

Nonstandard Work Schedules and the Well-Being of Low-Income Families

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NONSTANDARD WORK SCHEDULES AND THE WELL-BEING OF LOW-INCOME FAMILIES

Daily, millions of employees work schedules that are outside the traditional work week and daytime hours of Monday through Friday, 6:00 a.m. to 6:00 p.m. Nonstandard hours (evenings, nights, and weekends) may be worked on regular or rotating shifts, on irregular schedules, or on call. Working in the evenings and nights, when most people are at home, workers keeping nonstandard hours are, at times, invisible to daytime workers. Nevertheless, coming to clean when office workers are gone, stocking shelves in stores after hours, or guarding empty buildings overnight, workers with nonstandard schedules play a vital role in our fast-paced economy.

Most employment research focuses on the quantity of work, such as whether or not people are employed, the number of hours they work, and barriers to work. *Which* hours of the day employees must work has received less attention. The hours during which employees work are intrinsic to the work activity. When a worker is offered a job, he or she is not just offered a wage for a specific number of hours. The offer usually comes with specific times when those hours occur.

Because work is only one of many uses of time, employees must make a series of choices to coordinate work hours with other competing activities. The specific work hours may preclude some workers from accepting a job offer because of conflicting schedules. Parents may want to be at home in the evening to take care of their children and thus may not be available for evening work. Similarly, a job offer may be rejected because the child care center closes at 6:00 p.m., while the job ends later. Night or late evening work may not be an option if public transportation is not available.

The time of day when work is done is relevant to the well-being of workers and their families. Work at nonstandard hours is sometimes referred to as “unsocial work” because of the conflicts it presents to

family life (Dupaigne 2001; Strazdins et al. 2006). The quality of family life suffers. Parents may not be available for family meals or for helping children with schoolwork, and marital stability is challenged as well (Davis et al. 2008; Presser 2000; Rapoport and Le Bourdais 2008). Nonstandard hours may also put workers' health at risk. Workplace injuries are higher for night-shift workers, and sleep deprivation and high levels of stress are also common (de Castro et al. 2010; Chung, Wolf, and Shapiro 2009).

The consequences of nonstandard work hours are not distributed evenly among all workers, but lie heavily on low-income families. Sixty percent of all workers with nonstandard schedules have earnings below the median of the typical American worker, and 40 percent have earnings that are lower than those of 75 percent of all workers. These workers face resource limitations and external constraints that constantly challenge the viability of working on a nonstandard schedule. In these times of job scarcity, it is important to discuss policies that make it possible for these workers to hold onto these jobs while at the same time reducing the conflict that working nonstandard hours brings to workers and their families.

This paper examines nonstandard work schedules within the confines of low-wage work and the challenges working nonstandard hours places on low-income families. It presents descriptive data about the industries and occupations where this work is concentrated, estimates a multivariate model of the factors that foster nonstandard work schedules, and discusses the consequences of the limited time that low-wage workers spend with their families. The evidence in this study contributes to policy discussions and scholarly research. In the policy arena, it highlights how work-support strategies, workplace policies, and schools can contribute to make nonstandard work schedules viable for low-wage workers. This study also goes beyond prior scholarly work, presenting trends across time in nonstandard schedules and analyzing the role of extra women in the household as potential facilitators of nonstandard work schedules.

Supply and Demand of Nonstandard Work Schedules

Employers' use of workers at nonstandard hours depends on the evolution of demand for an employer's product throughout the day, variations in the price of inputs (labor, utilities) according to the time of day, and whether different production processes are integrated or kept separate. When product demand varies according to the time of day (and by day of the week), labor must be allocated accordingly (Hamermesh 1999). One can imagine employers determining a schedule of product demand during a 24-hour period and allocating labor hours for each time of the day. If product demand is high in the evenings or at night and the cost of production during those hours allows for profits, the employer will schedule work hours during evening or night shifts. Globalization, with its different time zones, adds to the variation in product demand throughout any given 24 hours. Variation in the price of inputs such as utilities during the day is another reason employers schedule workers at nonstandard hours. If energy prices are lower at night, for example, employers are likely to shift some of the energy-intensive production to the night. Manufacturing industries, especially those that use machinery and equipment intensively, also tend to run nonstandard shifts because of the costs associated with keeping equipment idle during evenings and nights (King and Williams 1985).

Another reason for labor at nonstandard hours is in the production of goods and services for which production processes must be kept separate. While most production processes require that different types of labor be used at the same time (Hamermesh 1999), resulting in the agglomeration of workers around some times of day, others need to work separately, and the best way to do this is to allocate workers to different shifts. For instance, cleaning the offices during the day may interfere with the work of office

workers, restocking shelves may have to be done when the store is closed, and roads are often fixed at night to avoid traffic congestion.

Workers have their own set of motivations for working nonstandard schedules. Terence McMenamin (2007) presents information from the May 2004 Work Schedules Module of the Current Population Survey about reasons for working nonstandard shifts. A preference for this type of schedule is the reason given by 10 percent of workers. For 23 percent of all workers, nonstandard hours accommodate child care, family, and school. The majority of workers with nonstandard work schedules (55 percent) cite involuntary factors, such as “could not find other job” or it is “the nature of the job,” as reasons for working nonstandard hours.

The time of day for work hours can be seen as part of the overall package of rewards workers obtain from their work (Hamermesh 1999). Although workers vary in their preferences for work schedules, more workers find evening, night, and weekend work less desirable relative to the number of job vacancies. To attract workers to these nonstandard hours, employers offer a wage premium. The federal government and some state and local governments pay a shift differential for nonstandard hours.¹ Some manufacturers also offer wage incentives for shift work at nonstandard hours (Kostiuk 1990). The dollar amount of a wage premium depends on unemployment levels within the labor market, union status, and the characteristics of the workers (De Beaumont and Nsiah 2010; Kostiuk 1990). The Bureau of Labor Statistics’ June 2012 Employment Compensation Survey shows that shift differentials are indeed small. In average, shift pay differentials are six cents of the total \$30.61 hourly compensation.² In the data Terence McMenamin (2007) reviewed, only 5 percent of workers cited better pay as the reason for working nonstandard hours.

Some workers are pushed into nonstandard hours as a result of limited labor market opportunities in the daytime hours. The high concentration of workers of color and the less educated in nonstandard hours suggests that workers with limited labor market opportunities are pushed toward these jobs by their lack of employment options (Saenz 2008; Presser 2003). The higher exit rates from jobs at nonstandard hours attest to how these jobs are nonoptimal for many workers (Martin et al. 2012).

The prevalence of nonstandard schedules may vary across time and within the business cycle. According to Hamermesh (1999), as income grows, better-off workers will move toward jobs with more amenities and be less willing to work nonstandard schedules, suggesting a secular decline in nonstandard hours and a concentration of this work among low-wage workers. Data from the 1970s and early 1980s that Hamermesh analyzed were consistent with this pattern. Changes also occur in the short run with the business cycle. Shiftwork is procyclical, increasing in an economic upturn and decreasing in a downturn (Mayshar and Halevy 1997). During an economic downturn, workers in the late-night shifts in manufacturing suffer a disproportionate drop in employment compared with workers on day shifts (Mayshar and Solon 1993).

