13.9	-24.8	-0.5	-15.6
	(21.6)	(2.1)	(16.7)	(19.4)	(0.4)	(16.8)
Middle HH income	-41.4	8.1^{+}	-52.6	-249.0^{+}	0.1	-15.4
	(56.0)	(4.8)	(39.4)	(128.4)	(0.2)	(42.8)
High HH income	-5.4	6.8	-58.5	-221.6^{+}	0.4	1.9
	(54.6)	(4.6)	(41.1)	(124.8)	(0.3)	(42.8)
Demographics						
Black only	-8.0	-3.9	1.9	14.6	-0.1	-11.4
	(32.4)	(2.5)	(20.2)	(26.7)	(0.2)	(11.4)
American Indian, Alaska Native only	19.5	2.3	4.7	-85.1^{+}	-0.3	-80.7*
	(48.7)	(3.1)	(41.3)	(50.6)	(0.6)	(39.1)
Asian only	-77.9^{+}	0.2	-10.8	-8.7	-0.7	-18.7
	(42.0)	(1.5)	(25.6)	(84.4)	(0.5)	(27.0)
Hawaiian Pacific Islander only	4.7	-0.5	-17.5	-17.1	-0.5	29.6
	(42.8)	(6.6)	(27.9)	(35.0)	(0.3)	(20.9)
More than one race	25.6	-3.1	-18.6	-29.6	0.7^{+}	-12.3
	(27.4)	(2.7)	(11.3)	(28.2)	(0.4)	(19.7)
Hispanic	0.6	-0.2*	0.2	-1.1	0.0	0.1
	(1.0)	(0.1)	(0.8)	(0.9)	(0.0)	(0.4)
age	0.5	-5.3	10.5	-27.8	0.4	-21.9
	(18.8)	(3.6)	(14.9)	(28.3)	(0.3)	(21.2)
Metro area	-8.0	-3.9	1.9	14.6	-0.1	-11.4
	(32.4)	(2.5)	(20.2)	(26.7)	(0.2)	(11.4)
R^2	0.239	0.167	0.098	0.204	0.032	0.103

Notes: Standard errors in parentheses, all standard errors are clustered by state. HH = household. $^{+}p<0.10$, $^{*}p< 0.05$, $^{**}p< 0.01$, $^{***}p< 0.001$. Regressions condition on region (northeast, Midwest, south, and west), day of week, month, year, and holiday indicators. Low HH income (omitted) < $20,000, middle HH income >=$20,000 and < $75,000, high HH income >=$75,000. Non-teachers, spouse/partner not present and white race are used as reference categories and are omitted from output.

Table 6: Time Used in Recovery Activities (columns 1-3) and additional labor (columns 4-5) [N=4,896]

