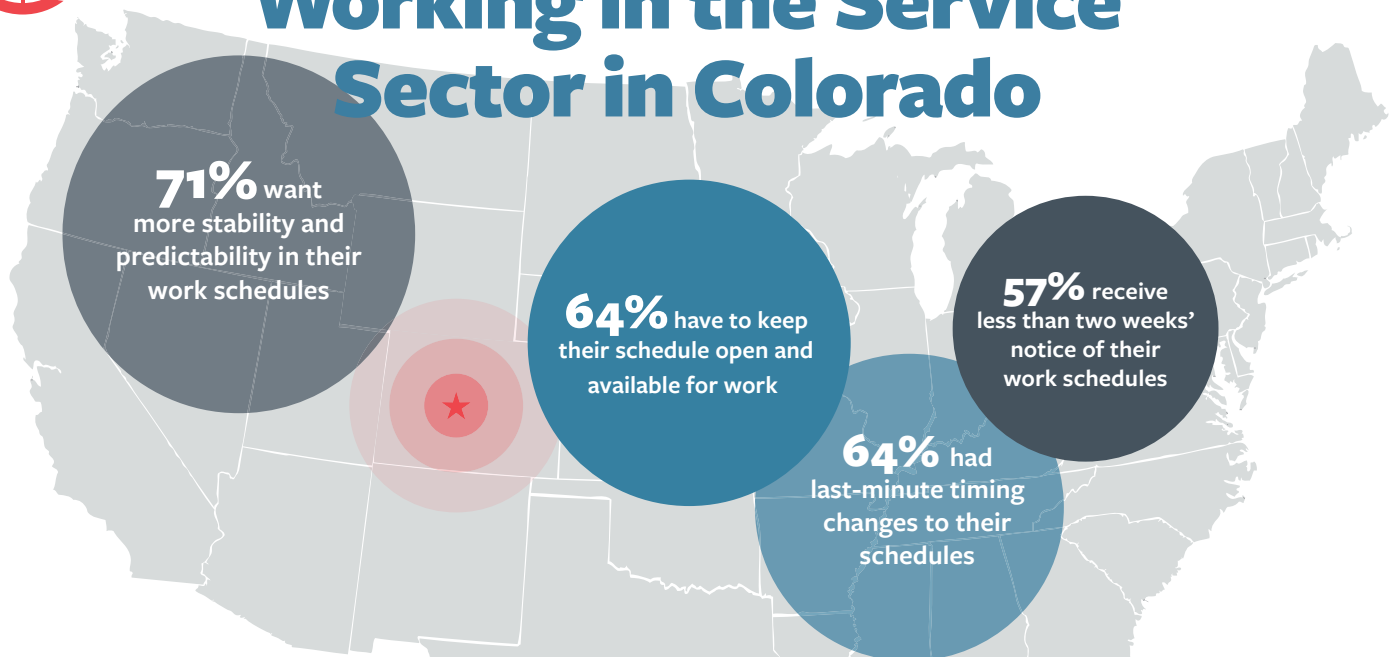




Working in the Service Sector in Colorado



Service sector jobs in the United States are characterized by low pay, few fringe benefits, and limited employee control over scheduled workdays and times.¹ Many service sector employers across the country rely on just-in-time and on-call scheduling practices designed to minimize labor costs by closely aligning staffing with consumer demand.² These practices can introduce significant instability into the lives of workers and their families.³