Challenges of Working Nonstandard Hours

Working nonstandard hours is challenging for low-income workers. Workers with nonstandard schedules share some of the same challenges as daytime low-wage workers—securing child care and reliable transportation, working on employer-controlled schedules, and a lack of paid time off—but these challenges are heightened for those working nonstandard hours. Other challenges are unique to working nonstandard hours, such as carving out time for family, holding to household routines, and helping children with schoolwork when family members do not share the same time off.

Securing Child Care

One of the main challenges facing workers with nonstandard hours is securing evening, night, or week-end child care. Most child care centers do not accommodate nonstandard work schedules—most close by 6:00 p.m. and are not open on weekends. While some families may prefer to keep their children at home while working nonstandard hours, there is still a need for child care centers during these hours. The Nonstandard Work Hours Child Care Project in Washington State reported that 29 percent of 46,000 child care requests were for nonstandard hours.³ A similar percentage was found in child care requests in Illinois.⁴ An Urban Institute qualitative study of low-income mothers in Providence, Rhode Island, and Seattle, Washington, documented the difficulties that low-income mothers face in securing center-based child care at nonstandard hours because centers are not open early enough in the morning or late enough in the evening (Sandstrom, Giesen, and Chaudry 2012).

Some families solve the problem of child care at nonstandard hours by alternating care between parents. Among married couples, one parent may work standard hours and the other nonstandard hours, and parental child care is provided around the clock (Han 2004; Presser 1988). Father involvement in child care is more common when married women work nonstandard hours (Presser 1994). Whether it is because of availability or costs, low-income single mothers working nonstandard hours rely more on the informal care by relatives and others providers (Henly, Ananat, and Danziger 2006; Henly and Lyons 2000; Presser 1986). As discussed by Henly and Lyons, these informal care arrangements can be very fragile because providers may not be able to honor the arrangement if they have their own time demands with limited resources (Henly and Lyons 2000).

Having Time for Family

Nonstandard-schedule work is often referred to as “unsociable work.” Depending on their schedules, these workers may see their families rarely, if at all. Workers with overnight schedules may not be home in time to see family members before they go to school or work. If workers with nonstandard schedules work weekends, they could miss sharing time even when children and other family members are available. Failing to share time off together has implications for the quality of time families spend together and for family routines, such as eating meals together and evening activities. Parents who work late afternoons and evenings often cannot attend after-school events, supervise homework, and read to children before bedtime (Wright, Raley, and Bianchi 2008).

Securing Reliable Transportation

A lack of reliable transportation is commonly identified as a barrier to employment of low-income workers. Among those employed, lack of reliable transportation is one of the main reasons for absenteeism, causing possible job loss (Holzer and Wissoker 2001). The transportation choices of workers with nonstandard hours are limited, with few or no buses running late at night or in the early morning, and limited bus routes on the weekends. Carpooling is rarely an option. Being stranded at night if a car breaks down or walking home alone in the dark can compromise personal safety.

Employer-Controlled Schedules

Low-wage workers have less control over their work schedules and less access to flex time programs than higher-wage workers (Bonds and Galinsky 2011). The lack of employee-driven⁵ flexibility is compounded for workers with nonstandard schedules, who are more likely to work in industries such as

retail, leisure, or hospitality that require direct services and customer contact. Workers must be available to meet customer requests, to close the shop at a specified hour, or to clean a given number of rooms by a specified time. Workplace settings in which demand is lower during evenings and nights operate with a leaner workforce at night than during the day shift. In establishments that use nonstandard work schedules, most employees still work the day shift (Mayshar and Halevy 1997). This means that during the night shift, there are seldom extra workers to pick up the load if one worker is late or unable to show up. The unpredictability of work hours is another potential problem. Industries with variable demand throughout the day and the week schedule their workforce accordingly. This strict adherence to product demand results in unstable and unpredictable schedules, which often lead to nonstandard hours (Henly, Shafer, and Waxman 2006; Lambert 2009). Workers faced with unplanned nonstandard hours must rapidly find options for child care, including responsibilities such as picking up children from school and preparing their dinner.

Attending to Competing Demands for Time with No Paid Time Off

Paid time off allows some room for workers to accommodate unexpected circumstances that may cause them to miss work without endangering their employment. Low-wage workers are less likely to have paid sick days or paid vacation days than higher-wage workers, and most are not covered by the Family and Medical Leave Act because they work in establishments with fewer than 50 employees (Leigh 2012; Acs and Nichols 2004). Lack of paid time off takes a toll on workers with nonstandard schedules for three main reasons. First, evening and night work is stressful and associated with sleep deprivation, health problems, and injuries that may require work absences (Leigh 2012). Second, breakdowns of child care and transportation arrangements are difficult to handle during nonstandard hours, and the worker often has no paid time off to accommodate such emergencies. Third, the lack of or limited paid time off means even less time spent with family.

Empirical Strategy

The previous discussion about the supply of and demand for workers to accommodate nonstandard hours and the challenges posed to low-income families provides a framework for factors that could affect participation in this type of work and possible consequences for the time family members spend together. The rest of this paper uses data from the American Time Use Survey (ATUS) Multiyear Files 2003 to 2011. ATUS is based on a sample of respondents of the Current Population Survey (CPS). Participants are asked about the different activities performed during the 24-hour period covered by the survey, the specific time of day these activities were performed and their duration, and other persons involved in the activity. These data are linked to the respondents' work, earnings, and demographic data collected in the CPS. A detailed description of ATUS is in box 1. Using these data, this paper provides a detailed description of the characteristics of workers in nonstandard jobs, the trends in employing workers for nonstandard hours, and the industries and occupations most likely to employ workers during nonstandard hours. This paper uses regression analysis to identify the factors that influence the likelihood of working nonstandard hours.

Nonstandard work is defined as work performed outside the span of 6:00 a.m. to 6:00 p.m., the same definition used in the 1991 to 2004 Work Schedule Surveys of the Bureau of Labor Statistics. A nonstandard-schedule worker is defined as a person spending 50 percent or more of his or her working time (on the day the diary was kept) outside the 6:00 a.m. to 6:00 p.m. time band, or on weekends. The sample used in this paper is based on respondents ages 18 and older who reported at least one hour of work in the activity diary between 2004 and 2011. Self-employed individuals are excluded.

BOX 1. Data and Definitions

Data for this study are from the American Time Use Survey Multiyear Files 2003 to 2011. The ATUS is based on a sample of respondents to the monthly Current Population Survey. In the CPS, each housing unit is in the survey for four months, out for eight months, and back again for four months before leaving the survey. CPS households that have completed their eighth and final interview are eligible to be sampled for ATUS. Monthly, about 2,000 persons are interviewed.

Households are randomly selected to participate. Questions about time use are asked only about the person in the household who is randomly chosen and is at least 15 years of age. CPS variables can be linked to the ATUS households, but two to five months could have passed between the time information was collected in ATUS and the last CPS interview. Respondents are asked about the time they spent on different activities in the 24-hour period starting at 4:00 a.m. the day before the interview, including Saturdays and Sundays.

