Teachers' Time Use

A Review of the Literature

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TNTP

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Executive Summary

Teachers are the backbone of our education system, shaping not only the academic success of millions of students but also their long-term well-being and economic mobility. One out of every 12 college-educated workers in the U.S. serves as a PK-12 or special education teacher, making educators a vital and influential part of the national workforce. Their value, however, extends far beyond their numbers: Research consistently shows that teacher quality is the single most important school-based factor in determining students' motivation, academic achievement, and future outcomes.

The impact of great teaching is not just immediate but also enduring. As TNTP explored in *Paths of Opportunity*, young people who have access to high-quality academic experiences and excel in school are also more likely to earn a living wage and report high levels of well-being in adulthood. In fact, economists have found that students who move from an average teacher to an excellent teacher in a single grade can expect to earn thousands of additional dollars over their lifetimes.

Despite their central role, teachers increasingly view their profession as unsustainable. In 2024, more than 60% of teachers reported experiencing burnout, often citing heavy workloads and insufficient support as key factors. While we know that teachers matter profoundly, there is still much to learn about how they spend their days and how the use of their time influences both their own well-being and student learning. This is a critical gap: If we want to maximize the impact of teachers on student learning, well-being, and long-term opportunity, we must ensure their jobs are sustainable and that they are empowered to use their time efficiently and effectively.

This literature review synthesizes dozens of sources, including academic studies, surveys, research reports, and news articles to surface consistent themes about how teachers use their time, the demands they face, and the often-blurred lines between work and personal life. Our analysis reveals that teachers work substantially more hours than their contracts require, with much of their time consumed by non-instructional tasks that contribute to stress and burnout. Time use also varies by teacher experience, school context, and student population, with those serving the highest needs students often spending less time on instruction. Recent shifts—such as the rise of educational technologies—have further complicated teachers' workloads.

By understanding these dynamics, education leaders and policy makers can take concrete steps to support teachers, improving not just their effectiveness, but also their well-being and retention in the profession. Ultimately, optimizing how teachers spend their time is both an opportunity to improve a critical workforce issue and a critical lever for advancing student learning and lifelong success. It's crucial to understand how to support teacher quality and effectiveness—and how to make teachers' jobs more sustainable.

Key Findings

Finding #1: Teachers report working longer hours than their contracts require, contributing to the stress and burnout that many experience on the job.

Estimates of teachers' total working time are wide-ranging, from roughly 35 hours to upwards of 50 hours per week. In most cases, reports of the typical workload exceed teachers' contractual obligations (just under 40 hours per week on average) by a substantial margin. The responsibilities that comprise teachers' time go well beyond instruction, although it consumes the largest share of teachers' time (at least 40 percent, according to most surveys). Teachers also spend a considerable amount of time on lesson planning and preparation (roughly 20 percent), and the remainder of their time is spread across a range of tasks, such as completing administrative paperwork, collaborating with colleagues, communicating with parents, providing their students with emotional support, and attending professional development. While some estimates show that teachers spend a small percentage (about 2 percent) of their time engaged in professional development, in some districts the amount of time spent engaged in professional learning may be much higher. In TNTP's report *The Mirage*, for example, the teachers in the study reported spending nineteen full school days per year—nearly ten percent of a typical school year—on participating in professional development activities.

Teachers' long working hours are a significant contributor to stress that many report experiencing on the job. Survey data suggest that the diffusiveness and scope of teachers' responsibilities may likewise negatively influence teachers' morale and emotional wellbeing, particularly when it comes to tasks that they do not view to be core to their teaching roles. Teachers express an interest in more opportunities for rest and recovery, but may be less likely to take time off work (even when they are sick) than people working in similar fields. In fact, they tend to spend far more time working during off hours, including on weekends and holidays.

This reflects the relatively unstructured nature of much of teachers' work; teachers can and often do bring their work home with them. At the same time, boundaries even within individual professional responsibilities can be porous, with teachers frequently engaged in multitasking or subject to disruptions that may contribute to relatively high rates of burnout and stress among educators.

Finding #2: Research demonstrates the benefits of teacher time spent on instruction—and teachers value that time more than time spent on non-instructional tasks.

The full extent of teachers' working time is often not assigned a consistent financial value, given that they work more hours than they are typically paid for in their contracts. While some of their additional work may be compensated, survey data show that the average teacher is paid for just three out of an estimated weekly fifteen hours beyond their contracted weekly working time. This difference is reflected in teachers' generally low satisfaction with the adequacy of their salaries, given the work that they do.

Beyond financial compensation, teachers find intrinsic value in their work, but this varies across tasks. Teachers consistently prefer to spend more time on instruction, during which they tend to experience more positive emotions, and less time on administrative tasks, grading, and assessment. They tend to experience more negative emotions and higher levels of stress in relation to non-instructional activities, particularly when they are engaged in administrative and grading tasks.

Teachers are not the only educational stakeholders for whom instructional time holds great value; there is a substantial body of literature demonstrating the benefits of instructional time on student achievement. The allocation of time within instructional tasks matters as well. Instructional time devoted to practicing concepts may yield stronger benefits to student achievement in math, while interactive discussion time

may be more productive for student learning in English language arts. We do not yet know, however, how time investments in other activities, such as non-instructional interactions with students or additional planning and preparation time, might influence students.

Finding #3: Time use varies across teacher experience, identities, and educational contexts, resulting in young people who need the most instructional time being least likely to receive it.

Teachers in their early-to-mid careers and in their thirties tend to spend fewer hours on the job compared to more experienced teachers. In addition to overall working hours, teachers' experience is associated with the share of time they devote to instruction. Experienced educators dedicate more time within their lessons on actual instruction and less time on classroom management, in contrast to novice educators, for whom discipline and classroom management are greater struggles.

A teachers' race and ethnicity, and the composition of the students they teach, is likewise associated with time-use patterns. Teachers of color tend to work longer hours than white teachers—both in terms of their contracted and self-reported time. There are likewise differences in teacher time use across student bodies served, with educators whose students are lower performing, whose students experience poverty, and whose students attend less-resourced schools spending less of their classroom time on instruction and more time on classroom management. Robust evidence shows that students learn more when they have more instructional time, but students who need the most instructional time don't get it.

TNTP research in *The Opportunity Myth* also demonstrated that students of color, students experiencing poverty, multilingual students, and students with learning and thinking differences were less likely than their more privileged peers to receive access to learning experiences aligned with grade-level standards. Combined, this research indicates that students who need the best school experiences most are receiving less instruction in the time they spend in class and are also focusing on less rigorous content than their peers.

The reasons for these differences are not well explained by existing research, but these patterns may in part reflect that novice educators and teachers of color are disproportionately represented in schools with fewer resources and higher levels of student need.

In some cases, surveys on teachers' time use have disaggregated patterns by gender, with results suggesting no meaningful difference in total working hours between male and female teachers. However, male teachers were more likely to take on extra school-related work for pay and female educators are generally less satisfied with the hours that they work and more likely to attribute their dissatisfaction to feeling that they feel like the cannot get their work done no matter how many hours they put in. This suggests that workloads and burdens might be felt differently across genders even where total working hours may be comparable.

Finally, evidence about differences across school levels is mixed, but suggests slightly longer working hours for teachers serving upper grades, where there are more opportunities for additional work outside of traditional school hours, such as supervising extracurricular activities or teaching summer school.

Finding #4: While overall workloads have not meaningfully changed over the last two decades, factors like the COVID-19 pandemic, frequent shifts in curricula and standards, and alternative schooling models may have negatively impacted teachers' time and sense of burnout.

While longitudinal educator time use measures are rare, the available data suggest that teachers' weekly working hours have held steady over approximately the past quarter century. However, other factors may have contributed to temporary dips and rises in teachers' total working hours, as well as how their time is

distributed. For example, frequent changes in learning standards, assessments, and curricula may alter teachers' allocation of time toward learning and preparing for new teaching expectations and contexts.

More dramatically, the COVID-19 pandemic represented a major shock to institutions worldwide. There is mixed evidence about its effects on the amount of time teachers put into their jobs during the pandemic, but strong evidence that the intensity and focus of their work shifted dramatically. Specifically, several surveys show that teachers reallocated instructional time toward other activities, such as collaborative planning and providing social-emotional support to their students. These pandemic-induced shifts may continue even today, with high shares of teachers reporting that they are spending more time dealing with students' behavioral issues and addressing their students' socio-emotional needs. Data suggest that these factors may have led to teachers having more intense workloads that continue to harm their wellbeing, with persistently high levels of stress and burnout in the profession.

Challenges with educational working conditions have only grown in recent years. In 2023, educators reported spending more of their class time addressing student behavior and mental health issues after the pandemic. They cited non-teaching tasks as their top sources of job-related stress, notably managing student behavior (45 percent), administrative work outside of teaching (33 percent), and supporting students' mental health and wellbeing (23 percent). As TNTP found in *The Irreplaceables*, poor working conditions and instructional culture can drive great teachers from the classroom.

Finally, in recent years, districts have been increasingly adopting alternative school models with direct implications for teachers' working time. This includes hybrid schools, extended-year schools, extended-day schools, and schools with four-day school weeks. Evidence across these models suggests that while four-day weeks are relatively popular with teachers, they may lead to worse learning outcomes for students and might even harm educator retention, given that they typically come with lower pay. There are conflicting tradeoffs in terms of school day and year length, but structures that are more beneficial for teachers are not necessarily more conducive for student learning gains. Findings suggest that students might experience larger learning gains from more hours in the day rather than more days in the year, while teachers may benefit from shorter—and therefore theoretically more manageable-- workdays than from increased opportunity for time off.

Finding #5: Learning more about how teachers spend their time has the potential to enable systems to improve student learning but requires careful work by researchers.

One important consideration for time-use measurement is how to ask educators about their time use. Recall-based time estimates are prevalent in time-use research and relatively easy to collect, but prone to error, particularly when respondents are asked to recall one point in time relative to another further in the past. In contrast, time-diary data—from near-contemporaneous questions about time use—are generally more reliable and less subject to bias, but more onerous to capture.

In addition to survey format, researchers' definitional decisions can influence findings. For example, the question of what constitutes a typical work week can be complicated by the seasonality of teachers' work; their workloads often vary across seasons, making time-use estimates subject to bias based on data collection timing and decisions about what working periods to include. Similarly, the spillover nature of teachers' work requires thoughtful decisions about where and how researchers draw working-time boundaries, given that teachers often work outside of their official contracted hours and might have work and non-work tasks that bleed into the same time.

Other important considerations include: being explicit about definitions for aspects of teachers' time use (e.g., identifying the types of tasks and activities that constitute planning time); how to draw boundaries between overlapping tasks; which individuals make for an appropriate comparison group; and whether

survey respondents are sufficiently representative of the teaching force to draw appropriate inferences about teachers' time.

Finding #6: Teachers report rising use of AI, and leaders across the system have a significant opportunity to make sure AI improves—rather than disrupts—students' and teachers' experiences.

AI use in professional contexts is rapidly rising, including in the educator workforce. AI has the potential to reshape industries and jobs worldwide, presenting a unique opportunity to consider automating educational tasks. Deciding which tasks are the right ones to automate will be important, as education remains an essentially human endeavor. It's quite possible that AI and human teachers will excel at different tasks, with AI adding capacity to process vast amounts of data or providing feedback at scale, while educators bring human interaction and emotional intelligence to their work.

While use of AI by teachers is still in its early stages, teachers already report using AI-assisted tools for a variety of work-related tasks, as well as being interested in additional training on how to leverage AI in their work. Qualitative evidence suggests that teachers use AI to support time-consuming tasks, but the tools' output may require additional time for review and revision. Other research suggests that tools can present information with misleading confidence which causes less-savvy users to overestimate the quality of AI-supported materials. Meanwhile, as their students' use of AI likewise increases, teachers may need to spend additional time designing lessons and assignments that preclude students from taking learning shortcuts.

Although data on AI use specific to time optimization are only emergent at this point, early evidence suggests that AI can nevertheless support effective and efficient teaching when certain conditions are met. Tools that are designed in close alignment with specific educational uses tend to perform better; for example, a tutor feedback tool called Tutor CoPilot that incorporates expert teachers' decision-making processes into its training materials has been shown to meaningfully enhance the quality of tutoring students receive. That being said, experimental evidence from the United Kingdom suggests that even generalized tools like ChatGPT may support the efficiency of educators' lesson development—at least when the educators are given resources and a tightly-structured framework for implementing AI-assisted lesson planning.

Recommendations for the Field

This review of the literature demonstrates that teachers' time use is a topic that is ripe for further research. Existing evidence suggests that funders, policymakers, technology developers, and school administrators may be able to enact meaningful, beneficial change. A of list recommendations for major stakeholder groups below:

School administrators and education policymakers: Create structures and systems that support teachers' effective and efficient time use.

1. **Work to understand how teachers perceive the instructional culture of their schools, including how teachers are asked to use their time.** Leverage surveys, like TNTP's Instructional Culture Insight Survey, to gather feedback from educators regarding how they spend their time and perceive their working conditions.

2. **Engage educators in redefining the role of a teacher by intentionally reimagining the structure and instructional culture of schooling.** Redefine the responsibilities of teaching roles, ensuring that there are common expectations regarding who within a school should be responsible for various tasks. Then, consider implementing flexible staffing models, such as the *Next Education Workforce (NEW) ™)* team-based models or the *Public Impact (Opportunity*

Culture)® models that differentiate roles while establishing team-based, collaborative teaching environments.

3. **Provide resources and differentiated supports that enable classroom teachers to focus on instruction aligned to that redefined teacher role.** After defining the role, district leaders can adopt high-quality instructional materials (HQIM) to streamline the time teachers spend creating lesson materials so that teachers can focus most on delivering high-quality instruction. To support successful implementation, school and district leaders should ensure that teachers have dedicated planning time built into their schedules, with some autonomy for educators to adapt that time according to their individual professional-learning needs. Shift resources to ensure that there are sufficient support staff in schools to enable teachers to focus on their core instructional responsibilities. Finally, have a clear perspective on the role ed tech and AI should play in streamlining teacher time use, and provide teachers with training and resources that reflect that perspective.

4. **Incorporate simple opportunities to streamline the demands on teachers' time.** Adopt HQIM once, then be cognizant that updating and revising curricula, assessments and standards take significant teacher time and mental energy. Additionally, set communication policies that respect boundaries between professional and personal time. To reduce the cognitive load of interruptions and distractions, administrators should concentrate calls and announcements to non-instructional times to avoid disrupting teaching and learning and restrict announcements to only the applicable classrooms.

Researchers: Build a more robust and nuanced evidence base.

1. **Measure teacher time use in multiple ways across multiple time periods.** To build clarity across inconsistent estimates of teachers' working hours, incorporate multiple measures of time use in a single study, ideally disaggregating variation across teacher characteristics. Collect detailed longitudinal data to document temporal changes in the nature of teachers' time use, allowing the field to better understand calendar-based variation in workloads, time burdens, and time allocations.
2. **Develop new teacher time use measures.** Explore measures that allow for disentangling working hours from workload intensity, where workload intensity represents the work that teachers must do even if those tasks remain unfinished.
3. **Build an understanding of how different uses of teacher time affect student achievement.** Investigate the return on time investments to non-instructional activities for students or teachers. At this point, we simply do not have a clear understanding of the tradeoffs between different types of time use and how those decisions might differ across teachers and teaching contexts.
4. **Conduct rigorous, causal research on the conditions and policies that enable efficient and effective time use.** This research would go a long way toward helping districts and educational technology developers implement policies, practices, and tools that will best serve their staff, students, and clients.
5. **Conduct research to understand the implications of compensation policy for teacher workloads and district budgets.** For example, while advocates have proposed amending regulations under the Fair Labor Standards Act (FLSA) to allow teachers overtime pay for work they do beyond 40 hours per week, we do not have empirical evidence of the likely effects of such a policy. This is likely to be a costly approach for districts, and so researchers and federal policymakers should work together to understand cost-benefit implications.

Technology developers: Develop products, supports, and protections that enable effective and responsible use of technology.

1. **Use specialized knowledge about their tools, in partnership with education experts, to provide educators and school administrators with training on best practices for AI use**. This is important not only for data security reasons, but also to ensure that teachers aren't compromising the quality of their lesson materials, feedback, or instruction. Crucially, tech developers should be transparent about where their tools might be less effective at providing high-quality supports.
2. **To broaden applicability and improve the performance of generative AI tools and other large language models not explicitly built for the education sector, work with experienced educators to incorporate expert teacher knowledge into training models.** This would ensure high-quality, well-aligned resources and feedback for educators who might use these tools for classroom resources. This is true for ed tech tools in general; developers should bring in educators as co-designers to ensure their tools' utility, accuracy, and effectiveness.
3. **Invest in technologies that improve teachers' efficiency on the job by designing and offering tools that explicitly support teachers' time use.** Tools that support planning and preparation might be particularly useful, as this represents a substantive portion of teachers' time.
4. **Create tools that support coherence.** When developing new tools or programs, or making upgrades to existing products, be aware of how different common tech tools might work together, so as to streamline technology training and use for educators. These tools should cohere with—and enhance—the broader instructional work that teachers are doing.
5. **Carefully review new and updated generative technologies to ensure compliance with education-focused data safety laws and regulations** like those defined by the Family Education Rights and Privacy Act (FERPA) and the Child Online Privacy Protection Act (COPPA), even in cases where these tools are not explicitly meant for users in the education sector (e.g., OpenAI's ChatGPT).

Funders: Incentivize research, policy, and technology to support effective teacher time use.

1. **Provide resourcing that enables the field to learn more about teacher time use.** Bring together and financially support researcher-practitioner partnerships that generate new and more rigorous knowledge about teachers' time use. Consider supporting more detailed collection of data on how teachers use their time. Teachers' time use is a potentially powerful lever for the field to better monitor and address teacher burnout and engagement. However, we simply need more longitudinal studies specific to teachers' time use and connecting that use to these types of outcomes.
2. **Incentivize collaborations between education technology developers, districts, and researchers that build knowledge about how to measure and optimize teachers' time and actively enable better, more productive time use for educators.** Importantly, this work should also identify and promote areas for further research that might inform the development of technology that would directly support the efficiency of teachers' work.
3. **Clearly elevate the importance of teacher workloads in public discourse and in policy discussions.** While funders do not directly influence policy, private foundations can direct policy conversations based on their choice of programs to fund.

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Introduction

Teachers comprise a large portion of the U.S. labor force; roughly one out of every twelve college-educated workers is a pre-K-12 or special education teacher, making educators a substantively large labor market for researchers to understand and invest in.[1] They also pose considerable economic benefits for the students that they teach, given decades of evidence about teachers' impacts not just on student learning, but also socio-emotional skills and long-term wellbeing (Aaronson, Barrow, & Sander, 2007; Blazar & Kraft, 2017; Chetty et al., 2011; Chetty et al., 2014b; Gregory et al., 2016; Kane & Staiger, 2008; Rivkin et al., 2005; Rockoff, 2004). Given this, it's crucial that we understand not just how to support teachers in being effective at their jobs, but also ways to ensure that they view their jobs as sustainable. Unfortunately, teachers' job satisfaction is low (Kraft & Lyon, 2024), but recent surveys point to a particular aspect of teachers' working conditions as being an area where policy and interventions might improve the nature of the profession. Namely, teachers frequently point to workloads and time burdens as sources of stress and professional dissatisfaction (e.g., Doan et al., 2024; Lin et al., 2024). Understanding how teachers use their time, and the implications of teachers' time use might pave the way for policies, practices, and tools that enable more sustainable and productive working conditions.

In the report that follows, we describe what we know from existing evidence about teachers' time use, including not just the total number of hours that teachers typically put into their work, but also the extent to which that time bleeds into their personal lives, the ways they allocate their time across many professional demands, and how these aspects of teachers' time use (may) have evolved in recent years. We also discuss the influence of various measurement decisions on how we might interpret or apply evidence about teachers' time use. Finally, we address the ways in which emerging technologies—and generative AI in particular—might provide opportunities for teachers to improve their time use and effectiveness on the job.

To preview, we find widely varying estimates of how much time teachers typically put into the job and how that time compares to people in other professions. Regardless, most evidence suggests that teachers put substantially more time into the job than their contracts require. While the existing literature provides a generalized understanding of teachers' time use—for example, most evidence points to teachers spending roughly half their working hours engaged in instructional activities—we ultimately lack a nuanced understanding of how teachers allocate their time across activities, how that allocation varies across teachers and teaching contexts, or what the implications are of various time allocation decisions for teachers and students. In general, teachers report low morale and high levels of professional dissatisfaction, which they frequently attribute at least in part to heavy workloads. The nature of time use appears to vary across at least a few teacher and student characteristics, with female educators expressing disproportionate stress from professional demands on their time and teachers who identify as Black report spending more time on the job than their white peers. We also find evidence that teachers serving more advantaged students spend proportionately more time on instruction, while those teaching in traditionally disadvantaged classrooms (e.g., those with lower-achieving students or more students from low-income families) spend more time on classroom management activities in a particular lesson. However, we do not know the extent to which these patterns reflect the disproportionate sorting of novice teachers into higher-need schools and classrooms.

Finally, emerging evidence about generative AI in professional development contexts implies that these tools are thus far unproven as effective time savers but may be adapted in ways that allow them to support effective teaching. This evidence suggests that large language models might similarly benefit

[1] According to Census data from 2019, prekindergarten through secondary school teachers and special education teachers comprised approximately eight percent of the population of working adults aged 25 to 64 with a college degree or higher (https://www2.census.gov/programs-surveys/demo/tables/industry-occupation/2022/det_occ_by_sex_educ_acs_2019_tab1.xlsx).

teachers in other aspects of their work, such as lesson planning and development, in ways that could free up more time for teachers to spend on other tasks or even rest and recovery. In fact, a small-scale experiment conducted in English schools in 2024 provides suggestive evidence that ChatGPT can work well for exactly this purpose (Roy et al., 2024). However, we still have much to learn about the tradeoffs of using these new technologies for time-saving purposes, especially as take-up of these tools rapidly increases.

Across the literature that exists—and the gaps in evidence revealed by this review—we find many opportunities for researchers, policymakers, technology developers, and funders to both advance our knowledge about teachers' time use and ameliorate the existing time burdens and corresponding stressors that teachers face on the job.

How Teachers Distribute Their Time

Teachers generally report working longer hours than their contracts require.

National and international surveys point to teachers spending anywhere from 35 to more than 50 hours per week on professional tasks during a typical school year, with estimates described in Table 1 (Doan et al., 2024a; Jones et al., 2022; Krantz-Kent, 2008; OECD, 2019; Taie & Goldring, 2020; Taie & Lewis, 2022; West, 2014).[2] Specifically, this table shows total working time estimates reported across eight surveys, with details about: the survey from which estimates originated; how the survey asked teachers about their time use; the year(s) in which data were collected; and sample sizes. Where reported, we also include standard errors (in parentheses), reports of weekly contracted hours, and the amount of working time teachers spend specifically on instructional activities. While ostensibly all measuring the same construct—how much time teachers spend doing their job—estimates are wide-ranging (for more discussion about the sources of variation across these estimates, see the section on measuring and estimating teachers' time use on page 20).

The array of reported estimates often exceeds the working hours specified in typical teaching contracts, although official expectations vary across the country (Doan et al., 2024a; Taie & Goldring, 2020; Taie & Lewis, 2022; NCTQ, 2025)[3]. In general, teachers also report feeling that they have high workloads. Consistent with teachers' actual working hours exceeding their contractual hours, a substantial majority of teachers (84%) in a recent national survey shared that they do not have enough time during their regular work hours to do all their tasks, largely because they feel they have too much work (Lin et al., 2024). Long working hours contribute to teachers' stress, with a substantial share of educators attributing frequent job-related stress to spending too many hours working (50% in 2022, and 26% in 2023 and 2024; Doan et al., 2022; Doan et al., 2023b; Doan et al., 2024b). One study estimates that a difference of ten additional working hours per week is associated with ten percent of a standard deviation increase in

[2] The wide variation in working time estimates reflects differences in how researchers have collected or defined teachers total time (e.g., contemporaneous versus retrospective reports, total year versus school year, etc.). We discuss the implications of measurement decisions in more detail in section 4.

[3] Our analysis of contractual workloads from the National Council on Teacher Quality database (NCTQ, 2025) show that, among the 100 largest national school districts specifying the length of the scheduled teacher workday, the average school district required 7.6 hours, though six percent specified seven or fewer hours a day and four percent specified more than eight hours a day. There is also wide variation in terms of days in the contract year, from 185 to 204 days, with an average of 194. We estimate that the typical large district for which the number of workdays and day length are specified (n = 73) requires teachers to work an average of 37 hours per week during the school year (i.e., assuming 12 weeks of vacation) versus 28 hours per week across the full calendar year. This is comparable to self-reported contract hours nationally, which average 38 hours per week according to nationally representative samples of teachers from the State of the American Teacher Survey and the National Teacher and Principal Surveys (Doan et al., 2024a; Taie & Goldring, 2020; Taie & Lewis, 2022).

teachers' experiences of workload stress. Quality of life outcomes may decline particularly fast once teachers' work weeks exceed 55 hours (Jerrim & Sims, 2022).

Broadly speaking, teachers' working time is predominantly distributed across two core tasks: instruction and planning. However, neither activity is a monolith and the time borders between and across tasks can be porous (Gibney et al., 2024). For example, instructional time might be spent lecturing, working with individual students, managing classroom behaviors, or facilitating group work, among other tasks (McShane, 2022). Meanwhile, planning time is sometimes used expansively to include a range of activities from designing lessons to grading assignments to collaborating with colleagues and completing administrative tasks.