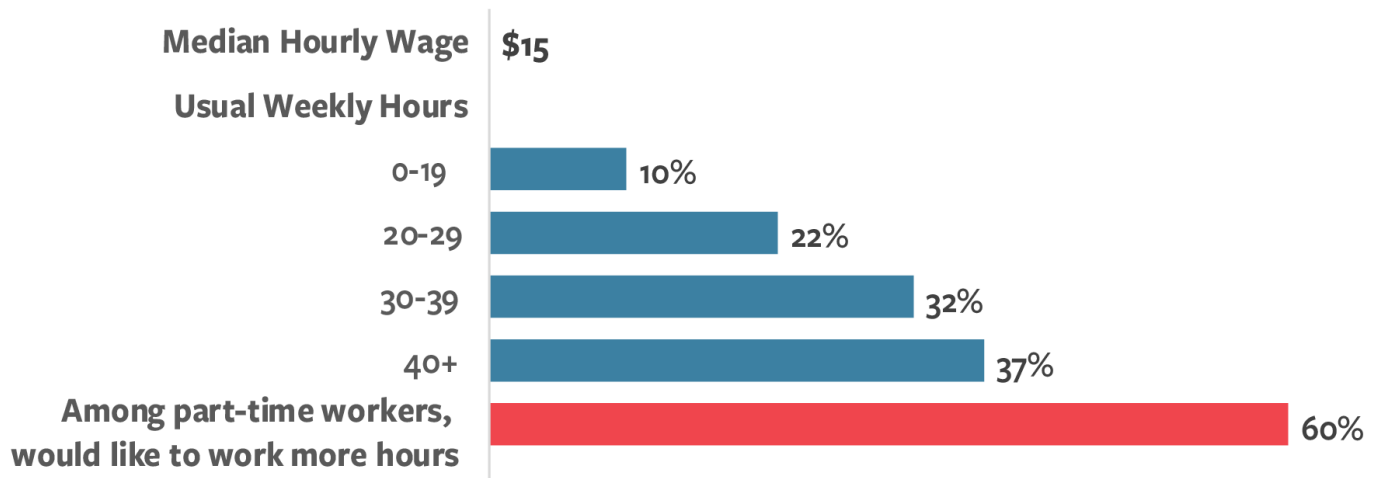
This research brief is part of a series designed to advance our understanding of working conditions in the service sector—in particular, schedule instability and unpredictability—in cities and states across the country. Since 2016, The Shift Project has collected survey data from workers employed at large chain retailers and food-service establishments.⁴ We ask respondents about their work schedules, household economic security, health, and wellbeing, targeting employees at large firms that are the focus of recent state and local labor regulation efforts. Our data permit an unprecedented view of labor conditions in the service sector and provide unparalleled insight into the work and family lives of low-wage workers. In the state of Colorado, 13% of the labor force was

employed in the retail and food-service sectors as of 2021.⁵ This brief describes the experiences reported by 2,628 of these workers surveyed by The Shift Project, in order to capture working conditions in Colorado's service sector.

Insufficient Wages and Work Hours

While the federal minimum wage has remained stuck at \$7.25, the minimum wage for hourly workers in Colorado has steadily risen. Over the period described in our data (March 2017 to November 2021), the minimum wage in Colorado increased from \$9.30 per hour in 2017 to \$13.65 per hour at the start of 2023.⁶ Median wages of the workers we surveyed climbed right along with Colorado's minimum wage, from \$11 an hour in 2017 to \$15 an hour by 2023. This significant increase in wages is clear evidence of how state-level policy can help service sector workers. Yet, even Colorado's higher minimum wage still does not reach the estimated living wage in the state of \$19.16 per hour for a single adult with no children, and 83% of the workers we surveyed report wages that fell below Colorado's estimated living wage.⁷

Figure 1. Job Characteristics for Colorado Service Sector Workers



While the estimated living wage is based on year-round full-time employment, only a minority of the Colorado workers in our study report full-time work. In reality, 64% of Colorado workers report working fewer than 40 hours per week. One third of workers reported 30 or fewer hours per week.

Although some workers may prefer a part-time work schedule, most workers we surveyed reported a desire for more work hours than they typically receive. The majority of Colorado workers—52% overall, and 60% among those working less than 35 hours per week—reported that they would like to work more hours. Nearly 30% of Colorado workers in our study can be characterized as “involuntary part-time” workers—that is, people who work fewer than 35 hours per week at their primary job and who would like more hours.

Unstable and Unpredictable Work Schedules

In addition to widespread part-time scheduling that restricts the number of hours and total income available to workers, we also find that Colorado workers experience instability and unpredictability in their work schedules.

A majority of the Colorado workers in our sample report work schedules that are irregular or non-standard: 33% report “variable” schedules, 19% report “rotating” schedules, and another 20%

report regularly working night or evening shifts. Less than a quarter of service sector workers report a regular daytime work schedule.