ATUS surveys have several strengths for the analysis of work schedules. With ATUS, the researcher can trace engagement in nonstandard work schedules for a period spanning nine years, making it possible to identify trends across time in a specific component of the workforce. The ATUS contains information about the specific hours and the day of the week each person worked. Hence we know the hours scheduled for work and the number of hours worked within a particular time frame. Also, because ATUS is linked to the monthly CPS, it contains a host of demographic and labor-force variables that could be studied as determinants of nonstandard work hours. ATUS also reports time spent in nonwork activities, making it possible to investigate the relationship of work schedules to other activities, such as time spent with children.

However, ATUS also has some limitations. For example, individual data cover only the one day the diary was kept. Issues such as work schedule instability cannot be addressed with these data. Another limitation is that we know the activities of the respondent only, not of anybody else in the household. Consequently, we do not know whether other household members work nonstandard hours.

Trends and Patterns in Nonstandard Work Schedules

Figure 1 shows the percentage of workers with nonstandard schedules in 2010–11, based on the ATUS definition of work on a nonstandard schedule (more than 50 percent of working time performed outside the 6:00 a.m. to 6:00 p.m. time band or on weekends). Nonstandard work schedules are quite common in the American workforce. Between 2010 and 2011, 20 percent of the workers who reported work activities in their diaries worked nonstandard schedules. More than one in every ten workers worked at least one day of the weekend. Among full-time workers (workers reporting seven or more hours of work in their diaries), 15 percent worked nonstandard schedules.

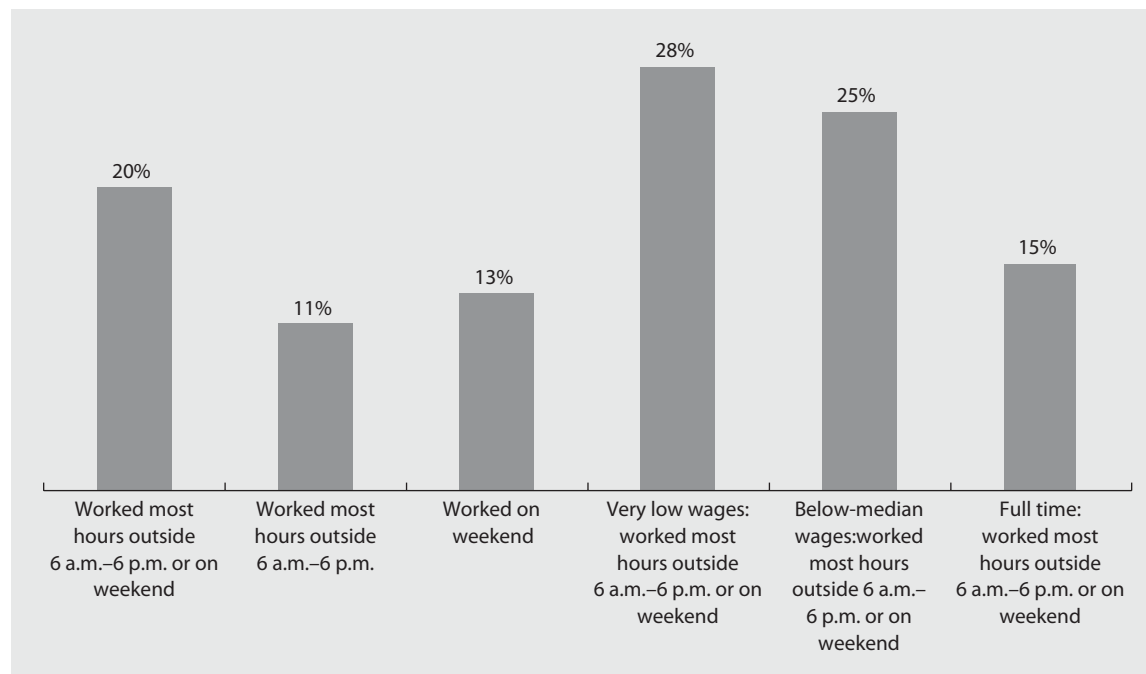
If nonstandard work was defined as working most hours outside the 8:00 a.m. to 4:00 p.m. time frame on weekdays, as defined by Harriet B. Presser (1986, 1994, 1997), the percentage of workers in these jobs would have been higher, at 28 percent.

Nonstandard hours touch many workers even if most of their work hours are within the standard workday. The typical worker spends 14 percent of all his or her working time during nonstandard hours (these data are not in the figure).

Nonstandard schedules are more common among low-wage workers. Among those with very low wages (weekly earnings lower than those of 75 percent of the population who work full time), 28 percent work most of their hours on a nonstandard schedule. One in four workers with wages at or below the median works on a nonstandard schedule.

Table 1 examines trends in the percentage of workers in nonstandard schedules from 2004 to 2011 for all workers and by specific wage points. Median and first quartile earnings refer to the weekly earnings of

FIGURE 1. Workers with Nonstandard Schedules, 2010–11



Source: Author's tabulations based on the American Time Use Survey Combined Year 2003–11 respondent activity and CPS files.

Notes: Persons surveyed were age 18 and older and reported at least one hour of work in their diaries, accrued at least \$40 in weekly earnings, and were not self-employed. Full-time workers reported at least seven hours of work in their diaries. Figures are weighted to represent the population.

TABLE 1. Percentage of Workers with Nonstandard Schedules by Weekly Earnings and Hours of Work, 2004–11

	All	Wages below median	Wages 1st quartile	Wages 2nd quartile	Wages above median
All workers					
2004–05	21	25	29	19	16
2006–07	20	23	26	17	16
2008–09	20	24	29	17	16
2010–11	20	25	27	21	15
Full-time workers					
2004–05	15	21	26	15	10
2006–07	13	17	21	13	10
2008–09	14	19	25	13	10
2010–11	15	21	25	17	10

Source: Author's tabulations based on the American Time Use Survey Combined Year 2003–11 respondent activity and CPS files.

Notes: Persons surveyed were age 18 and older and reported at least one hour of work in their diaries, accrued at least \$40 in weekly earnings, and were not self-employed. Full-time workers reported at least seven hours of work in their diaries. Figures are weighted to represent persons. First quartile and median weekly wages are from Bureau of Labor Statistics usual weekly earnings series published figures for full-time workers.

