Time at work and workers’ health

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Aims: understand the health implications related to the organization of time at work

1. Organization of time at work
   • Work hours and leaves
   • Schedules and shifts
   • Breaks and rest periods

2. Work-time control
   • Flexible schedules
   • Leaves and time off

Discussion of:
   • Health pathways – how time at work “gets under our skin”
   • Evidence and scientific challenges
   • Intervention/prevention strategies
Organization of
time at work

Work hours
Leaves and time off
Introduction

One side – Cadillac Poolside  
Commercial

The other side

![Poolside Image]

![Book Cover]

*The Unexpected Decline of Leisure* 
*The Overworked American* 
*By Juliet B. Schor*
ALL WORK AND NO PLAY: 
THE OVERWORKED AMERICAN

IN THE PAST TWO DECADES, THE US ECONOMY HAS EXPERIENCED A NEARLY 40 PERCENT INCREASE IN PRODUCTIVITY. UNFORTUNATELY, IT'S BEEN BUILT ON THE BACKS OF AMERICAN WORKERS, WHO ARE WORKING LONGER HOURS FOR LESS PAY.

AMERICANS ARE PUTTING IN LONG HOURS

1/3
U.S. EMPLOYEES REPORT FEELING EMOTIONAL OVERWORKED

39%
WORKED MORE THAN 44 HOURS PER WEEK IN 2019

56%
REPORT DOING AT LEAST SOME WORK FROM HOME

20%
REPORT DOING JOB-RELATED TASKS AT HOME MORE THAN ONCE A WEEK

AND THEY TAKE LESS VACATION

36%
OF EMPLOYEES DON'T PLAN TO USE THEIR FULL VACATION DAYS

37%
TAKE LESS THAN A 3-DAY VACATION, WHEN THEY DO TAKE TIME OFF

SELECT COUNTRY DATA

FINLAND SWEDEN DENMARK SWITZERLAND ITALY GERMANY AUSTRALIA ENGLAND UNITED STATES UNITED KINGDOM CANADA

SOURCES: MOTHER JONES | DESKITE.COM | CALLUP.COM | PBHINTERNATIONAL.COM | USDOJ FAMILIES AND WORK INSTITUTE | OVERWORK IN AMERICA: WHEN THE SPIRAL BEGINS...
Time use on an average work day for employed persons ages 25 to 54 with children

- Working and related activities (8.9 hours)
- Leisure and sports (2.5 hours)
- Household activities (1.0 hours)
- Eating and drinking (1.0 hours)
- Caring for others (1.2 hours)
- Other (1.6 hours)
- Sleeping (7.7 hours)

NOTE: Data include employed persons on days they worked, ages 25 to 54, who lived in households with children under 18. Data include non-holiday weekdays and are annual averages for 2014. Data include related travel for each activity.

Work hours – international comparison

![Graph showing average annual hours worked over time for different countries (Italy, Brazil, United States, France, Germany). Source: Federal Reserve Economic Data.](image-url)
Changes in the American Workforce
Changes in the American Workforce

![Graph showing changes in the Civilian Labor Force by Sex: 1970 to 2010.](image)

Time use in the United States

Average minutes per day men and women spent in household activities

NOTE: Data include all noninstitutional persons age 15 and over. Data include all days of the week and are annual averages for 2014. Travel related to these activities is not included in these estimates.

Changes in the American Workforce

Number of people age 65 and over, by age group, selected years 1900–2006 and projected 2010–2050

Note: Data for 2010–2050 are projections of the population.
Reference population: These data refer to the resident population.
Changes in the nature of work
Summary

The American workforce has changed dramatically during last four decades yet the annual number of work hours remains practically the same.
Maternity leave

Duration of paid leave for mothers

Copyright © 2009 McGill Institute for Health and Social Policy.
Time off – international comparison

Paid Vacation and Paid Holidays, OECD Nations, in Working Days

Source: Center for Economic Policy and Research
Sick leave in the USA

Paid Sick Days Campaigns, Statistics and Stories

- State with campaign
- State with paid sick days victory
- City or county with campaign
- City or county with paid sick days victory

Visit nationalspartnership.org for an interactive version of this map.
Sick Leave in Chicago

- Workers would be able to **accrue** and use up to **five earned sick days** over the course of **one year**
- Workers will earn sick time at a rate of **one hour** earned for every **40 hours worked**
- Workers would be able to **roll over up to 2.5 days** unused sick days to the following year
- New employees can use accrued sick leave **after** an initial **six month** probationary period
Summary

The USA lags behind comparable nations regarding paid leaves, however, there are promising initiatives at the organizational, local and state levels.
Organization of time at work

Schedules and shifts

Breaks and rest periods
Organization of time at work

Time at work
- Schedules and shifts
- Waiting times/split shift
- On-call time
- Rest and meal periods

Time related to work
- Commute time
- Travels
- Recovery/leisure
- Personal/family
Organization of time at work

**Salaried workers**

- “Guaranteed minimum” – hours are factored-in the annual salary
- Predictable number of hours per week
  - Exceptions: deadlines, seasons, travels
- Exempt of provisions of the Fair Labor Standards Act (FLSA)
  - Overtime pay

**Hourly workers**

- Wages depend on number of hours worked; time = money
- Predictable or unpredictable hours
- Variable hours
  - Scheduling policies/practices
  - Seasons
  - Events
- Non-exempt to some provisions of the Fair Labor Standards Act (FLSA)
  - Entitled to overtime pay (1.5 times the hourly wage after 40 hours)
Long hours by industry

**Figure 1**

A snapshot of work hours by occupation

This chart details the share of workers in each occupation that work more than 40 or 45 hours per week, respectively.