We also asked workers whether they had experienced certain workforce management practices associated with just-in-time scheduling in the past month. One in four workers reported working at least one “on-call” work shift in the prior month, meaning that they had to be available to work that day but may or may not actually have been called in. One out of six workers reported having at least one shift cancellation in the past month. Forty-four percent of workers reported working consecutive closing-then-opening shifts at least once in the prior month, referred to as “clopening.”

Colorado workers also experience a great deal of variation in the total number of hours worked each week. When asked about their work schedule over the past month, the average worker reported a difference of 13.5 hours between the week they worked the most hours and the week they worked the fewest hours, that is a 37% gap between the average longest and shortest week. Given our focus on workers who are paid hourly, we know these variations in hours lead to volatility in earnings—indeed, half of workers report that their income varies from week to week.

In addition to the common experience of schedule instability, many workers receive limited advance notice of their work schedules. Fewer than half (43%) of the workers in our sample receive 2 weeks or more advance

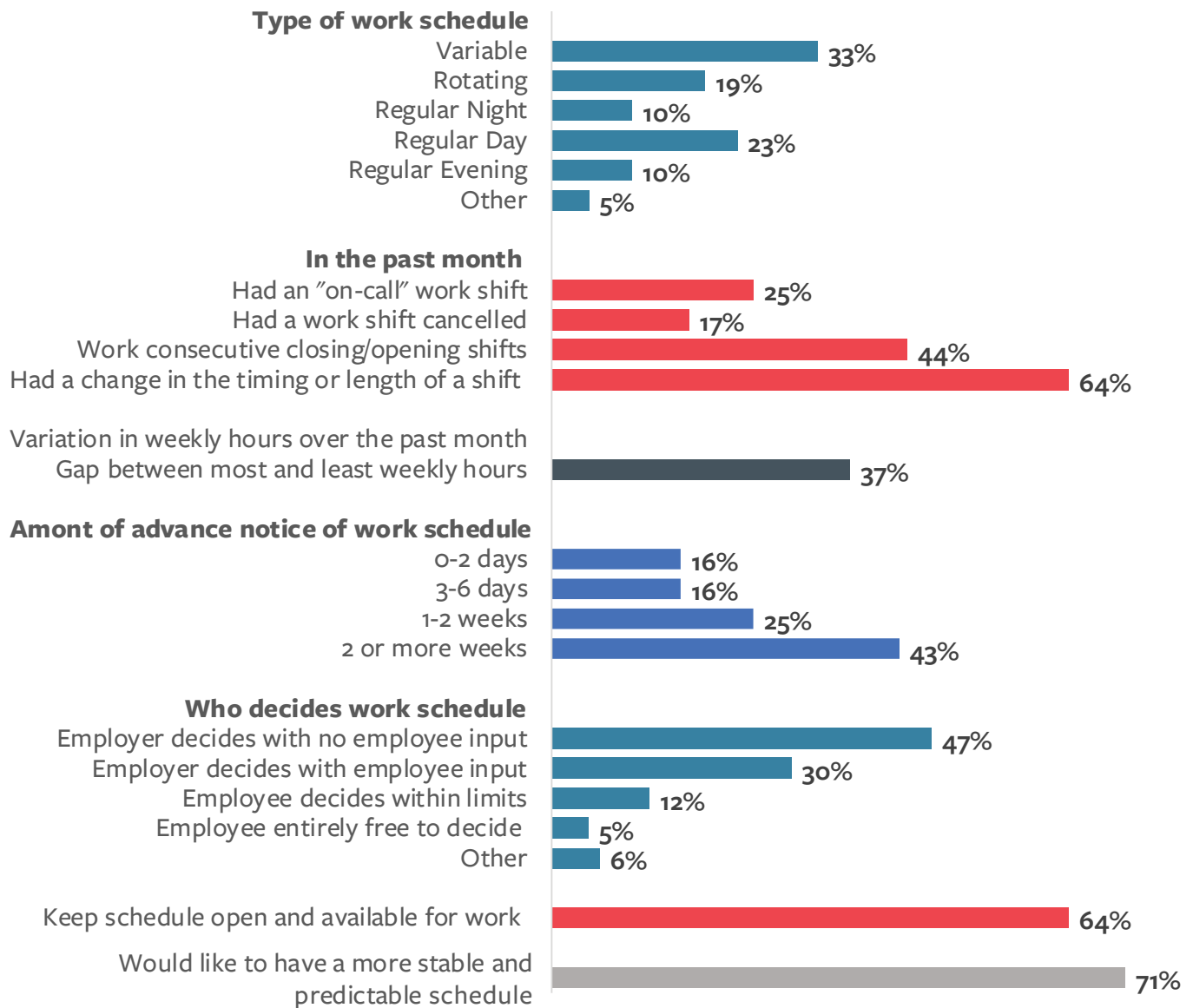
notice of their work schedules. Another 25% receive between 1 and 2 weeks' notice. The remaining 32% of workers receive less than 1 week's advance notice; of those, almost half receive no more than 2 days' notice. Many workers also experience very little advance notice of schedule changes. Two-thirds of workers reported that they recently experienced a last minute change in the timing or length of a scheduled shift (for example, they were asked to come in early or late, or to leave early or to stay later than the hours they were originally scheduled for).

