Time at work and workers' health

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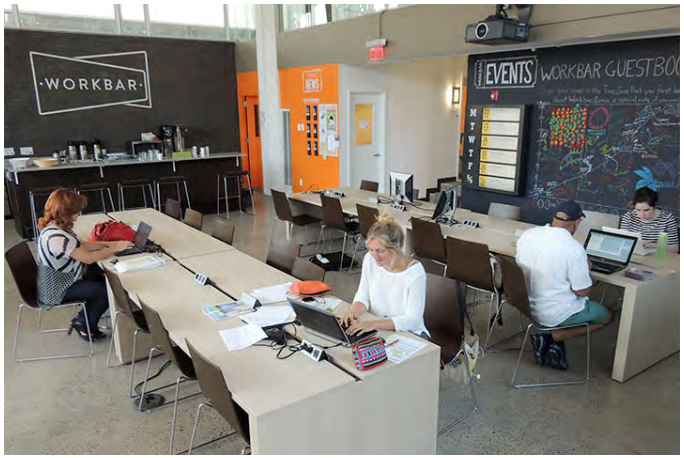
Oregon Institute of Occupational Health Sciences


EXIT


RECEPTION


WORKBAR
EVENTS
WORKBAR GUESTBO

Contents

- 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

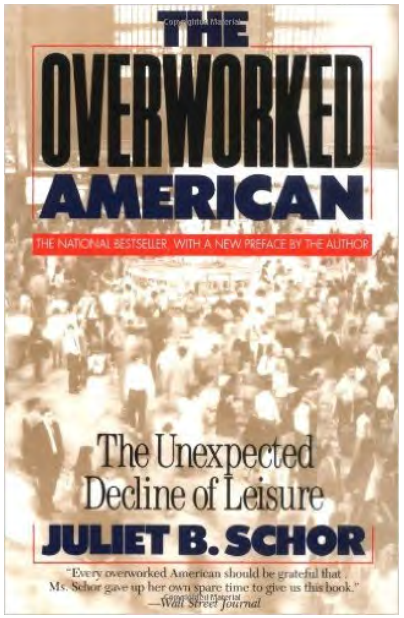
Work hours

Leaves and time off

Introduction

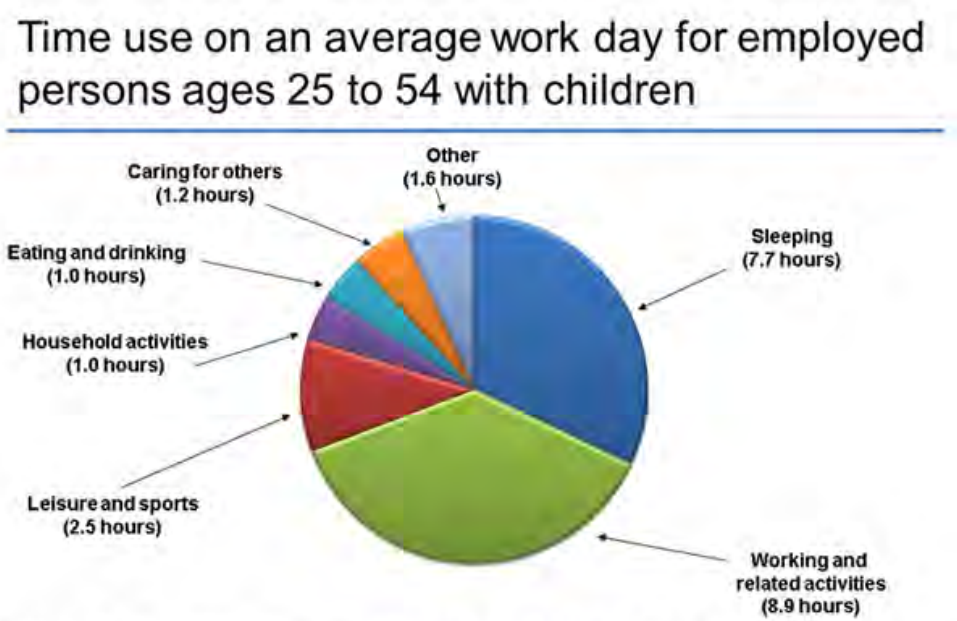
One side –Cadillac Poolside Commercial

The other side

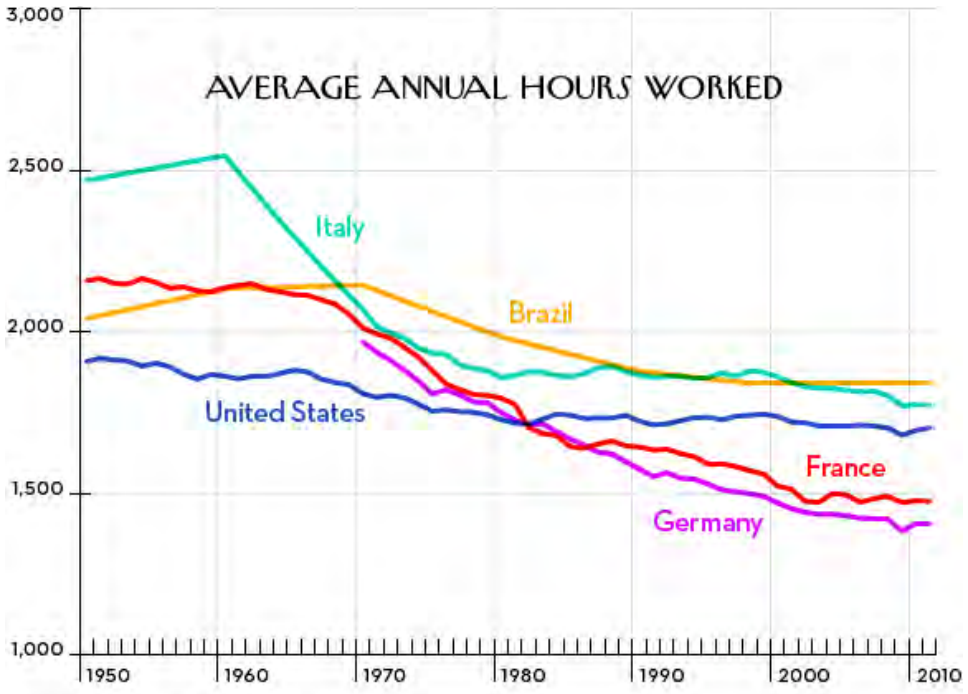



ALL WORK AND NO PLAY
THE
OVERWORKED
AMERICAN
IN THE PAST TWO DECADES, THE U.S. ECONOMY HAS EXPERIENCED A NEARLY 60 PERCENT INCREASE IN PRODUCTIVITY. UNFORTUNATELY, IT'S BEEN BUILT ON THE BACKS OF AMERICAN WORKERS, WHO ARE LABORING LONGER HOURS FOR LOWER PAY.
POST-RECESSION WORK EXHAUSTION
86% OF EXECUTIVES SAY THEIR COMPANY DEMANDS MORE TIME FROM EMPLOYEES
59% OF EMPLOYEES FEEL MORE IS DEMANDED OF THEM