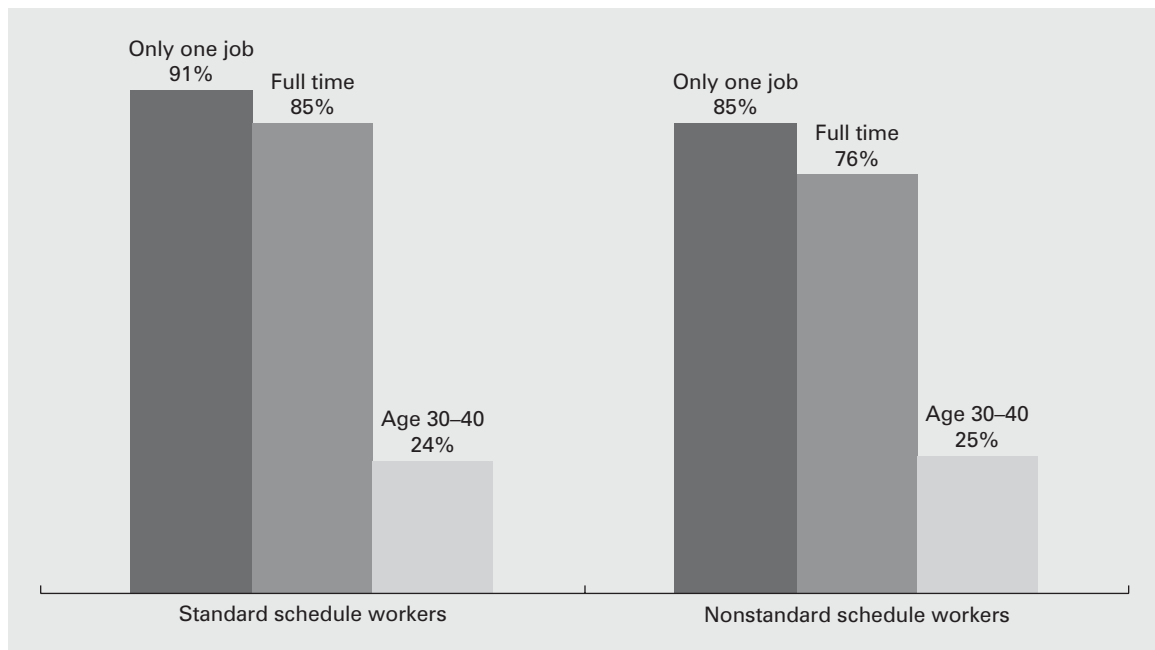
all full-time workers with nonstandard schedules and are obtained from the Bureau of Labor Statistics, Usual Weekly Earnings Series.⁶

The percentage of workers with nonstandard work schedules has remained stable at 20 percent since 2004. This trend is consistent with those for prior years as reported by Beers (2000), McMenemy (2007), and Hamermesh (1999).

Hamermesh (1999) argues that as income grows, nonstandard work will be more concentrated among low-wage workers because with higher incomes, better-off workers move away from these jobs and toward jobs with better amenities. Nonstandard work decreased between 2004–05 and 2006–07 among low-wage workers, but increased from 2008 on. No such pattern is evident among higher-wage workers. The Great Recession and the subsequent slow recovery may have pushed more low-wage workers toward accepting nonstandard work schedules. Whether caused by longer-term trends in the tendency of workers to engage in nonstandard hours or by the Great Recession, the number of workers with nonstandard work schedules has remained stable among higher-wage workers and possibly increased among lower-wage workers.

Workers with nonstandard schedules share the characteristics of mainstream workers. These are not jobs done by students and moonlighters on the side or to free up daytime hours for school or other nonwork activities. As figure 2 shows, for the majority of workers with nonstandard schedules, these jobs are both their only job (85 percent) and a full-time job (76 percent). In both groups, about 25 percent of all workers are 30 to 40 years old.

FIGURE 2. *Number of Jobs, Full-Time Status, and Age of Workers with Standard and Nonstandard Work Schedules, 2010–11*



Source: Author's tabulations based on the American Time Use Survey Combined Year 2003–11 respondent activity and CPS files.

Notes: Persons surveyed were age 18 and older and reported at least one hour of work in their diaries, accrued at least \$40 in weekly earnings, and were not self-employed. Full-time workers reported at least seven hours of work in their diaries. Figures are weighted to represent the population.

TABLE 2. *Earnings of Workers with Standard and Nonstandard Schedules, 2010–11 (%)*

	Standard schedules	Nonstandard schedules
All workers with wages		
At or below the first quartile wage of all workers	29	43
At or below the median wage of all workers	20	21
Above the median wage of all workers	50	35
Full-time workers with wages		
At or below the first quartile wage of all workers	22	40
At or below the median wage of all workers	22	26
Above the median wage of all workers	55	33

Source: Author's tabulations based on the American Time Use Survey Combined Years 2003–11 respondent activity and CPS files.

Notes: Persons surveyed were age 18 and older and reported at least one hour of work in their diaries, accrued at least \$40 in weekly earnings, and were not self-employed. Full-time workers reported at least seven hours of work in their diaries. Figures are weighted to represent the population. First quartile and median weekly wages are from Bureau of Labor Statistics published figures for full-time workers.

Table 2 shows that nonstandard-schedule work is often low-wage work. The earnings of 43 percent of all workers with nonstandard schedules are within the 25th percentile of earnings of all workers. In comparison, 29 percent of workers with standard schedules have earnings this low. These low earnings are not necessarily the result of low work effort. Even when working full time, 40 percent of nonstandard-schedule workers have earnings that are lower than those of 75 percent of all workers.

The occupations and industries of workers with nonstandard schedules also attest to their low wages. The ten occupations with the highest share of workers with nonstandard schedules are shown in table 3. The median weekly earnings for these occupations in 2011 are also shown. Among security guards and gaming surveillance officers, 56 percent have nonstandard schedules. Waiters and waitresses follow with 53 percent. Earnings in all these occupations, with the exception of registered nurses, are lower than the overall earnings. These occupations are growing. The employment projections from the Bureau of Labor Statistics place all these occupations but two (cooks and stock clerks) among the top 30 in terms of employment growth by 2020. Three of these occupations—registered nurses, home health aides, and personal care aides—are among the top four with the largest projected employment growth.⁷

The industries with the highest share of workers with nonstandard schedules are also those associated with low wages. Figure 3 shows the seven industries with the highest percentage of workers with nonstandard schedules in its workforce. The category of accommodation and food leads with 42 percent of all workers having nonstandard schedules. In retail, 30 percent have nonstandard schedules. In manufacturing as a whole, 17 percent of the workers have nonstandard schedules, but in nondurable manufacturing, one in four has nonstandard schedules. The average hourly pay for US workers in 2011 was \$23.34.⁸ Of the industries shown in the figure, all except health and social assistance paid less than the national average. In the accommodation and food, and retail industries, the hourly pay was \$16.04.

Personal, Household, and Economic Factors Influencing the Chances of Working Nonstandard Hours

This section investigates the factors that influence the participation of workers in nonstandard hours. The supply and demand for nonstandard hours, the challenges faced by nonstandard workers and trends and patterns discussed above suggest a model of nonstandard work hours based on variables