Table 1. Estimates of public-school teachers' working hours across surveys and school years

					Estimated Working Hours		
Measure	Item Format(s)	Source	Year(s)	Sample Size	Total	Contracted	Instruction
ATUS	Daily diary	West, 2014	2003-10	2,129	39.8[a] (0.9)	--	--
	Usual hours	West, 2014	2003-10	2,129	45 (0.3)	--	--
	Daily diary	Gibney et al., 2024	2003-19	3,168	38.9	--	--
CPS	Usual hours	West, 2014	2003-10	Not reported	42.8 (0.2)	--	--
	Hours of work last week	West, 2014	2003-10	Not reported	41.7 (0.4)		
NTPS	During a typical full week at this school	Taie & Goldring, 2020	2015-16	31,993	53.3 (0.08)	38.2 (0.03)	27.4 (0.05)
		Taie & Lewis, 2022	2020-21	~37,500[b]	52.0 (0.08)	38.4 (0.03)	25.2 (0.06)
SoT	During a typical full week at this school	Steiner et al., 2023	2020-21	1,006	53	--	--
			2021-22	2,360	54	--	--
			2022-23	1,439	53.1	37.7	--
		Doan et al., 2024	2023-24	1,479	53	38	--
TALIS	During the most recent complete calendar week	OECD, 2019	2018	2,687	46.2 (0.62)	--	20.1 (0.22)
		Jerrim & Sims, 2022	2018	1,718	50.1	--	27.3

Notes: Standard errors are in parentheses (where publicly reported). Regarding item format (second column): "daily diary" estimates are near-contemporaneous (e.g., end-of-day) reports of time use across a given day, which are reported here at the weekly level; "usual hours" items ask how many hours per week the respondent usually works at their job; "hours of work last week" items ask

about the total number of hours worked in the preceding week. For summary findings from these sources, see the annotated bibliography in Appendix A. ATUS = American Time Use Survey; CPS = Current Population Survey; NTPS = National Teacher and Principal Survey; SoT = State of the American Teacher Survey; TALIS = Teaching and Learning International Survey. For more detail about the ATUS, NTPS, SoT, and TALIS survey measures, see Appendix B.

[a] For the West (2014) daily diary estimates, this table reports West's estimates of teachers' school-year hours using her more inclusive definition; her restrictive diary estimates are 38 hours during the school year and 34.5 hours during the calendar year. Her inclusive calendar year estimate (including time spent on "work-related activities" is 36.3 weekly hours worked.)

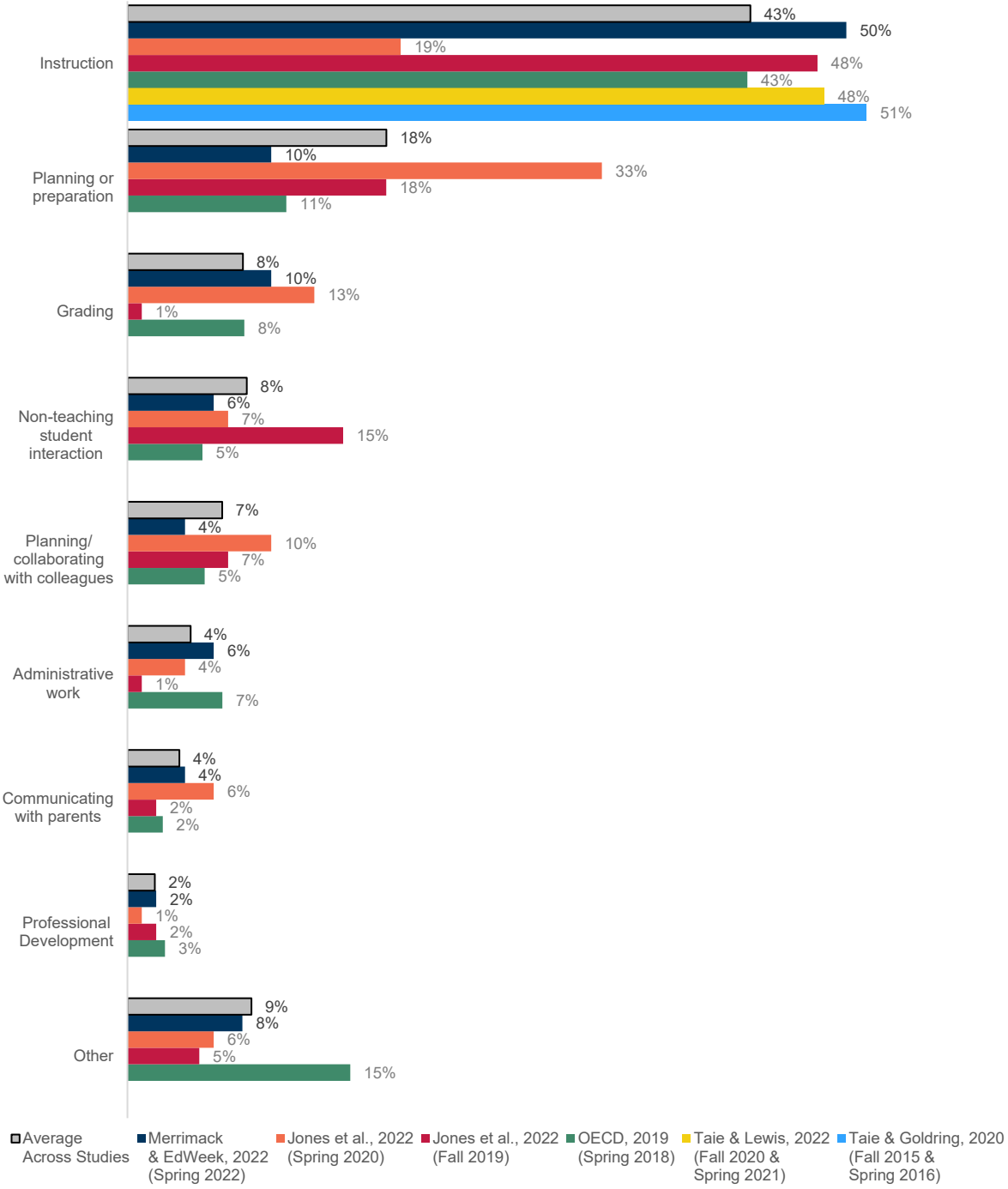
[b] The technical documentation for the 2020-21 NTPS is not yet publicly available, and so sample sizes are approximated given a reported sampling of approximately 68,300 teachers and response rate of 55%.

Teachers spend the highest share of their time engaged in instructional activities.

Classroom time is largely devoted to instructional activities. For example, data from before the pandemic demonstrate that U.S. teachers spent about half of their total working time in a given day or work week involved in instructional activities (see Figure 1; Jones et al., 2022; Merrimack College & *EdWeek*, 2022; OECD, 2019; Taie & Goldring, 2020). Within a particular lesson, teaching and learning activities contributed to roughly 80 percent of their time use (OECD, 2019). However, the nature of this instructional time varies widely across educators. A recent survey suggests that about a quarter of teachers report spending more than ten hours a week on direct, whole-class instruction, in contrast to roughly three in ten teachers spending less than three hours per week on direct instruction (McShane, 2022).[4]

[4] McShane likewise documents substantial variation in the amount of time teachers report spending working with students individually, leading small group instruction, and facilitating group work. Most teachers (75%) report spending no more than three hours per week addressing student disciplinary issues during their classroom time. Unfortunately, McShane does not provide estimates of the average amount of time spent on each type of classroom time use, making it difficult to interpret how teachers on the high and low end of direct-instruction time are otherwise spending their time in the classroom.

Figure 1. Distribution of teachers' time use across various professional activities between 2018 and 2022



Notes: These time distributions come from five studies that were each delivered at different points in time using different measures of time use, which may explain some of the variation in proportional time use across sources. Time use category descriptions are also not identical across studies, so the definitions that the researchers and teachers are using in each study may also differ slightly; for example, the instruction category captures "actual teaching time" in the Merrimack College and *Education Week* (2022) survey, is described simply as "teaching" by the OECD (2019), and is captured as "instruction" by Jones et al., (2022). The National Teacher and Principal Survey (Taie & Goldring, 2020; Taie & Lewis, 2022) only asks about time spent on delivering instruction to students—specifically, as a proportion of teachers' total contract hours, although we present instruction as a proportion of total reported working hours. More details on the studies and corresponding measures are available in Appendices A and B, respectively.

Within lessons, teachers aren't necessarily spending the entirety of their time teaching. Data from the 2018 Teaching and Learning International Survey indicates while the majority of teachers' lessons are devoted to actual teaching and learning—79 percent of the time—a meaningful amount of their lesson time goes toward administrative tasks (7%) and classroom management (13%), on average (OECD, 2019). Even when engaged in activities broadly defined as instructional time, the quality and composition of the time teachers spend on instruction can be impeded by classroom disruptions. One analysis of interruptions in the Providence, RI public schools suggests that the prevalence of such teaching and learning intrusions may amount to as much as 20 days of disrupted instructional time across the school year (Kraft & Monti-Nussbaum, 2021). These disruptions stem from a variety of sources, including tardy students, intercom announcements, and phone calls to the classroom.

Non-instructional activities place high demands on teachers' time.

The scope of tasks that comprise non-instructional time is wide and varied. The largest contributor is lesson planning and preparation, which researchers have estimated typically take up anywhere from ten to twenty percent of teachers' total working time (Jones et al., 2022; Merrimack College & *EdWeek*, 2022; OECD, 2019). In the spring of 2020, during the peak of COVID-induced teaching and learning disruptions, teachers may have spent as much as a third of their working time on planning and preparation activities (Jones et al., 2022; see Figure 1). A host of other tasks, which do not necessarily directly support instruction, take up the remainder of teachers' time, including communicating with parents, grading, engaging in administrative tasks (including completing the paperwork required for individualized education plans), planning or collaborating with colleagues, participating in professional learning activities, and engaging in non-instructional interactions with their students. Estimates of the relative time demands for each of these activities vary across sources, but each of these tasks typically does not take up more than ten percent of a teachers' total working time.

The diffusiveness of activities may relate to teacher's sense work overload, particularly when those activities include tasks that teachers feel are not—or should not be—considered part of their official professional responsibilities. More than half of the 84 percent of teachers who feel they don't have enough time in their regular workday to get everything done attribute their untenable workloads in part to things like spending time helping students outside of class time (72%), being required to perform non-teaching duties like hallway or lunch duty (65%), or having to cover for another teachers' class (51%; Lin et al., 2024). Teachers are far more likely to feel that they are asked to perform tasks that go beyond their professional responsibilities than school administrators (Harwin, 2025). When asked what roles or tasks teachers at their school were expected to take on "even though they believed the tasks should not be part of a teacher's role," teachers were far more likely to point to non-instructional supervision duties, behavioral and mental health support, administrative tasks, and other non-teaching professional roles than school administrators (Harwin, 2025).

Long work hours may influence teachers' morale and emotional wellbeing, as a significant share of teachers report experiencing frequent job-related stress (59%) or burnout (60%; Doan et al., 2024a). Additional tasks may negatively contribute to teachers' overall job satisfaction and morale. For example, many public-school educators report that their mental wellbeing would improve if there were fewer administrative burdens associated with meetings and paperwork (60%) and less time required for lunch duty, hall duty, and other non-instructional supervisory tasks (39%; Merrimack College & *EdWeek*, 2024).

Teachers demonstrate limited opportunity for rest and recovery during the school year.

Teachers have also shared that their districts could support their wellbeing by allowing them more opportunities for rest and recovery (Merrimack College & *EdWeek*, 2024). For example, more than half suggested having access to mental wellness and health days (57%) or more or better substitute teachers

so that they could feel better about taking days off (51%), and many also suggested access to time, space, and student supervision when the teachers need a few minutes to destress (43%).

At baseline, recent evidence suggests that teachers do not take more time off work than comparable workers in other professions. Instead, Wang (2023) finds that teachers are less likely to miss work even on days when their absence would be merited (i.e., due to sickness) than demographically and professionally similar people in other fields, such as social work and nursing. Teachers also spend far more time working during off hours, including an estimated 23 minutes of weekend work on their main jobs each weekend day above that of comparable non-educators (Gibney et al., 2024). Research on alternative school schedules suggests that giving teachers more recovery time—either through shorter days or work weeks—may yield benefits in terms of morale and satisfaction (see the section on alternative time models on page 11 for more details).

While the amount of time teachers use on professional tasks matters, so does the quality of that time.

When we think about teachers' time use, it is important to consider not just total hours worked, but also the quality of that time. For example, an experienced teacher and a novice might put in the same amount of planning time on a given day, but the experienced teacher is likely to be more productive with that time and yield higher-quality lesson plans. There is not much evidence on the extent to which some teachers use their planning more effectively or efficiently than others. However, research shows meaningful differences in how well teachers manage their classrooms, leading to potential differences in how well teachers can use their instructional time. For example, novice educators spend a substantially greater share of their time on classroom management than experienced educators at the expense of their instructional time (OECD, 2019), and novices are likewise much more likely have their management practices flagged as an area for improvement in their classroom observations (Bartanen et al., 2024).

The full extent of teachers' working time is often not assigned a consistent financial value.

From the teacher's perspective, the time they spend on their professional tasks might acquire different value based on whether it is financially compensated. In general, as discussed above, teachers are only contractually paid for approximately 40 hours a week, but many estimates indicate that their actual working hours frequently exceed this by a wide margin. Some of these additional hours are compensated, for example when teachers pick up additional schoolwork that explicitly comes with extra pay, but this represents a small share of non-contracted work time on average. The average teacher is paid for just three out an estimated weekly fifteen hours beyond their contracted weekly working time (Steiner et al., 2023). In general, recent data show that teachers feel their time to be financially undervalued. Recent nationally representative surveys of teachers show that a majority are only somewhat satisfied or not at all satisfied with the hours that they work, with roughly one in three indicating that one of the top three sources of stress in their jobs was that their pay was too low (Doan et al., 2023b; 2024b). Nearly two thirds of all educators believe that their annual base salaries are somewhat or completely inadequate given their roles and work responsibilities (64%; Doan et al., 2024b), consistent with the (Steiner et al., 2023) finding that a substantial portion of teachers' working time is uncompensated. The financial valuation of teachers' work can also be evaluated in terms of how teachers are paid relative to other workers. West (2014) estimates that, when considering the amount of time spent on their job annually, high school teachers earn less on an hourly basis than individuals who are similar demographically but work in other professions. Meanwhile, other educators (elementary, middle, and special education) tend to earn more than non-teacher peers working a similar number of hours, suggesting that these educators reap higher extrinsic rewards for the time they spend doing their jobs.

Varying aspects of teachers' time differ in their perceived intrinsic value.

Aside from explicit, extrinsic rewards (i.e., payment for time work), teachers might find value in their time based on the intrinsic rewards it offers, and these valuations likely differ across tasks; for example, teachers might find more value in activities that help them develop caring and supportive relationships with their students, such as by volunteering their time to coach a team sport, and less so for activities like unpaid bus duty. Surveys capturing teachers' time preferences support this theory. When asked about where they would prefer to spend more or less time, teachers most consistently report wishing they could spend more time on classroom instruction, as well as collaborating with other teachers. Other tasks are less popular; teachers would prefer to spend less time completing administrative paperwork, attending staff meetings, preparing students for standardized assessments, and grading student work (Educators for Excellence, 2018; 2024; Merrimack College & *EdWeek*, 2022).

Non-teaching tasks specifically can meaningfully contribute to teachers' stress on the job. Substantial shares of teachers in the most recent State of the American Teacher survey cited supporting their students' mental health and wellbeing (23%), administrative work outside of teaching (33%), and in particular managing student behavior (45%) as top sources of their job-related stress (Doan et al, 2024a). Meanwhile, even instructional time can be a substantial contributor to stress, as one in four teachers nationally indicated in 2024 that supporting their students' academic learning because of lost instructional time from the pandemic was a key source of job-related stress (Doan et al., 2024a).

Time spent on instructional activities appears to yield greater benefits to teachers' wellbeing and their students' learning.

These surveys demonstrate that teachers generally prefer instructional time, albeit less so when responding to pressures to make up for student's learning loss (Doan et al., 2024a). There is also evidence demonstrating the emotional rewards of time spent teaching. In a study examining teachers' positive and negative affect across teaching tasks, Jones et al. (2022) found, using time diary data from a school district across the 2019-20 school year, that teachers experienced substantially more positive emotions when engaged in instructional activities than when they were engaged in other professional tasks. In contrast, teachers had the lowest positive affect when they are engaged in grading or assessment activities or when they were participating in professional development (Jones et al., 2022).

Teachers' negative affect also vary across tasks; in the same study, researchers found that the level of negative emotional responses teachers experienced were higher in meetings with administrators than during time spent on other activities.[5]

Beyond limited evidence about teachers' during various parts of their day (namely, the Jones et al., 2022, study cited above), we know very little about the relationship between teachers' time use and their personal outcomes. One might reasonably hypothesize that teacher retention would be higher when workloads are lighter, whether in terms of intensity or total working hours. Likewise, teachers might see greater returns to experience when they can invest more of their time in teaching activities and other tasks that directly support learning, and less of their time to activities outside of their core professional duties. Despite growing evidence that working conditions influence teachers' retention and improvement (e.g., Johnson et al., 2012; Kraft & Papay, 2014), we do not have a robust understanding of the role that various time demands might play. However, at least one study points to the impact different activities may have on teachers' emotional well-being. Using international survey data from English-speaking

[5] Interestingly, the relationship between negative affect and time spent with administrators was only observed in the pre-COVID period of their study (fall 2019) and not during COVID (spring 2020). This may reflect differences in the nature of the time teachers spent with administrators before and after the pandemic; for example, teachers and administrators might have been forced to spend their meeting time on more relevant topics while facing the pressures associated with COVID than before the pandemic.

jurisdictions, Jerrim & Sims (2022) estimate that spending an additional ten hours per week on lesson preparation and planning activities is associated with a 0.034 standard deviation increase in teachers' experience of workload stress, with even larger effects for time spent grading student work (0.068 standard deviations). They find suggestive evidence that teachers who spend more time collaborating with peers have lower levels of workplace stress (by about four percent of a standard deviation), although this relationship is not statistically significant in the United States.

In contrast to teachers, there is a substantial body of literature demonstrating the benefits of instructional time on student achievement. Students learn more when they acquire more instruction (e.g., Kane et al., 2011). Within instructional time, the characteristics and quality of teachers' instruction are likewise important. For example, evidence from high school math and English language arts teachers in England (Burgess et al., 2023) shows that task-allocation decisions within lessons predict student learning on standardized assessments in ways that differ across subjects. Specifically, giving students opportunities to practice concepts is more effective than other instruction approaches in math, while in ELA interactive discussion time with teachers and students is a higher-leverage time use. In both subjects, a standard deviation of increase in respective instructional time use was associated with about 0.04-0.05 standard deviations of higher achievement.

We do not know, however, how time investments in other activities might influence students. For example, students might have better behavioral and socio-emotional outcomes when their teachers spend relatively more time non-instructional time with them (e.g., through counseling and other emotional support time). Likewise, there may be benefits and tradeoffs in terms of time spent on other activities that facilitate instruction quality, such as lesson planning, professional collaboration time, and well-aligned professional development. Unfortunately, these relationships have not yet been empirically investigated.

The boundaries between working and personal time, as well as across tasks, are often porous in ways that might harm teachers' wellbeing.

Given the nature of teachers' work, their professional hours are often less structured than the working hours of other similarly educated professionals. For example, teachers do not need to be in the classroom to complete most of their non-instruction tasks, such as grading, lesson planning, or reaching out to parents and guardians. Given the multitude of tasks that teachers must complete, their time is likewise not strictly limited to their contract hours. Researchers using the American Time Use Survey and other measures have repeatedly shown that teachers are far more likely to work on weekends, early in the morning and late at night, and even while ostensibly on vacation than similar professionals (Allen et al., 2019; Krantz-Kent, 2008; Gibney et al., 2024; West, 2014).

The frequency with which teachers' work is interrupted (Kraft & Monti-Nussbaum, 2019) and with which educators switch between or engage in multiple tasks at one time (Allen et al., 2019) both raise concerns for teachers' wellbeing. For example, one study that tracked classroom disruptions found that teachers face frequent interruptions throughout the school day—including from administrators, other teachers, and students—which amount to as much as 20 days' worth of instructional time across the school year.

These unclear working boundaries and the consistency with which teachers must engage in task-switching have negative implications for teachers' productivity and their emotional health. There is not robust literature about multitasking specific to educators, but plentiful research from the psychology and economics literature indicates that productivity suffers when people are faced with multiple tasks that compete for one's cognitive attention (Buser & Peter, 2012; Coviello et al., 2015; Goes et al., 2018). These competing cognitive demands might—alongside an absence of enforceable work-life boundaries—explain relatively high rates of burnout and stress among educators (e.g., Doan et al., 2024a).

Time Use Varies Based on Teacher Experience, Identities and Educational Contexts.

Older, more experienced educators work longer hours and spend more lesson time on instruction.

Several studies have shown that older, or more experienced teachers, have meaningfully different time-use patterns than their younger, novice colleagues. For example, according to a Bureau of Labor Statistics essay that drew from the 2003 through 2006 American Time Use Survey (Krantz-Kent, 2008), older teachers—those aged 50 and above—worked substantially more hours per week than their younger peers (almost 7 additional hours per week more than full-time educators in their 30s). While teachers in their twenties had slightly higher average work hours per week than teachers in their thirties, these differences were not statistically significant. Similar patterns have been observed in more recent, post-pandemic surveys conducted by Merrimack College and *Education Week* in 2022; total workloads were highest for the most and least experienced teachers (those with more than twenty and fewer than three years of experience). The authors of each study did not explore how these patterns related to respondents' household structures, but these patterns may reflect that K-12 educators, who are disproportionately female, might be ceding professional time to starting and caring for families in these younger—but not necessarily youngest—age spans. Female teachers, for example, are more likely than male teachers to report experiencing frequent job-related stress and burnout (Doan et al., 2024a).

In addition to total workloads, teachers' time allocation within their work may also vary by age and experience. Teachers with more experience spend a higher share of their time in a given lesson engaged in actual teaching and learning than teachers with less experience, as demonstrated by a 2018 survey of educators across the United States and other developed countries (OECD, 2019). Novice educators in the United States (defined as those with five or fewer years of experience) spend about eight percent less time on actual teaching and learning in an average lesson than older and more experienced educators (0.739 versus 0.807), a pattern widely demonstrated across other developed countries.

While experienced educators spend more time within a lesson on instruction, a recent survey of U.S. teachers shows comparable median hours of instruction across experience levels over the course of a week, even as more experienced teachers work more total hours, suggesting *lower* shares of total working time devoted to instruction as teachers advance through their careers (Merrimack College & *EdWeek*, 2022). The difference in relative instruction time when measured within a lesson versus over the course of a week may to some extent reflect novice teachers needing to pause their instruction to address disciplinary issues (McShane, 2022; Bartanen et al., 2025); indeed, early-career educators are substantially more likely than their more experienced peers to report that managing student behavior is a top source of stress on the job (Doan et al., 2024a).[6]

Teachers of color and teachers in majority Black or low-income schools work longer hours but spend less time on instruction.

Teachers' race and ethnicity, and the composition of the students they teach are likewise associated with time use patterns. Teachers of color tend to work longer hours than white teachers—both in terms of their contracted and self-reported time—with Black educators citing ten percent longer work weeks (57.6 versus 52.4 hours in a typical week; Steiner et al., 2023). Some of this difference reflects Black educators

[6] The precise mechanisms behind these patterns—where more experienced teachers work longer hours overall but spend less time on instruction within their lessons—aren't addressed in the existing research, but perhaps when time is limited (e.g., for younger teachers who have childcare obligations that necessitate them stopping work past a certain number of hours), teachers sacrifice things like planning time which might in turn make for less efficient time use within a lesson.

reporting working more hours for extra pay; after accounting for contractual and extra-pay time, differences in uncompensated working hours are comparable across teachers' race and ethnicity (Steiner et al., 2023).

These differences in time use across experience levels and teachers' race and ethnicity may in part reflect the disproportional sorting of novice and black educators into harder to staff schools (Goldhaber et al., 2023; James & Wyckoff, 2023; Sun, 2018), as educators in schools serving high proportions of students with economic disadvantage spend similarly less lesson time on instruction than those in schools with wealthier student populations (OECD, 2019; Merrimack College & Education Week, 2022). These teachers may instead need to devote more time to non-instructional student interactions, parental communication, or administrative tasks (e.g., providing socio-emotional support and completing IEPs), particularly in schools where there are fewer additional staff to help take on non-teaching responsibilities. Researchers have not yet fully uncovered the mechanisms behind these differences, but it is likely to reflect the influence of multiple factors. For example, Steiner et al. (2023) find that differences in total working hours by race and ethnicity hold even after controlling for the poverty level of the schools in which they teach. They hypothesize that cultural differences or additional financial pressures may contribute in part to contrasting workloads.

Teachers serving more-advantaged students tend to spend more class time on instruction.

While there is not extensive evidence addressing differences in time use according to the contexts in which educators teach, the data that are available suggest that teachers serving higher-advantaged students spend a greater proportion of their time delivering instruction. For example, analyses from the Teaching and Learning International Survey (OECD, 2019) demonstrate that, even controlling for other teaching contexts, educators whose students are high performing, come from higher-income families, and attend higher-resourced schools receive more instructional time. The same (TALIS) survey showed that teachers with smaller class sizes and academically higher performing students likewise tend to spend more of their class time on teaching and learning (OECD, 2019). The same patterns, in the inverse, are found for classroom management, suggesting clear tradeoffs between instruction and management. Student behavior may be a partial driver of these patterns, as TALIS data show that one in four teachers reports losing a lot of time because of students interrupting the lessons.

Evidence on differences in time use by gender is mixed, but limited.

In some cases, surveys on teachers' time use have disaggregated patterns by gender. These data suggest that gender is an important consideration, and may explain some of the larger patterns in time use—for example, that teachers spend fewer hours working in aggregate than other professional workers but more time on household tasks (Krantz-Kent, 2008), as well as the declines in working hours observed during the peak of COVID (Herold & Kurtz, 2020; Jones et al., 2020). Given that teachers are disproportionately female, comparisons of time use between working adults in other professions may not adequately take into account gendered work expectations and women's propensity to take on a surplus of household responsibilities [7]

[7] The teaching profession skews heavily female, with recent Census data suggesting that 77 percent of full-time PK-12 educators are female, compared to just 44 percent of working adults overall (https://www2.census.gov/programs-surveys/demo/tables/industry-occupation/2022/det_occ_by_sex_educ_acs_2019_tab1.xlsx). At the same time, sociologists and education researchers have long documented gendered differences in working patterns—both in terms of professional, paid work and household duties (see, for example, Offer and Schneider, 2011; O'Meara et al., 2017; and Zaiceva, 2023). We discuss the question of comparison groups in somewhat more detail in a later section on time-use measurement and interpretation. However, as a brief example, Krantz-Kent (2008) and West (2014) compare teachers' working time to other educated workers more broadly and find that teachers work fewer hours on

The State of the American Teacher surveys conducted by the RAND Corporation suggest that there is not a meaningful difference in total working hours between male and female teachers. However, male teachers were more likely to take on extra school-related work for pay; they were twice as likely to work six or more hours per week for additional compensation than their female peers (28% versus 14%; Steiner et al., 2023). At the same time, female educators are generally less satisfied with the hours that they work and more likely to attribute their dissatisfaction to feeling that they feel like the cannot get their work done no matter how many hours they put in (Steiner et al., 2023), suggesting that workloads and burdens might be felt differently across genders even where total working hours may be comparable.