These measures show that many Colorado service sector workers experience unstable and unpredictable work schedules. We also find that

these workers often do not have control over their schedules. Nearly half of workers have no input when it comes to setting their work schedules, another 30% have some input, and only 18% of workers have a large degree of control over their scheduled work days and times.

Compounding all of these dimensions of scheduling instability, most workers reported that even in their personal time, they have to keep their schedule open and available for work. Two-thirds of workers reported that they keep their schedule open and make themselves available even when they are not scheduled to work. This has implications for their ability to balance work and family responsibilities, to

Figure 2. Work Scheduling Characteristics for Colorado Service Sector Workers



combine work with schooling or other pursuits, and to achieve a work-life balance. One clear indication that Colorado workers lack flexibility and instead experience substantial instability and unpredictability is that 71% of workers report that they would like a more stable and predictable work schedule.

The COVID-19 pandemic has shone a bright light on the important work that the grocery, food service, pharmacy, delivery and fulfillment, hardware, and other service sector workers perform. Many large firms have publicly praised the work of their frontline employees.⁸ But, in terms of working conditions, we find that little has changed.

Colorado service sector workers who have worked during the months of the pandemic experience similarly high levels of on-call shifts, last minute timing changes, and clopenings as before the pandemic. By some measures, service workers who worked through the pandemic actually experience more unpredictability than before. A larger share of these workers experienced cancelled shifts than pre-COVID workers (18% compared to 15% of workers before COVID-19).

Although many service sector workers have taken on extra health risks in order to serve customers and sustain businesses during the COVID-19 pandemic,

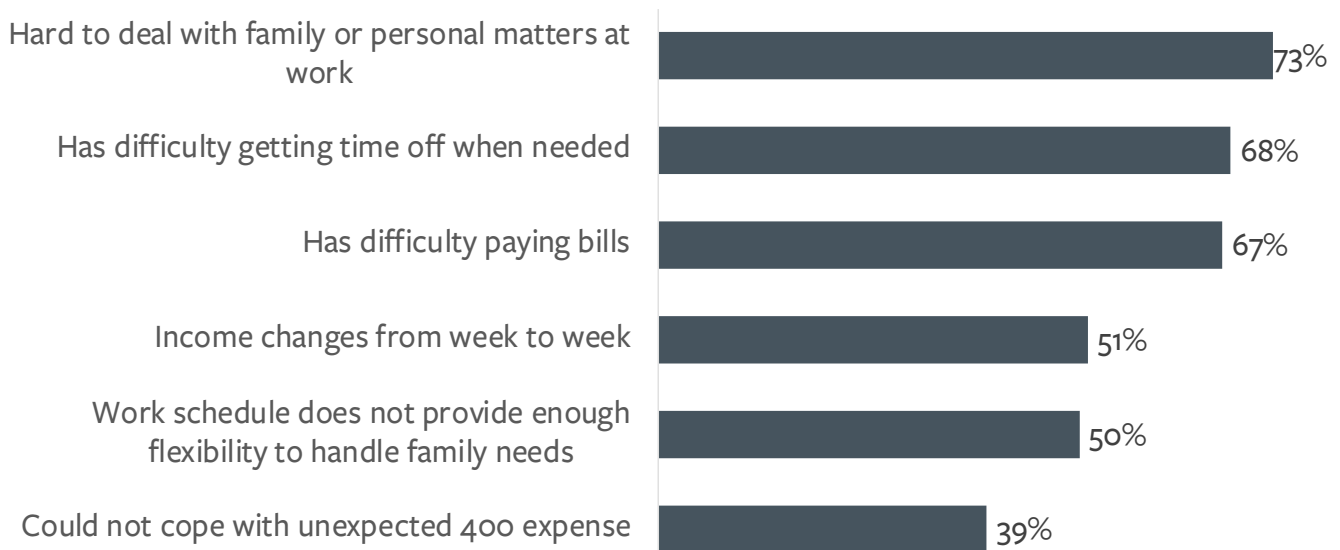
they have just as little control over these “just-in-time” schedule changes as in pre-COVID times. Half of workers surveyed reported to have no say in their scheduled hours, both before and during the pandemic. While service sector workers are increasingly recognized for the value of their work, that recognition has not translated into a more secure schedule or more stable hours.