Activities (in minutes)	(1) Sleep	(2) Socializing, relaxation and leisure	(3) Sport, exercise, and recreation	(4) Working a second job	(5) Primary childcare	(6) Secondary childcare
Pre K-Kindergarten	-19.2*	4.7	-2.7	0.4	5.0	35.8**
	(8.8)	(10.8)	(2.4)	(3.6)	(3.8)	(11.5)
Special Education	6.3	-14.1	0.1	6.7	6.8	10.6
	(7.2)	(10.6)	(4.5)	(4.1)	(4.9)	(10.3)
Primary	1.4	5.1	0.3	2.1	-1.9	12.4*
	(5.0)	(6.3)	(1.8)	(3.4)	(1.9)	(5.2)
Secondary	-10.6+	-13.7*	2.0	9.9*	-7.6**	1.7
	(5.3)	(5.9)	(1.9)	(4.6)	(2.4)	(5.5)
HH Characteristics						
Own child under 13	1.6	-21.9**	-3.5	-3.0	76.1***	308.2***
	(5.4)	(7.3)	(2.6)	(2.9)	(4.8)	(10.9)
Total number of own children in HH	-9.8***	-11.8**	0.5	-0.6	7.7**	4.8
	(2.2)	(3.5)	(1.3)	(1.2)	(2.2)	(4.9)
Spouse/partner not employed	-2.4	13.3	1.7	-1.7	5.5+	12.7+
	(5.5)	(10.7)	(2.3)	(4.4)	(3.0)	(7.0)
Spouse/partner employed	4.2	-6.9	0.4	-4.6	8.6***	3.9
	(5.2)	(7.3)	(1.4)	(3.5)	(1.4)	(3.0)
Middle HH income	22.5+	23.5	4.3	1.9	1.2	-1.7
	(13.3)	(15.1)	(3.1)	(7.3)	(4.2)	(16.9)
High HH income	15.7	16.7	6.1+	1.2	0.9	-4.0
	(13.3)	(15.8)	(3.3)	(7.7)	(5.0)	(17.3)
Demographics						
Black only	-3.2	3.7	-2.2	6.7+	-4.2*	9.6
	(7.0)	(6.4)	(3.0)	(3.7)	(1.9)	(6.7)
American Indian, Alaska Native only	1.4	-9.3	-12.8**	21.4	-13.2	-43.3
	(52.8)	(32.5)	(3.7)	(32.0)	(12.5)	(32.7)
Asian only	8.6	-12.8	2.9	-7.5***	1.6	10.5
	(9.1)	(12.1)	(3.2)	(1.8)	(8.2)	(13.1)
Hawaiian Pacific Islander only	-57.5	-6.9	-14.1***	-5.5	32.9	6.1
	(49.0)	(20.3)	(3.5)	(3.5)	(41.5)	(53.9)
More than one race	-21.8	13.4	-4.5	9.6	-7.4	9.8
	(18.8)	(22.4)	(3.4)	(13.0)	(7.5)	(15.4)
Hispanic	-1.2	-10.1	-1.0	-2.1	-0.7	14.8**
	(9.2)	(6.1)	(3.5)	(4.4)	(3.3)	(5.0)
female	-0.1	-33.2***	-7.1***	-8.3*	9.8***	7.5+
	(3.6)	(4.8)	(1.7)	(3.5)	(2.3)	(4.0)
age	-1.3***	0.2	-0.1*	0.0	-0.5***	-0.1
	(0.2)	(0.3)	(0.1)	(0.2)	(0.1)	(0.1)
Metro area	10.9*	-0.6	0.7	-6.6	1.0	-5.8
	(5.2)	(6.6)	(1.7)	(4.2)	(2.1)	(5.2)
R^2	0.174	0.211	0.031	0.026	0.376	0.588

Notes: Standard errors in parentheses, standard errors clustered by state. $^+p< 0.10$, $^*p< 0.05$, $^{**}p< 0.01$, $^{***}p< 0.001$. Regressions condition on region (northeast, Midwest, south, and west), day of week, month, year, and holiday indicators. HH = Household; low HH income (omitted) < $20,000, middle HH income >=$20,000 and < $75,000, high HH income >=$75,000. Non-teachers, spouse/partner not present and white race are used as reference categories and are omitted from output.

Appendices
Appendix 1:Identifying comparison occupations to teachers

O*NET OnLine is a database of over 900 occupations maintained the U.S. Department of Labor Employment and Training Administration. O*NET links each occupation to an ordered combination of three interests. The possible interests are:
- Realistic (R)
- Investigative (I)
- Artistic (A)
- Social (S)
- Enterprising (E)
- Conventional (C)

O*NET also assigns each occupation one of five Job Zones. A Job Zone is a group of occupations that are similar in how much education, related experience, and on-the-job training people need to do the work.
https://www.onetonline.org/help/online/zones
The five Job Zones are:
- Job Zone 1 - occupations that need little or no preparation
- Job Zone 2 - occupations that need some preparation
- Job Zone 3 - occupations that need medium preparation
- Job Zone 4 - occupations that need considerable preparation
- Job Zone 5 - occupations that need extensive preparation

Elementary, middle, secondary, and special education teaching occupations are all assigned to Job Zone 4 and have a primary interest of Social (S). Most occupations in Job Zone 4 require a four-year bachelor's degree, but some do not. Social occupations frequently involve working with, communicating with, and teaching people. These occupations often involve helping or providing service to others.