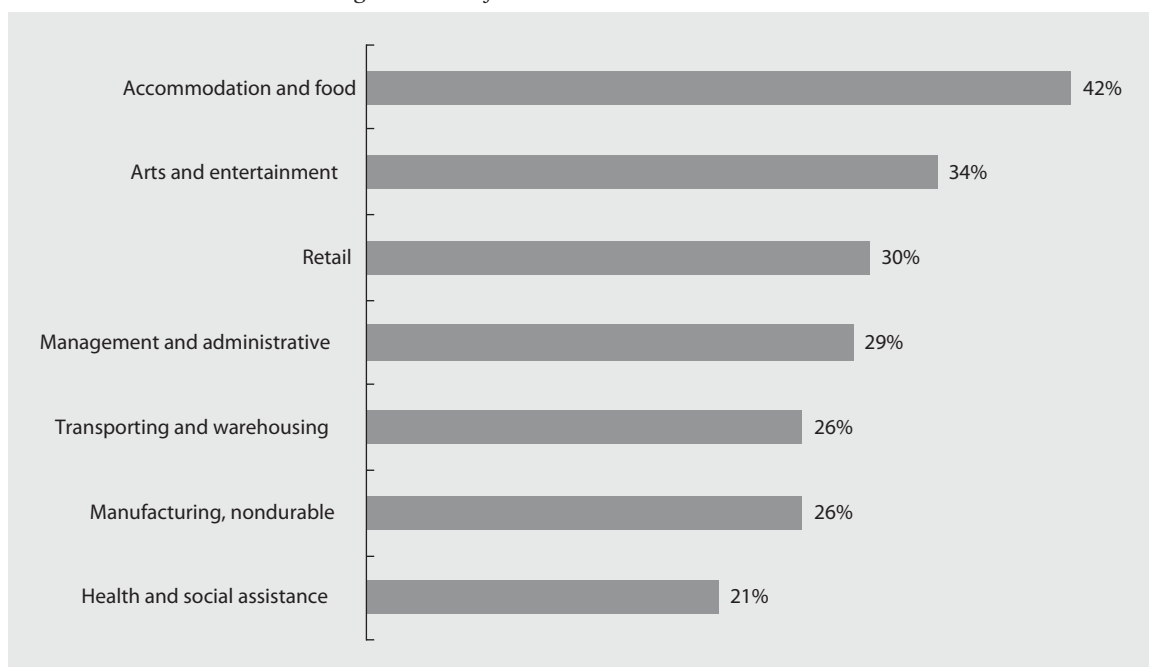
TABLE 3. Occupations with the Highest Share of Workers with Nonstandard Schedules and Median Weekly Earnings of Full-Time Workers, 2010–11

Rank (by share of workers in nonstandard schedules)	Percent of workers with nonstandard schedules	Occupation	Median weekly earnings, full-time workers (2011 dollars)
1	56	All occupations	\$756
		Security guards, gaming surveillance officers	\$519
2	53	Waiters and waitresses	\$407
3	48	Laborers, freight, stock, and material movers	\$509
4	44	Nursing, psychiatric, and home health aides	\$453
5	44	Stock clerks and order fillers	\$492
6	40	Janitors and building cleaners	\$489
7	36	Registered nurses	\$1,039
8	35	Cooks	\$390
9	35	Cashiers	\$383
10	34	Personal care aides	\$412

Source: Author's tabulations based on the American Time Use Survey Combined Year 2003–11 respondent activity and CPS files.

Notes: Persons surveyed were age 18 and older and reported at least one hour of work in their diaries, accrued at least \$40 in weekly earnings, and were not self-employed. Full-time workers reported at least seven hours of work in their diaries. Figures are weighted to represent the population. First quartile and median weekly wages are from Bureau of Labor Statistics Databases, Tables and Calculators by Subject, Usual Earnings Series, Employed Full-time Workers, Series Number LEU0252911300.

FIGURE 3. Industries with the Highest Shares of Workers with Nonstandard Schedules, 2010–11



Source: Author's tabulations based on the American Time Use Survey Combined Year 2003–11 respondent activity and CPS files.

Notes: Persons surveyed were age 18 and older and reported at least one hour of work in their diaries, accrued at least \$40 in weekly earnings, and were not self-employed. Figures are weighted to represent the population.

related to the economic context, and individual and household resources and constraints. The empirical model includes the state unemployment rate. When unemployment is high, workers have fewer employment alternatives and may be forced to take jobs with nonstandard hours. The reduced labor market opportunities during the Great Recession and the slow recovery are captured by a dummy variable for the observations corresponding to the 2008 to 2011 period (in comparison with the 2004 to 2007 period). The demand for nonstandard work schedules is reflected in the percentage of the state workforce employed in service occupations. Individual characteristics that may influence the chances of working nonstandard hours are age, race, ethnicity, foreign birth, gender, and lack of postsecondary education. The variable earnings is in the model because with increased earnings workers may be less willing to work nonstandard hours. Because nonstandard hours are closely associated with low-wage work, the inclusion of earnings in the right-hand side also serves as a control to make sure the remaining variables capture the effect of nonstandard hours and not the effect of low-wage work.

The composition of the household accounts for household resources and constraints. It is hypothesized that school-age children constrain a parent's options to work nonstandard hours because children create the most time conflicts. However, other research shows that the effect of having preschool children on an employee's likelihood of working nonstandard work hours is positive. Working nonstandard hours may be a preferred option for parents who want to be with their small children during the day. The high cost of child care may also lead parents to work nonstandard hours and arrange for a relative or the other parent to care for a child during evenings and nights.

This study makes a more detailed account of household composition than prior studies. As with other studies, it accounts for the presence of a spouse or partner in the household. But it also notes other adults in the household and the presence of a female at least 15 years old (who is not the respondent or the spouse). These two variables are intended to capture the possibility that even if the respondent is a single parent, there could be alternative caregivers who could facilitate working at nonstandard hours. Singling out women age 15 and older points out that having an additional female teenager or adult in the household may strongly affect choosing a nonstandard schedule. The household composition variables are interacted with gender because women spend more time on domestic and child care tasks than men (Presser 1994; Bianchi et al. 2000).

The model is estimated by earnings levels for workers up to the first earnings quartile, for those with earnings up to the median, and for those with earnings above the median, in which quartile and median weekly earnings are with reference to the overall full-time workforce.

The model is also estimated without the earnings variable and for the continuous variable of percentage of working time in nonstandard hours. The sample is composed of individuals 18 years old and older who are not self-employed or living alone, with at least one hour of work in their activities diary and at least \$40 in weekly earnings.

The descriptive statistics of the variables used in the logit analysis are in table 4. The descriptive statistics show that black workers, those without a college education, women, and the foreign born are more likely to work nonstandard than standard schedules. Workers with nonstandard schedules are less likely to live in married-couple families; their households are larger and often include females over the age of 15 who are not a spouse or the respondent. The logit models will determine whether these differences are statistically significant when considering them all together.

TABLE 4. Descriptive Statistics, Standard Schedule and Nonstandard Schedule Workers, 2004–11

	Standard Schedule		Nonstandard Schedule	
	Mean	Stand. Dev.	Mean	Stand. Dev.
Black non-Hispanic	0.09	0.29	0.12	0.33
Hispanic of any race	0.15	0.36	0.17	0.37
Asian, Pacific Islander	0.04	0.19	0.05	0.21
White non-Hispanic	0.70	0.45	0.64	0.48
Other race non-Hispanic	0.02	0.13	0.02	0.13
Foreign born	0.15	0.36	0.19	0.39
Female	0.47	0.50	0.44	0.50
Noncollege (no postsecondary education)	0.38	0.49	0.46	0.50
Age	40.8	12.7	37.5	13.6
Years 2008–11	0.50	0.50	0.50	0.50
Children 0–5 in household	0.22	0.41	0.23	0.42
Children 6–12 in household	0.26	0.44	0.25	0.43
Children 13–16 in household	0.21	0.41	0.22	0.41
Children 0–12 and 13–17	0.10	0.30	0.11	0.31
Spouse presence	0.74	0.44	0.63	0.48
Number of adults in household (excluding the respondent)	1.41	0.85	1.55	0.96
Female age 15 and older in household (nonrespondent, not spouse)	0.33	0.47	0.41	0.49
State unemployment rate	6.53	2.35	6.62	2.42
State percent in service occup.	16.78	1.59	16.86	1.65
Weekly earnings (\$)	853	621	690	566

Source: Author's tabulations based on the American Time Use Survey Combined Year 2003–11 respondent activity and CPS files. Only 2004–11 data were used.