Challenges Reported by Colorado Workers

Given the constellation of unstable and unpredictable scheduling practices experienced by Colorado service sector workers in our sample, it is not surprising that many of these workers report that their work schedule interferes with their family needs and caregiving responsibilities. Specifically, half of workers report that their work schedule does not provide enough flexibility for them to handle their family’s needs and 73% find it challenging to address family matters during work. Workers are also constrained in getting time away from work to handle family matters given that 68% report that they find it challenging to get time off when they need it.

The variation in hours coupled with low wages and, for some workers, insufficient hours, lead to income volatility and financial insecurity. In our sample, 67%

Figure 3. Challenges Reported by Colorado Service Sector Workers



of workers reported that, in a typical month, they find it very difficult or somewhat difficult to cover their expenses and pay all their bills. When we asked workers whether they could come up with \$400 if an unexpected need arose within the next month, 39% doubted that they could come up with the money.

The Relationship Between Work Schedules and Worker Health

Exposure to unstable and unpredictable schedules may also negatively affect workers' health and wellbeing. Short notice and last-minute schedule changes may lead to economic instability for workers and a lack of certainty about one's schedule may increase work-life conflict and be an added source of stress.

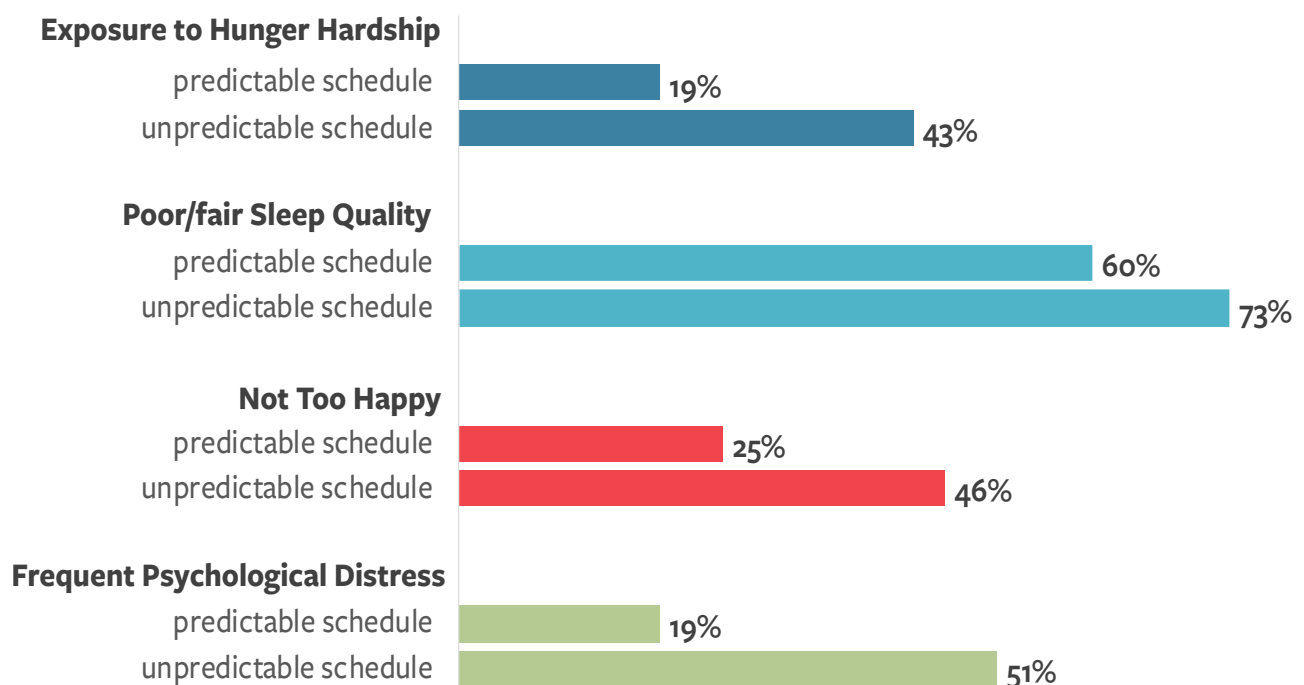
To examine the impact of just-in-time scheduling on worker health, we compare the reported health and wellbeing of workers with the most stable and predictable schedules to those with the least stable and predictable schedules.⁹ We find that:

- ▶ **Workers with unpredictable work schedules are much more likely to report having experienced**

hunger hardship in the past year. Our survey asked all workers, "In the past 12 months, were you ever hungry, but didn't eat because you couldn't afford enough food?" 43% percent of Colorado workers with the most unpredictable schedules experienced hunger in the past year, compared to 19% of workers with predictable schedules.

- ▶ **Workers with unpredictable work schedules report worse sleep quality.** Seventy-three percent of Colorado workers with the most unpredictable schedules report poor or fair sleep quality, compared to 60% of workers with predictable work schedules.
- ▶ **Workers with unpredictable work schedules are less happy.** Around half (46%) of Colorado workers with the most unpredictable schedules report being unhappy, compared to 25% of workers with predictable work schedules.
- ▶ **Workers with unpredictable work schedules are significantly more distressed.** We asked workers how often they felt each of five types of distress in the past month (sadness, nervousness, restlessness, hopelessness, and that everything

Figure 4. Health and Wellbeing Outcomes for Colorado Service Sector Workers



was an effort). Fifty-one percent of workers with the least predictable schedules reported experiencing frequent distress, which is more than two times more than workers with predictable schedules.¹⁰

Irregular Scheduling and Student Workers

We document the prevalence of schedule instability and unpredictability for all low-wage workers in Colorado, but these conditions may pose unique challenges for the 35% of workers in our sample who are enrolled in school. Most of these students (85%) are high school graduates who are working on furthering their education.

- ▶ **Student workers experience substantial variation in number of work hours.** Student workers report a gap of 45% between the week with the most hours and the week with the least hours in the previous month. It could be assumed that this variability is preferable for workers who are enrolled in school, however, a large majority of students (72%) reported that they wanted more stable and predictable schedules.
- ▶ **Student workers have significant exposure to just-in-time scheduling practices.** Student workers report high rates of on-call shifts (28%), changes to the timing or length of shifts (68%), shift cancellation (19%), and “clopings” (47%).

Unstable scheduling at work adds additional stress to students who are trying to simultaneously attend class and finish course work. Forty-four percent of student workers report that their work schedule makes it difficult for them to attend classes, study, and complete school work. Among students with the least predictable schedules, 43% could not afford food at some point in the past year, 68% experienced poor sleep quality, and 51% suffered high feelings of unhappiness, far in excess of the shares of students with predictable schedules who experienced such challenges.

Intergenerational Consequences of Unstable Work Scheduling

A quarter of the Colorado retail and food-service workers in our sample are parents living with children aged 0 to 14. Yet despite their caregiving obligations, these workers report similar exposure to unstable and unpredictable schedules as workers without young children.

Over a third of parents with young children say they are given less than seven days notice of their next schedule. Even if a parent knows their schedule in advance, they can still be subject to last minute changes. Over half of the parents we surveyed experienced a change in the timing or length of a scheduled shift in the previous month and two-thirds of parents had to keep their schedule open and available for work.

Many parents said that their schedules and income can vary dramatically from week to week. Half of the parents we surveyed said their incomes were volatile, going up and down depending on the week. On average, a parent worker’s shortest work week was about 13 hours shorter than their longest work week in the previous month. Parents have the added financial responsibility of providing for another person, and these unstable scheduling practices can create extra challenges in making ends meet. Of parents with the least predictable schedules, 60% percent said they were unable to afford food at some point in the past year.