Evidence about differences across school levels is mixed but suggests slightly longer working hours for teachers serving upper grades.

While the RAND Corporation's State of the American Teacher survey does not indicate a meaningful difference in total working hours between teachers across grade levels (Steiner et al., 2023), other research suggests that high school educators work longer hours. Data from the American Time Use Survey indicate that secondary educators tend to work more hours than elementary and middle school teachers on a both a daily and a weekly basis (Gibney et al., 2024; West, 2014). This to some extent reflects that high school teachers are more likely to be working during the summer (West, 2014; e.g., when high school students are more likely than lower-grade students to be attending summer school), but is also true for most months of the school year, as high schools typically offer more opportunities for additional paid work (e.g., advising student clubs and coaching sports teams). Indeed, while the RAND survey found minimal differences in total typical self-reported working hours across school levels, they found that high school educators were more than twice as likely as elementary teachers (26% versus 12%) to report working six or more hours for extra pay during a typical week in the 2022-23 school year (Steiner et al., 2023).

There are other ways that elementary and secondary school teachers' time may vary, given differences in the nature of their work. For example, in a national survey fielded in the aftermath of COVID (i.e., in May 2023), Jacob (2024) found that elementary school teachers reported larger increases in the time they spent getting students caught up or reviewing routines, as well as communicating with parents. Secondary teachers reported substantial increases in these times, as well, although not to the same extent as elementary educators. However, the nature of some of these reported time-use shifts also differed. While roughly a third of teachers at both schooling levels said they were communicating with parents more often in 2023 than before COVID, higher shares of secondary than elementary teachers reported being less likely to communicate with parents in person and more likely to do so over email or video.

Teachers' Time Use May Have Evolved in Recent Years

Teachers' distribution of time use may not be fixed even within educator and school contexts. Variable factors over time might likewise influence teachers' time use. Unfortunately, there is little data to indicate the extent to which teachers' use of time—whether in terms of overall working time demands, the quality or efficiency of time use, or the allocation of time across tasks—has evolved in recent years. Self-reported data from the 2003-04, 2007-08, and 2011-12 Schools and Staffing Survey (SASS) showed teachers working between 52 and 53 hours on average in a typical full work week (Coopersmith, 2009; Goldring et al., 2013; Strizek et al., 2006). A newer iteration of the SASS, the National Teacher and Principal Survey, demonstrated self-reported hours holding roughly steady in more recent years, with teachers reporting

a weekly basis than non-teachers; in contrast, Gibney et al. (2024) find much smaller differences in overall estimated working time between teachers and other workers when teachers are compared to workers in more similar professions.

working an average of 53 and 52 hours in the 2015-16 and 2020-21 administrations, respectively (Taie & Goldring, 2020; Taie & Lewis, 2022).[8]

It is quite possible, however, that the composition of teachers' working hours may have changed in recent years. The profession has certainly faced a multitude of changes over the past quarter of a century that might have influenced the nature of teacher's workloads and time use, including national policies around school accountability and teacher evaluation, waves of changes to learning standards and assessments, advancements in educational technology, and the huge systemic shock of the coronavirus pandemic. Limited longitudinal data on teachers' time use in general—especially so about the interaction between teachers' time and these shifting contextual factors—inhibit our understanding of how teachers' time use may have evolved.

Consistent with U.S. data, international survey data from the Teaching and Learning International Survey (TALIS), which allows comparisons between 2008 and 2018 for 20 countries around the world, suggest little changes across the typical country during this period, with only small proportional changes in the share of time teachers spend in core activities (teaching and learning, classroom management, and administrative tasks) in a typical lesson over that period (OECD, 2019). However, a multitude of recent events in the US and globally might nevertheless have shifted the allocation of teachers' time in the past ten to twenty years even as their total working time has largely held steady.

For example, as schools add or adjust to new assessments, standards and curricula, teachers may need to reallocate or add time to planning and professional development tasks. Even holding instructional time constant, the quality of the time spent on instruction might decline during periods of adjustment as educators familiarize themselves with new content and associated teaching expectations. In general, there is limited data on the frequency of curricular changes (Polikoff, 2018), but evidence from some states suggest that such reforms happen with some frequency (Backes et al., 2018). Despite a paucity of direct evidence, the information we have is at least suggestive of time-related tradeoffs associated with shifts in standards, assessments, and curricula. For example, a recent study of Common-Core-aligned textbook adoption suggests that the amount of accompanying professional development time is variable but low across curricular sources (from less than one day to about four and a half days in total; Blazar et al., 2020). Researchers have likewise documented that changes to standards, assessments, and curricula can influence teaching quality and student learning (Backes et al., 2018; Blazar et al., 2020; James, 2022), which is consistent with the theory that these changes are accompanied by shifts in the allocation of effort across and within tasks.

Teachers devoted proportionally less time to instruction in the aftermath of the pandemic.

More dramatically, exogenous events that pose large disruptions to schools and districts can drastically alter teachers' use of time. While natural disasters like hurricanes, forest fires, and floods can cause school closures and place enormous socio-emotional burdens on students and staff alike, we do not have compelling evidence of such events' effects on teachers' time use. However, researchers have demonstrated that traumatic and disruptive events can substantially alter teachers' time. Specifically, a handful of sources document changes in teachers' actual or perceived time use following the onset of the COVID pandemic (Educators for Excellence, 2020; Herold & Kurtz, 2020; Horace Mann, 2020; Jones et al., 2022). For example, in a nationally representative survey fielded by the Horace Mann Educators

[8] The NTPS and SASS represent high-end estimates of teachers' working time (see Table 1), but they are also the only source from which estimates can be compared over a long period. The consistency of time-use estimates within this survey—which includes a rigorous sampling approach and large, nationally representative, samples of respondents—strongly supports the idea that teachers' total working hours have remained stable over at least the past two decades.

Corporation in the fall of 2020 (Horace Mann, 2020), teachers were asked about how their experiences that semester compared to the year beforehand; more than three quarters (77%) of teachers reported experiencing heavier workloads, while a similar and roughly contemporaneous Education Week survey suggested meaningful declines in teachers' working time relative to the preceding year (Herold & Kurtz, 2020).

Before COVID, teachers spent about half of their time on instruction, similar to roughly contemporaneous national and international survey estimates of time distribution (Jones et al., 2022; Merrimack College & *EdWeek*, 2022; OECD, 2019). However, in May 2020, when the pandemic was drastically altering lives around the globe, the share of teachers' working time devoted to instructional activities plummeted. Early in the pandemic, a survey developed by Educators for Excellence (2020) examined changes in time allocation specifically for teachers who had been facilitating distance learning with their students (95% of their sample). A majority of these respondents (53%) reported spending less time on academic instruction than before they had transitioned to distance learning. Instead, survey responses suggest that teachers ended up spending more time in professional learning or collaborative planning activities or providing students with social-emotional support (almost half [46%] reported an increase in time spent on each of these tasks), with particularly high shares of teachers reporting spending more time reaching out to students (70%) or parental figures (74%).

Using time-diary data from 161 educators in a single New England district, Jones et al. (2022) were able to directly compare teachers' time use during the spring of 2020 to the preceding fall, before COVID had made an appearance in the United States. Consistent with the Educators for Excellence survey, Jones et al. found that teachers in the district they were studying spent only 18 percent of their time in an average day on instruction in May of 2020. While total and proportional daily hours devoted to instruction declined over the course of the 2019-20 school year for these teachers, their planning time increased substantially, from 75 minutes a day (18%) to more than 100 minutes (33%). Teachers also demonstrated increases in both the proportion and amount of time they devoted to meeting with administrators and interacting with parents, while they saw a decrease in noninstructional time with their students. The decline in instructional time observed in the 2019-20 school year is likewise supported by a national survey of educators fielded by *EdWeek* in May 2020, in which more than two thirds of teachers (71%) responded that they were spending less time on student instruction (Herold & Kurtz, 2020). There were reported shifts in the nature of instructional time, as well; a majority of teachers said they devoted less time to enrichment (61%) and presenting new, standards-aligned content (69%). They seem to instead have shifted their instructional time toward review (59% reported spending more time on this task) and lost more time to troubleshooting problems with technology (87% of teachers).

This post-COVID decline in instructional time may not have been specific to the largely remote or hybrid learning of the early pandemic. More recent evidence from Jacob (2024), collected from a nationally representative sample of educators in spring 2023, shows teachers retrospectively reporting that they had shifted time away from lecturing and toward small group and independent learning time relative to the time they spent on instruction before COVID. At the time these data were collected, the pandemic was no longer considered to be a public health emergency (CDC, 2023), raising concerns that some of the less desirable influences of COVID on teachers' time might persist even through today. Jacob (2024) estimates that a vast majority of teachers report more of their students struggle with depression and anxiety, engagement with school, and meeting behavioral expectations (more than 75% reporting "many more" or "a few more" for each), while a majority of teachers also report more of their students struggling with cheating or with bullying or fighting. Correspondingly, educators disproportionately report spending more of their class time addressing behavioral issues, addressing students' socio-emotional wellbeing, getting students caught up, and reviewing routines and procedures than they did before the pandemic. Classroom management and behavioral concerns have remained a significant concern through at least

early 2024, when nearly half of all educators cited managing student behavior as a top-ranked source of job-related stress (Doan et al., 2024a).

Retrospective survey items, such as those that ask about work hours from the preceding week—and, in particular, those that ask about the preceding week relative to a more distant time in the past—more often than not indicate large increases in overall working time in the years of and following the pandemic (e.g., Kaufman & Diliberti, 2021; Horace Mann, 2020). Meanwhile, other surveys and diary data instead suggest either comparable working hours (Taie & Goldring, 2020; Taie & Lewis, 2022) or indicate overall *declines* in educators' working time (Herold & Kurtz, 2020; Jones et al., 2022). For example, in the fall 2020 American Educator Panels survey administered by the RAND Corporation, half of teachers reported working 48 or more hours per week in October 2020 while only a quarter said that had worked that many hours the preceding fall (Kaufman & Diliberti, 2021). In contrast, a May 2020 survey from *EducationWeek* estimates that teachers worked two hours fewer per day in the first spring of the pandemic than they had before COVID caused schools to close (Herold & Kurtz, 2020), consistent with time-diary estimates that were captured more contemporaneously (Jones et al., 2022).

Overestimates of teaching workloads, particularly those that ask retrospectively about teaching time and activities might reflect the additional stress faced by educators—and workers in general—as the pandemic tore across the globe. Many teachers may have had to cede work hours to providing care to their own families, address health care concerns, and face the multitude of other financial, social, and health stressors brought on by the pandemic. These additional burdens may have caused teachers to feel like they were working more hours, particularly if it left less room for rest and leisure. It's also possible that the narrowness of time diary response data allows researchers to distinguish between inefficient time spent at work from time spent on the actual task at hand (e.g., reading the news during a planning period in lieu of productive lesson planning). Indeed, teachers reported feeling drastically lower morale and higher levels of stress in spring of 2020 (Herold & Kurtz, 2020), which might have made workloads feel less tenable even had there been no changes to the demands and structure of teachers' work. As a profession dominated by women, for whom the burdens of family care and the necessity of juggling professional and household tasks tend to be higher (Andrew et al., 2022; Offer & Schneider, 2011; O'Meara et al., 2017; Zaiceva-Razzolini, 2022), educators might have felt substantially more severe effects of these many time demands than colleagues in other professions. Indeed, a representative survey of educators teaching in early 2021 showed that teachers who were responsible for caring for and providing learning support for their own children while teaching in the 2020-21 school year had elevated rates of job-related stress, were more likely to demonstrate symptoms of depression, reported more difficulty coping with job-related stress, and were more likely to report feelings of burnout than educators who did not have these responsibilities; these teachers' poorer wellbeing was also associated with stronger intentions to leave the profession (Steiner & Woo, 2021; Woo & Steiner, 2021).

While we do not know about how teachers continue to use their time now that the pandemic has officially ended, a series of surveys administered by the RAND Corporation suggest that while some of the negative impacts on teachers have subsided, others remain high.[9] For example, while more than three quarters of teachers reported experiencing frequent job-related stress in 2021, roughly three out of five (59%) reported experiencing frequent job-related stress in 2024. At the same time, rates of teachers demonstrating burnout have remained relatively stable at about 60 percent since 2022 (Doan et al., 2024a). In a study examining trends in teachers' working conditions in Illinois, Baker and Koedel (2025) observe substantial declines in overall self-reported working conditions that persisted at least through the

[9] It's possible that these reflect a return to the pre-COVID normal, as we do not have equivalent survey items from before the pandemic.

2022-23 school year, including an enormous jump (more than a full standard deviation) in the level of classroom disruptions relative to the 2018-19 school year.

Alternative time models may influence the distribution and quality of teachers' time use.

The nature of a schools' calendar can have substantial implications for teachers' time use. A variety of models might influence the allocation of teachers' time. Some models condense learning time into shorter periods, potentially creating discrete blocks of non-instructional time available for educators to use at their discretion. Others spread learning time across the school year, potentially reducing the overall workload for teachers within a given day. We explored four alternative school time models, their implications for teachers' time use, and effects on student and teacher outcomes below.

Hybrid schooling models—which combine in-person and remote instruction—might offer flexibility to educators which could allow them to draw clearer lines between their instructional and planning times, but it could also continue to blur lines between work and home life. Hybrid models were sparse before becoming prevalent during the pandemic. As schools revert to the current post-COVID norms, data remain limited about their continued prevalence or typical structure in the post-pandemic era. It's likewise difficult to evaluate this model given the data available, since it's hard to disentangle the effects of the pandemic in general from those of hybrid schooling as a model. However, we might glean some insights into the potential implications of hybrid learning models from other schooling models that reduce the frequency of in-person learning, such as the four-day school week.

Four-day school weeks condense five days of schooling into four, often with extended hours on the days when schools are open, although they tend to have fewer total hours of instruction across the school year (Thompson et al., 2021). These have grown in popularity in recent years (Thompson et al., 2021), especially since the pandemic (Anglum, 2021; Peetz, 2024). When districts adopt a four-day model, their rationale frequently addresses cost savings but also the idea that shorter school weeks might improve recruitment, especially in rural districts where these models are more prevalent and where districts have fewer financial incentives to offer potential teaching candidates (Kilburn et al., 2021; Thompson et al., 2021).

While they share a common feature of four instructional days per week, the overall structure varies considerably across schools adopting the general four-day model. In some cases, the fifth day remains a required workday for teachers, with professional development or other work activities, but in roughly half of four-day districts prior to the pandemic the schools were entirely closed on the off day (Thompson et al., 2021). In these cases, teachers might choose to use their off day for work-related tasks—such as lesson planning, which could improve the quality of learning and decrease workloads during instructional days—or use that time for leisure or managing household responsibilities, reducing the risk of burnout; indeed, qualitative data from a dozen districts across Idaho, New Mexico, and Oklahoma suggest teachers use their off day for a wide variety of tasks, with most engaging in some amount of school-related work on each off day (Kilburn et al., 2021). Some teachers also use that time to supplement their income with a second job. However, we do not yet have a clear understanding how teachers in general distribute their time across four-day weeks, how that time use differs relative to teachers in traditional five-day schools, and how their time allocation across tasks and activities relates to district policies or outcomes for students and teachers.

We do, however, have some evidence of these schedules' overall effects on educators and their students. Perhaps due to the wide variation in how schools distribute teaching and learning time across four-day school weeks, evidence on the effects of this policy as a whole is mixed. While some researchers have found benefits to student achievement (Anderson & Walker, 2015), others estimate null or mixed effects or even significant academic declines (Kilburn et al., 2021; Morton, 2023; Morton et al.,

2024). The evidence on teachers is likewise mixed, with some districts reporting or demonstrating improved retention (Kilburn et al., 2021) while others saw no substantive effects on teachers' retention (Maiden et al., 2020) or even saw attrition increase after they adopted four-day weeks (Ainsworth et al., 2024). Researchers hypothesize that while these school models are popular with educators, teachers do not necessarily feel strongly about the benefits of this school model for it to positively influence their retention decisions (Ainsworth, 2024, Turner et al., 2018).

Extended school year and extended-day models are also increasingly popular, with contrasting approaches and potential benefits. For example, teachers in year-round schools might face continuous pressure throughout the school year with fewer opportunities for rest and recovery; on the other hand, this model might allow teachers to better distribute their effort across the year, alleviating their time demands during what tend to be peak periods of work under traditional school models (e.g., during the fall and spring months; West, 2014). In year-round schools, total teaching time often remains unchanged from traditional calendar, except that it is redistributed throughout the school year. While early evidence suggested net benefits were positive for academic performance, more recent data are mixed. Los Angeles had as many as 20% of its schools using year-round calendars in 2002 but had fully phased these models out by 2012. The district had two year-round models. One, "Concept 6", consisted of fewer (163) and longer (an additional 39 minutes) school days with summer break split into two shorter vacation periods. The second model maintained the 180-day school year and day length of traditional schools and simply divided summer vacation into two shorter break periods. Researchers (Landon & Pope, 2024) found that student achievement and attendance were higher when high schools moved away from calendars with shorter and more schooling days and back to a traditional school calendar. Likewise, teacher retention improved when schools reverted from the Concept 6 model, with longer and fewer days, to the traditional calendar. This data suggests that school calendars can impact both teachers' productivity and sense of fatigue, with the structure of a school day having a stronger influence on each than the length and frequency of school breaks. However, evidence on students' exposure to longer instructional hours over the course of a day versus across more days, suggests that students might experience larger learning gains—as measured by achievement on standardized tests—from more hours in the day rather than more days in the year (Wu, 2020). Ultimately, teachers may benefit from more manageable workdays than from increased opportunity for time off, but structures that are more beneficial for teachers are not necessarily more conducive for student learning gains.

Accurately Measuring and Interpreting Teachers' Time Use is a Complex Endeavor.

On top of the largely open question of how to optimally structure and support teachers' time use, there are many questions for the field to consider and better understand in regard to measuring teachers' time. For example, as Table 1 illustrates, researchers have produced highly variable estimates of how many hours teachers spend working; similar variation is present across estimates of time spent on a variety of teaching tasks. Given different samples and survey field dates, we would expect some level of variation in time use estimates no matter what. Similarly, different researchers will apply different data cleaning decisions and analytic methods to answer the same question, which will invariably produce a range of estimates (Huntington-Klein et al., 2025). However, a widely recognized contributor to variation in time use estimates is the manner in which teachers are asked about their time (Allen et al., 2019; Barrett & Hamermesh, 2019; te Braak et al., 2022; te Braak et al., 2023; West, 2024).

Measures matter; recall and diary estimates typically lead to different conclusions.

Recall-based time estimates are prevalent in time-use research and relatively easy to collect, but prone to errors.

In time-use surveys, respondents are often asked to recall the total number of hours spent on a particular activity, either over a specific period (e.g., during the last full work week) or in a typical period (e.g., during a typical school week this year). But such survey questions are prone to recall bias—respondents simply might not accurately remember how much time they spent on specific tasks. This risk is thought to be higher for teaching, given the extent to which teachers' professional time bleeds out of the classroom, does not conform to strict (e.g., nine-to-five) working hours, variability of schedules across the calendar, the open-endedness many educational duties (Gibney et al., 2024; Krantz-Kent, 2008; te Braak et al., 2022; West, 2014).

This recall-bias issue is potentially more severe when respondents are asked to recall one point in time relative to another further in the past. This might explain the substantial contrast between survey reports showing large increases in working time after COVID (e.g., Horace Mann 2020, Kaufman & Diliberti, 2020) and those that demonstrate substantial declines in teachers' working time (Herold & Kurtz, 2020), even within studies that similarly ask about retrospective changes in time use. When researchers have captured time use more concurrently with each time span in question (Jones et al., 2022), results indicate that declines in teachers' working time were more likely to be the accurate phenomenon.

This attribution error likewise tends to be higher in professions where working hours are not stable over time; in education, this is largely due to most teachers contractually having summers off. Indeed, while workers across college-educated professions demonstrate variable work hours across the calendar year on average, with dips in the summer and peaks in the spring and fall, seasonal variability is much higher on average for elementary and secondary teachers than for non-teachers (West, 2014).

Time-diary data are generally more reliable and less subject to bias, but more onerous to capture.

While generalized and recall-based measures of time use are easier to collect (for example, they allow time use to be estimated with a single survey item), researchers generally prefer time-diary data (Juster & Stafford, 1991; Robinson, 1985; Sonnenberg et al., 2012). Time diaries vary somewhat in the specifics of how they are implemented but broadly have three distinguishing characteristics relative to retrospective or generalized time-use items. First, they attempt to capture respondents' time use as close to the event as is feasible. Often these data are collected at the end of the day for the preceding 24-hour period, although in some cases researchers collect time-use data throughout the day. Second, time diaries allow for temporal variation by asking respondents to share the time when an activity (from a pre-specified set of explicitly defined tasks or activities) started and ended, rather than having respondents themselves calculate how much time they spent on that task. The consistent definitions of various time uses is key, because it ensures that respondents are not, for example, omitting some types of sub-activities from an overall activity category and have a common set of expressions of their time to pull from—for example, some educators might include social interactions with their students outside of class to be part of their working time while others might not.

The directional differences between time-diary and recall estimates vary across researchers' methods, whether the included tasks are generalized across professions versus including tasks that are specific to teachers' professional contexts, teacher and school characteristics, and across sub-activities. For example, using the American Time Use Survey (ATUS), which is administered to a general, representative population in the United States regardless of profession, West (2014) finds that recall estimates yield substantially higher working time estimates than do time-diary data, while other surveys designed specifically for teachers indicate the average difference to be in the other direction (e.g., te Braak et al., 2022).

Part of the disconnect is likely due to how respondents choose to classify their time. For example, West (2014) acknowledges that teachers "may distinguish their on-the-clock and on-site time from their off-hours work, even if that work includes things like lesson planning and grading which are essential tasks in

the profession". At the broad level of total working time, this is consistent with what we know about teachers' working patterns. For example, the ATUS also shows that educators are more likely to bring their work home and to work outside of their official working hours than other college-educated professionals (Krantz-Kent, 2008).

Researchers' definitional decisions can meaningfully influence findings.

While some measurement approaches may be methodologically preferable over others, such as time diary data collection in lieu of more retrospective or generalized survey items as discussed above, there are many nuances to teachers' time use that likewise might influence conclusions about how many hours teachers work and how they distribute their working time. To be confident in findings, let alone knowing how to interpret time-use estimates, researchers must be explicit from the outset how they are defining their time measures even beyond the specifics of the item itself. Researchers must consider: (a) seasonality (e.g., when to survey, or what working periods to include); (b) how to clearly to distinguish work time from non-work time in a profession with highly porous working boundaries; (c) explicitly defining categories of working time so as to ensure common activity definitions across respondents; (d) who constitutes an appropriate comparison group when contrasting teachers to other professionals; and (e) whether they are able to fully represent the population of interest in their survey samples.

Teachers' work varies across seasons, making their time use estimates subject to bias based on data collection timing and decisions about what working periods to include.

Beyond item structure, there are myriad other factors that might influence time-use estimates and could yield particularly different conclusions about teachers' time use relative to that of people in other professions. For example, when researchers estimate average working time from continuously-fielded surveys like the ATUS, they must decide whether to include teachers' time during summer months, when most—but not all—teachers typically are not working. It's not immediately obvious which approach is more appropriate, and the answer might depend on the research question being asked; this will be highly context dependent. For example, if you are concerned about the appropriateness of teacher salaries, you might prefer annual measures of time use.

If an analysis is limited to the school year, it is important for the researcher to provide some confidence that the school year definition is accurate for the sample of educators being analyzed. For example, West (2014) and Gibney et al. (2024) define the school year as every month except June, July, and August, but many districts—especially those in Southern states—tend to start school earlier in the summer; this definition may not be universally appropriate. In theory, teaching tasks can bleed into the summer, when teachers might spend time planning for the upcoming year, teaching summer school, or engaging in professional development, among other job-related tasks, researchers should arguably assess workloads and time on professional activities across the broader year. Indeed, evidence from teachers in England and the United States suggests that, while the median teacher may not work while on breaks and vacations, a nontrivial share of put in substantial working time even during periods when they are not contractually obligated to work (Allen et al., 2019; Krantz-Kent, 2008; West, 2024).

The timing with which teachers are asked about their time use likewise matters. Most surveys that currently inform our knowledge about teachers' time use are fielded over a period of just a couple of weeks, typically during the spring semester. However, given how seasonal the profession is (e.g., summers typically being off; testing happening in the spring) the timing of data collection can mask substantial variation in the extent and nature of teachers' workloads.

Ideally, we would representatively sample days and seasons across the year (e.g., if we omitted testing season, we would underestimate the amount of time teachers spend administering assessments, while if we sample in the weeks leading up to testing, we might overestimate time spent in test-prep-aligned instruction). However, capturing time-use data across the calendar can be extremely resource-intensive

for researchers and is not going to be feasible in most cases; researchers might instead consider broadening their survey and data collection windows to a somewhat longer period. Alternatively, researchers might intentionally collect teachers' time use data at several distinct points in the year when theory and prior evidence suggest that workloads might differ in order to better capture and illustrate variation in time use over time.

The spillover nature of teachers' work requires thoughtful decisions about where and how researchers draw working-time boundaries.

Complicating the matter is that researchers must make potentially subjective decisions about what work to include. Educators are more likely to hold second jobs (Krantz-Kent, 2008; Schaeffer, 2019), yet studies of teachers' time use typically focus only on respondents' primary jobs (e.g., Krantz-Kent, 2008; West, 2014) which leaves open the question of how much time teachers actually spend on work.

Likewise, point-in-time data may miss variation in time demands across the school and calendar years. While we do not have seasonal data on time spent on specific educator tasks over the year, researchers who have examined overall working time for teachers have found clear evidence of seasonality to—along with daily and monthly variability in—teachers' workloads (Krantz-Kent, 2008; West, 2014). Researchers who do not take into account the timing of teachers' work-hour estimates risk undermining the validity of their time and workload estimates, which may not generalize to other points in the school year or the year in general (i.e., in instances where annual, rather than academic-year, workloads are the focus of the research question at hand). At minimum, researchers should be transparent about how much we might be able to generalize to the typical work week, as well as how they are defining what makes a typical week.

Even within a narrower time frame (e.g., an individual day), teachers' working time tends to spill over into the early morning, the evening, and the weekend, when PK-12 educators are ostensibly off duty (Allen et al., 2019; Krantz-Kent, 2008; Gibney et al., 2024; West, 2014). The possibility that teachers are simultaneously juggling work and household duties during these out-of-school hours (see, e.g., Gibney et al., 2024) raises questions about whether work-time estimates are fully capturing time that teachers commit to their jobs (for example, if they are grading their students' homework while tending to their own children). Yet, researchers often prefer more restrictive time-use definitions that align with those used to describe the workloads and time use of more general populations; for example, West (2014), relies primarily on hours worked on the teachers' "main job", choosing to omit time spent on "work-related activities", which may partially explain why her preferred weekly workload estimate below much of the rest of the literature; when she uses a more inclusive definition, her time-use estimates increase by approximately two hours per week.