TECHNOLOGY BLURS THE LINE BETWEEN WORK AND HOME
ACCORDING TO A PEW RESEARCH SURVEY OF NETWORKED AMERICANS, OR THOSE THAT ARE CONNECTED TO TECHNOLOGICAL TOOLS:
AMERICANS ARE PUTTING IN LONG HOURS
1/3 U.S. EMPLOYEES REPORT FEELING CHRONICALLY OVERWORKED
39% WORKED MORE THAN 44 HOURS PER WEEK IN 2009
56% REPORT DOING AT LEAST SOME WORK FROM HOME
20% REPORT DOING JOB-RELATED TASKS AT HOME ALMOST EVERYDAY
AND THEY TAKE LESS VACATION
DAYS OF PAID MANDATORY ANNUAL LEAVE
ACTUAL VACATION USE
36% OF EMPLOYEES DON'T PLAN TO USE THEIR FULL VACATION DAYS
37% TAKE LESS THAN A 7-DAY VACATION, WHEN THEY DO TAKE TIME OFF
FRANCE
SWEDEN
GERMANY
SPAIN
ITALY
IRELAND
AUSTRALIA
GREECE
SWITZERLAND
UNITED KINGDOM
CANADA
UNITED STATES
SELECT OECD COUNTRIES
SOURCES: MOTHERJONES.COM | DELOITTE.COM | GALLUP.COM | PEWINTERNET.ORG | OECD | FAMILIES AND WORK INSTITUTE. "OVERWORK IN AMERICA: WHEN THE WAY WE WORK BECO