The stress of navigating unstable schedules and volatile income along with the demands of family life can have negative consequences on the psychological well-being of parents. Thirty-seven percent of parents with the most unstable schedules indicated that they were unhappy and 41% parents with the most unstable schedules reported high levels of despair, shares far in excess of parents with more stable and predictable schedules.

For working parents, like those in our Colorado study, schedule instability and unpredictability can spill over and have negative consequences for their children.¹¹ Children thrive in environments of security, consistency, and support, with stable and high-quality child care arrangements, but just-in-time scheduling makes arranging this type of care very difficult.¹²

We have examined the consequences of these scheduling practices for working parents in our national data, focusing on the parents of young children aged 0 to 4 (early years that are crucial to healthy child development). We find that parents' exposure to on-call work and last-minute shift changes are associated with a reliance on informal care arrangements involving multiple, rotating caregivers (including siblings who might be young children themselves), and rarely involving high-quality center-based childcare.¹³

Further, unstable and unpredictable schedules may reduce child wellbeing by undermining household economic security, upsetting family routines, and introducing strain and stress into everyday parent-child interactions that would ideally be warm and supportive. We observe that children whose parents' experience schedule instability exhibit more "internalizing" or sad behaviors (feeling worthless, anxious, guilty, self-conscious, unhappy, or worried) and more "externalizing" or mad behaviors (arguing, destroying things, being disobedient, stubborn, having temper tantrums, or making threats).¹⁴

Discussion

The Shift Project's survey of service sector workers provides a window into the experiences of workers employed at large retail and food establishments across the nation. This brief describes the experiences of workers in Colorado, with specific attention to the experiences of student workers, the intergenerational impact of parents' work schedules, and associations between just-in-time scheduling and worker health.

The portrait of Colorado service sector workers reveals that unstable and unpredictable schedules are commonplace. As we have seen nationally, the retail and food sectors in Colorado are characterized by low pay, insufficient work hours, and a lack of control over scheduled work hours. With the Shift data, we can also see how workers contend with schedules that are announced with little notice and that are often changed at the last minute. By hearing directly from workers, we can learn not only about their experiences, but about their preferences. The majority of workers express a desire for more work hours and more predictability in their work schedules.

Scheduling practices are beginning to change, as some localities have passed labor laws that regulate work schedules. The state of Oregon, New York City, Seattle, Philadelphia, Chicago, San Francisco, and Emeryville (CA) have all passed legislation or implemented regulations requiring a certain amount of advance notice of work schedules (usually two weeks) and stipulating that workers be compensated by employers when their shifts are changed on shorter notice. Many of these new labor regulations also include an "access to hours" provision, requiring that employers offer more hours to their part-time workers before hiring additional part-time employees.

Secure scheduling laws are making a difference in lives of workers. In an evaluation of Seattle's secure scheduling ordinance, researchers at the Shift Project find that the 2017 law (requiring two weeks of advance notice, extra pay for short notice and clopening shifts, and requiring existing workers to be offered more hours before new hires are made) led to greater schedule predictability and stability for Seattle service sector workers. The law reduced on-call shifts by 6 percentage points, decreased the share of workers reporting last minute timing changes, and increased the share of workers who received notice of their schedule at least two weeks in advance.¹⁵ These more stable and predictable schedules improved the lives of retail and food service workers. The Shift Project evaluation found that two years after implementation, the law had significantly improved workers' overall happiness, sleep quality, and material wellbeing.

In 2020 Colorado passed several acts that expanded access to paid sick leave, mandated rest and meal breaks, and broadened overtime and working condition rules to reach a larger swath of workers.¹⁶ However, there is currently no law in the state of Colorado that explicitly regulates scheduling practices for hourly service sector workers. Our data reveal that scheduling practices such as short advance notice and last-minute scheduling changes are a common experience for Colorado workers. We also document workers' desire for more stable schedules and strong relationships between unstable schedules and undesirable outcomes such as hunger and poor sleep quality. The recent evidence from Seattle suggests that regulating work schedules enhances stability and improves worker well-being.v