Time use categories are not always well defined.

Finally, when teachers are asked about their time use, categories are not always explicitly defined (nor, for that matter is total working time) and it's possible that teachers might interpret time use differently based on their personal and professional contexts. When we talk about planning time versus instructional time, for example, planning time can include (and be coopted by) staff meetings, parent conferences, school-wide events (i.e., assemblies), and administrative tasks (Kennedy, 2010), while instructional time might be construed as classroom time broadly or time spent specifically engaged in teaching practices (as opposed to classroom management). Similarly, these categories can be porous, such as when a teacher addresses student disruptions during a lecture, or when the class is interrupted by school-wide announcements (e.g., Kraft & Monti-Nussbaum, 2019).

When evaluating and interpreting time use, it is similarly important to consider overlapping time use; tasks that teachers spend their time on can co-occur. For example, a teacher could be spending time leading a lesson where students engage in group discussions, which might count as instructional time, and during

that time the teacher may also choose to accomplish other smaller tasks. When measures force time blocks to be categorized into a single activity, they may underestimate time on individual activities. This also is a good reason not to sum up total time across individual tasks when estimating teachers' time total time use. For example, in TALIS, teachers are asked about their time in several different ways. There is one question about total working hours and another set of questions about working hours on a set of professional tasks; the correlation between total working hours and the sum of hours across those tasks is imperfect (0.74), with high deviations in both directions, although estimates tend to be higher when derived from multiple time-use questions (Allen et al., 2019). In the U.S., for example, OECD data from the question about overall time use suggest an average of 46.2 hours worked per week, but summing the time reported across all individual tasks asked about in the survey implies that teachers are on average working upwards of 60 hours per week, higher than estimates from most other time-use surveys. For this reason, rigorous diary data collection methods should allow teachers to provide time spent on more than one task at a time; we currently do not have a good understanding of the prevalence of overlapping activities in teachers' time use.

Teachers are not like workers in other educated professions, and so comparison groups should be defined with care.

We know teachers are demographically dissimilar from the general workforce—skewing more heavily female, for example—and have less constrained work schedules than many professionals in similarly educated positions. When comparing teachers' workloads with those of people in other professions, therefore, it is important to consider who is the comparison group. For example, three studies use ATUS data to compare the working hours of educators relative to people in other professions, but each comes to somewhat different conclusions. Krantz-Kent (2008) provides but describes her reference group of "other professionals" as typically working 35 or more hours per week and being aged 15 or older. She estimates that teachers work fewer hours per week (18 fewer minutes per day) on average than other professionals. West (2014) uses a slightly more restrictive comparison definition: all full-time, college-educated workers. Like Krantz-Kent (2008) finds that teachers spend less time working each week across the calendar year (a difference of approximately five hours), as well as within the school year (i.e., exclusive of June, July, and August; an average difference of approximately two hours). Finally, Gibney et al. (2024) use O*NET data in tandem with the ATUS to identify workers in comparable pro-social occupations and use individuals with full-time jobs in these fields as the comparison group. In contrast to West (2014) and Krantz-Kent (2008), their main models suggest that teachers work longer hours than comparable non-teachers, mostly due to work done outside of the workplace. They find that teachers on average spend a similar amount of time on a given day working for their primary job, although they spend slightly more time (one to two minutes) volunteering at the workplace and roughly 20 more minutes working for their main job outside of the workplace.

Response rates across teachers might systematically vary, risking the generalizability of subgroup findings even where researchers use rigorous sampling and weighting schemes.

Finally, many time use measures are subject to sampling issues. The data coming from polling firms and organizations that do not have rich research expertise often provide limited and opaque details about their sampling methods, while claiming that their samples are nationally representative. In light of this, time-use evidence from these organizations should generally be interpreted as suggestive rather than confirmatory. At the same time, even more rigorous surveys are subject to sampling issues: surveys are not always able to collect a representative sample. For example, the American Educator Panels, created and managed by the RAND corporation, are a rich source of information about teachers in the U.S., including much of our knowledge about teachers' time use and wellbeing (e.g., Doan et al., 2023a; Doan et al., 2024; Jacob et al., 2024; Steiner et al., 2022; Steiner et al., 2023; Steiner & Woo, 2021). Yet they explicitly acknowledge poor coverage of novice educators, in part due to the timing with which they recruit educators to their sample which may limit generalizability to early-career teachers (Doan et al., 2022;

Doan et al., 2023b; Doan et al., 2024b; Woo & Steiner, 2021). In general, surveys that offer rich detail about their survey design, such as the RAND Corporation's State of the American Teacher Panel, the U.S. Department of Education's National Teacher and Principal Surveys, the Organisation for Educational Cooperation and Development's Teaching and Learning International Survey, and the U.S. Bureau of Labor Statistics's American Time Use Surveys are rigorously implemented and provide convincing evidence that their data will generalize to the broader populations from which they are sampling. For more detail about these surveys, including strengths and limitations, is provided in Appendix B.

Educational Technologies Hold Potential for Optimizing Teachers' Time, but Also Pose Risks.

AI use in professional contexts is rapidly rising, including in the educator workforce.

We do not have a clear sense of how—or the extent to which—teachers are using artificial intelligence as a time-saving tool. While a survey of educators conducted by the EdWeek Research Center in late 2023 (Langreo, 2024a; 2024b) showed that a substantial majority had not used AI-driven tools in the classroom, which is supported by roughly contemporaneous surveys on task-specific AI usage (Educators for Excellence, 2024; Kaufman et al., 2025), these data come from only about a year or two since the widespread release of ChatGPT and similar popular AI tools. It's quite possible that higher shares of educators might be using these technologies in the classroom today. Evidence from Impact Research suggests rapid increases in teachers reporting having made any job-specific use of ChatGPT between February 2023 (51%), June and July 2023 (63%), and May 2024 (73%; Impact Research, 2023a; 2023b; 2024). While Impact Research's findings suggest substantially higher adoption than that indicated by other, nationally representative studies that indicate fewer than one in three teachers having used AI in the classroom, their reported trends over time are consistent with increasing adoption of large language models by educators nationally (Langreo, 2024a; Educators for Excellence, 2024; Kaufman et al., 2025). [10]

Teachers also express interest in learning more about how to use these new technologies in the classroom. More than one in four teachers in early 2024 indicated that they were interested in receiving additional training on how to leverage AI across a variety of tasks, including grading, delivering instruction, and communicating with parents (Educators for Excellence, 2024). Nearly half of teachers (45%) expressed interest in additional training on leveraging AI for lesson planning, on top of roughly one in seven teachers who reported that they were already using AI for that purpose and were fully confident in their ability to do so. These expressions of interest may reflect that many teachers—regardless of their status as AI users—feel that their schools or districts have not provided adequate guidance on AI usage or sufficient professional development on using these tools in educational settings, particularly as it pertains to teachers' (versus students') use of these technologies (Diliberti et al., 2024; Kaufman et al., 2025). The Research Partnership for Professional Learning at Brown University's Annenberg Institute (Krall et al., 2024) conducted a series of interviews with a range of education professionals and

[10] The sampling methodology information provided by the Impact Research in published findings is sparse, making it difficult to discern the extent to which conclusions can be generalized to the broader population. Nevertheless, these surveys provided qualitative support for findings from other surveys such as Educators for Excellence's Voices from the classroom (2024) and rigorous, nationally representative surveys like RAND's educator panel studies (Diliberti et al., 2024; Kaufman et al., 2025). Note also that definitions of AI use may differ across surveys, and across populations even within the same survey. For example, when RAND researchers dug into the types of AI tools that teachers reported using in the classroom, many cited virtual learning platforms or adaptive learning systems such as Google Classroom or Khan Academy in addition to chatbots, assessment generators, lesson plan generators, and automated grading tools (Diliberti et al., 2024; Kaufman et al., 2025). These definitional differences may explain some of the variation in reported AI usage across survey sources.

stakeholders that supported a substantial need for "professional learning about AI"—that is, supporting educators' development of best practices for using AI tools to improve their efficiency. Specifically, educators indicated a desire for supporting building baseline AI literacy, as well as opportunities to pilot and practice using these tools so that they could use AI effectively and without introducing or exacerbating inequities.

Nevertheless, teachers are generally optimistic regarding AI's potential to support their instruction (Educators for Excellence, 2024). While relatively few teachers surveyed in January 2024 (14%) felt that AI was going to transform teaching and learning in a positive way, roughly one in three (31%) agreed that AI would help support their instruction and nearly one in four (37%) felt that AI could help support their instruction and capacity but were at the same time concerned about its use. Interestingly, AI usage and optimism is substantially higher for teachers of color (i.e., educators who identify as a race/ethnicity other than white, non-Hispanic). Half (51%) of the teachers of color who responded to the 2024 Educators for Excellence *Voices from the Classroom* survey expected that AI would transform teaching and learning in a positive way, compared to just one in seven of the overall teaching population. Across tasks that included lesson planning, delivering lessons, differentiating instruction, grading, communicating with parents, and embedding AI into their students' assignments, roughly three out of every four educators of color acknowledged using AI—a rate that was consistently at least two to three times as high as the usage reported in the overall teaching population. More than half of all educators of color (56%) reported feeling fully confident in their ability to leverage AI, compared to 17 percent of the average U.S. teacher across races and ethnicities.

The reasons for these differences in AI usage and comfort are not fully clear from existing data. It may be that these are reflective of cultural differences that correlate with race and ethnicity, or it might reflect responses to the different professional demands faced by teachers of color who are overrepresented in large, urban, low-income, and diverse schools (see, for example, Sun, 2018). Regardless, these data are consistent with evidence from a series of surveys conducted by Impact Research (2023a; 2023b; 2024) on behalf of the Walton Family Foundation. These surveys, while not necessarily nationally representative, suggest higher use of and optimism about AI's potential in educational contexts among not just teachers of color, but also parents who identify as Black or Hispanic. Meanwhile, nationally representative data from the RAND Corporation's American Educator Panels show that in schools with the highest rates of students eligible for free or reduced-price lunch, educators more frequently use AI for instructional planning; they do so at higher rates than educators in relatively lower-poverty schools, even as the rate of educators reporting having ever used AI overall is highest in the lowest-poverty schools (Kaufman et al., 2025).

While these data show increasing usage of AI tools on the job amongst K-12 educators, as well as interest in receiving additional training, there is little data to date that explicitly details the extent to which educators use technology to improve efficiency and time on task as opposed to using AI and related tools to improve the quality of their materials and lessons—for example, by building their own background knowledge for their lessons and classes (Impact Research, 2024). The types of tasks teachers report using AI for suggest that they use emerging educational technologies for both purposes, and that the take-up of AI tools for timesaving and time-optimization activities may vary across school, grade, and subject contexts. For example, self-reported AI usage is substantially higher in secondary than elementary schools, and in science and ELA classrooms than in elementary and math subjects (Diliberti et al., 2024; Kaufman et al., 2025).

Among the most common self-reported uses, from an open-ended question in the RAND Corporation's American Instructional Resources survey about how educators typically use AI tools or products to plan their instruction, were: (1) generating lesson materials such as assignments, activities, and discussion questions; (2) designing assessments and rubrics, as well as grading and providing feedback on student work; (3) differentiating instruction, including by adjusting text difficulty or reading passages; (4)

completing administrative tasks, including drafting emails, writing recommendations; and (5) helping students use AI (Kaufman et al., 2025). In these open-ended items, teachers sometimes indicated that many of these applications saved them time on tasks that would otherwise be time-consuming, such as writing lesson plans, although they acknowledged that they still needed to review AI-generated materials for accuracy and alignment and sometimes the output still required substantial time for revisions.

These caveats suggest that, even if teachers effectively use AI to save time on some tasks (e.g., drafting lessons or composing emails), there is a real risk that these time-saving applications may coincide with undesirable outcomes. For example, we know that large language models can "hallucinate" and produce responses that are entirely invented or illogical, even where training data are accurate (Jones, 2025); these hallucinations have also been documented in education-specific contexts (e.g., Wang & Demszky, 2023). Yet, AI tools can present information in definitive, confident-seeming language, which generates higher trust in users regardless of the underlying accuracy of the information or logic produced (Wang & Srivastava, 2025).[11]

At the same time as teachers may use AI to improve their own professional efficiency, teachers may face opposing time pressures related to *students'* use of AI that offset time savings on the teachers' part, given that they may need to devote more time to designing assignments that would prevent students from using AI as something akin to a plagiarism tool, or even just using AI to shortcut the "productive struggle" (Langreo, 2024b; Wang & Srivastava, 2025).

Early evidence suggests that AI can support effective and efficient teaching when certain conditions are met.

While the evidence base regarding the effectiveness of large language models for enhancing teachers' productivity is only just emerging, early results hint at the technology's promise, while also illuminating potential shortfalls.

One increasing area of interest for large language models in education is for professional development, given the high time and human resource costs of professional learning programs (Knight, 2023; Krall et al., 2024). General-use AI tools do not perform well in this regard; for example, Wang and Demszky (2023) found that ChatGPT performs poorly at evaluating the quality of teachers' math instruction from classroom transcripts, in addition to frequently identifying highlights and missed opportunities for good instructional strategies that lack insight or relevance. In contrast, ChatGPT performs well at providing actionable, relevant suggestions for eliciting more student reasoning; these suggestions are also faithful to the transcript contexts, but in their analysis of ChatGPT's feedback, Wang & Demszky find that most of these suggestions are for things the teacher was already doing. Wang and Demszky theorize that to some extent ChatGPT's poor performance feedback may be due to the tool having seen few examples of instructional feedback or coaching in its training data.

More tightly aligned tools may perform better. For example, new evidence on a live, AI-driven tutor-feedback tool shows substantial promise for improving real-time instruction. By incorporating expert decision-making data from real, experienced teachers' thought processes into large language models, Wang et al. (2024b) show that the tool, called Tutor CoPilot, which provides live feedback to tutors, prompts them to adopt high-quality strategies for improving student understanding (Wang et al., 2024a; 2024b).). In their randomized experiment comparing the quality of feedback provided by tutors with and

[11] Recent improvements to generative AI models have lessened the frequency of hallucinated responses, but they continue to occur in even the most advanced models, and general-use AI tools such as ChatGPT may struggle more in specialized applications; for example, a recent study of AI hallucinations in legal queries found high rates of hallucinations even across tools that were built specifically for legal research (upwards of 17%), but even worse rates for answers generated by a general-use tool like ChatGPT (43%; Magesh et al., forthcoming). For more on the topic, see Jones (2025), Farquhar et al. (2024), and Suzgun et al. (2024).

without access to Tutor CoPilot, Wang et al., (2024b) found that students with the AI-assisted tutors were four percentage points more likely to demonstrate mastery of their math lessons, with larger effects among students whose tutors were less experienced or had initially lower performance ratings (based on external observations). These effects can be explained by the lower-skilled and least-experienced tutors being induced by AI to adopt strategies that guided students' thinking rather than directly leading students to the solution (e.g., by prompting the student to explain their answer instead of directly giving the student the answer); initially low-performing AI-assisted tutors had students passing at a comparable rate to that of non-AI-assisted tutors who were initially higher performing.

This pattern—in which educational technology may differentially support teachers' effectiveness—is consistent with other evidence from other classroom technologies. For example, Taylor (2018) examined the effects of computer-aided instruction on teachers' effectiveness in the classroom, finding that access to this technology disproportionately improved test score growth among students with lower-skilled math educators. This pattern was associated with an upward shift (approximately doubling) in teachers' allocation of class time toward individual student work and away from whole-class lectures (which was reduced by half). However, there were unintended efficiency consequences, as well. Higher-skilled teachers actually saw their effects on student test score growth decline; these declines may be explained by a decrease in overall working time as these educators spent less time planning and grading. In other words, access to computer-assisted instruction technologies in the classroom may have led higher-skill educators to decrease their productivity in ways that harmed their students' learning.

At this point, there is little empirical evidence about how AI tools—especially those that are broadly available, like ChatGPT—might specifically benefit teachers' time use. However, one recent experiment conducted in England provides suggestive evidence of AI's potential in this regard. Roy et al. (2024) conducted a randomized experiment where science teachers were assigned to either use ChatGPT for lesson planning and development or refrain from using generative AI for this purpose. Teachers in the ChatGPT group were also given a guide to using the AI tool for lesson planning and preparation. After ten weeks, the ChatGPT group reported spending about a third less time preparing their lessons each week than the control group (56.2 minutes versus 81.5 minutes). External reviews of a subsample of lessons from each group suggested no difference in lesson quality between AI-assisted and non-AI-assisted lessons, although the teachers whose lessons contributed to this analysis was small (n=30). Most of the treatment teachers who responded to a survey at the end of the project (n=68) indicated that they had either spent a similar amount of time (44%) or less time (46%) on lesson preparation when using ChatGPT, and three quarters (75%) felt that ChatGPT benefited their lesson preparation. That being said, sample sizes were small and possibly subject to non-response bias, given drop-off in the treatment population by the time of the final survey. While this experiment illustrates the promise of generative AI for teachers' time savings, it's not clear the extent to which it generalizes to broader teaching populations or how teachers might use such tools in less controlled contexts than a designed experiment.

In short, the evidence base for AI as a tool for supporting teachers' time use or other aspects of their work is still very much a work in progress, although there is a great deal of research underway and these technologies are rapidly improving. While the potential returns to teachers' efficiency in and out of the classroom may not be fully realized by general-use AI tools at the moment, those that are well designed and thoughtfully adapted to teaching and learning contexts show substantial promise for making better use of teachers' time. However, these benefits may not be equally distributed across all teachers, as they may yield unintended consequences for professional efficiency among more experienced, or high-skilled educators.

Conclusion and Recommendations

Teacher morale is low, with large majorities of teachers saying that they find their jobs to be stressful and overwhelming (Lin et al., 2024). Roughly one in three teachers (36%) express dissatisfaction with their jobs (Merrimack College & EdWeek, 2024). While there are likely many contributing factors, including a a sense among teachers' that their pay is inadequate (Doan et al., 2024b; Kraft & Lyon, 2024), the evidence above strongly suggests that the intensity of teachers' workloads play an important role in teachers' overall wellbeing (e.g., Jerrim & Sims, 2022) and may influence teachers' ability to teach to their potential, let alone their desire to remain in the classroom. Importantly, teachers' time use appears to be a factor that is both ripe for further research and where existing evidence suggests that funders, policymakers, technology developers, and school administrators may be able to exert meaningful, beneficial change. Given a wealth of evidence that teachers are critical for students' wellbeing in both the short and long term (Aaronson et al., 2007; Chetty et al., 2014a, 2014b; Kane & Staiger, 2008; Rivkin et al., 2005; Rockoff, 2004; Sanders & Rivers, 1996), policies and practices that protect and improve teachers' time may provide an opportunity to make teachers' professional lives feel more sustainable—improving retention, attracting a broader and richer labor pool to the profession, and offering students the advantage of their teachers being able to devote more time to teaching and learning activities.

Building a More Robust and Nuanced Evidence Base: Recommendations for Research

Evidence on teachers' total working hours is highly inconsistent, raising questions about what the true overall distribution of teachers' working hours are. Research that incorporates **multiple measures of time use in a single study** (e.g., Allen et al., 2019; Jerrim & Sims, 2022) could yield meaningful insights into the directional biases of any single measurement approach. Disaggregating this variation across teacher characteristics—and particular by gender—may illuminate nuances in the ways that teachers evaluate the amount of time they have spent on various tasks. For example, if educators—and female educators and particular—are more likely than other working adults to engage in multiple activities at the same time, such as supervising their children at home while grading their students' assignments, unidimensional time measures might not fully capture the distribution of work activities that teachers are engaged in.

At the same time, while some researchers (e.g., Gibney et al., 2024; Krantz-Kent, 2008; West, 2014) have attempted to explore variation in educators' workloads over the course of time—both in the short term (i.e., across the day) and in the long term (i.e., over multiple years), these data almost universally come from a general population measure of working hours (the American Time Use Survey) without providing insight into the nature of that work. We do not yet understand the ways in which teachers' time allocation across professional tasks varies throughout the school year. Researchers should collect detailed longitudinal data to document temporal changes in the nature of teachers' time use. Data that offer details about teachers' time use longitudinally (within and across school years) would allow the field to better **understand calendar-based variation in workloads, time burdens, and time allocations**. For example, data from England suggest that teachers may work fewer hours as they approach vacations and holiday breaks (Allen et al., 2019).

Another useful set of data for researchers to collect would include measures that allow for **disentangling working hours from workload intensity**, where workload intensity represents the work that teachers have to do even if those tasks remain unfinished. While we don't have reason to believe working hours have increased over time, there may be professional pressures that increase workload and explain teachers' potentially inflated working time estimates. If workloads, relative to working time, have increased in recent years, that would also explain low teacher morale and provide insight into possible remedies (e.g., Kraft & Lyon, 2024). Such data collected at different points in the school year might also point to particular pressure points across educational seasons. For example, teachers might feel extra pressures to complete work in the leadup to testing season that would make workloads feel more intense in the

spring than they do in the fall. These data might likewise lend insights into conflicting estimates of time use from single-measure items relative to aggregating time across measures (see Jerrim & Sims, 2022), by revealing the extent to which educators are engaged in multiple tasks at the same time.

There are a number of more particular research questions that could inform how we act on knowledge about teachers' time use. For example, while we know that more instructional hours generally leads to greater student learning (Burgess et al., 2023; Kane et al., 2011) and that teachers most value their instructional and peer collaboration time (Jones et al., 2022; Educators for Excellence, 2018; Educators for Excellence, 2024), we do not know much about the **return on time investments to non-instructional activities for students or teachers**. Importantly, there may be interactions between what constitutes teachers' effective time use and their teaching experience or the needs of the students they teach. For example, novice and lower-skilled educators (and their students) might disproportionately benefit from more time investments in planning or professional time, while outcomes for experienced educators and their teachers might be maximized when more of the teachers' time is spent engaged in instructional activities. Similarly, teachers on average spend a small but still meaningful share of their time supporting students outside of instruction (e.g., through socio-emotional support); shifting time toward these sorts of activities might provide intrinsic rewards for teachers while allowing them to better support students who have greater needs in ways that ultimately bring broad benefits to those students. At this point, we simply do not have a clear understanding of the tradeoffs between different types of time use and how those decisions might differ across teachers and teaching contexts.

There are many policy options for which the potential effects are not well understood. In particular, researchers might **explore the implications of compensation policy for educators' time use**. For example, teachers are not currently eligible for overtime pay under the Fair Labor Standards Act (FLSA); they receive a blanket exemption from overtime pay eligibility even in cases where they earn below the FLSA salary threshold which was $58,656 as of January 1, 2025 (see Schmitt et al., 2021 for more details).[12] Researchers at the Economic Policy Institute (Schmitt et al., 2021) estimate that approximately 21 percent of teachers would have been eligible for overtime pay in 2019 based on the distribution of teachers' salaries and the FLSA threshold at the time if the government were to lift the exemption for teachers. In 2024, teachers in the State of the American Teacher Survey reported an average base salary of approximately $70,000 (Doan et al., 2024a), but many teachers earn much less than this; 12 percent of teachers earned under $50,000—well below the current threshold—in 2024 (Doan et al., 2024b). Such a policy would disproportionately affect female teachers, teachers of color (Black, Hispanic, and Asian), early childhood and special education teachers, younger teachers (under 25) and teachers who had not earned an advanced degree. A policy that allows educators to earn overtime pay might influence teachers' workloads in multiple distinct ways. First, by allowing teachers to be paid for their extra work might make hourly compensation more equitable across genders, given that male teachers work less uncompensated time than female educators (Steiner et al., 2023). Second, such a policy might incentivize some districts to set teachers' salaries higher as an alternative to paying teachers for extra hours of work; by making salaries competitive, districts might experience more successful recruitment and retention outcomes, benefiting their students' learning as well (e.g., Biasi, 2021). Opportunities to be paid for extra work might increase educators' professional satisfaction, if it leads them to feel that their time is being appropriately valued. Currently, at least a third of teachers feel that their salaries are too low, and view this as a significant contributor to their stress on the job (Doan et al., 2024a). Finally, by increasing the cost of teachers' additional working time, districts might face a financial incentive to create support structures—primarily through additional hiring—that better enable educators to complete their work within the forty hours a week specified by most contracts. However, the potential for compensation policies to

[12] For current FLSA guidelines and salary eligibility thresholds, see https://www.dol.gov/agencies/whd/overtime/salary-levels. For context specific to teachers, visit https://www.dol.gov/agencies/whd/fact-sheets/17d-overtime-professional.

influence teachers' time use is only poorly understood, and it's not clear whether overtime pay eligibility would in fact improve equity in time use or total compensation; indeed, there might be unintended consequences (e.g., Biasi & Sarsons, 2022) that harm certain classes of employees without net benefits to their students, and the costs might be too high for this to be a feasible policy option .

Ultimately, the evidence we have about teachers' time use—from factors that influence teachers' time allocation and workloads to the ways in which time use influences outcomes for teachers and their students—is almost entirely descriptive. While this descriptive evidence is crucial for understanding patterns and disparities, it does not tell us anything concrete about how we can influence teachers' time use in ways that will benefit educators and their students. **Rigorous causal research on the conditions and policies that enable efficient and effective time use** is nearly non-existent but would go a long way toward helping districts and educational technology developers implement policies, practices, and tools that will best serve their staff, students, and clients.

Creating Structures and Systems to Support Teachers' Effective and Efficient Time Use: Recommendations for School Administrators and Education Policymakers

Roughly two thirds of U.S. teachers report that their schools are very or somewhat understaffed (Lin et al., 2024), which may contribute to teachers taking on tasks that feel overwhelming and burdensome. To make teaching more sustainable, districts should consider implementing **flexible staffing models**, such as the Next Education Workforce (NEW) team-based models that differentiate roles while establishing team-based, collaborative teaching environments.[13] Early evidence suggests that teachers in schools that use these models engage in higher-quality instruction and are more likely to want to remain in the profession (Laski, 2024).