Time use in the USA

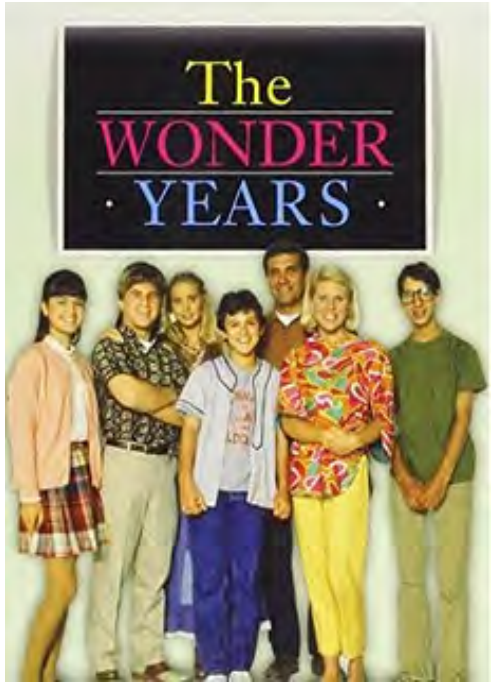


Work hours – international comparison

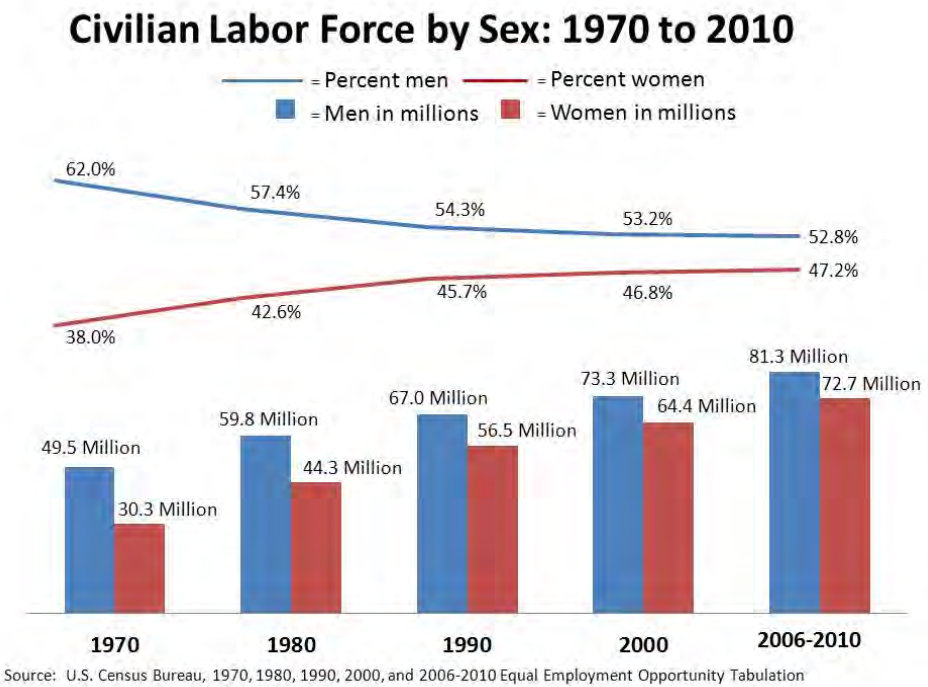


Source: Federal Reserve Economic Data

Changes in the American Workforce

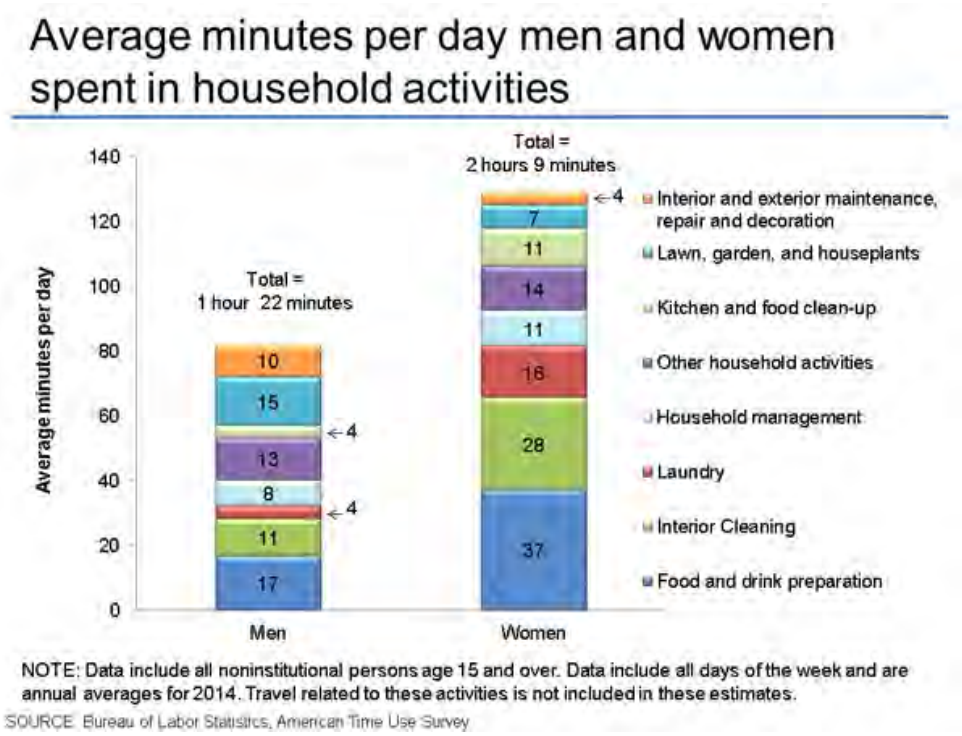


Changes in the American Workforce



Source: U.S. Census Bureau, 1970, 1980, 1990, 2000, and 2006-2010 Equal Employment Opportunity Tabulation