There are 25 standard occupational classification codes (OCC) that correspond with non-teaching occupations also in Job Zone 4 with a primary interest of Social (S). Four of the 25 were excluded due to underspecification and/or substantive similarities to teachers, these are denoted by a *:
- *0230 – Education Administrators (excluded from analysis)
- 0420 – Social and Community Service Managers
  - 0425 – Emergency Management Directors (specified starting in 2010)
- 0560 – Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation
  - 0565 - Complia nce Officers (specified starting in 2010)
- 0620 - Human Resources, Training, and Labor Relations Specialists
  - 0650 - Training and Development Specialists (specified starting in 2010)
- 2000 – Counselors
  - 2005 - Rehabilitation Counselors (specified starting in 2018)
  - 2006 – Counselors, all other (specified starting in 2018)
- 2010 - Social Workers
  - *2011 – Child, Family, and school social workers (specified starting in 2018) (excluded from analysis)
  - 2014 – Social Workers, all other (specified starting in 2018)
- 2020 - Miscellaneous Community and Social Service Specialists
  - 2015 - Probation Officers and Correctional Treatment Specialists (specified starting in 2012)

- o   2016 – Social and Human Service Assistants (specified starting in 2012)
  - o   2025 - Miscellaneous Community and Social Service Specialists, Including Health Educators and Community Health Workers (specified starting in 2012)
- 3240/3245 – Therapists, All Other/Other Therapists, Including Exercise Physiologists (Occupation name changed in 2010)
- 3130 - Registered Nurses
- 3210 - Recreational Therapists
- *2720 - Athletes, Coaches, Umpires, and Related Workers (excluded from analysis)
  - o   *2722 – Coaches and Scouts (specified starting in 2018) (excluded from analysis)
- 4620 – Recreation and Fitness Workers
  - o   4622 - Recreation Workers (specified starting in 2018)

Appendix 2: Table 2 Panel B-Teacher Type with Control Variable Coefficients

Activity (in minutes)	(1) Work for primary job	(2) Volunteer at workplace	(3) Work for main job, not at workplace
Pre K-Kindergarten	8.7	2.5	9.6
	(16.2)	(1.6)	(10.6)
Special Education	-16.2	1.5[+]	12.2
	(13.9)	(0.9)	(8.8)
Elementary Middle	0.4	1.6[*]	20.9[***]
	(7.6)	(0.6)	(5.5)
High School	30.5[**]	1.6[+]	21.4[**]
	(9.7)	(0.9)	(6.1)
HH Characteristics			
Own child under 13	-25.0[+]	0.4	-0.4
	(13.8)	(0.6)	(7.8)
Total number of own children in HH	3.4	-0.3	0.0
	(4.4)	(0.3)	(3.1)
Spouse/partner not employed	1.1	0.2	19.1
	(16.1)	(1.1)	(12.9)
Spouse/partner employed	-2.5	-0.9	1.1
	(7.9)	(0.7)	(5.6)
Middle HH income	-51.8[+]	1.4[*]	-23.5[+]
	(26.8)	(0.6)	(13.7)
High HH income	-43.7	1.8[**]	-22.1[+]
	(27.0)	(0.6)	(13.2)
Demographics			
Black only	0.1	0.0	0.7
	(9.6)	(0.8)	(7.4)
American Indian, Alaska Native only	-6.8	-1.0	-8.4
	(42.4)	(0.8)	(15.4)
Asian only	-19.8	-0.5	-2.5
	(28.1)	(0.5)	(8.6)
Hawaiian Pacific Islander only	53.5	0.5	42.7
	(115.0)	(1.4)	(50.6)
More than one race	2.6	1.1	-1.6
	(29.8)	(1.4)	(16.0)
Hispanic	1.7	0.2	-8.9[+]
	(18.5)	(0.8)	(4.5)
female	-4.6	-1.3[+]	0.5
	(9.3)	(0.7)	(5.1)
age	0.5	-0.0	0.3
	(0.4)	(0.0)	(0.2)
Metro area	-5.6	-1.2	1.2
	(8.2)	(0.9)	(6.6)
R^2	0.482	0.029	0.032

Notes: N=4,896. Standard errors in parentheses, all standard errors are clustered by state. [+]$p< 0.10$,[*]$p< 0.05$, [**]$p< 0.01$, [***]$p< 0.001$. Regressions condition on region (northeast, Midwest, south, and west), day of week, month, year, and holiday indicators. Low HH income (omitted) < \$20,000, middle HH income >=\$20,000 and < \$75,000, high HH income >=\$75,000. Non-teacher, spouse/partner not present and white race are used as reference categories and omitted from output.