Notes: Sample from years 2004–11. Persons with at least one hour of work activities, not living alone, age 18 and over, not self-employed, earnings at least \$40.00 weekly.

Table 5 shows the logit results for workers with earnings in the first quartile, up to the median and for workers above the median. Variables that are statistically significant with a p -value of .10 or less are in bold. The values refer to the odds of working nonstandard hours versus working standard hours. Additional estimations are in table 6.

The state-level economic variables behave as expected. Among workers with earnings below the median, the likelihood of working nonstandard hours increases when both the unemployment rate and the percentage of people working in the service industry are higher. However, there is no statistical difference between the 2004–07 and the 2008–11 periods, which are in agreement with the results from table 1, showing that the percentage of workers with nonstandard schedules remained constant in the last eight years.

Lower-income Asians are the group most likely to work nonstandard schedules.⁹ These workers are 21 percent more likely (40 percent for those without a college education—see table 6) than white non-Hispanics to work nonstandard hours. Higher-income Asians, however, are no more likely to work nonstandard hours than white non-Hispanics. Being black non-Hispanic also raises the chances of working

TABLE 5. *Odd Ratios of Working Nonstandard Schedules, 2004–11*

	All		Very Low Earnings		Earnings at or below Median		Earnings above Median	
	Odds ratio	P value	Odds ratio	P value	Odds ratio	P value	Odds ratio	P value
Economic context								
State unemployment rate	1.01	0.12	1.02	0.14	1.02	0.02	1.00	0.92
Percent in service occupations, state Year 2008–11	1.02	0.02	1.01	0.64	1.03	0.04	1.02	0.22
	0.93	0.20	1.03	0.80	0.96	0.67	0.94	0.29
Personal characteristics								
Black non-Hispanic	1.20	0.01	1.15	0.13	1.15	0.08	1.30	0.00
Hispanic	0.94	0.18	0.92	0.13	0.88	0.05	1.05	0.48
Asian, Pacific Islander	1.15	0.26	1.31	0.04	1.20	0.15	1.10	0.51
Foreign born	1.19	0.02	1.08	0.42	1.14	0.18	1.22	0.03
Female	0.76	0.00	0.63	0.00	0.60	0.00	1.00	0.99
Age	0.99	0.00	0.99	0.00	0.99	0.00	0.99	0.00
No college education	1.14	0.00	1.21	0.00	1.13	0.00	1.07	0.15
Weekly earnings	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.34
Female x years 2008–11	1.09	0.20	1.08	0.49	1.13	0.24	0.98	0.79
Foreign born x years 2008–11	1.10	0.17	1.04	0.72	1.07	0.55	1.13	0.27
Household (hh) characteristics								
Children age 0–5 in hh	0.92	0.07	0.90	0.22	0.94	0.26	0.97	0.67
Children age 6–17 in hh	1.01	0.82	1.02	0.77	1.04	0.57	1.01	0.80
Spouse present	0.91	0.08	0.89	0.33	0.85	0.02	1.09	0.37
Number of adults in the hh	1.06	0.43	1.13	0.37	1.07	0.50	0.96	0.76
Female age 15 and older in hh	1.04	0.44	0.81	0.09	0.85	0.11	1.15	0.04
Spouse present x female	0.92	0.26	0.94	0.68	1.02	0.80	0.79	0.05
Number of adults in hh x female	1.04	0.78	0.93	0.72	1.05	0.75	0.97	0.92
Female age 15 and older in hh x female	1.18	0.03	1.42	0.02	1.37	0.01	1.08	0.49
Child age 0–5 x female	1.23	0.00	1.30	0.01	1.25	0.00	1.08	0.43
Child age 6–17 x female	0.93	0.20	0.90	0.32	0.91	0.30	0.92	0.22
Constant	0.60	0.00	1.42	0.38	1.01	0.96	0.36	0.00
N	24,200		7,262		12,081		12,119	
Wald	2,455		469		778		228	
Pr >Chi Sq	0		0		0		0	

Source: Author's tabulations based on the American Time Use Survey Combined Year 2003–11 respondent activity and CPS files. Only 2004–11 data were used.

Notes: Sample from years 2004–11. Persons with at least one hour of work activities, not living alone, age 18 and over, not self-employed, earnings at least \$40.00 weekly. Bold figures indicate higher values for nonstandard-schedule workers.

nonstandard schedules, but this effect, although high, is generally lower than for lower-income Asians. In addition, black workers continue to show higher chances of nonstandard schedules even as their income rises. It appears that as their income goes up, Asians can get away from nonstandard-schedule jobs, but this is not the case for black workers.

Lower-income women are less likely to work nonstandard schedules than comparable men. Women with earnings below the median are from 24 to 40 percent less likely than men to work nonstandard hours, even after controlling for the presence and age of children. In the sample of workers without a

TABLE 6. Odds Ratios of Nonstandard Work, Regression of Percent Work Hours in Nonstandard Time (Alternative Samples)

	No College Education		Spouses, Single Parents at or below Median Wages		Women at or below Median Wages		Women Spouses, Single Parents; All Income Levels		All (Percent of Work Hours Nonstandard)	
	Odds ratio	P value	Odds ratio	P value	Odds ratio	P value	Odds ratio	P value	Coefficient	P value
Economic context										
State unemployment rate	1.02	0.21	1.02	0.22	1.01	0.61	1.00	0.90	0.00	0.26
% in service occupations, state	1.01	0.51	1.04	0.03	1.03	0.10	1.01	0.18	0.00	0.01
Year 2008–11	0.92	0.32	0.98	0.86	1.11	0.24	1.07	0.31	-0.01	0.40
Personal characteristics										
Black non-Hispanic	1.13	0.20	1.17	0.07	1.06	0.63	1.06	0.55	0.04	0.01
Hispanic	0.93	0.46	0.90	0.17	0.85	0.06	0.86	0.10	-0.01	0.38
Asian, Pacific Islander	1.40	0.09	1.21	0.23	1.12	0.38	1.17	0.38	0.03	0.19
Foreign born	1.16	0.17	1.16	0.15	1.07	0.62	1.20	0.13	0.03	0.01
Female	0.77	0.03	0.65	0.01					0.06	0.00
Age	0.99	0.00	0.99	0.00	0.99	0.00	0.99	0.02	0.00	0.00
No college education	1.00	0.00	1.11	0.01	1.30	0.00	1.25	0.00	0.02	0.00
Weekly earnings	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Female x years 2008–11	1.21	0.07	1.16	0.23					0.01	0.32
Foreign born x years 2008–11	1.02	0.81	1.09	0.40	1.27	0.25	1.28	0.05	0.02	0.22
Household (hh) characteristics										
Children age 0–5 in hh	0.96	0.54	0.95	0.47	1.18	0.01	1.19	0.00	0.02	0.05
Children age 6–17 in hh	0.95	0.46	1.01	0.95	0.94	0.29	0.95	0.27	0.00	0.81
Spouse present	0.91	0.30	0.96	0.72	0.86	0.01	0.84	0.00	0.02	0.03
Number adults in the hh	1.02	0.90	0.91	0.51	1.13	0.26	1.19	0.07	0.02	0.23
Female age 15 and older in hh	0.92	0.35	0.85	0.16	1.17	0.01	1.12	0.04	0.01	0.51
Spouse present x female	0.82	0.14	0.93	0.60					-0.01	0.43
Number of adults in hh x female	1.07	0.73	1.38	0.06					0.00	0.92
Female age 15 in hh x female	1.25	0.06	1.25	0.12					0.04	0.02
Child age 0–5 x female	1.22	0.05	1.29	0.00					0.04	0.00
Child age 6–17 x female	1.01	0.95	0.94	0.53					0.02	0.06
Constant	1.04	0.88	0.67	0.20	0.57	0.12	0.43	0.00	0.38	0
N	8,241		9,951		7,476		6,516		24,200	
Wald	512		586		337		224		F=126	
Prob>Chi2	0		0.00		0		0		0	