Source: Author's analysis of the CPS data of the Current Population Survey's Outgoing Rotation Groups, 2011 to 2014. The data has been pooled across years to ensure larger sample sizes.

©2015 Washington Center for Equitable Growth
Schedules (daytime)

• Standard (9:00 AM to 5:00 PM)
  • Typically defined by legislation
  • Typically around 40 hours in 5 five days

• Compressed
  • 40 hours per week in 4 or 3 days
  • 80 hours in two weeks in 8 or 9 days

• Flexible schedules (more on this later)
  • Start/end times
  • Flexible days
Shift work (non-daytime)

**Structure**

- **Duration**
  - Hours per shift (6, 8 or 12 hours)
  - Consecutive on and off shifts (3:1 or 2:2)

- **Rotation**
  - Clock-wise
    - Morning to evening to night
  - Counter clock-wise
    - Night to morning, then evening to night

- **Speed**
  - Changes in terms of days or weeks

**2-2 3-2 2-3 Shift**

- Team 1: DDOODDD-OODDOOO-NNOONNN-OONNOOO
- Team 2: NNOONNN-OONNOOO-DDO0DDD-OODD000
- Team 3: OONNO00-DDO0DDD-OODDO00-NNOONNN
- Team 4: OODDO00-NNOONNN-OONNO00-DD00DDD

Where D=Day shift, N=Night shift, and O=Off duty

http://community.bmscentral.com/learnss/ZC/c4tr1 2-4
Shift work as hourly work

- Predictability
  - Stability; how often does it change
  - Irregularity

- In-advance notifications
  - Just in time
  - Less than a week
  - A week or more

- Input ~ right to request
  - Employer-based
  - Employee-based
  - Negotiation-based

Breaks and rest periods

US poultry workers wear diapers on job over lack of bathroom breaks - report

Oxfam says many are afraid to ask for permission to go to the bathroom
One supplier calls allegations ‘troubling’ and refusal of breaks not tolerated

Associated Press
Thursday 12 May 2016 15.03 EDT

A report from international advocacy group Oxfam says poultry workers in the United States labor in a “climate of fear”, with some forced to wear diapers on the job.
Breaks and rest periods

Effect on cognitive performance


Effect on injury risk

Breaks and rest periods for physical work
Summary

The organization of time at work depends on the timing (daytime or not) and how time is compensated (salary or hourly).

Shift workers are more subject to work at odd hours and may experience adverse scheduling practices.

Shorter but more frequent breaks may enhance performance and decrease the risk of errors.
Organization of time at work

Work-time control and flexible schedules
Work-time Control

• “Workplace factors that increase workers’ ability to make choices influencing when and for how long they engage in work-related tasks”

• Ecological interaction – worker and context

• Workplace instrumental formal and informal resources:
  - Contracts & procedures
  - Supervisor and coworkers support
  - Individual behaviors

Flexible schedules in the USA

Note: Survey includes firms with over 50 employees.
Limited Access: Disparities in Flexible Work Schedules and Work-at-home
Lonnie Golden

Abstract This research tests predictions regarding potential disparities among the employed by personal characteristics in the ability to vary the starting and ending times of their workday and engage in work from home. Women and African-Americans possess less access to flexible work schedules, even when controlling for most job characteristics. Married men have more access, but only if they are parents, and mothers only if they have pre-school-age children. Workers with part-time or long hours gain far greater access. Work-at-home is more common among women, the married and parents—thus, relatively more reflective of family demands. The results suggest where public and organizational policies could be focused to spread flexible work arrangements more toward those who both most value it and lack it.
Socioeconomic disparities in access and use
Flexible Schedules in the Federal Government

Family-Friendly Workplace Policies Are Not Frills -- They're Basic Needs

WORK-LIFE BALANCE
AND THE ECONOMICS OF
WORKPLACE FLEXIBILITY

The Council of Economic Advisers

June 2014
Types of flexible schedules (OPM – Federal Government)

- **Gliding**
  - Control start and end times on a daily basis

- **Flexitour**
  - Choose start and end times before hand excluding core hours (10:00 AM to 3:00 PM)
  - Once selected, hours are fixed

- **Maxiflex**
  - Choose when to complete 80 hours in two weeks
  - Flexible compressed schedule

- **Variable day or week**
  - One day or week has flexible start/end times

Situations related to time off

**Planned**
- Vacation time
- Maternity/paternity
- Personal/family commitments
- Work-related events

**Unplanned**
- Injury/sickness
- Family issues
- Personal issues
- Inclement weather
Controlling time off

**Resources/options**

- Leaves of absence
  - Paid
  - Unpaid
- Sick days
- Vacation time

**Issues**

- Not able to afford unpaid time off
- Not eligible to take time off
- Formal sanctions
- Informal sanctions
- Not designed for those purposes (e.g. vacation)
Summary

Work-time control are the formal and informal workplace resources to influence the timing and duration of work.