Appendix 3: Table 3 Panel B-Teacher Type with Control Variable Coefficients

Activity (in minutes)	Weekday [N= 2,462]			Weekend [N= 2,434]		
	(1) Work for primary job	(2) Volunteer at workplace	(3) Work for main job, not at workplace	(4) Work for primary job	(5) Volunteer at workplace	(6) Work for main job, not at workplace
Pre K-Kindergarten	11.4	2.6	-1.1	6.7	1.4	32.2**
	(23.4)	(2.3)	(12.9)	(11.4)	(1.5)	(10.5)
Special Education	-12.7	2.3+	14.3	-15.4+	-0.2	15.7
	(17.3)	(0.9)	(12.9)	(9.2)	(0.2)	(9.5)
Elementary Middle	-4.1	2.3*	14.9*	14.6**	-0.2	35.9***
	(10.7)	(0.9)	(6.9)	(5.4)	(0.2)	(5.6)
High School	32.1*	2.3+	9.1	35.6**	-0.2*	56.7***
	(13.0)	(1.2)	(6.9)	(8.0)	(0.1)	(8.0)
HH Characteristics						
Own child under 13	-29.8	0.5	3.4	-18.3+	0.2	-11.4
	(19.3)	(0.8)	(9.7)	(10.5)	(0.5)	(9.0)
Total number of own children in HH	4.7	-0.5	-0.3	2.1	0.0	2.1
	(6.0)	(0.4)	(3.8)	(4.2)	(0.2)	(4.1)
Spouse/partner not employed	2.3	0.3	22.9	3.5	-0.3	10.3
	(19.0)	(1.6)	(16.7)	(9.7)	(0.2)	(10.5)
Spouse/partner employed	-2.9	-1.2	3.5	-6.1	-0.1	-6.7
	(11.6)	(1.0)	(7.4)	(8.6)	(0.2)	(6.6)
Middle HH income	-31.9	2.2*	-20.0	-90.9+	0.2	-23.8
	(38.1)	(0.9)	(19.3)	(47.2)	(0.2)	(19.3)
High HH income	-22.0	2.5*	-20.6	-82.8+	0.3	-17.5
	(38.7)	(1.0)	(17.9)	(47.1)	(0.2)	(19.1)
Demographics						
Black only	-7.5	-0.1	1.2	14.7	0.0	-1.8
	(15.0)	(1.1)	(9.8)	(13.3)	(0.3)	(8.4)
American Indian, Alaska Native only	-4.4	-1.4	-27.7+	-17.5	0.2	1.6
	(53.8)	(1.4)	(15.7)	(37.7)	(0.3)	(37.4)
Asian only	-24.8	-0.7	-0.2	-12.6	-0.2	-13.5
	(35.3)	(0.7)	(11.0)	(20.8)	(0.2)	(13.1)
Hawaiian Pacific Islander only	48.2	-0.4	107.8	83.2	-0.4	-1.2
	(180.7)	(1.9)	(71.7)	(105.4)	(0.4)	(14.4)
More than one race	7.5	1.9	2.7	-11.4	-0.2	0.5
	(41.0)	(2.0)	(19.1)	(19.1)	(0.2)	(13.9)
Hispanic	11.1	0.3	-7.9+	-22.2**	-0.1	-10.1
	(24.6)	(1.1)	(4.7)	(7.9)	(0.3)	(7.5)
female	-2.8	-1.8+	-2.3	-7.7	-0.1	10.9+
	(11.5)	(1.0)	(6.6)	(10.0)	(0.2)	(6.0)
age	0.6	-0.0	0.3	-0.2	0.0	0.3
	(0.5)	(0.1)	(0.3)	(0.4)	(0.0)	(0.3)
Metro area	-9.2	-1.8	-0.3	7.3	0.2+	8.5
	(10.7)	(1.3)	(7.9)	(11.3)	(0.1)	(8.3)
R²	0.121	0.037	0.042	0.058	0.017	0.068

Notes: Standard errors in parentheses, all standard errors are clustered by state. HH = household. $^+p< 0.10$, $^*p< 0.05$, $^{**}p< 0.01$, $^{***}p< 0.001$
A: Regressions condition on day of week, month, year, and holiday indicators.
B: Regressions condition on region (northeast, Midwest, south, and west), day of week, month, year, and holiday indicators. Low HH income (omitted) < $20,000, middle HH income >=$20,000 and < $75,000, high HH income >=$75,000. Spouse/partner not present and white race are omitted from output.