School administrators should also consider **explicitly defining responsibilities for teaching roles** to set common expectations regarding who within a school should be responsible for various tasks; at the same time, districts should **ensure that there are sufficient support staff** in their schools to **enable teachers to focus on their core responsibilities**. Teachers report spending substantial amounts of time each week on tasks that theoretically might be done by other school professionals who have specialized expertise on those tasks, and school leaders don't always recognize the extent to which teachers are handling extra duties (Harwin, 2025). For example, teachers report spending roughly three hours per week counseling students (OECD, 2019; Merrimack College & EdWeek, 2022); while this is a small amount of time relative to what they spend on instruction and planning, this is also time that might be more effectively handled by a school counselor or social worker. By adding more staff who are experts at providing socio-emotional supports, schools might at the same time alleviate the engagement and discipline issues that many educators have expressed are both more prevalent since the pandemic and disruptive to their teaching and learning (Jacob, 2024; Lin et al., 2024).[14] Likewise, teachers feel burdened by and dislike their time spent on administrative paperwork; in an appropriately staffed school, there would be administrative professionals who could take over or at least support teachers' time spent on this activity. Tasks like lunch, hall, and bus duty could be fulfilled by parent and community volunteers;

[13] For details about this staffing model, see https://workforce.education.asu.edu.

[14] There is clear evidence from research on school counselors, for example, that higher staffing levels directly benefit students and that school counselors are as important for student outcomes as teachers (Carrell & Hoekstra, 2014; Mulhern, 2023; Reback, 2010a, 2010b; Sparks & Mulhern, 2024), indicating that they represent an essential category of school staffing. Reback (2010b) also found that when schools improved their school counselor ratios, teachers in those schools were less likely to report problems with student behavior interfering with their instruction. At the same time, few schools meet the 250:1 staffing ratios recommended by the School Social Work Association of America or the American School Counselor Association (ASCA, n.d.; Meyer & Bell, 2023; SSWAA, n.d.), indicating substantial room for staffing improvement.

while they take up a small amount of time on teachers' part, these tasks do not require teachers' instructional expertise and reduce opportunities for educators to rest and recover in between classes (e.g., eating their lunch and using the restroom).

There are also plentiful opportunities for what we might consider low-hanging fruit—that is, small policies or practices that nevertheless add up to make for substantially more sustainable working experiences and reduce the overall felt intensity of teachers' workloads. As one example, schools could **set communication policies that respect boundaries between professional and personal time**. Schools should refrain from contacting teachers in their off hours and should establish parent-teacher communication structures that balance communication needs with teachers' needs for protected personal time. Similarly, a sizeable share of classroom disruptions are avoidable and potentially under the control of school administrators; roughly a quarter of interruptions observed in one district were from classroom announcements and calls to classroom phones (Kraft & Monti-Nussbaum, 2021). Tor reduce the cognitive load of interruptions and distractions, administrators should **concentrate calls and announcements to non-instructional** times to avoid disrupting teaching and learning and restrict announcements to only the applicable classrooms. Likewise, school leaders may identify opportunities to reduce or streamline staff meeting time, perhaps converting some information-sharing sessions to biweekly or monthly emails that teachers can review at more opportune times.

Outside of instruction, teachers particularly value their planning time, and more teachers express wanting to spend more time on this task than not (Educators for Excellence, 2024), but not all teachers will have the same level of planning needs. School leaders might **incorporate dedicated planning time into teachers' schedules** with autonomy for educators to adapt that time according to their individual needs. Likewise, professional learning is still often delivered in a one-size fits all mode. Districts that are not already doing so should **reduce reliance on uniform professional development in favor of individualized training that is embedded in the day-to-day teaching and learning process**, such as coaching and peer mentoring (Kraft et al., 2018). This training should be tailored according to such things as teachers' experience, their skills, newness of I or standards, and teachers' own preferences or individual needs. In particular, school administrators should avoid taking teachers away from high-leverage activities such as instruction and planning for non-instructional professional development when training or guidance might more efficiently—but still effectively—be provided in writing (e.g., sharing information about new district policies via email or through staff handbooks).

At the district and state level, policy makers should **be cognizant of the frequency and necessity of curricular changes**. While schools and districts should continue to update and revise their curricula, assessments, and standards to align with new knowledge and evolving best practices, these evolutions should be implemented with discretion given: (a) the time costs associated with educators updating their own knowledge and teaching materials; (b) variability in curriculum quality; and (c) the risk of short-term disruptions to teaching and learning quality (Backes et al., 2018; Blazar et al., 2020; James, 2022; Polikoff, 2018). When these changes occur, they should ideally also be accompanied by vetted resource libraries to assist teachers in implementing aligned, high-quality lessons, so that teachers do not need to spend substantial time redesigning their lessons whenever there is a substantial shift in educational standards or curricula.

Developing products, supports, and protections that enable effective and responsible use of technology: Recommendations for technology developers

Education technology developers, in addition to those in the tech industry overall, likewise have a potentially important role to play in improving the quality and efficiency of teachers' time use. First of these is ensuring that, when teachers use their tools to support their productivity in the classroom, educators are not risking the security of their students' information. Tech developers should **carefully review new and updated generative technologies to ensure compliance with data safety** laws and

regulations like those defined by the Family Education Rights and Privacy Act (FERPA) and the Child Online Privacy Protection Act (COPPA), even in cases where these tools are not explicitly meant for users in the education sector (e.g., Open AI's ChatGPT). This will require developers to closely study how teachers are using their tools in order to create the appropriate protections; for example, if teachers are uploading student work for a large language model to grade on their behalf, the tool then potentially has access to a large set of personal student data which the developer must ensure is not shared with third parties.

Developers will also need to use their specialized knowledge about their tools, in partnership with education experts, to **provide educators and school administrators with training on best practices for AI use**—not just for data security reasons, but also to ensure that teachers aren't compromising the quality of their lesson materials, feedback, or instruction. For example, teachers will need guidance on how to use large language models to improve the efficiency of their grading, but at the same time we don't want teachers to shortcut a deeper understanding of their student's skills, weaknesses, and misunderstandings. Likewise, use of such tools should not mean sacrificing the extent to which students receive accurate and high-quality feedback on their assignments. Crucially, tech developers should be transparent in these resources about where their tools might be less effective at providing high-quality supports, such as the difficulties that even the most sophisticated recent models have had with basic math or providing legitimate research sources (Krall et al., 2024).

Recent evidence on the take-up of AI in education points to rapid adoption across the sector, with teachers using these emerging technologies for a range of different purposes relative to their work. However, in general, these tools are not by default well adapted to provide expert-level supports in these contexts and could provide output that is not particularly relevant or helpful, or even misinform or misguide well-intentioned users. To broaden applicability and improve the performance of generative AI tools and other large language models not explicitly built for the education sector, technology developers should work with experienced educators to **incorporate expert teacher knowledge into training models** to ensure that they provide high-quality, well-aligned resources and feedback for educators who might use these tools for classroom resources. Intentional training processes that focus on training gaps like this should be well aligned to the ways in which teachers are actively using or might be apt to use generative AI tools in the future. This is true for ed tech tools in general; developers should take into account teachers' lived contexts and realities, essentially **bringing in educators as co-designers** to ensure their tools' utility, accuracy, and effectiveness.

On top of these recommendations, developers should invest in technologies that affect teacher's efficiency on the job by **designing and offering tools that explicitly support teachers' time use**. Tools that support planning and preparation might be particularly useful, as this represents a substantive portion of teachers' time. This might include resource repositories with AI-assisted search and adaptation capabilities or tools that explicitly develop new lesson materials. Note that this recommendation requires extensive input from experienced and skilled educators in the field to ensure that the products are high quality and well-aligned to the contexts in which they will be applied; for example, a generative AI tool that supports middle school science teachers' lesson planning will need a deep set of training materials that are specific to the middle school science teaching and learning context, while also taking into account variation in how that context might differ across demographic and geographic communities (e.g., districts' learning standards are highly variable across the country).

Finally, teachers are bombarded with educational technologies that serve myriad, and sometimes narrow, purposes. When developing new tools or programs, or making upgrades to existing products, developers should **be cognizant of how different common tech tools might work together**, so as to streamline technology training and use for educators. Ideally, each new tool won't require new training or add to teachers' cognitive burdens as they sort through the many tools increasingly made available to them. More importantly, **these tools should cohere with—and enhance—the broader instructional work**

that teachers are doing; they should align to the standards, scope, and sequence of the material teachers deliver, and they should focus more strongly on helping educators access, develop, and implement high quality instructional materials.

Incentivizing research, policy, and technology to support effective teacher time use: Recommendations for funders

Capturing comprehensive and informative measures about teachers' time use is a costly endeavor in terms of researchers' time and resources, as well as for the schools and districts that researchers partner with to observe and collect information on teachers' time use. Funders are well-suited to not only bringing together, but also financially **supporting researcher-practitioner partnerships that generate new and more rigorous knowledge** about teachers' time use. These partnerships would ideally build knowledge about measurement approaches in the education context, extend our understanding of more qualitative aspects of teachers' time use (e.g., workload intensity, the prevalence of multitasking, and teachers' affect across work activities), and allow the field to identify and test policy and practice levers for improving teachers' time. By explicitly embedding the research agenda within a practice community (e.g., a district or charter network), funders can ensure that the research and subsequent findings are directly and practically relevant to teachers and other education stakeholders.

Similarly, funders should **consider supporting richer, more detailed collection of data** on teachers' time use. Teachers' time use is a potentially powerful lever for the field to better monitor and attend to teacher burnout and engagement. However, in order to solidify our understanding of that connection, we simply need more longitudinal studies specific to teachers' time use and connecting that use to these types of outcomes. Funders are uniquely positioned in this regard because they could require proposals around technology in education, teacher wellbeing, and other related topics to explicitly collect and report time use, time optimization, and time measurement data as part of their research and evaluation plans.

Likewise, funders might establish programs that **incentivize collaborations between education technology developers, districts, and researchers** that both build knowledge about how to measure and optimize teachers' time and actively enable better, more productive time use for educators. Importantly, this work should also **identify and promote areas for further research** that might inform technology developments that would directly support the efficiency of teachers' work (i.e., by optimizing their time). These collaborations should incorporate educators' expertise and experience to develop products and tools that are explicitly, accurately, and comprehensively aligned to the ways in which teachers are actively using or might benefit from emerging technologies. The Generative AI for Education Hub at Stanford University, which hosts the Tutor CoPilot research described above (Wang et al., 2024a; 2024b), is one such model of this recommendation in practice. For example, by learning the aspects of Tutor CoPilot that make it successful, we might use that information to inform the development of—and improvements to—other educational technology tools. The Gates-Foundation-supported AIMS Collaboratory is another model; this group represents a community of practice—bringing together developers, researchers, and practitioners who work together—to inform the co-design and development of new research measures and practices. Importantly, their research and development activities explicitly include feature testing tools where time optimization is a key outcome of interest.

Finally, while funders do not directly influence policy, private foundations can direct policy conversations based on their choice of funding programs. Funders should clearly **elevate the importance of teacher workloads in the public discourse and in policy discussions**; even funders with relatively small philanthropic footprints can influence others by soliciting grants on teachers' time use—whether for research, program support, or innovations—with the encouragement of co-funding.

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Note: References that are directly pertinent to teachers' time use are indicated with an asterisk and summarized in an annotated bibliography in Appendix A.

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Appendix A. Annotated Bibliography

Allen, R., Benhenda, A., Jerrim, J., & Sims, S. (2019). New evidence on teachers' working hours in England. An empirical analysis of four datasets. *Research Papers in Education, 36*(6), 657-681. https://doi.org/10.1080/02671522.2020.1736616

This paper is specific to teachers' time use in England, but we are including it in the annotated bibliography because it provides insight into measurement implications more broadly. Allen et al. attempt to better understand overall workloads and patterns of time use in England by analyzing data across four datasets, each of which confer different drawbacks and advantages: TALIS (see OECD, 2019), the UK's Labour Force Survey (LFS), UK Time-Use diaries (UKTUDs; similar to the United States' ATUS; see appendix C), and a longitudinal convenience sample. TALIS data have high response rates and are nationally representative, but they data do not (yet) permit tracking of trends over (much) time, are only applicable to upper secondary teachers (the equivalent of grades 7-9), and only represent spring (March through May) time use, in addition to relying on recall data (i.e., during the most recent complete calendar week). The LFS has been delivered to a random sample of UK households since 1992, including with tracking by quarters within the year, which allows for estimating variation in working hours over and across years. Because it is a general-population survey, it does not provide nuance in work-specific activities, but does allow for comparisons across professional populations (n = 1,352 teachers). It includes both generalized working-time items (e.g., how many hours per week do you typically work?) and items about their working time in the preceding week. The survey also allows for estimating the frequency with which respondents work on holiday and vacation days, as well as on weekends and in the evenings. The UKTUDs, fielded in 2000-01 and 2014-15, have lower response rates (a 33% completion rate), but use a time-diary format—which is less prone to recall error—to collect information about time use in ten-minute increments on both a weekday and a weekend day, as well as respondent's enjoyment of that time; however, the UKTUDs may suffer from non-response bias and only include a small number of teachers (roughly 90 in each year of data collection) within the larger sampled population. Finally, the researchers used a phone survey app called Teacher Tapp to collect daily time use information from a convenience sample of teachers (with a final n of 854 complete respondents); specifically, each day for a week in November 2018, teachers were asked about the total hours they worked on the preceding day, and at the end of the week they were asked to estimate how many hours the believe they worked the previous week. While the Teacher Tapp data are not likely representative of the broader teaching population, the survey allows for comparisons of daily versus weekly recall items, while also capturing nuanced data about the nature of time use (e.g., overlap between work and leisure activities).

The first analysis the authors conduct is to compare time use estimates from a single weekly question to, respectively, the summation of time spent on individual tasks (TALIS), time-use diary estimates (UKTUDs), and the summation of daily time use items (Teacher Tapp) on the same survey protocol. In each case, they find differences: for TALIS, the single weekly question underestimates time use by about an hour per week across the distribution relative to aggregating time on individual tasks; for the UKTUDs, time use estimates are likewise generally lower with the single weekly question; and in contrast, with the Teacher Tapp data, the single weekly question implies higher workloads across the time-use distribution than when teachers' daily estimates are aggregated. In their second analysis, the authors use the LFS, UKTUDs, and TALIS to track trends in average weekly hours over time, finding that workloads have remained relatively stable for the past quarter century, as well as in the shorter term. Allen et al additionally use the LFS and UKTUD data to explore the extent to which teachers work on their off hours, finding that between 20 and 40 percent of teachers typically do some work in the evening. Most teachers do not take a full hour for their lunch break, and often simultaneously engage in other work-related tasks (e.g., reading emails, preparing resources, and tidying the classroom). Teachers often combine work and leisure at home, as well, with 39% of

Teacher Tapp respondents on a particular night indicating that they were engaged in lesson planning and grading while watching television.

Burgess, S., Rawal, S., Taylor, E. S. (2023). Teachers' use of class time and student achievement. *Economics of Education Review, 94*, 102405. https://doi.org/10.1016/j.econedurev.2023.102405

Burgess et al. examine the ways in which teachers' allocation of class time across various activities (including student peer interaction, personalized instruction, practice and assessment, and direct instruction) and how that time distribution relates to students' achievement. Their analysis uses teachers of year 10 and 11 students (approximately ages 14-16) in public high schools in England (*n* = 251 teachers in 32 schools, and about 7000 students). Conditional on prior student achievement and low-stakes measures of teachers' instructional effectiveness (as measured by observation scores on the Danielson Framework), they find that the allocation of time across different activities is not meaningfully related to the subjects that's that teachers are teaching (ELA versus math) or their students' demographic characteristics, but these task-allocation decisions do predict student learning on the local standardized assessment in ways that differ across subjects. In math, when teachers spend "most of the time" on individual practice and assessment, test scores are 0.08 standard deviations higher than in the average class, where teachers spend "some of the time" on this activity; a standard deviation increase in time spent on practice and assessment is associated with 0.047 standard deviations higher achievement. In English, students demonstrate similarly higher achievement when their lessons include more peer interaction time (i.e., class time spent in open discussion among students and teachers or with students working in groups), with a standard deviation of time spent on student peer interaction being associated with an achievement increase of 0.043 standard deviations.

Doan, S., Greer, L., Schwartz, H. L., Steiner, E. D., & Woo, A. (2022). *State of the American Teacher and State of the American Principal surveys: 2022 Technical documentation and survey results.* RAND Corporation. https://www.rand.org/pubs/research_reports/RRA1108-3.html

Doan et al. provide a technical appendix for the 2022 State of the American Teacher (SoT) survey (see Steiner et al., 2022, described in this appendix, for the accompanying report pertinent to teachers' rates of job-related stress). As with the 2021 survey (see Woo & Steiner, 2021), teachers are sampled from the American Teacher Panel, a nationally representative sample of more than 25,000 teachers from which RAND samples for survey research on educators' experiences; they use a probability sampling method, with oversampling of educators of color, but acknowledge poor coverage of novice educators which may limit generalizability to early-career teachers. RAND invited 4,400 educators, yielding 2,360 responses, for a response rate of 54 percent. Also following the 2021 survey, educators were asked about their well-being, working conditions, and intentions to leave their jobs using, in addition to new survey items capturing teachers' resilience. In addition, RAND's 2022 SoT project pulls a sample of representative adults from their American Life Panel for comparison; they invited 766 working adults, yielding 500 responses, for a 65 percent completion rate.

A weighted 73 percent of educators reported that their work had often or always been stressful since the beginning of the 2021-22 school year, compared to just 35% of working adults. Only seven percent of teachers said they were coping very well with the stress of their job right now, compared to 30 percent of working adults. Among proposed frequent sources of stress, teachers cited the following contributors (selecting from the top three) at high rates: managing student behavior (56%), supporting their students' mental health and wellbeing (40%), supporting students' academic learning because of COVID-induced losses to instructional time (67%), taking on extra work because of staff shortages (48%), spending too many hours working (50%), and inadequate salaries (50%). The working adults surveyed as part of the American Life Panel were also asked about the top three stressors in their jobs; of the factors offered to both educators and other working adults, non-teachers

were far more likely to mention pay (75% versus 50% of teachers) and needing to take on additional tasks because of staff shortages (71% versus 48% of educators).

In terms of emotional wellbeing, roughly two out of three teachers reported at least several days of little interest or pleasure in doing things (68%) or feeling down, depressed or hopeless in the past two weeks (65%); these are higher rates than in the general working population (48% and 38%). Teachers were also—newly for the 2022 survey—asked about their resilience; 65 percent agreed or strongly agreed that they tend to bounce back quickly after hard times, and half (50%) agreed or strongly agreed that it does not take them long to recover from a stressful event. These rates of resilience are somewhat lower than indicated by the general working population (68% and 62%, respectively). In spite of more than half of teachers (56%) somewhat or strongly agreeing that the stress and disappointments involved in teaching aren't worth it (higher than the rate of people in the general working population who feel the same way: 39%) and a majority (78%) agreeing that they had less enthusiasm than when they started their job (compared to a much lower 49% of non-educators), most teachers somewhat or strongly agreed that they looked forward to teaching in the future (71%) or were glad that they selected teaching as a career (75%). These rates of optimism and feeling that they chose the right job are comparable to the general working population (71% and 74%, respectively).

Teachers were also asked about their workloads; 90 percent of educators said they worked more than 40 hours on teaching and other school-related activities during a typical week at their school in the 2021-22 school year, including during off hours and on the weekends; this is in contrast to 58% of working adults who said they worked more than 40 hours per week. Roughly one in six (16%) teachers reported working more than sixty hours per week, a slightly higher share than the proportion of the general population who claimed to work as many hours (14%). Most teachers (74%) also indicated that they had been asked to assume more responsibilities than normal in order to make up for teaching or substitute staffing shortages, with a substantial amount (41%) saying they had to assume more responsibilities for non-teacher shortages (e.g., paraprofessional, school counselors, cafeteria workers). Across working adults, this appeared to have been a somewhat less frequent concern, with half (50%) saying they had been asked to assume more responsibilities than was normal before the pandemic to make up for staffing shortages.

The survey also asked about educators' intentions to leave; three out of ten indicated that they were either planning on leaving (7%) or considering leaving (23%) before the next school year; this is comparable to the rates among working adults in general (11% and 20%, respectively). Of these, excluding those who were already scheduled to retire, teachers and working adults provided the top three reasons they were leaving or considering leaving their current teaching job (n=490 teachers, 96 working adults). Common responses included that the stress and disappointments of teaching weren't worth it (73%, compared to 52% of working adults), the pay and benefits were too low (46% of teachers versus 44% of working adults); they had too many extra duties (34% of teachers, not asked for working adults), and having to work too many hours to get their job done (42% of educators and 30% of working adults). When the same teachers were asked about the top three factors that might get them to reconsider their decision to leave, 16% pointed to more staff in the classroom, 29% flagged fewer working hours per week, and 36% pointed to spending less time on nonteaching duties.

Doan, S., Steiner, & Pandey, R. (2024a). *Teacher well-being and intentions to leave in 2024.* RAND Corporation. https://www.rand.org/pubs/research_reports/RRA1108-12.html

Doan et al. use a nationally representative sample of teachers ($n = 1{,}479$) from the RAND Corporation's American Educators panel, along with a comparison group of 501 representative adults from the American Life Panel, all fielded in January and February 2024, to survey teachers about their working experiences. For the comparison analyses in this report, Doan et al. define "comparable

working adults" as employed adults between 18 and 64 with at least a bachelor's degree who work no fewer than 35 hours per week ($n = 501$). The authors caution that, although they pull in data from prior years, their analysis does not include a weighting scheme that would allow for tests of statistical differences across years or between the teachers and reference adults. They find that teachers reported high rates of job-related stress in early 2024, with 59 percent of all teachers experiencing frequent job-related stress and a similar share experiencing burnout (60%); both are statistically significantly worse for females than males (62% versus 50% and 63% versus 59%, respectively). Roughly one in four teachers cited supporting their students' mental health and well-being (21%), supporting students' academic learning because of COVID-induced learning loss (25%), and spending too many hours working (26%) as a top-ranked source of their job-related stress. Higher shares of teachers cited administrative work outside of teaching (e.g., paperwork, teacher evaluation; 33%) or inadequate salaries (37%). The most commonly reported top reason for job-related stress, cited by nearly half of all respondents (45%) was managing students' behavior. This was more frequently a concern for novices with five or fewer years of experience (66%). Doan et al. also show that teachers report working longer weeks than comparable working adults. Teachers report an average of 53 hours worked per week, compared to 44 hours for non-teachers. Nearly nine in ten (89%) educators report that they work more than 40 hours per week, compared to one in five (19%) comparison adults. Teachers also reported working far more than their contracted hours (an average of 38 across the national sample).

Doan, S., Steiner, & Pandey, R., & Woo, A. (2023a). *Teacher well-being and intentions to leave: Findings from the 2023 State of the American Teacher Survey.* RAND Corporation. https://www.rand.org/pubs/research_reports/RRA1108-8.html

Focusing on teachers' self-reported wellbeing and intentions to leave at the end of the 2022-23 school year, using data from the 2023 State of the American Teacher survey (see Doan et al., 2023b below), Doan et al. first demonstrate improvements since the 2020-21 academic year, with the caveat that these data are not weighted for making statistical comparisons over time. Specifically, while educators ($n = 1{,}439$) still reported substantially higher rates of frequent job-related stress (58%) than working adults in general ($n = 527$; 33%), both groups saw improvements since 2021 and gaps have somewhat narrowed (from 78% of teachers and 40% of working adults in 2021). Similarly, rates of difficulty coping with job-related stress fell from 24 percent in 2022 to 17 percent in 2023 for educators (compared to 12 and 9 percent over the same period for working adults). Rates of teachers reporting symptoms of depression fell from 27 percent in 2021 to 19 percent in 2023, while increasing for other working adults (from ten to 20 percent), and burnout rates declined somewhat for teachers between 2022 and 2023 (from 59 to 56 percent), while holding relatively steady for working adults (at 44 and 45 percent, respectively). Teachers made particularly large gains in resilience between 2022 and 2023, with more than half (54%) demonstrating a lack of resilience in 2022 but closer to one in four (27%) lacking resilience in 2023; working adults demonstrated only a marginal decline in lack of resilience across the two years (20% and 18%, respectively). Poor wellbeing across these indicators tended to cooccur, with more than half (52%) reporting at least one indicator of negative wellbeing described above.

When contrasting teacher wellbeing across teacher and teaching characteristics (race/ethnicity, gender, and school level), Doan et al. found statistically significant differences in terms of rates of frequent job-related stress, burnout, and lack of resilience. Black teachers were much more likely than White teachers (63% v. 55%) to demonstrate burnout, while female teachers had higher rates than male teachers of frequent job-related stress (61% v. 46%), burnout (59% v. 45%), and lack of resilience (30% v. 17%). At the same time, high school teachers demonstrated meaningfully lower rates than elementary school teachers of frequent job-related stress (51% v. 65%) and burnout (49% v. 61%), possibly to some extent demonstrating gender representation differences across school

levels. Correspondingly, Black and female teachers were significantly more likely than white and male teachers to express their intention to leave their jobs by the end of the 2022-23 school year (35% v. 22% and 25% v. 17%, respectively). Teacher's intentions to leave was strongly correlated with the number of negative wellbeing indicators they reported; for example, five percent of teachers with no negative wellbeing indicators said they intended to leave, compared to 36 percent of teachers with three negative indicators and 65 percent of teachers with all five negative indicators.

As described below, the SoT survey asked teachers about their top sources of job-related stress. Highly cited factors related to workloads, work burdens, and time demands included (in order of salience) managing student behavior (46%), making up for students' lost instructional time following the pandemic (34%), administrative work outside of teaching (29%), supporting students' mental health and wellbeing (27%), spending too many hours working (26%), and taking on extra work because of staff shortages (21%). Black and Hispanic teachers were more likely than White teachers to cite managing student behavior as a stressor (38% each, v. 47%), as were novice teachers with five or fewer years of experience (67%) relative to highly experienced teachers with more than 20 years under their belt (45%). Mid-career teachers (six to ten and eleven to twenty years of experience) were less likely to cite supporting students' academic learning (28% and 31%) than experienced educators (43%), as were novices (24%), but novice samples are small and not statistically different on this factor. Hispanic teachers were somewhat less likely than White teachers to point to supporting students' mental health and well-being (21% v. 28%), while female educators referenced this stressor at higher rates than male educators (29% v. 20%). There were not statistically meaningful differences across teacher subgroups in terms of administrative work outside of teaching, spending too many hours working, or taking on extra work because of staff shortages.