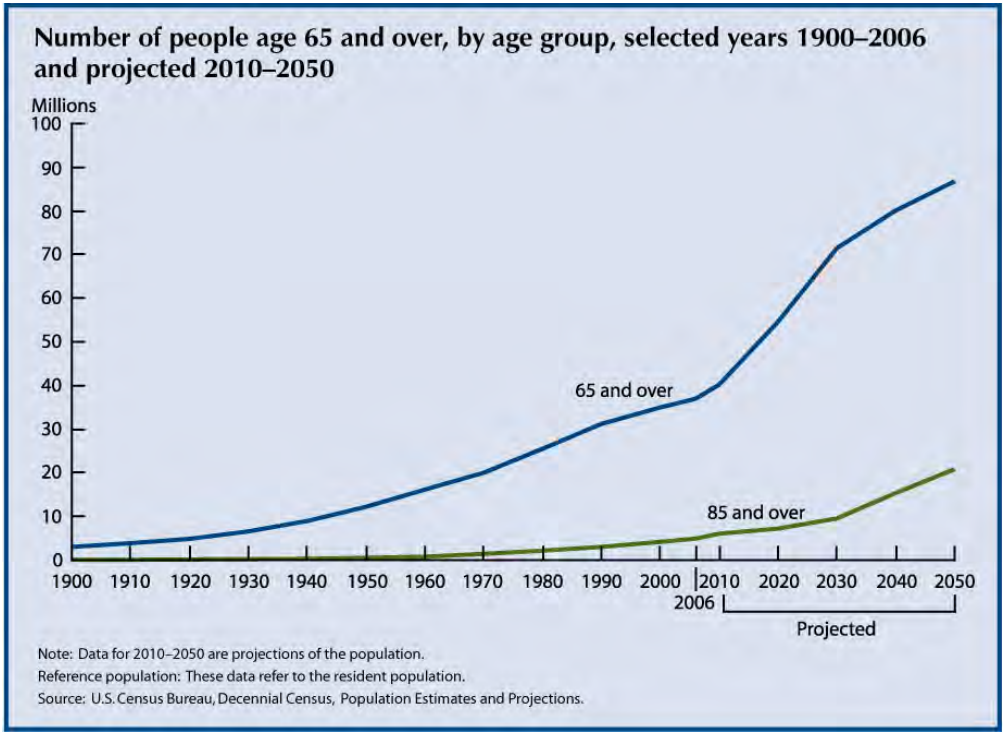
Time use in the United States



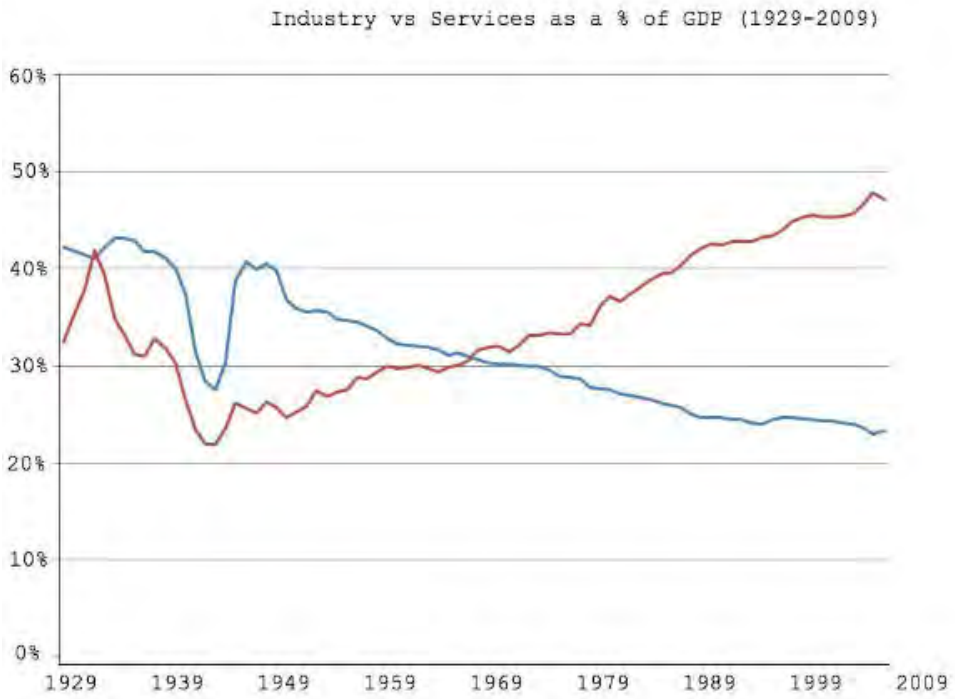
NOTE: Data include all noninstitutional persons age 15 and over. Data include all days of the week and are annual averages for 2014. Travel related to these activities is not included in these estimates.