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- ⁵ U.S. Census Bureau. (2021). *2015-2019 American Community Survey 5-year Public Use Microdata Samples*.
- ⁶ Colorado Department of Labor and Employment, Minimum Wage.
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- ⁸ Stewart, M. May 15, 2020. “Companies are giving essential workers meaningless rewards” Vox.
- ⁹ We define workers with the “most stable and predictable schedules” as those who typically receive at least 2 weeks’ advance notice of their schedules; did not work on-call, have a shift cancelled, or work a “clopening” shift in the last month; and did not recently experience a change to the timing or length of a shift. Workers with the “least stable and predictable schedules” are those who typically receive less than 2 weeks’ advance notice; worked at least one on-call shift, experienced at least one cancelled shift, and worked at least one “clopening” shift in the past month; and recently experienced a change to the timing or length of a shift.
- ¹⁰ These findings are based on “regression analysis,” a widely-used analytic technique in the social sciences, which is designed to isolate the effects of unpredictable work schedules while “holding constant” other influences. In this case, the reported relationships between having an unpredictable work schedule and health and hardship outcomes are “net of” statistical controls for worker age, gender, children in household, educational attainment, school enrollment, marital status, household income, hourly wage, job tenure, usual hours, and managerial status, as well as year and month fixed-effects. However, we also note that these are not causal estimates. These results are based on the same regression models that we use to estimate the association between work schedules and worker health and wellbeing for a national survey of workers. These methods are described in detail in Schneider, D. and K. Harknett. 2019. “Consequences of Routine Work-Schedule Instability for Worker Health and Well-Being.” *American Sociological Review* 84(1): 82-114.
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Methodological Appendix

The Shift Project collected survey data from over 100,000 service sector workers employed at large retail and food establishments across the country between March 2017 and Fall 2021. This brief focused on a subsample of 2,144 service sector workers in the state of Colorado who completed Shift surveys.

The Shift Project recruits survey respondents using online Facebook advertisements, targeted to workers employed at large retail and food service employers. A key advantage of this sampling approach is that we purposefully capture workers who will be covered by scheduling ordinances, which apply to large retail and food employers and exempt smaller establishments. By targeting our data collection to these large establishments, the workers in our survey sample are precisely those who would be affected by a scheduling law like the ones passed in San Francisco, Seattle, Emeryville, New York City, Philadelphia, Chicago, and Oregon.

Those who responded to the Shift survey invitation were automatically routed to a survey landing page where they were asked to consent to participate in the study, then began the online self-administered survey using the Qualtrics platform. As an incentive, those who completed the survey and provided contact information were entered into a lottery for an Apple iPad. The survey included modules on job characteristics, work schedules, demographics, economic stability, health, parenting, and child outcomes. To screen out invalid survey responses, we used an attention filter (a question that instructed respondents to select a particular response category to verify the accuracy of their responses) as well as a speed filter (discarding data for surveys that were completed too hastily). To address occasional missing data owing to item non-response, we use multiple imputation.

In the descriptive results we present in this brief, we have applied weights that adjust our sample to reflect the universe of service sector workers in Colorado. These weights are constructed in two stages. First, we construct survey weights to adjust the demographic characteristics of the Colorado Shift survey sample to match the demographic characteristics of Colorado service sector workers in the American Community Survey (ACS) for the years 2008-2017. We align the ACS sample with the Shift sample by selecting workers in the ACS who are employed in the same occupations and industries as the Shift sample and report that their place of work is within the state of Colorado.

Second, to ensure that our sample accurately reflects the distribution of employment types among large retail and food service employers in Colorado, we use data from the Reference USA database of U.S. establishments. The RefUSA database contains a detailed listing of all retail and food establishments nationally and allows us to pinpoint establishments within Colorado. RefUSA contains the size of the workforce for each establishment, which we aggregate up to the industry level. Then, using the aggregated RefUSA industry data for Colorado, we weight our Shift survey sample to match the distribution of retail apparel, food service, grocery, and other industries in Colorado. All of the descriptive results we present in this report apply these ACS demographic and RefUSA industry weights.

For a detailed discussion of The Shift Project data collection, methodology, and data validation, see Schneider, D. and Harknett, K. 2019. "What's to Like? Facebook as a Tool for Survey Data Collection." *Sociological Methods & Research*. <https://doi.org/10.1177/0049124119882477>