Control over work hours and/or time off are the main components of work-time control.
Health and time at work

Pathways
Challenges
Preventive strategies
Health Pathways

- Earnings/benefits
- Fatigue, sleep & recovery
- Psychosocial stress (Work-life)
- Occupational exposures
- Safety standards
- Health behaviors (smoking, exercise)
- Job engagement and job satisfaction
- Risk of work-related injury/disease

*References at the end of the presentation*
Shift work and risk of injury

Shift work increases the risk of disease

Meal Breaks and Mental Health

Supervisors’ specific support \_j \rightarrow Meal breaks \_ij \rightarrow Psychological Distress \_ij

Preferences/needs \_ij \rightarrow Meal breaks \_ij

Environmental factors \_j

\textit{Hurtado et al. Supervisors’ support for nurses’ meal breaks and mental health, Workplace Health & Safety, 2015.}
Shift control and Mental Health

Coworkers’ reports (proxy for actual Shift Control) → Individual reports of Shift Control → Psychological distress (K6)

β = 0.33*

β = -0.07*

β = 0.03

Measured confounders/predictors of distress

β = standardized regression coefficient

*p < 0.05
Schedule Control and Quality of Care

Organizational-levels of Schedule Control$_{t0}$

Hours of care$_{t0}$

Prevalence of Pressure Ulcers$_{t1}$

(b = -2.5%, $p<0.05$)

Random Assignment → Work-Family Intervention (including schedule control) → Reductions of smoking $t_{11}$
(b = -7.6 cigs/wk, $p<0.05$)

Hurtado et al. Effects on cigarette consumption of a work–family supportive organisational intervention: 6-month results from the work, family and health network study. *JECH* 2016
### Scientific Gaps

- **Goal:** 
  schedule control to improve workers' health

- **Status:** mixed evidence

<table>
<thead>
<tr>
<th>Type of WTC</th>
<th>Work-non-work balance</th>
<th>Health/well-being</th>
<th>Job-related outcomes</th>
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Conceptual Scientific Challenges

- Need precise definitions and guiding theories
  - Control-Demand
  - JD-R
  - Effort-recovery
  - Conservation of resources
- Control of what?
  - Start/end times
  - Time off
- Who is in control?
  - Employer
  - Employee
  - Negotiation
Conceptual Scientific Challenges

- Guidelines for implementation
  - Core hours
  - Tech requirements
  - Cross-training
  - Support/norms

- Addressing unintended consequences
  - Under-employment
  - Trade-offs
  - Making up time
  - Blurring barriers
Methodological Scientific Challenges

• Multilevel, quasi and experimental designs
  • Individuals
    • Teams/work-groups
    • Organizations
  • States
  • Time

• Combine sources of information
  • Payroll
  • Surveys
  • Interviews
  • Daily diaries

• Deal with pervasive biases
  • Endogeneity

• Complement population-level surveys with organizational studies
  • Within firm disparities
  • Industries with scheduling demands
Preventive Strategies

• Individuals
  • Time management
  • Sleep/healthy habits
  • Leisure

• Interpersonal (organizational)
  • Managerial styles
  • Social norms
  • Shift swap and other practices
  • Break teams

• Structural (organizational)
  • MOP to request hours
  • Scheduling tech solutions
  • Cross-training
  • Enforcement of breaks

• Public Policy
  • Min and max hours
  • Regulation on overtime
  • Regulation of fair scheduling
  • Leaves and time off
Summary

The organization of time at work affects health and safety through multiple independent and interactive pathways.

Evidence is needed regarding the causal health effects of implementing flexible hours at organizations.

Work-time control can be implemented at multiple levels such as the individual, the interpersonal, the organizational and the societal.
Significance

Working Families

Bottom-line

Time at work

Total Worker Health™

Employment conditions

Recruit/retain
Absenteeism
Workability
Reduced claims
Thanks for your time

Many thanks to

• Oregon Institute of Occupational Health Sciences
• Oregon Healthy Workforce Center
• Work, Family and Health Network
• Harvard T. H. Chan Center for Work, Health and Wellbeing

Contact Information

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References

• Health pathways
  • Earnings & benefits:
  • Psychosocial stressors:
  • Work engagement, job satisfaction:
References

• Health pathways
  • Occupational exposures
  • Safety standards