Source: Author's tabulations based on the American Time Use Survey Combined Year 2003–11 respondent activity and CPS files. Only 2004–11 data were used.

Notes: Sample from years 2004–11. Persons with at least one hour of work activities, not living alone, age 18 and over, not self-employed, earnings at least \$40.00 weekly. Bold figures indicate higher values for nonstandard-schedule workers.

college degree, the time interaction with gender shows that the odds of women working nonstandard hours in comparison with men increased by 21 percent in the 2008–11 period. Because of this increase, in 2008–11, less-educated women were as likely as comparable men to work nonstandard schedules.

The household composition variables are more significant in explaining women's participation in nonstandard work schedules than that of men, indicating that the family/work challenges of nonstandard schedules are more salient among women.

The effect children have on the likelihood of working nonstandard hours depends on their age. Having preschool-age children increases the odds of working nonstandard hours among low-income women. Presser (1995) and Wright, Raley, and Bianchi (2008) also found a similar result. Because this effect is concentrated among low-income women, it may be that nonstandard hours are used to avoid the high cost of child care rather than because women prefer to be with their preschoolers during the day. Having preschool-age children could still restrict the ability of low-income mothers to take a job at all, but they increase the chances that the job taken has a nonstandard schedule.¹⁰ Lower-income women living in households with preschool-age children are 17 to 30 percent more likely than other women to work nonstandard schedules. The effects of the presence of school-age children are not statistically different from zero. Ancillary estimations separated school-age children between the ages of 6 and 12 and between 13 and 17, but the results were similar.

Nonstandard schedules are facilitated by the presence of other women in the household. These women, who presumably can serve as alternative caregivers and household support, increase the chances of working nonstandard schedules anywhere from 12 percent to 42 percent. This extra caregiver or household help especially promotes the nonstandard work hours of lower-income women.

The last column of table 6 shows results for the percentage of working hours on a nonstandard schedule. It is a continuous variable going from 0 to 100 percent. These results confirm the findings from the logit model of the effects of race, lower levels of education, and gender on working nonstandard hours. It also finds a positive effect of preschool children, increasing the percentage of time in nonstandard hours and the stimulus of females age 15 and older in nonstandard hours.

Nonstandard Work Schedules Interfere with Family Life

Many studies have found that nonstandard work hours interfere with family life, mainly because when children and standard-hours workers are off, the nonstandard-hours worker is at work. Table 7 shows the average daily minutes that workers spend with their children and family, by gender of the worker and earnings level. More time spent working means less time for other activities regardless of when these hours are worked, so this analysis is done for full-time workers (those who reported seven hours of work or more during the day). Figures for time spent with children, by age, are calculated for households in which such children are present.

Almost all the figures of table 7 show that nonstandard-schedule workers spend less time with children and family than standard-schedule workers. Lower-income women with nonstandard schedules spend nine minutes less with their children than women in standard-schedule jobs. Lower-income men with nonstandard work hours spend 21 minutes less per day with their children than comparable men with standard work hours. There is a stark difference in time spent with children, depending on their ages. Workers with nonstandard schedules spend *more* time with their preschool-age children than standard-schedule workers. School-age children, however, are negatively affected. Nonstandard-schedule workers spend less time with

TABLE 7. *Time Spent with Children and Family, by Nonstandard Schedule Work Status, Gender, and Earnings, 2010–11*

	Standard schedule (minutes daily)	Nonstandard schedule (minutes daily)	Ratio: standard to nonstandard
Women, below-median earnings			
Time spent with children	153	144	106.3
Time spent with children age 0–5	161	174	92.5
Time spent with children age 6–17	130	103	126.2
Time spent with family	173	160	108.1
Women, above-median earnings			
Time spent with children	155	132	117.4
Time spent with children age 0–5	190	205	92.7
Time spent with children age 6–17	132	91	145.1
Time spent with family	165	177	93.2
Men, below-median earnings			
Time spent with children	113	92	122.8
Time spent with children age 0–5	137	144	95.1
Time spent with children age 6–17	84	56	150.0
Time spent with family	153	119	128.6
Men, above-median earnings			
Time spent with children	128	110	116.4
Time spent with children age 0–5	146	111	131.5
Time spent with children age 6–17	132	91	145.1
Time spent with family	168	135	124.4

Source: Author's tabulations based on the American Time Use Survey Combined Year 2003–11 respondent activity and CPS files.

Notes: Sample from years 2004–11. Persons surveyed were age 18 and older and reported at least one hour of work in their diaries, accrued at least \$40 in weekly earnings, and were not self-employed. Full-time workers reported at least seven hours of work in their diaries. Figures are weighted to represent persons. First quartile and median weekly wages are from Bureau of Labor Statistics Databases, Tables and Calculators by Subject, Usual Earnings Series, Employed Full-time Workers, Series Number LEU0252911300. Time spent with children age 0 to 5 are calculated on the sample of households with children age 0 to 5 only; similarly for children 6 to 17. Bold figures indicate higher values for nonstandard-schedule workers.

their school-age children than standard-schedule workers. Low-income men with nonstandard schedules spend 27 minutes less per day with their school-age children than comparable men with standard schedules, the largest relative difference in the table.

Policy Implications

Nonstandard work schedules are part of the functioning of the American economy. In the past eight years, around 20 percent of the workforce has been working nonstandard schedules in any given day. These are not jobs people hold on the side or to accommodate other activities. For the large majority of workers with nonstandard work schedules, these are their only jobs and their full-time jobs. Although the percentage of workers on nonstandard schedules has remained stable, the proportion of low-wage workers holding these jobs increased somewhat during the Great Recession and thereafter. Nonstandard work schedules have also become more common among women with low levels of education, and the occupations with most demand for nonstandard hours are among those with the largest projected employment growth. By race and ethnicity, Asian and black workers are the most likely to have nonstandard schedules. Higher incomes allow Asians to move away from these jobs, but black workers continue to work nonstandard hours, even at higher incomes.

Having preschool-age children increases the odds of a mother working nonstandard hours and, because this effect is stronger among lower-income women, it is likely due, at least in part, to the high cost of child care. The presence of an extra woman in the household helps low-income mothers accommodate nonstandard work schedules. Workers with nonstandard schedules spend less time with their family than standard-schedule workers. Nonstandard work schedules especially reduce the time low-income men spend with school-age children.