Doan, S., Steiner, E. D., & Woo, A. (2023b). *State of the American teacher survey: 2023 Technical documentation and results.* RAND Corporation. https://www.rand.org/pubs/research_reports/RRA1108-7.html

Doan et al. provide a technical appendix for the 2023 State of the American Teacher (SoT) survey (see Doan et al., 2023a, and Steiner et al., 2023, described in this appendix, for accompanying reports pertinent to teachers' workloads and wellbeing). As with the preceding surveys (see Woo & Steiner, 2021 and Doan et al., 2022 in this appendix), teachers are sampled from the American Teacher Panel, a nationally representative sample of more than 25,000 teachers from which RAND samples for survey research on educators' experiences; they use a probability sampling method, with oversampling of educators of color, but acknowledge poor coverage of novice educators which may limit generalizability to early-career teachers. RAND invited 3,112 educators, yielding 1,439 responses between January and February 2023, for a response rate of 47.4 percent. Following the previous surveys, educators were asked about their well-being, working conditions, workload, compensation, and retention plans. In addition, RAND's 2023 SoT project pulls a contemporaneous sample of representative adults from their American Life Panel for comparison; they invited 816 working adults, yielding 527 responses, for a 64.5 percent completion rate.

A weighted 58 percent of educators reported that their work had often or always been stressful since the beginning of the 2022-23 school year, compared to just 33% of working adults and lower than in the previous two years (see Doan et al., 2022 and Woo & Steiner, 2021). Only seven percent of teachers said they were coping very well with the stress of their job right now, compared to 30 percent of working adults. Among proposed frequent sources of stress, teachers cited the following contributors (selecting from the top three) at high rates: managing student behavior (45%), supporting their students' mental health and wellbeing (27%), supporting students' academic learning because of COVID-induced losses to instructional time (34%), taking on extra work because of staff shortages (21%), spending too many hours working (24%), inadequate salaries (27%), and administrative work outside of teaching (29%); note that rates across all of these factors were substantially lower than in

prior years, with the exception of non-teaching administrative work, which was not included in previous SoT surveys. The working adults surveyed as part of the American Life Panel were also asked about the top three stressors in their jobs; of the factors offered to both educators and other working adults, non-teachers were more likely to mention pay (38% versus 27% of teachers), spending too many hours working (33%, versus 24% of teachers), and needing to take on additional tasks because of staff shortages (42% versus 21% of educators).

In terms of emotional wellbeing, roughly three out of five teachers reported at least several days of little interest or pleasure in doing things (59%) or feeling down, depressed or hopeless in the past two weeks (57%), somewhat improved from the preceding year, but still higher rates than in the general working population (43% and 43%). Teachers had similar rates of resilience in 2023 as they did in 2022; 63 percent agreed or strongly agreed that they tend to bounce back quickly after hard times, and half (49%) agreed or strongly agreed that it does not take them long to recover from a stressful event. These rates of resilience are somewhat lower than indicated by the general working population (69% and 63%, respectively). In spite of more than half of teachers (52%) somewhat or strongly agreeing that the stress and disappointments involved in teaching aren't worth it (higher than the rate of people in the general working population who feel the same way: 39%) and a majority (73%) agreeing that they had less enthusiasm than when they started their job (compared to 60% of non-educators), most teachers somewhat or strongly agreed that they looked forward to teaching in the future (60%) or were glad that they selected teaching as a career (72%). These rates of optimism and feeling that they chose the right job are only slightly lower than in the general working population (67% and 75%, respectively).

Teachers were also asked about their workloads and salaries. Most (66%) felt that their base salary was at least somewhat inadequate given their role and work responsibilities (comparable to the general working population at 61%), consistent with only 39 percent of teachers reporting a base salary of $70,000 or above (similar to the general working population: 36%), while 69 percent said the salary would have to be at least that high in order for them to consider it completely adequate. Fourteen percent earned $90,000 above, but twice as many (30%) said that would be how much they would need to earn for an adequate salary. 88 percent of educators said they worked more than 40 hours on teaching and other school-related activities during a typical week at their school in the 2022-23 school year, including during off hours and on the weekends; this is in contrast to 47 percent of working adults who said they worked more than 40 hours per week. It's also substantially higher than teachers' reported contract hours, with only three percent of educators saying their contracts required them to work more than 40 hours per week; a large majority of educators (75%) likewise indicated that given their role and salary, the would be mostly satisfied with their total working hours if they didn't exceed 40 hours per week. A sizeable proportion of teachers (16%) reported working many more hours than that—more than sixty hours per week. Some of this is paid work, with 45% of teachers reporting spending at least one hour per week on school-related activities for which they receive extra pay. Satisfaction with working hours is mixed; 28 percent are totally unsatisfied with the total hours they work per week, roughly half (47%) are somewhat satisfied, and only one in four (24% are mostly or very satisfied with their working hours; in contrast, most working adults (55%) in the general population are mostly or very satisfied with the amount of hours they work. Among those who are not at all or only somewhat satisfied (n = 1,102), a majority pointed to working too many hours in the evenings or on the weekends (60%), too many hours before or after school (51%), inadequate compensation given the hours they worked (60%), and feeling like now many how many hours they work they can't get the work done (60%).

The 2023 survey also asked a series of questions about the supports available to teachers to help them maintain positive well-being and mental health, including some pertinent to teachers' time use. Only 25% of teachers reported that there was a reasonable amount of meetings (including

professional development or other staff meetings), few (38%) said they had enough sick time and/or personal leave, fewer (17%) felt that there was enough planning or preparation time to get their work done, and even fewer (8%) said they had access to coverage for their classes so they could take a break. Teachers were also unlikely to indicated having opportunities to collaborate with peers (36%), enough academic support staff (e.g., paraprofessionals, special education teachers) in their classrooms (12%), or support from non-teaching staff to address student mental health and well-being (12%).

Doan, S., Steiner, E. D., Woo, A., & Pandey, R. (2024b). *State of the American Teacher survey: Technical documentation and results.* RAND Corporation. https://www.rand.org/pubs/research_reports/RRA1108-11.html

This is the technical documentation for the 2024 State of the American Teacher (SoT) survey that corresponds to the Doan, Steiner, and Pandey (2024a) report above. While the report does not disaggregate by demographic characteristics, it provides overall response distributions on a wider variety of survey items. As with previous years' surveys (see Doan et al., 2022, Doan et al., 2023b, and Woo & Steiner, 2021), teachers are sampled from the American Teacher Panel, a nationally representative sample of more than 25,000 teachers from which RAND samples for survey research on educators' experiences; they use a probability sampling method, with oversampling of educators of color, but acknowledge poor coverage of novice educators which may limit generalizability to early-career teachers. In January and February 2024, RAND invited 3,062 educators, yielding 1,479 responses, for a response rate of 48 percent. As with prior SoT surveys, educators were asked about their well-being, working conditions, and intentions to leave their jobs. In addition, RAND's 2024 SoT project pulls a sample of representative adults from their American Life Panel for comparison; they invited 816 working adults, yielding 501 responses, for a 61 percent completion rate.

Similar to the 2023 results (see Doan et al., 2023b), a weighted 59 percent of educators reported that their work had often or always been stressful since the beginning of the 2023-24 school year, compared to just 28% of working adults. Only one in ten (11%) teachers said they were coping very well with the stress of their job right now, compared to 34 percent of working adults. Among proposed frequent sources of stress, teachers cited the following contributors (selecting from the top three) at high rates: managing student behavior (45%), supporting their students' mental health and wellbeing (23%), supporting students' academic learning because of COVID-induced losses to instructional time (25%), taking on extra work because of staff shortages (25%), spending too many hours working (26%), inadequate salaries (37%), and administrative work outside of teaching (33%); note that rates across all of these factors were somewhat lower than in the previous year, with the exception of non-teaching administrative work, which was slightly higher in 2023 (29%), and feeling that their salary was too low, which jumped up from 27% in 2023.

In terms of emotional wellbeing, more than half of teachers reported at least several days of little interest or pleasure in doing things (57%) or feeling down, depressed or hopeless in the past two weeks (58%), similar to the prior year (Doan et al., 2023b), but still somewhat higher rates than in the general working population (53% and 47%). In spite of more than half of teachers (58%) somewhat or strongly agreeing that the stress and disappointments involved in teaching aren't worth it (higher than the rate of people in the general working population who feel the same way: 40%) and a majority (74%) agreeing that they had less enthusiasm than when they started their job (compared to 53% of non-educators), most teachers somewhat or strongly agreed that they looked forward to teaching in the future (57%) or were glad that they selected teaching as a career (72%). These rates of optimism and feeling that they chose the right job are somewhat similar to the general working population (63% and 66%, respectively).

Teachers were also asked about their workloads and salaries. Most (64%) felt that their base salary was at least somewhat inadequate given their role and work responsibilities (compared to 50 percent of the general working population), consistent with only 36 percent of teachers reporting a base salary of $70,000 or above (at the same rate as the general working population), while 65 percent said the salary would have to be at least that high in order for them to consider it completely adequate. Seventeen percent earned $90,000 above, but nearly twice as many (31%) said that would be how much they would need to earn for an adequate salary. Eighty-eight percent of educators said they worked more than 40 hours on teaching and other school-related activities during a typical week at their school in the 2023-24 school year, including during off hours and on the weekends; this is in contrast to 45 percent of working adults who said they worked more than 40 hours per week. It's also substantially higher than teachers' reported contract hours, with only five percent of educators saying their contracts required them to work more than 40 hours per week. More than one in ten (12%) of teachers report working as much as 60-plus hours in a typical week (3% report working over 80 hours), but only five percent of teachers said their contracts required them to work above 40 hours. Some of the difference between contract and actual working hours is compensated work, with 49% of teachers reporting spending at least one hour per week on school-related activities for which they received extra pay. Satisfaction with working hours is mixed; 27 percent are totally unsatisfied with the total hours they work per week, roughly one in three (37%) are somewhat unsatisfied, and only slightly under half (46%) are somewhat (35%) or completely (11%) satisfied with their working hours.

Educators for Excellence. (2018). Voices from the classroom: A survey of America's educators. https://e4e.org/sites/default/files/2018_voices_from_the_classroom_teacher_survey.pdf

The 2018 Voices from the Classroom survey is the first of an annual survey published by Educators for Excellence, with the survey fielded online by an external research firm between April 14, 2018 and May 6, 2018. The firm invited 101,000 full-time preK-12 public school teachers to complete the survey, with 8,080 entering and a final sample 1,367 qualifying educators who completed the full survey; note that the report cites a response rate of 8 percent, but that does not align with the recruitment and completion numbers reported. The authors do not explain their sampling procedures in detail, but state that the data are weighted according to years of teaching experience, level of education, race, and ethnicity, and claim that the sample is representative of the national preK-12 public school teaching population. Given the opacity of methods data and the poor response rate, it is not clear the extent to which these survey findings generalize to the broader teaching population. The 2018 questionnaire addresses a range of topical issues, but most pertinent to time use are items on whether teachers would like to spend more, the same, or less time on a variety of professional tasks. The tasks where more teachers strongly favored spending more versus less time included collaborating with other teachers (73% v. 10%) and classroom instruction (62% v. 9%), but higher shares of teachers also preferred for more time on coaching or supporting colleagues (49% v. 15%), participating in professional development (47% v. 32%), analyzing data to inform instruction (46% v. 32%), lesson planning (43% v. 33%), and communicating with parents or guardians (43% v. 25%). In contrast, a majority of teachers preferred to spend less time on completing administrative paperwork (68% v. 10%), attending staff meetings (65% v. 12%), preparing students for standardized tests (55% v. 24%), and grading student work (54% v. 19%). Younger teachers (under 30) were more likely than older teachers (50+) to desire more time collaborating with other teachers (80% v. 72%), participating in professional development (56% v. 41%), communicating with parents or guardians (50% v. 38%), and compiling and tracking student academic data (42% v. 30%). Teachers of color were also more likely to desire more time for professional development (58%) than white teachers (44%).

Educators for Excellence. (2020). *Voices from the classroom 2020: A survey of America's teachers on COVID-19-related education issues*. https://e4e.org/sites/default/files/voices_from_the_virtual_classroom_2020.pdf

The 2020 Voices from the Classroom survey is the third (mostly) annual survey published by Educators for Excellence (the second survey, fielded in 2019 and published in early 2020, did not address teachers' time use), with the survey fielded online by an external research firm between May 2 and May 8, 2020. The firm invited 4,583 full-time preK-12 public school teachers to complete the survey, with a final sample of 600 qualifying educators who completed the full survey (a 13% response rate). The authors do not explain their sampling procedures in detail, but state that the data are weighted according to region, age, race, and ethnicity, and claim that the sample is representative of the national preK-12 public school teaching population. Given the opacity of methods data and the poor response rate, it is not clear the extent to which these survey findings generalize to the broader teaching population. The 2020 questionnaire addresses a range of topical issues, but most pertinent to time use are items about how teachers' time use changed relative to before the pandemic and a set of items asking whether teachers would like to spend more, the same, or less time on a variety of professional tasks. The first set of items were restricted to educators who indicated that they were teaching remotely (i.e., "facilitating distance learning with their students") since the pandemic began; this represented 95% of the overall sample ($n = 568$). More half of teachers (53%) indicated spending somewhat (34%) or much (19%) less time on academic instruction than before the pandemic. In terms of time spent grading or providing feedback, teachers were about evenly likely to say that they spent more (36%) or less (31%) time. Meanwhile, a plurality of teachers said they were spending more (46%) rather than less (30%) time engaged in professional development or collaborative planning, and teachers were similarly more likely to indicate increased time on social-emotional support for students (43%) rather than less (31%). Consistent with shifts away from instructional tasks and toward social activities, a majority said they were spending more time reaching out to students (70%) or reaching out to parents (74%).

On top of overall time preferences, the report stratifies responses by school type (district v. charter), grade level (elementary, middle, high, or combined), and student poverty (up to 33%, 34-66%, and 67% or more). While the report does not include statistical tests for differences across types of teachers, and samples for some stratified categories were very low (e.g., there were only 65 charter teachers responding to this set of items), the results suggest differences across teaching contexts. For example, the rate of teachers spending less time on instruction was notably higher among teachers for whom at least 67 percent of the student body was low income (57%, compared to 50% of teachers with fewer low-income students), and among teachers in traditional public schools (54%) than in charter schools (40%). In contrast, charter school teachers were more likely (54%) than district teachers (34%) to say they were spending more time on grading and feedback activities than before. Other differences were not generally large.

Finally, teachers were asked to choose across these tasks which they would prefer to spend more on. They were most likely to choose student-oriented activities, with 32 percent selecting academic instruction, 31 percent opting for socio-emotional support for students, and 23 percent selecting student outreach. Preferences were generally similar across school type, grade level, and student poverty.

Educators for Excellence. (2024). *Voices from the classroom: A survey of America's educators.* https://e4e.org/wp-content/uploads/2024/06/2024-Voices-from-the-Classroom-Report-V2.pdf

The 2024 Voices from the Classroom survey was fielded online by an external research firm between January 2 and February 14, 2024. The firm invited 23,853 full-time preK-12 public school teachers to complete the survey, with a final sample of 998 qualifying educators who completed the full survey (note that the authors indicate a 7% response rate, which does not align with the numbers they provide). The authors do not explain their sampling procedures or give national comparison statistics but claim that the sample is representative of the national population after weighting by region and race/ethnicity. Given the opacity of methods data and the poor response rate, it is not clear the extent to which these survey findings generalize to the broader teaching population. The 2024 questionnaire addresses a range of topical issues, but most pertinent to time use are a set of items asking whether teachers would like to spend more, the same, or less time on a variety of professional tasks. On top of overall time preferences, the report stratifies responses by school type (district v. charter), union membership, and respondent age (under 30, 20-49, and 50 or above). In addition, they summarize responses or teachers of color (i.e., non-white teachers).

The tasks where more teachers strongly favored spending more versus less time tended to be more social or more directly related to instruction; these activities included collaborating with other teachers (63% v. 10%), classroom instruction (57 v. 8%), coaching or supporting colleagues (44% v. 14%), lesson planning (49% v. 23%), curating and creating instructional materials to supplement their curriculum (54% v. 20%), communicating with parents or guardians (39% v. 22%), and analyzing data to inform instruction (41% v. 25%). Teachers were more mixed about spending more versus less time in professional development (32% v. 37%) and compiling and tracking student academic data (35% v. 32%). In contrast, a majority of teachers preferred to spend less rather than more time grading student work (42% v. 23%), preparing students for standardized tests (48% v. 29%), completing administrative paperwork (67% v. 14%), attending staff meetings (65% v. 9%). Teachers of color tended to be somewhat more polarized, with fewer shares of this group preferring no change across activities, along with higher rates preferring both more and less time, than teachers overall. That being said, they appear to be somewhat less averse to spending more time completing administrative paperwork and attending staff meetings. Younger teachers (under 30) were more likely than older teachers (50+) to desire more time across activities, in particular for participating in professional development (56% v. 41%), communicating with parents or guardians (51% v. 36%), analyzing student data to inform instruction, and compiling and tracking student academic data (49% v. 26%).

Gibney, V. H., West, K. L., & Gershenson, S. (2024). Blurred boundaries: A day in the life of a teacher. In: D. S. Hamermesh & Polachek, S. W. (Eds.). *Time Use in Economics* (*Research in Labor Economics, Vol. 51*), Emerald Publishing Limited, Leeds, pp. 247-275. https://doi.org/10.1108/S0147-912120230000051010

Using 16 years of data (2003-2019) from the American Time Use Survey (ATUS), Gibney et al. explore patterns in teachers' time use, including relative to other comparable working adults. They limit their analytic sample to the standard school year (September to May) because the ATUS randomly samples across the school year and teachers are less likely to be working during the summer months when districts are typically on summer vacation. They likewise limit the sample to adults between 22 and 62 years old with at least a four-year degree and who are employed in the public or private sector. The final sample consists of 3,168 teacher respondents in addition to a reference group of 1,866 people in comparable professions (e.g., therapists and registered nurses). Their summary time estimates show that teachers are more likely spend more time outside of the workplace in a given day than non-teachers (a difference of roughly 20 minutes) and are about 15 percentage points more likely to do any work outside of the work place, although they spend an average amount of about 20 minutes less each day working for their main job. They likewise spend more time volunteering at the workplace, although daily time on this is low for both groups (2 and 0 minutes per day, respectively). Teachers are more likely to spend time each day providing primary

and secondary childcare (36% v. 30% and 36% v. 29%, respectively), and spend more time on these tasks on average (36 minutes for primary childcare and 122 minutes for secondary childcare, compared to 32 and 91 minutes for the average person in other comparable professions). The time spent on childcare is consistent with educators being statistically more likely to have children in their household (a six percentage-point difference).

Gibney et al. explore how different factors predict differences in teachers' time use. Model-based estimates—with controls for week, month, year, and holiday indicators, in addition to regional, demographic, and household characteristics—indicate no statistical difference in minutes worked for the primary job (7.6), but a statistically significant difference in minutes volunteering at the workplace (1.2) and time spent working for their main job, but not at a workplace (23.5). These differences vary by teacher type, with secondary teachers working 29.6 minutes more per day than non-teachers, primary school teachers volunteering an additional 1.3 minutes, and primary and secondary teachers putting in 25-26 more minutes working for their main job out of the workplace than comparable non-teachers. There is suggestive evidence that teachers at all grade levels put somewhat more time volunteering and out-of-workplace time on their main job, but these point estimates are not statistically significant. On weekdays, the typical teacher conditionally spends 1.6 more hours volunteering and 18.6 more hours working outside of the workplace for their main job than non-teachers, with these differences driven primarily by primary and secondary educators (rather than pre-K, Kindergarten, and special education teachers. On weekends, differences between teacher and comparable workers become starker. They put in an average of 23 more minutes each weekend day, and 38 more minutes on work outside of the workplace. Analyses of time use across non-work activities indicate that time burdens might be more onerous for secondary educators, with these teachers recording less time sleeping, less time on socializing, relaxation, and leisure, personal care, and primary childcare than non-educators, but they also spend about 12 additional minutes working a second job each day. Meanwhile, all types of educators spent more time providing secondary childcare, particularly when their household included a child under 13 (306 additional minutes).

Gibney et al. test for robustness using an alternate comparison group of workers with comparable education—in terms of both field of study and degree attainment—to K-12 teachers. Both samples yield comparable findings, as do additional analyses that exclude nurses whose irregular schedules might influence comparisons.

Jerrim, J. & Sims, S. (2021). When is high workload bad for teacher wellbeing? Accounting for the non-linear contribution of specific teaching tasks. *Teaching and Teacher Education, 105*, 103395. https://doi.org/10.1016/j.tate.2021.103395

Jerrim and Sims use the 2018 Teaching and Learning International Survey (TALIS) to explore the relationship between time demands and teachers' work-related stress and wellbeing across four English-speaking countries (Australia, England, New Zealand, and the United States) and one Canadian province (Alberta). They differ from other prior analyses of TALIS time use data by not assuming that the relationships between time use and aspects of teachers' wellbeing is linear. In most countries, the TALIS was fielded in the spring of 2018, but in the Southern Hemisphere countries, TALIS went into the field the preceding fall. Across these five jurisdictions, the sample consists of 11,123 educators. The U.S. n for their analysis is 1,718; note that this differs considerably from the total n reported for the U.S. by the OECD (2,687), but Jerrim & Sims do not describe their data restriction methods beyond limiting the analytic sample by about 19 percent in the United States (and somewhat lower rates in other countries) to exclude outliers (e.g., teachers reporting working more than the equivalent of 12 hours a day every day of the week). The authors rely on two types of questions for their time-use variables. The first asks about total hours spent on tasks related to their job at [this] school during the most recent complete calendar week. The second is a set of items asking about hours spent on various job-related tasks (e.g., teaching, planning, grading,

administrative work), also from the most recent complete calendar week, regardless of where and when that work occurred. To compare with reported total time use, Jerrim & Sims create a secondary time use estimate that aggregates across the time teachers reported spending on individual tasks.

Their first result summarizes estimated total working time and time on particular tasks by country. They report an average workload of 50.1 hours in the United States, at the median of—and similar to that of—other English-speaking jurisdictions taking TALIS (with a range of 49.2 for Australian secondary school teachers to 54.3 for English primary school teachers). Estimates of workplace wellbeing and workload stress suggest somewhat better conditions for educators in the United States than in other English-speaking locales, although the authors do not show whether these proportions are statistically different across countries. For example, nearly half of the U.S. respondents said their job leaves them quite a bit or a lot of time for their personal life; while low, it's a higher share than in the median other English-speaking jurisdiction in the analytic sample (28%). Responses in the U.S. were most similar to that of the (Albertan) Canadian respondents, where there might be fewer cultural and political differences. Regardless, a sizeable proportion of U.S. respondents indicated low workplace wellbeing as defined by reporting that they experience stress (56%), have time for their personal life (only 48%), their job negatively impacts their mental health (16%), or negatively impacts their physical health (14%) quite a bit or a lot. Substantial proportions also agree quite a bit or a lot that too much prep (30%), too many lessons (22%), too much marking (38%), too much administrative work (32%), or extra duties (11%) are sources of workload stress.

To explore the relationship between working hours and teachers' wellbeing, Jerrim & Sims (2022) first estimate a linear model, concluding that a ten hour increase in total working hours is associated with a 10 percent of a standard deviation increase in poor workplace wellbeing in the United States and a 13 percent of a standard deviation increase in workload stress (in the median non-U.S. English-speaking jurisdiction, the effects are 0.17 and 0.14 standard deviations, respectively). When the authors nonparametrically examine the relationship between workplace wellbeing and time use, they find evidence that this relationship might be nonlinear, with particularly steep effects for workplace wellbeing and workload stress after roughly 55 hours of reported weekly work in most countries; in the U.S., however, the relationship appears to flatten out around this point.

Effects of different time use activities appear to be meaningful. In the U.S., conditional on time spent on other activities, an additional hour spent on preparation is estimated to increase workload stress by 0.034 standard deviations and an additional hours spent grading is associated with 0.068 standard deviations higher workload stress. In contrast, each additional hour spent engaged in teamwork and collaborative professional development is associated with 0.045 standard deviations lower workload stress in the U.S, although this estimate is not statistically significant at conventional ($p < 0.05$) levels. These each reflect similar relationships to those observed in other countries. Time spent on other observed activities (teaching, management and administration, and all other tasks) is not substantively or statistically associated with workload stress in this analysis.

Jones, N. D., Camburn, E. M., Kelcey, B., & Quintero, E. (2022). Teachers' time use and affect before and after COVID-19 school closures. *AERA Open, (8)*1, 1-14. https://doi.org/10.1177/23328584211068068

Jones et al. use a single district (n=131 teachers) as a case study in how teachers' time use changed across the 2019-20 school year, as COVID disrupted teaching and learning activities. The authors use diary response data to report on teachers' work activities across the respective day (with responses collected at the end of the day); importantly, they also collected teachers' emotions across the data, allowing the researchers to compare teachers' affect across activities, as well as how that relationship might have changed during the period of the most intense COVID disruptions (i.e., spring 2020). They find substantial shifts in total work time and in the proportional distribution of time across

tasks. In fall 2019, teachers spent about 6.9 hours per day on professional activities, spending roughly half their time on instruction (48%), with smaller but sizeable shares of time on planning or preparation (18%) and non-instruction interactions with students (15%). In spring 2020, their total working time declined to about 5.5 hours per day, with the largest absolute and relative decline in instruction time (only 19%), as well substantial absolute and relative decline in time spent interacting with students (down to 7%), but large relative increases in planning or preparation (33%) and grading (up to 13% from 1% of their time). They also saw increases in the amount and proportion of time spent meeting with administrators (from 1% to 4%), a relative increase in time meeting with teacher colleagues (from 7% to 10%), and a large absolute and relative increase in time spent communicating with parents (2% to 6%). In terms of emotional affect, Jones et al. find little evidence of meaningful changes in overall affect from before and after COVID, but the consistently observe higher positive affect when teachers are engaged in direct instruction. They also found that teachers had higher levels of emotional affect in non-instructional student engagement activities after COVID than before, theorizing that the nature of these interactions may have changed (e.g., from lunch and recess duty to offering socio-emotional support) in ways that influenced the intrinsic rewards of these activities.

Krantz-Kent, R. (2008). Teachers' work patterns: When, where, and how much do U.S. teachers work? *Monthly Labor Review, 131*(3), 52–59. https://www.bls.gov/opub/mlr/2008/03/art4full.pdf

Krantz-Kent uses 2003 through 2006 American Time Use Survey (ATUS) data—which ask a nationally representative sample of respondents how they spent the prior day—to explore patterns in preK-12 teachers' time use, limiting her analysis to educators who were employed and had done work in the week prior to that period and to hours spent on the respondents' main job only (so, for example, these analyses exclude respondents on maternity leave). Across all educators responding to the ATUS (including those who did *not* work in the previous week), the share of teachers working from month to month varies considerably, from nearly 100% in February and November to somewhat less than half in July (see Figure 1; exact values not provided). In other words, while teachers are less likely to work during their summer vacation time, many still complete at least some work during this time. Older teachers (50+) work longer hours than teachers in their thirties (by 6.7 hours) and twenties (by 5.1 hours). She also found that teachers were more likely to work at home (30%) than other professionals (20%), but similarly likely to work at their workplace on an average weekday (86% v. 82%). In time spent working, teachers work 24 fewer minutes on a given weekday than other professionals. Teachers also worked more on weekends, with 51% working on an average Sunday, compared to 30 percent of other full-time professionals, although both groups were similarly likely (approximately 33%) to work on Saturdays, and Krantz-Kent estimates that teachers spend 42 fewer minutes working on average each Saturday and a comparable amount of minutes to each other on Sundays.