SOURCE: Bureau of Labor Statistics, American Time Use Survey

Changes in the American Workforce



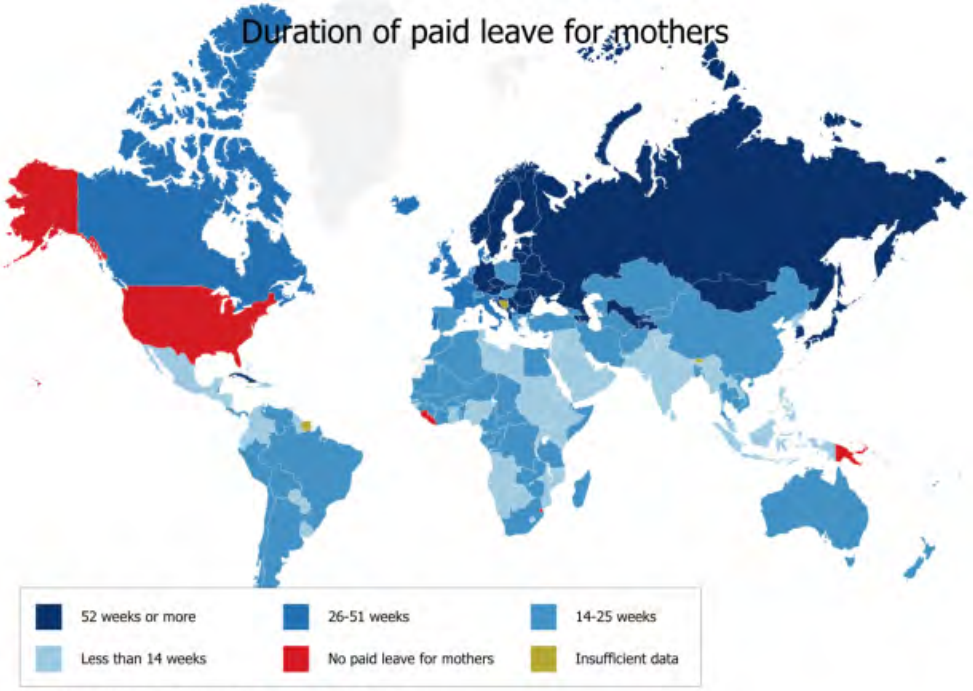
Changes in the nature of work



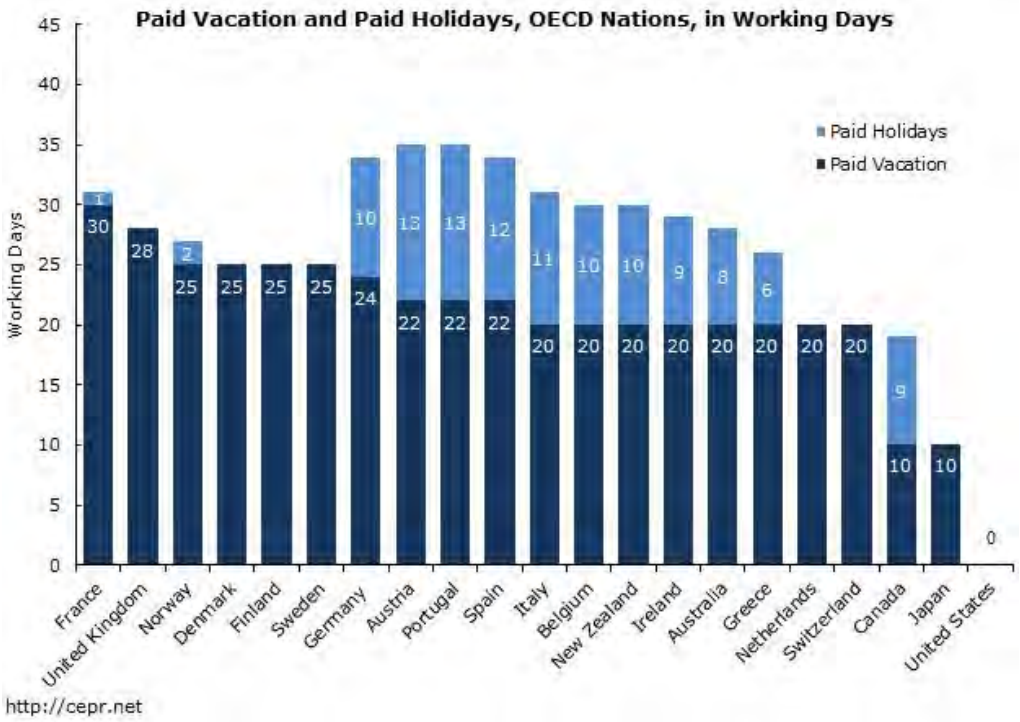
Summary

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