In the United States, as posited by Waldfogel and McLanahan (2011), work and family policies have not been updated to reflect the new realities of American life. One of these realities is nonstandard work hours, which pose many challenges to workers and their families. Although working these hours may be a choice for some workers, for the majority of workers they come as a necessary condition of the job. Nonstandard work schedules have societal costs, such as the way they affect parental time with school-age children. Other consequences, such as those for health, have been shown in the literature.

Work-related policies addressing the challenges of working nonstandard schedules can be broadly aligned in two categories: those directed toward the worker and those directed toward the workplace. Nonstandard-schedule workers need the work supports of child care and transportation geared toward nonstandard hours. The limited child care alternatives at nonstandard hours keep workers, particularly single mothers, from accepting and maintaining jobs at nonstandard hours. The findings that more lower-educated women are working these jobs and that the occupations with nonstandard hours are among the most rapidly growing make it more important to address the work supports needed by these workers. One implication of the results of this study is that work-support strategies can work better if they take into consideration the family and economic contexts. Some workers have family members within the household who assist with child care at nonstandard hours. These resources could be considered in designing child care subsidies for low-income families so as to support the use of in-household child care providers and allow payments for them. The nature of the local economy can also help guide work support strategies for nonstandard-schedule workers. For example, in areas where a large segment of the economy is composed of tourism, government can promote the creation of child care centers and expansion of transportation choices in tourist zones or in other areas with a high share of workers in the leisure and accommodation industries. Subsidies for car loans and program support for nonprofit agencies that assist low-income workers in acquiring a car can make a big difference for nonstandard-schedule workers.

Since employers benefit from a stable workforce at nonstandard hours, public/private alliances can be a promising way to provide nonstandard-schedule workers with the support they need to work these jobs. Paid time off can go very far in giving respite to workers whose schedules are not synchronized with those of other members of the family. Paid sick days and vacation laws have been passed in some areas and can be expanded to states and other local areas. Employers should consider flexibility in scheduling to help with workers' family needs. State and local governments could provide tax incentives and raise awareness about the benefits of flexibility through such campaigns as the 2010 National Dialogue on Workplace Flexibility from the White House Flexibility Forum.

Results showing that school-age children are the most affected by parents' nonstandard schedules suggest that schools could be another important policy actor in the lives of these workers. A lack of participation of lower-income parents in evening school activities may be due, in part, to nonstandard work schedules. But schools could provide other ways for these parents to get involved that would benefit the parents with nonstandard work schedules and their children.

APPENDIX

TABLE A1. Odds Ratios for Nonstandard Work, Alternative Samples and Specifications, Regression Coefficients of Model of Percent Time in Nonstandard Hours

	Weekdays Only		At or below Median		All		Percent Time in Nonstandard Hours: Weekdays Only	
	Odds ratio	P value	Odds ratio	P value	Odds ratio	P value	Odds ratio	P value
Economic context								
State unemployment rate	1.04	0.06	1.01	0.49	1.02	0.19	0.00	0.19
Percent in service occupations, state Year 2008–11	1.00	0.84	1.03	0.14	1.01	0.40	0.00	0.50
	0.92	0.32	0.94	0.53	0.90	0.09	0.00	0.94
Personal characteristics								
Black non-Hispanic	1.40	0.00	1.31	0.01	1.45	0.00	0.03	0.00
Hispanic	0.73	0.00	0.75	0.00	0.86	0.07	−0.02	0.00
Asian, Pacific Islander	1.47	0.10	1.34	0.09	1.36	0.08	0.03	0.05
Foreign born	1.20	0.24	1.00	0.98	1.01	0.88	0.01	0.27
Female	0.58	0.00	0.63	0.00	0.74	0.01	−0.05	0.00
Age	0.99	0.00	0.99	0.00	0.99	0.00	0.00	0.00
No college education	1.41	0.00	1.20	0.00	1.31	0.00	0.02	0.00
Weekly earnings	1.00	0.00	1.00	0.00			0.00	0.00
Female x year 2008–11	1.13	0.20	1.12	0.24	1.12	0.09	0.00	0.51
Foreign born x year 2008–11	1.08	0.57	1.21	0.12	1.26	0.05	0.00	0.77

(continued)

TABLE A1. Odds Ratios for Nonstandard Work, Alternative Samples and Specifications, Regression Coefficients of Model of Percent Time in Nonstandard Hours (Continued)

	Weekdays Only		At or below Median		All		Percent Time in Nonstandard Hours: Weekdays Only	
	Odds ratio	P value	Odds ratio	P value	Odds ratio	P value	Odds ratio	P value
Household (hh) characteristics								
Children age 0–5 in hh	0.92	0.35	1.04	0.73	1.03	0.73	–0.01	0.17
Children age 6–17 in hh	0.99	0.89	1.07	0.44	1.07	0.24	0.00	0.65
Spouse present	0.88	0.18	0.79	0.02	0.74	0.00	–0.02	0.00
Number adults in the hh	0.94	0.77			1.13	0.29	0.01	0.75
Female age 15 and over in hh	1.24	0.06	0.96	0.71	1.08	0.35	0.02	0.01
Spouse present x female	0.90	0.42	1.06	0.67	1.07	0.42	0.01	0.44
Number adults in hh x female	1.24	0.40			1.06	0.73	0.01	0.53
Female age 15 in hh x female	1.12	0.55	1.32	0.05	1.19	0.12	0.01	0.59
Child 0–5 x female	1.57	0.00	1.20	0.12	1.22	0.05	0.03	0.00
Child 6–17 x female	0.94	0.60	0.86	0.27	0.90	0.25	–0.01	0.13
Constant	0.23	0.00	0.29	0.00	0.20	0.00	0.17	0
N	18,175		12,081				18,175	
Wald			447				F=35	
Prob>Chi2	959		0				Prob F>0=0	

NOTES

1. Night Pay for General Schedule Employees, US Office of Personnel Management. See <http://www.opm.gov/oca/pay/HTML/NIGHT.asp>.
2. Employer Cost per Employee Compensation, June 2012. Bureau of Labor Statistics. See <http://www.bls.gov/news.release/ecec.t01.htm>.
3. Washington State Child Care Resources and Referral Network. Nonstandard Work Hours Child Care Project, February 2000. See http://www.childcarenet.org/get-involved/advocacy/policy-resources/studies/non_standard.pdf.
4. Illinois Department of Health and Human Services. Illinois Child Care Report FY 2010. See <http://www.dhs.state.il.us/-page.aspx?item=55434>.
5. Term used by Henly, Shaefer, and Waxman (2006).
6. Bureau of Labor Statistics, Databases, Tables and Calculators by Subject, Usual Earnings Series, Employed Full-time Workers, Series Number LEU0252911300.
7. Bureau of Labor Statistics, News Release Employment Projections, 2010. See <http://www.bls.gov/news.release/pdf/ecopro.pdf>.
8. Data on hourly wage by industry is from Bureau of Labor Statistics Hourly Earnings by Industry, B Series.
9. An indicator for persons of other race was in the initial equation but later eliminated due to its repeatedly low statistical significance.
10. This was confirmed by ancillary analysis modeling the choices of nonemployment, employment in standard schedules, and employment in nonstandard schedules.

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