Teachers also distribute their time differently throughout the day, with 90 percent of teachers working between 9am and 3pm on a given workday although at least ten percent continue to work until at least 9pm. On a given weekend day, ten percent of teachers are typically working at any point between roughly 8am and 11pm; between 2pm and 10pm between 25 and 30 percent of teachers who did any work that day were actively working. Compared to other professionals, teachers are more likely to be working during the morning and early afternoon hours, although they are substantially less likely to work between 3pm and 7pm. Teachers are also more likely than other full-time professionals to have more than one at the same time (17% v. 12%).

Finally, comparing the breadth of tasks that workers spend time on in and out of work, Krantz-Kent reports that teachers work an average of 18 fewer minutes per day but spend more time (12 additional minutes) on household activities than other full-time professionals.

Merrimack College and EdWeek Research Center. (2022). *1st annual Merrimack College Teacher Survey: 2022 results.* https://www.edweek.org/research-center/reports/teaching-profession-in-crisis-national-teacher-survey

The Merrimack College Teacher Survey was conducted online by the EdWeek Research Center, and comprised a sample of 1,324 teachers who were surveyed between January 9 and February 23, 2022. They do not provide methodological details to describe sampling or weighting techniques or how representative the survey sample is of the larger teaching population, although they claim sample representativeness. Items address aspects of teachers' job satisfaction and their time us, along with other education topics of political interest at the time. Merrimack finds high rates of teachers' dissatisfaction with their jobs, with nearly three quarters of respondents indicating that they are either somewhat (28%) or very (44%) dissatisfied with their jobs. Meanwhile, nearly three quarters of teachers expressed disagreement that their salary was fair for the work they do (51% strongly and 23% slightly).

In terms of working hours, the survey report does not specify how the item is asked, but their findings indicate that the median teacher spends 25 hours a week on actual teaching time, the largest reported time use. Teachers spend a median of 5 hours on grading and feedback on student work, as well as on planning or preparation. Teachers spend a median of between one and three hours on eight additional listed activities, including a median of two hours per week on "other work tasks". Merrimack then estimates total working time by aggregating the time teachers report spending across activities, concluding that the typical teacher works 54 hours per week.

They find somewhat variable estimates of time use according to school level, with middle and high school teachers reporting higher aggregate working hours (55) than elementary (53), although it's unclear if this represents a statistically significant difference. At the task level, teaches in upper grades report more hours on grading and feedback (5) than elementary teachers (2). Across all other activities, differences are no larger than an hour, making it unclear if these are meaningful (especially given that values are only reported in hour units and therefore likely reflect rounding error). Merrimack also explores variation in time use by school poverty (less than 25% eligible for free or reduced-price lunch versus more than 75%), with results suggesting that teachers in low-poverty schools spend either the same or more time on each task than those at high-poverty schools for a cumulative difference of 5 weekly hours (57 versus 52 hours per week). The additional time at low-poverty schools primarily comes from teachers reporting more hours on planning and prep time, along with grading and feedback time. Differences by teacher race are larger, with Black teachers reporting 65 aggregate hours compared to 53 hours for white teachers and 48 for Hispanic teachers. While Black teachers reported a median of five fewer teaching hours than their White and Hispanic peers per week (20 v. 25), one or two more hours spent across a variety of non-teaching tasks—including prep time, non-student interactions, administrative work, and communicating with parents—more than compensate for that time difference when it comes to summed working time. A similar pattern is observed for teachers in schools where most students are Black, possibly reflecting the patterns in the racial sorting of teachers.

In addition to asking about actual time spent on various activities, the survey asks teachers to select which one of these things teachers would prefer to spend more and less time on. The most prevalent choices for more time are individual planning and preparation time (29%) and actual teaching time (28%), followed by teamwork and planning with colleagues (17%). Teachers were most likely to prefer less time on general administrative work (31%) and non-teaching student interaction (22%), followed by professional development activities (12%).

OECD. (2019). TALIS 2018 results (Volume 1): Teachers and school leaders as lifelong learners. TALIS, OECD Publishing, Paris. https://doi.org/10.1787/1d0bc92a-en

This report summarizes findings from the 2018 Teaching and Learning International Survey (TALIS), which includes international estimates of lower secondary (i.e., middle school) teachers' time. Note that some of the more pertinent details (i.e., those specific to time use in the United States) come from the appendix (the Chapter 2 tables in Annex C) and are not directly provided in the text of the report. TALIS results come from stratified two-stage random sampling procedure, with random samples of teachers selected from a random sampling of schools within 48 countries or regions around the world. The U.S. sample consists of 2,687 teachers across 178 schools. The survey addresses multiple aspects of teachers' working conditions and contexts, but has a series of items and analyses relevant to teachers' time use. Specifically, TALIS asks about total working hours in the most recent calendar week, hours spent on various tasks within that same time, and the percentage of time teachers spend during a specific "target" class on: (a) administrative tasks; (b) keeping order in the classroom; and (c) actual teaching and learning. The authors find that teachers in the U.S. spend an average of 79% of their time during a typical lesson engaged in teaching and learning practices, with 13% of the time directed toward classroom management and 7% on administrative activities—similar rates to educators across OECD countries. They find similar task-time distributions at the lesson level in the US, although novice educators (<= 5 years) spend about 8% less time on actual teaching and learning in an average lesson than older and more experienced educators (0.739 versus 0.807), a pattern widely demonstrated across TALIS countries; this may in part reflect disproportional sorting of novice educators into harder to staff schools, as educators in schools serving high proportions of students with economic disadvantage (more than 30% disadvantage) spend similarly less time on instruction (76 percent of the time) than those in schools with wealthier student populations (less than or equal to 30% of the student body with economic disadvantage; 83.5 percent of the lesson time). Conditional on other teaching contexts, teachers with smaller class sizes and academically higher performing students tend to spend more class time on teaching and learning. The same patterns, in the inverse, are found for classroom management, suggesting clear tradeoffs between instruction and management. One in four teachers in the US reports losing a lot of time because of students interrupting the lessons (Vol 1, p 36).

Across the most recent week, U.S. teachers report spending an average of 46.2 hours working; this is lower than the OECD average (38.8), but comparable to other English-speaking countries or provinces (e.g., Alberta province in Canada, England, and New Zealand). Across individual tasks, U.S. teachers report spending the highest amount of time per week teaching (20.1 hours), followed by planning and preparation (7.2), grading student work (5.3), working with colleagues (3.5), counselling students (3.4), engaging in extracurricular activities (3.0), general administrative work (2.6), participating in school management (1.7), professional development activities (1.7), and communicating with parents or guardians (1.6). They report spending an additional 7.1 hours on other, not previously defined, tasks. Interestingly from a measurement perspective, the sum of these individual tasks (approximately 65 hours per week on average) exceeds the total reported working time by a substantial amount, suggesting that summing time across tasks may overestimate estimate total working time if it double counts overlapping time spent on multiple tasks. It's also possible that teachers understate their total working hours when asked to generalize; ultimately, it's not clear which estimate comes closer to approaching teachers' "true" working time.

Roy, P., Poet, H., Staunton, R., Aston, K., & Thomas, D. (2024). *ChatGPT in lesson preparation: A teacher choices trial*. Education Endowment Foundation & National Foundation for Educational Research. https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/choices-in-edtech-using-generative-ai-chatgpt-for-ks3-science-lesson-preparation-2024-teacher-choices-trial

Roy et al. conducted a randomized control trial to evaluate the effect of ChatGPT on year 7 and 8 science teachers' time use—specifically for reducing the workload via assistance in lesson preparation. The experiment was conducted in 68 schools, with half (34 schools and 129 teachers) assigned to the treatment condition and half to a control condition (34 schools and 130 teachers). The treatment group were asked to use ChatGPT over a ten-week period—the first five of which were meant for them to try the tool out—to help them prepare their lessons and lesson resources; these teachers also received a guide to using ChatGPT for this purpose. Teachers in the control condition were explicitly asked to refrain from using any generative AI in their lesson preparation activities and did not receive the ChatGPT guide.

After ten weeks, the ChatGPT group reported spending about a third less time preparing their lessons each week than the control group (56.2 minutes versus 81.5 minutes). External reviews of a subsample of lessons from each group suggested no difference in lesson quality between AI-assisted and non-AI-assisted lessons, although the teachers whose lessons contributed to this analysis was small ($n = 30$). Most of the treatment teachers who responded to a survey at the end of the project ($n = 68$) indicated that they had either spent a similar amount of time (44%) or less time (46%) on lesson preparation when using ChatGPT, and three quarters (75%) felt that ChatGPT benefited their lesson preparation. That being said, sample sizes were small and possibly subject to non-response bias, given drop-off in the treatment population by the time of the final survey. While this experiment illustrates the promise of generative AI for teachers' time savings, it's not clear the extent to which it generalizes to broader teaching populations or how teachers might use such tools in less controlled contexts than a designed experiment.

Steiner, E. D., Doan, S., Woo, A., Gittens, A. D., Lawrence, R. A., Berdie, L., Wolfe, R. L., Greer, L., & Schwartz, H. L. (2022). *Restoring teacher and principal wellbeing is an essential step for rebuilding schools: Findings from the State of the American Teacher and State of the American Principal Surveys*. RAND Corporation. https://www.rand.org/pubs/research_reports/RRA1108-4.html

Using data from RAND's 2022 State of the American Teacher Survey (see Doan et al., 2022, described earlier in this appendix), Steiner et al. examine rates of wellbeing across educator characteristics. Specifically, using responses from a representative sample of 2,360 educators and 500 working adults who were surveyed in January and February 2022, show that teachers at the time reported substantially higher rates of frequent job-related stress (73% versus 35%), burnout (59% versus 44%), depression symptoms (28% versus 17%), and poor abilities to cope with job-related stress (24% versus 12%), while also having much lower rates of resilience (46% versus 80%) than working adults. These rates of stress, burnout, and poor coping among teachers were comparable to those reported the preceding year (see Steiner & Woo, 2021, below). Examining wellbeing across teacher characteristics, Steiner et al. found that teachers of color—especially those who identified as Hispanic or Latinx—had lower levels of wellbeing. For example, 36 percent of Hispanic or Latinx teachers reported symptoms of depression, compared to 26% of white teachers. Interesting, Black or African American teachers tended to report similar, and sometimes better, wellbeing than white teachers; for example, 66% of Black educators experienced frequent job-related stress, compared to 74% of white teachers. Gender and experience likewise was associated with wellbeing. Female educators demonstrated significantly higher rates of frequent job-related stress (785 v. 59%) and not coping well (25% v. 20%), and lower rates of resilience (43% v. 55%), than their male peers, even after controlling for characteristics of the schools where they taught. Mid-career teachers (those with 6–10 and, to a lesser extent, teachers with 11–20 years of experience) tended to do worse on each measure than both novice or experienced teachers. For example, 65% of teachers with 6-10 years of experience demonstrated burnout, compared to 57% of teachers with more than 20 years of experience, and demonstrated lower rates of resilience (40% versus 50%). Open-ended survey responses pointed to the cooccurring burden of childcare demands as a core contributor to these

differential wellbeing patterns across gender and experience levels. Steiner et al. also documented racial and ethnic differences into teachers' top-ranked sources of job-related stress. Teachers of color were slightly less likely than white teachers to point to problems managing student behavior (24% v. 30%) or supporting students' mental health and well-being (20% v. 25%) as one of the top three sources of job-related stress, and more likely to point to low pay (26% v. 22%). These patterns hold for Black teachers specifically, as well. And Black teachers were additionally less likely than white teachers to say that spending too many hours working was a top-three contributor to their job-related stress (19% v. 24%), although they represented the group most likely to point to inadequate salaries (31%).

RAND researchers additionally explored the relationship between a variety of working conditions related to workloads, salaries, exposure to school violence, harassment, and discrimination, among other factors and on teachers' wellbeing (point estimates were not provided). Among factors related to teachers' time use, they found that long working hours (more than 40 hours per week) was associated with increased rates of frequent job-related stress and poor coping with job-related stress and that increased responsibilities due to staffing shortages were associated with higher rates of burnout, frequent job-related stress, depression, and not coping well. The authors note in the text that teachers working more than four hours per week reported exceptionally high (85%) rates of frequent job-related stress (the rate across teachers is 73%).

Finally, Steiner et al. examined the relationship between working conditions, wellbeing, and teachers' intention to leave their jobs. Wellbeing was strongly predictive of teachers' intentions to leave. Those with higher rates of burnout, frequent job-related stress, symptoms of depression, not coping well, and lack of resilience were more likely to say they intended to leave their job at the end of the year. Interestingly, while it predicts burnout, working more than 40 hours per week was not predictive of teachers' intentions to leave, although having additional responsibilities due to staffing shortages was associated with greater intent to leave, as was earning a relatively low salary (under $50,000). When asked about what might keep them in their jobs, teachers who intended to leave (n=478) were most likely to point to more pay (63%), spending less time on nonteaching duties such as meetings, paperwork, and bus duty (36%), smaller class sizes (33%), and working fewer hours per week (29%) as one of the top three reasons to stay. Pay was particularly salient for Black teachers (74%), while Hispanic or Latinx teachers had lower rates of pointing to spending less time on nonteaching duties (24%); differences across other reasons and racial/ethnic groups were not statistically significant.

Steiner, E. D. & Woo, A. (2021). Job-related stress threatens the teacher supply: Key findings from the 2021 State of the U.S. Teacher Survey. RAND Corporation. https://www.rand.org/content/dam/rand/pubs/research_reports/RRA1100/RRA1108-1/RAND_RRA1108-1.pdf

Using data from the 2021 State of the American Teacher Survey (see Woo & Steiner, 2021 below for more details), Steiner and Woo explore rates of job-related stress and depression among representative samples of U.S. educators ($n = 1{,}000$) relative to U.S. adults in general ($n = 1{,}075$). While this report focuses on COVID-related aspects of their teaching experiences (including remote versus in-person and hybrid models, masking and vaccination policies, and fear of becoming ill), the report provides insights into teachers' working conditions and morale at the time. The authors find that stress and depression is much more prevalent among teachers, with more than three in four (78%) teachers reporting that they frequently experienced job-related stress and more than one in four teachers (27%) demonstrating symptoms of depression, compared to 40% and 10% of the general population, respectively. Descriptive trends suggest that these rates of stress and depression may be explained in part by direct impacts of COVID (e.g., hybrid teaching, shifting instructional models, and concerns about their own and loved ones' health). However, there were also indications from the survey that household responsibilities contributed to teachers' poor wellbeing. A third of

teachers who had children living in their household reported that they were the main people responsible for caring for and supporting their children's learning even while they were teaching (32%). These teachers ($n = 293$) were slightly more likely to report frequent job-related stress (80% v. 77%), symptoms of depression (30% v. 25%), difficulty coping with job-related stress (28% v. 20%), and burnout (55% v. 49%) than teachers who had other people responsible for providing care for their children while they were teaching ($n = 293$) [note that this report does not provide percentages; these data come from Table B.67 in the technical appendix; see Woo & Steiner, 2021; note also that differences are not statistically significant at $p < 0.05$]. The authors also looked at secondary employment as a possible contributor to educators' wellbeing; while teachers who earned additional compensation from working another job ($n = 217$) had slightly lower rates of frequent job-related stress (74% v. 79%), they also had slightly higher symptoms of depression (29% v. 25%), more difficulty coping with job-related stress (24% v. 20%), and higher rates of burnout (55 v. 53%) than teachers who did not earn additional compensation from another job ($n = 766$). Steiner and Woo also found a strong relationship between teachers' wellbeing and their intentions to stay; those who were likely pandemic leavers (i.e., teachers who retrospectively indicated that they were unlikely to leave their jobs before the pandemic but were likely to leave at the time of the survey) reported higher rates of frequent job-related stress, not coping well with job-related stress, depression symptoms, and feelings of burnout (96%, 43%, 49%, and 81%, respectively, compared to teachers who said they were unlikely to leave their jobs at either point—74%, 15%, 22%, and 45%, respectively); these groups were otherwise similar in terms of their personal and school demographics, except that likely leavers were disproportionately providing childcare to their own children (half of likely leavers, versus 40 percent of unlikely leavers.

Steiner, E. D., Woo, A., & Doan, S. (2023). *All work and no pay—Teachers' perception of their pay and hours worked: Findings from the 2023 State of the American Teacher Survey*. RAND Corporation. https://www.rand.org/pubs/research_reports/RRA1108-9.html

Using data from the 2023 State of the American Teacher (SoT) survey (see Doan et al., 2023b, in this appendix), Steiner et al. examine the relationship between teachers' working hours and their perceptions of their pay, wellbeing, and intentions to stay in their jobs, as well as how these relationships vary across teachers' demographic characteristics and working contexts. They found that teachers ($n = 1{,}439$) report working an average of 53 hours per week in a typical week during the school year—seven hours above that of the typical working adult (46 hours; $n = 527$)—and comparable to preceding years. Teachers' reported working hours also exceeded typical contract hours (37.7) by an average of roughly 15 hours in a typical week; 93 percent of teachers reported working more than their contracts required. Differences in total working hours cannot be fully explained by school contexts, as they hold even conditional on school poverty.

Steiner et al. also explore the extent to which non-contractual hours reflect teachers picking up additional school work for extra pay. Some of this extra time is compensated, but most of this additional working time (an average of 12 hours per week) does not come with additional pay. Steiner et al. stratify working hours across teacher characteristics, showing that Black and Hispanic teachers work longer hours than White teachers. The average Black and Hispanic teacher reports working an average of 57.6 and 54.7 hours per week, respectively, compared to 52.4 hours per week for the typical White teacher. Contract hours also differ by race and ethnicity, with Black teachers required to work 39.9 hours, Hispanic teachers required to work 38.6 hours, and white teachers required to work 37.3 hours per week on average. At the same time, Black teachers were particularly likely to take on additional working hours for extra pay, with 31% picking up at least six additional compensated hours compared to 15% of White teachers and 22% of Hispanic teachers; after accounting for extra compensation hours, there were no detectable differences in uncompensated reported working hours by race and ethnicity. There are also some observed differences by gender and school level, with

male teachers and high school teachers more than twice as likely as female and elementary teachers, respectively to work six or more additional hours per week for extra pay (28% of male v. 14% female teachers, and 26% of high school versus 12% of elementary school teachers).

Exploring satisfaction with pay and hours worked, Steiner et al. show that teachers are about half as likely as working adults to say they were satisfied with their base salary (34% v. 61%) or the total hours they worked per week (24% v. 55%). Although satisfaction with salary and weekly hours across all subgroups of teachers was generally low for all explored subgroups of educators, there are some characteristics across which differences were statistically and substantively meaningful. Satisfaction with base salary was particularly low for Black than white teachers (24% v. 35%) and female teachers were substantially less likely than male teachers to be satisfied with their average weekly amount of working hours (22% v. 34%); meanwhile, high school teachers are more likely to be satisfied with their working hours than elementary school teachers (30% v. 19%). Satisfaction across these two aspects of teachers' working conditions is highly correlated; 85% of educators who were dissatisfied with their salaries also expressed dissatisfaction with their working hours, consistent with educators feeling that they were not being paid adequately according to the hours they worked. Three out of five (60%) of educators who said they were dissatisfied with the numbers of hours they worked blamed working too many hours on the weekend and evenings and the same share attributed their dissatisfaction to feeling like they couldn't get the work done no matter how many hours they put in. The former reason was more commonly cited by Black teachers, while the latter was more commonly cited by female teachers (percentages not provided).

Analysis of teachers' wellbeing in relation to their satisfaction with working hours suggests that teachers' dissatisfaction with hours worked is the largest observed contributor to frequent job-related stress; teachers who were mostly or very satisfied with their hours worked were about half as likely as teachers who were mostly or very dissatisfied to report frequent job-related stress (31% v. 67%), were less likely to report difficulty coping with job-related stress (4% v. 21%), and were less likely to demonstrate symptoms of depression (8% v. 22%), feelings of burnout (37% v. 62%), or lack of resilience (17% v. 29%)

te Braak, P., Van Droogenbroeck, F., Minnen, J., van Tienoven, T. P., & Glorieux, I. (2022). Teachers' working time from time-use data: Consequences of the invalidity of survey questions for teachers, researchers, and policy. *Teaching and Teacher Education, 109*, 103536. https://doi.org/10.1016/j.tate.2021.103536

Using data from 7,486 Flemish teachers, collected between January 22 and May 15, 2018, te Braak et al. compare estimates of teachers' retrospectively-reported total hours worked and hours spent on a variety of sub-activities from a questionnaire adapted from the Teaching and Learning International Survey (TALIS; see Appendix B for more details on this measure) to reports of hours worked coming from time diary data. Researchers first collected a baseline questionnaire that included background information and asked teachers to provide working time estimates. Teachers were then (with staggered starting dates to ensure good coverage over the course of the study period), asked to maintain a seven-day diary with exact start and end times spent on fifteen pre-defined categories, nine of which included detailed subcategories. This structure allowed the researchers to track time use over the course of the week and the season. Te Braak et al. also asked teachers to record the location of the activity, who else was present for the activity, and whether they enjoyed it.

Comparing the average reported time spent in the previous full work week to time diary estimates, they found a 24-minute weekly difference, with an average of 38 hours and 33 minutes for the recall estimate and an average of 39 hours and 57 minutes week from the diary estimate, although the direction and size of estimate differences varied across subgroups of teachers. Full-time teachers in their sample tended to report longer weekly hours in the questionnaire (by 45 minutes), while part-

time teachers reported shorter hours (by at least 2.5 hours). Teachers with more than 15 years of experience reported an hour more per week on the questionnaire than in the time diary, but there was no significant difference for teachers with fewer years of experience; similarly, teachers who were 50 or older estimated higher time use on the questionnaire than in the diary data, with no significant difference for younger teachers. Male teachers reported longer hours with time diary data than the questionnaire (approximately an hour), but female teachers had estimates that were not statistically significant. Across school levels, kindergarten and secondary school teachers tended to report longer hours through the time dairy than the questionnaire (by at least an hour), while the reverse was true for primary school teachers (1.5 hours difference). Finally, for most family structures—defined in terms of whether the teacher was living with a partner, living with their parents, and/or had children at home—there were not statistically significant differences in total time estimates across the two measures, but teachers who were living with a partner and no children reported an average of two hours and 15 minutes longer working time on the time diary than the questionnaire. When modeled together, observed job characteristics and sociodemographic characteristics explain little of the variation in differences between these two time-use estimates ($R^2 = 0.02$), and just part-time status experience (about 2.5 to 3 hours, depending on the level of part-time work) and living with a partner and no children (relative to living with a partner and at least one child; 1 hour and 35 minutes) continued to conditionally predict higher questionnaire estimates, while only experience (only for teachers with 0–5 years, relative to 16+ years; 2 hours and 27 minutes) and being a primary education teacher (relative to secondary; 2 hours and 56 minutes) continued to predict higher time-diary estimates.

When comparing questionnaire and time-diary estimates at the activity level, there were large differences across activities, and in inconsistent directions. Weekly teaching estimates were five hours and 40 minutes shorter coming from the time diary than the questionnaire (13:17 versus 18:57, or a 30% difference). They were also longer in the questionnaire for pupil counseling and parent contact (1:01 versus 1:48, a 43% difference) and supervision and surveillance activities (1:30 versus 1:19, an 11% difference. In contrast, time-diary estimates exceeded questionnaire time for lesson preparation and correction (12:25 v. 10:55, a 14% difference), professional consultation (3:29 v. 1:51, an 87% difference), additional training (1:10 v. 0:45, a 53.3% difference), and school organization and support (3:56 v. 1:17, a difference of more than 200%). These differences suggests that some activities might be less strictly defined in teachers' understanding of the job, pointing to the importance of explicit, clear-cut definitions to avoid both double-counting and omission of actual activity time.

West, K. L. (2014). New measures of teachers' work hours and implications for wage comparisons. *Education Finance and Policy, 9*(3), 231-263. https://doi.org/10.1162/EDFP_a_00133

West uses data from the American Time Use Survey (ATUS) from 2003 to 2010 to evaluate whether teachers in the US are paid appropriately relative to their hours worked—as well as how that varies according to teaching role. As part of the analysis, she compares actual hours worked to contractual hours, as well as comparing estimated hours worked across different measurement approaches. The ATUS collects time use diary data from a single day, so West estimates a weighted average across teachers to estimate overall time worked across teachers (and other college-educated workers, as a comparison group). To compare measurement approaches, West also uses Current Population Survey (CPS) data, which collect more-retrospective week-level responses about the "usual hours of work" and "hours of work last week".

She finds, from the ATUS, that teachers spend 34.5 hours per week each calendar year, or 36.3 hours when including time spent on "work-related activities". There is wide variation across the calendar year, from 10 hours per week in July to about 45 hours per week in November. Secondary teachers tend to have longer work weeks than elementary teachers, with a larger difference in the

summer (possibly attributable to a higher prevalence of summer school in secondary education). Because of summer vacations, estimates of time spent on the job are highly sensitive to whether average weekly hours are estimated across the calendar year (36.3 hours) versus within the school year (39.8). West's comparisons of time use measure across the ATUS versus CPS and diary hours versus a more generalized "usual hours" suggest that recall and "usual" responses can heavily inflate time use estimates; for example, even within the ATUS, time diary data suggest about 4 fewer hours (roughly 10%) less time spent working in the average calendar week for teachers than do data collected from reports of respondents' usual working hours.

Finally, West compares average weekly hours working for teachers and non-teachers. She estimates that teachers on average work about 4 to 5 fewer hours per week than non-teachers with similar education levels according to diary estimates. However, educators self-report similar levels of typical weekly work, and more-inclusive time-diary estimates that incorporate "work-related tasks" are somewhat closer to self-report data, which may reflect teachers on average having more porous work-life boundaries than other white-collar professions and highly variable workloads over the course of the year. West also only looks at hours worked on the teachers' "main job", so these data do not include time spent on second jobs, which other research (See Krantz-Kent, 2008) shows is more common for teachers than similarly educated non-teachers. Finally, West estimates the extent to which educators are paid comparably to demographically similar workers in other professions given their work hours. She concludes that secondary teachers are paid 13.6 percent less that comparable employees in other fields, while elementary and middle school teachers earn somewhat more, and special education teachers are paid similarly to their non-teacher peers; however, these are estimates based on restrictive diary hour measures, and she does not report how hourly wages compare for the more-inclusive measure of time spent on work and work-related activities.

Woo, A. & Steiner, E. D. (2021). *Job-related stress threatens the teacher supply: Key findings from the 2021 State of the U.S. Teacher Survey—Technical appendixes*. RAND Corporation. https://www.rand.org/pubs/research_reports/RRA1108-1.html

In their technical appendix for the RAND Corporation's 2021 State of the U.S. Teacher Survey, Woo and Steiner describe their sampling and weighting schemes, provide the survey questionnaire, and report summary statistics for all survey items. Fielded between January 19 and February 15, 2021, the survey invited 1,819 teachers to provide information about their job-related stress, their mental health, out-of-class responsibilities, and working conditions. These teachers were recruited from RAND's American Educator Panels (AEP), a standing group of 25,000-30,000 K-12 educators who are recruited using probabilistic sampling methods. 1,006 of the invited teachers completed the survey, yielding a response rate of 55 percent. While the data are weighted to be nationally representative, RAND notes that the sample does not include novice educators in their first two years of teaching, and so responses may not accurately represent the experiences of novice teachers nationally. In addition to its teacher sample, RAND maintains a large sample of adults from the national U.S. population in its American Life Panel (ALP); between March 8 and March 19, 2021, they recruited 3,375 ALP members to ask questions comparable to those they asked in their teacher survey, yielding a 61% completion rate (n=2,080); of these, the sample was further restricted to only include individuals who were employed for the past six months (n = 1,075).

Responses demonstrate that (a weighted) 77 percent of teachers found their work to have often or always been stressful since the beginning of the 2020-21 school year, compared to 40% of the general employed population. When asked about (a pre-populated list of) sources of stress in their job right now, teachers reported pandemic-related factors (e.g., remote and hybrid teaching, instructional mode shifts, COVID health risks) at relatively high rates (36% or more). But other factors that may relate to teachers' time use and workload intensity were also flagged at meaningful rates, including making or maintaining contact with their students' families (53%), grading (37%), lesson

planning (44%), finding instructional materials and resources (29%), engaging students (71%), supporting students' social and emotional learning (53%), and lack of time for collaboration with colleagues (36%). When forced to limit their response to the top three sources of job-related stress, one in four cited lack of time to collaborate with colleagues (20%) and more than a quarter of respondents included making or maintaining contact with their students' families (29%), grading (29%), lesson planning (33%), finding instructional resources and materials (28%), supporting students' social and emotional learning (37%); more than half of respondents included engaging students (52%) as a top-three factor. In terms of emotional wellbeing, roughly two out of three teachers reported at least several days of little interest or pleasure in doing things or feeling down, depressed or hopeless in the past two weeks (65% for each). In spite of half of teachers (50%) somewhat or strongly agreeing that the stress and disappointments involved in teaching aren't worth it and a majority (71%) agreeing that they had less enthusiasm than when they started teaching, most somewhat or strongly agreed that they looked forward to teaching in the future (67%) or were glad that they selected teaching as a career (75%).

The survey included a handful of items around working hours. One in four teachers (25%) said they spent fewer than 40 hours working as part of their teaching position at their school in a typical full week in the 2020-21 school year; an additional 35% reported working 40 to 49 hours, 24% reported working 50 to 59 hours, and 16% said they worked 60 hours or more.[15] When asked about a typical full week before COVID, teachers recalled shorter work weeks; 21% reported working 50 or more hours before COVID, compared to 40% reporting that they worked 50-plus-hour work weeks in 2020-21. On top of their main teaching jobs, roughly one in five (22%) teachers indicated that they worked another job in 2020-21, which included work entirely unrelated to education (e.g., bartending, cashiering, consulting; 41%), private tutoring (20%), another teaching position (10%), an education-related but non-teaching position (7%), or something else (21%). Teachers also reported the amount of time they spent providing instruction to their students in 2020-21, as well as in the typical full week before COVID, suggesting that their teaching time was similarly distributed (32% spent fewer than 20 hours, 23% spent 20-29 hours, and 44% spent 30 or more hours teaching per week in each period). Finally, teachers were asked about how many hours they spent on non-teaching activities in a typical day during the 2020-21 school year, reporting spending an average of 2.6 hours checking and providing feedback on student work, 2.5 hours planning lessons, 1.7 hours searching for instructional materials or activities, 1.4 hours modifying materials district- or school-provided materials for instruction, and 1.8 hours providing extra, out-of-class, assistance to their students.

[15] In subsequent years of the American Teacher Panel surveys, the tabulation bins for work hours were defined differently, which makes it difficult to compare working hours in this particular survey administration from others (e.g., the first bucket of hours are reported as "fewer than 40" in 2021, but "40 or less" in subsequent years). The accompanying research report for this year also did not summarize the average or median work hours.

Appendix B. Teacher Time Use Measures

This appendix summarizes five reputable measures that appear in time use research: the Bureau of Labor Statistics' American Time Use Survey (ATUS), the U.S. Department of Education's National Teacher and Principal Survey (NTPS), the Organisation for Economic Cooperation and Development's Teaching and Learning International Survey (TALIS), the RAND Corporation's State of the American Teacher survey, and a day reconstruction survey fielded by Nate Jones et al. (2022).

For each measure below, we provide:

(a) an overview that includes background on who produces the survey and what it has been fielded, the sample that it comprises (if it is not just a research instrument but a repeatedly fielded survey), and a description of the items that pertain to teachers' time use;
(b) a summary of the strengths and weaknesses of the measure for assessing teachers' time use;
(c) links to additional background information, technical documentation, and response-level data, where available; and
(d) a list of sources cited in the main report that use the given measure in their analysis.

American Time Use Survey

Overview: The American Time Use Survey (ATUS) is a federally funded survey run by the Bureau of Labor Statistics (BLS) that has been run consistently from 2003 onward. It consists of a nationally representative sample of households that have completed their Current Population Survey, so it extrapolates to the full universe of adults nationally and not just teachers. Respondents are randomly assigned a day to report on (including potentially any day of the week or year) and then interviewed about that day on the subsequent day.

Respondents are asked to summarize their activities from 4am on the preceding day through 4am on the current day (i.e., the day on which the interview occurs), with a dozen pre-coded activities to choose from, in addition to "don't know" and "refusal" options: sleeping, grooming, watching TV, working at main job, working at other job, preparing meals or snacks, eating and drinking, cleaning kitchen, laundry, grocery shopping, attending religious service, and paying household bills. Respondents can also provide other categories of time, which the interviewer records. Respondents are asked how long (in hours and minutes) they spent on a task, who was with them at the time, and the location (including modes of transportation).

The interviewer then asks the respondent to identify any activities (not already coded as "working at main job" or "working at other job") that are things that they "were paid for or will be paid for" and if there "were any [other] activities that were done as part of your job or business", excluding commuting time or time getting ready for work. In addition, respondents are asked about their time spent providing secondary childcare (e.g., watching over a child while engaging in other activities), primary childcare (directly overseeing the child's care), or eldercare and time spent volunteering through or for an organization, including schools or youth organizations.

Note that the ATUS requires activity time to be mutually exclusive; if people are splitting their time across multiple tasks, the interviewer first asks the respondent to separate the activities into separate time intervals, and if this is not feasible the interviewer instead asks the respondent to identify which of these was the primary activity during the respective time span.

Overall utility for measuring teachers' time use: Data are easily accessible, with large nationally representative samples that allow for comparisons over time. The measure has also been widely studied and validated and is considered accurate for measuring individuals' time use. These data might be useful for exploring trends in teachers' time use across years, as well as how these patterns relate to workers in

other professions. However, working time is crudely defined relative to other measures (e.g., TALIS), and only allows for patterns in workloads broadly (i.e., total hours worked).

Note that if one wanted to replicate this approach specifically with educators, it would ideally be fielded on a continuous, random basis across the school or calendar year. This would ensure a representative sample of working days when estimating teachers' time use.

Links: ATUS landing page: https://www.bls.gov/tus/; and survey questionnaire: https://www.bls.gov/tus/questionnaires/tuquestionnaire.pdf

Relevant research using this measure: Gibney et al., 2024; Krantz-Kent, 2008; Wang, 2023; West, 2014

National Teacher and Principal Survey (NTPS)

Overview: The National Teacher and Principal Survey (NTPS) is the successor to the Schools and Staffing Survey (SASS), which was discontinued after the 2011-12 administration, and retains many common measures and methodological features.[16] To date, the NTPS has been administered three times: 2015-16, 2017-18, and 2020-21. The most recent wave (the 2020-21 survey) was offered to a sample of 9,900 schools and 68,300 teachers, with responses weighted according to their school's selection probability and survey nonresponse. The NTPS uses a systematic probability proportionate-to-size sample, based on the number of full-time equivalent teachers at a school, which includes oversampling according to a variety of school domains—namely, state, charter status, grade levels served, urbanicity, FRPS status, and enrollment size. The overall response rate for teachers in 2020-21 was 43.5 percent, for a final sample size of approximately 37,000. The survey is fielded through a series of mail-outs beginning in November of a given school year, with a final follow-up in the following spring. While field dates can extend into the summer, nearly all of the teachers who ultimately respond to the survey have done so by early March (according to technical documentation from the 2017-18 administration).

Directly relevant to teachers' time use, the NTPS asks teachers: (a) how many hours their contracts require them to work during a typical week at their school; (b) of the hours they are contracted to work, how many hours during a typical full week they deliver instruction to students in their school; and; (c) including hours spent during the school day, before and after school, and on the weekends, how many hours they spend on teaching and other school-related activities during a typical full week at their school.

In addition, the survey collects information about teachers' background, including training and induction experiences, their school policies and contexts, teaching assignments, extra activities they participate in at the school (such as coaching a sport, sponsoring student clubs, and serving on school committees), and a wide array of working and teaching conditions.

Overall utility for measuring teachers' time use: The NTPS data (and data from its precursor, the SASS) provide the benefits of very large sample sizes, representative of schools nationally, and consistent item definitions which permit comparisons over time. Response-level data are also publicly accessible. Data can also be linked to principal surveys that provide more insight about the contexts in which teachers are working. Drawbacks include that the data use generalized measures of time use and do not decompose work activities beyond teaching time. The survey also only asks about teaching hours out of the hours they are contracted to work; it's unclear if teachers would answer this item different had it been framed relative to total hours spent on teaching and other school-related activities.

[16] For more about the SASS, visit https://nces.ed.gov/surveys/sass/index.asp.

Link: NTPS landing page: https://nces.ed.gov/surveys/ntps/; 2015-16 technical documentation: https://nces.ed.gov/pubs2022/2022108.pdf; 2020-21 methods and procedures: https://nces.ed.gov/surveys/ntps/methods-procedures2021.asp

Relevant research using this measure: Taie & Goldring, 2020; Taie & Lewis, 2022

Teaching and Learning International Survey (TALIS)

Overview: The Teaching and Learning International Survey (TALIS) was fielded by the Organisation for Economic Development and Cooperation (OECD) in 2008, 2013, 2018, and 2024 (results not yet released). The TALIS sample includes countries and territories from across the major continents; the United States joined in 2013, but didn't reach an adequate sample size for inclusion in TALIS reports until 2018, when there were approximately 50 participating countries or territories. In most countries, including the United States, the 2018 survey was fielded between approximately March and May of that calendar year.

Within countries, TALIS randomly samples schools serving lower secondary students (the equivalent of grades 7 through 9) and then conducts a second-stage randomized sampling of no fewer than 20 lower-secondary teachers within those schools. In the U.S. school sampling was stratified within sector (public v. private) and grade structure (middle school, junior high school, high school, other). In 2018, the U.S. sample consisted of 2,687 teachers across 178 schools. OECD reports high response rates, with a school-level response rate of 77 percent after replacement, and a teacher-level response rate of 90 percent.

Regarding their time use, teachers are first asked how many hours they spent on "tasks related to your job at this school" in the most recent calendar week. They are then asked about the number hours in the past week spent specifically on teaching, followed by a group of questions about hours spent on ten other job-related tasks (including individual planning time, collaborating with colleagues, grading, counseling students and engaging in extracurricular activities). For this item, teachers are instructed to include tasks that are outside of formal school hours or outside of the school building.

In addition to their work week as a whole, TALIS surveys teachers about their time spent in a "target class". Specifically relevant to time use, teachers are asked what percentage of time in that class is typically spent on: (a) administrative tasks; (b) keeping order in the classroom; and (c) actual teaching and learning. They are also asked about their level of agreement regarding classroom disruptions, including whether they have to wait a long time to being the lesson for students to quiet down and whether they lose a lot of time because of students disrupting the lesson.

The survey also captures responses across a wide range of related domains, including background, training, subjects taught, classroom composition, professional development needs, perceived skills, and working conditions, including the extent to which the job leaves time for the teachers' personal life. There is also a contemporaneous survey administered to school principals which includes questions about principals' time use, training, practices, and perspectives on school climate.

Overall utility for measuring teachers' time use: The TALIS measure is not ideal in that time-use questions are asked retrospectively (i.e., in the last full calendar week) or generally (i.e., in a typical lesson), but it comes with a rich set of corresponding variables that would allow researchers to disaggregate time use across teachers' characteristics and experiences, as well as link their time use to burnout and morale measures and their school contexts. Data are also easily accessible and broadly representative of teachers in the U.S., as well as including opportunities to make international comparisons. While not available as of January 2025, the 2024 data will allow for longitudinal comparisons of time use in the U.S. Of particular interest may be how time use and its correlates have changed since 2018—i.e., in the aftermath of the pandemic.

One caveat with the survey dates is that, because TALIS is generally fielded in the spring, patterns may not generalize to teachers' time use in the fall or winter. However, by speaking to teachers' time use on a broader (most recent calendar week) scale, responses are somewhat less subject to bias from day-to-day variation in time use.

Link: TALIS landing page: https://www.oecd.org/en/about/programmes/talis.html; and 2018 questionnaire https://web-archive.oecd.org/2020-04-30/499238-TALIS-2018-MS-Teacher-Questionnaire-ENG.pdf and technical report: https://www.oecd.org/content/dam/oecd/en/about/programmes/edu/talis/talis2018supportmaterials/TALIS_2018_Technical_Report.pdf

Relevant research using this measure: Jerrim & Sims, 2022; OECD, 2019

Day Reconstruction Method (e.g., Jones et al., 2022)

Overview: Unlike the other measures described here, this is not a proprietary measurement tool. Rather, it is an approach to collecting detailed information about time use. The day reconstruction method (DRM) is somewhat similar to time-dairy data approaches, with the primary difference being the inclusion of contemporaneous measures of teachers' affect. In their study using the DRM to understand teachers' time use and affect, Jones et al. (2022) initially intended to implement the DRM across two days in the fall semester and two in the spring. However, their spring implementation was interrupted by COVID, with just one pre-COVID spring field date and a delayed delivery of the second observation to May. Their final sample included 299 DRM responses from 231 teachers across the four observation teachers. Most (69%) responded at least twice.

Jones et al. collect their DRM data for each date in two stages. First, using an online form, teachers list all of their episode of work activity throughout the day, defining the start and end time for each of ten pre-defined activity categories. Teachers then respond to a survey where they provide information about their the extent to which they felt [one of twelve positive and negative affects] and had them provide contextual details about each activity or episode.

Overall utility for measuring teachers' time use: Any researcher interested in primary data collection can implement this method to capture granular information about teachers' time use. However, there are not currently datasets available for third-party researchers' analysis, as the relevant data were part of a single research study and were used only in a single district across a single school year (2019-20; Jones et al., 2022). Additionally, the data in this study were only collected across four work days, with most teachers responding for just one or two of these days; their time use on these days might not be representative of typical time use. On the other hand, this approach adheres to best practices, with diary-based reporting, and incorporates information about how teachers' experience there time that is typically lacking in other time-use measures.

Link: The data are not publicly accessible, but the research article is published in an open access journal: https://journals.sagepub.com/doi/10.1177/23328584211068068.

Relevant research using this measure: Jones et al., 2022

State of the American Teacher Survey

Overview: Administered annually by the RAND Corporation since 2021, the State of the American Teacher (SoT) survey is delivered each winter (in January and February of the respective year) to a sample of educators from RAND's American Teacher Panel (ATP)—a nationally representative pool of educators that RAND maintains for its own and external parties' research; in recent years, sample sizes have been roughly 1,500 per administration. RAND also administers companion surveys to school

principals, as well as to a smaller sample (approximately 500) of nationally representative adults to allow comparisons to individuals in other professions.

Measures have evolved somewhat over time but have remained stable between the 2023 and 2024 administrations. Specific to teachers' time use, the survey asks about: the frequency with which the respondents' job has been stressful since the beginning of the respective school year; how well the teacher is coping with the stress of their job; the top three sources of stress in their job; how many hours they work in a typical week; how many hours they are contracted to work; their satisfaction with the total hours they work. In the 2023 survey, teachers who indicated being not at all or only somewhat satisfied with their total hours were also asked the reasons for their dissatisfaction with the workload.

On top of these time-use-relevant questions, the survey asks teachers about their compensation, access to mental health and well-being supports (both personal and professional), professional culture, physical safety at work, the presence of political and social issues in their classrooms, retention plans, and demographics. Data from the 2021 through 2023 surveys are accessible through RAND's AEP data portal.

Overall utility for measuring teachers' time use: Similar to TALIS, the SoT measure is not ideal in that time-use questions are asked generally (i.e., in a typical week), but it comes with a rich set of corresponding variables that would allow researchers to disaggregate time use across teachers' characteristics and experiences, as well as link their time use to burnout and morale measures and some other school contexts. Data are also easily accessible and broadly representative of teachers in the U.S., as well as including opportunities to make comparisons to school leaders through the State of the American Principal surveys and non-educators through the American Life Panel companion surveys. Given that time-use items have been largely stable (from the 2022 administration onward), these data allow for researchers to track trends over time and may be useful for assessing the extent to which teachers' time burdens have stabilized or continue to shift in the aftermath of the pandemic.

Link: The landing page to access datasets, with accompanying codebooks and technical documentation is here: https://www.rand.org/education-and-labor/survey-panels/aep/access-data.html. Note that users must create an account in order to sign in and view the data. The technical appendix for the most recently available survey wave (2024) is also available here: https://www.rand.org/pubs/research_reports/RRA1108-11.html

Relevant research using this measure: Doan et al., 2022; 2023a; 2023b; 2024a; 2024b; Kaufman & Diliberti, 2021; Steiner et al., 2023

Appendix C. Literature Review Methods

Preliminary Review and Annotation

We began our literature review by conducting a series of searches in research databases and search engines (e.g., JSTOR, ProQuest, EBSCO, GoogleScholar, etc.), as well as in hosting sites for working papers to identify newer evidence (e.g., through EdWorkingPapers and the National Bureau of Economic Research) relevant to teachers' time use. Specifically, we searched for terms and phrases such as "teacher time use", "teacher allocation of task time", and "teachers' work hours". We additionally used platforms that make use of artificial intelligence to search more broadly for relevant research; this included tasks like dropping our research questions directly into Elicit's search box (and other tools like Semantic Scholar and ChatGPT), and then refining the research questions—or, in the case of ChatGPT—asking follow-up questions—to better align the search results with the specific contexts with which we are interested. Note that we did not rely on the research syntheses or summaries produced by these AI platforms, as we have found them to occasionally include inadequately relevant information or outright errors; rather, we used these as an initial literature screener. While we searched primarily for rigorous, peer reviewed evidence, we were intentionally broad given a relative lack of recent academic interest on the topic; for example, we intentionally included things like nationally representative surveys and teaching contract databases. At the same time, we restricted our literature review to focus on studies of U.S. teachers, as policy and social contexts vary widely across countries (Boeskins & Nusche, 2021) and from the past quarter century, as education and teaching contexts have evolved widely since the advent of standards-based reform and school accountability policies like NCLB (see, for example, Ingersoll & Merrill, 2017); that being said, we did review outside literature to inform the broader context of this literature review and for citation tracing forward to more recent—and therefore likely more relevant—evidence.

Upon completion of this first round of literature compilation, we individually skimmed each article to 1) identify additional relevant sources cited within the respective article; 2) assess whether the article is truly relevant to the research questions at hand (and if not, dropping it from our compiled literature list); and then 3) use citation tracing tools (Web of Science, JSTOR, Google Scholar, and ScienceDirect) to find additional sources that were not identified in our preliminary round of research. We repeated these steps with each newly identified source.

At this point, we began a more in-depth review of the identified literature, with an annotated summary for each source regarding which of our research question(s) it pertains to, with a summary of the relevant findings, as well as other key details that might be crucial to the synthesis, including the research setting, empirical rigor and methods, and the type of source (e.g., peer reviewed article, working paper, government report, national survey, etc.). This annotated summary was built in an Excel spreadsheet, such that literature could also be assigned certain thematic codes (e.g., relating to research question, evidentiary quality, etc.) to assist in the subsequent synthesis.

Synthesis

We structured the literature synthesis by first drafting a series of outlines addressing the themes defined in our core and supplementary research questions as they arose in the identified literature. We then fleshed out outline for each research question, building in summary text, and refining these section overviews according to evidence in the identified studies, feedback from focus groups, and from outside experts. Finally, we used these overviews to structure an initial draft of the full literature review, reorganizing the content where appropriate to support a coherent overview of the evidence and our conclusions.

Teacher Focus Groups and Feedback from Other Experts

Throughout the literature review process, we intentionally brought in teachers' perspectives and guidance from researchers with expertise in teachers' time use. For the former, we recruited a sample of diverse educators representing a range of racial/ethnic and gender identities, multiple subject areas, a variety of teaching contexts (e.g., in terms of urbanicity and student demographics) and a mix of both novice and experienced teachers. We targeted a panel size of 20 educators and we ended up with 11 teachers who both confirmed their participation and were retained throughout the project. Note that we intended these teachers to represent diverse perspectives, but not necessarily be representative of the teaching force nationally. For example, the final focus group members were disproportionately in their mid-careers and worked in urban schools in the South; the average panelist also worked in a school with a higher share of students identifying as Black than teachers nationally. However, their student bodies were similar in terms of other demographic characteristics, and the final panelists covered a range of grade levels and subject areas (see Tables C1 and C2).

We held two rounds of feedback sessions with these educators. We designed the first round—conducted alongside the literature search, refinement, and annotation process—to elicit high-level feedback on our research questions. The feedback we prompted from the focus groups included their individual perspectives on time use, the relevance and importance of our questions, and additional themes or concerns that determine or constrain their time use. We used this feedback to refine how we operationalized our research questions, in addition to expanding (i.e., with new literature), promoting, or demoting evidence to reflect the themes that these educators found to be highest priority. The second round of educator focus groups was held after we had drafted a preliminary synthesis, with the goal of receiving feedback on the revised themes and questions, our application of the evidence to real-world teaching concerns, and our initial report recommendations—particularly those pertinent to promising technology and AI tools for addressing pain points and optimizing teachers' time, areas for future research, and opportunities for product developers to support teachers' time optimization.

Appendix C References

Boeskins, L. & Nusche, D. (2021). *Not enough hours in the day: Policies that shape teachers' use of time*. OECD Education Working Papers No. 245. https://dx.doi.org/10.1787/15990b42.en.html

Ingersoll, R., & Merrill, L. (2017). *A quarter century of changes in the elementary and secondary teaching force: From 1987 to 2012. Statistical analysis report*. NCES 2017-092. National Center for Education Statistics. https://nces.ed.gov/pubs2017/2017092.pdf

Table C1. Teacher characteristics for educator focus groups on teacher time use

	Educator Panel	All volunteers	K-12 Teachers Nationally
Experience			
Less than 3 years	0%	5%	8%
3 to 9	27%	45%	29%
10 to 20	64%	40%	37%
Over 20	9%	10%	26%
Gender			
Male	18%	15%	23%
Female	73%	80%	77%
Prefer not to say	9%	5%	--
Race			
White	55%	59%	88%
Black	27%	24%	6%
Multi-Racial	0%	6%	2%
Other	9%	7%	3%
Prefer not to say	9%	4%	--
Ethnicity			
Hispanic or Latino	9%	12%	9%
Non-Hispanic	82%	81%	91%
Prefer not to say	9%	8%	--
Subject Area			
Art or Music	0%	3%	7%
Humanities	36%	27%	18%
Math	27%	22%	8%
Science	9%	5%	7%
Social Studies	9%	8%	3%
Another subject area	9%	11%	9%
Grade Levels			
Elementary (K-5)	18%	39%	48%
Middle (6-8)	27%	28%	20%
High (9-12)	55%	33%	32%
N unique teachers	*11*	*157*	*4,231,000*

Notes: Total count of signups excludes one duplicate response, respondents who indicated they were not K12 teachers, and educators who reported teaching in schools outside of the U.S. National data come from the most recent NCES Common Core of Data and from the National Teacher and Principal Survey "Public School Teacher and Private School Teacher Data Files, 2020-21.

Table C2. School characteristics for educator focus groups on teacher time use

	Educator Panel	All volunteers	K-12 Schools Nationally
Sector			
Public	100%	94%	77%
Private	0%	6%	23%
Unknown	0%	1%	--
Region			
North Central	9%	15%	26%
Northeast	9%	26%	15%
South	82%	48%	35%
West	0%	11%	24%
Urbanicity			
City	64%	57%	27%
Suburban	36%	29%	34%
Town	0%	6%	13%
Rural	0%	8%	27%
Student Race/Ethnicity			
Percent Black	30%	29%	14%
Percent White	34%	28%	51%
Percent Other Race	7%	12%	11%
Percent Hispanic	29%	31%	24%
Percent students with LEP	11%	14%	10%
Percent students with disability	15%	18%	18%
Percent students below FPL	15%	17%	15%
N unique schools	11	141	115,337

Notes: Total count of volunteers excludes one duplicate response, schools from respondents who indicated they were not K12 teachers, and schools that the volunteering educators reported were outside of the U.S. National data come from the most recent NCES Common Core of Data from the Urban Institute's Education Data Explore (e.g., the FPL measure, which is the Urban Institute's estimate of the share of students at a given school who are below the poverty threshold; see https://urban.org/projects/modeled-estimates-poverty-schools/meps-11-technical-documentation). Note that school-level estimates of race/ethnicity are mutually exclusive. LEP, poverty, and disability estimates are only available for public schools. LEP = Limited English proficient; FPL = federal poverty level.