Maternity leave

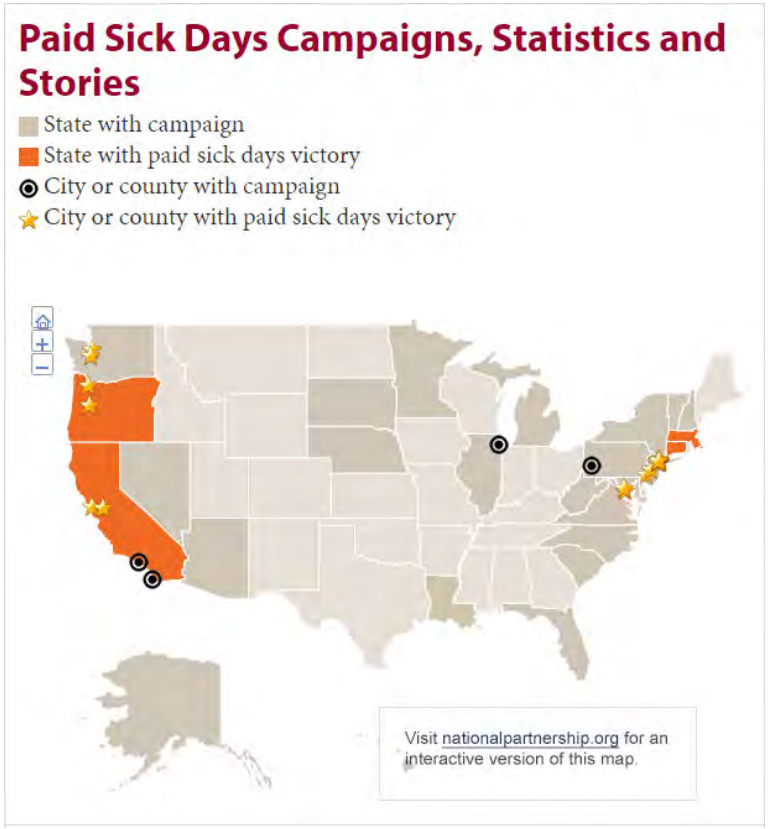


Time off – international comparison



Source: Center for Economic Policy and Research

Sick leave in the USA



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

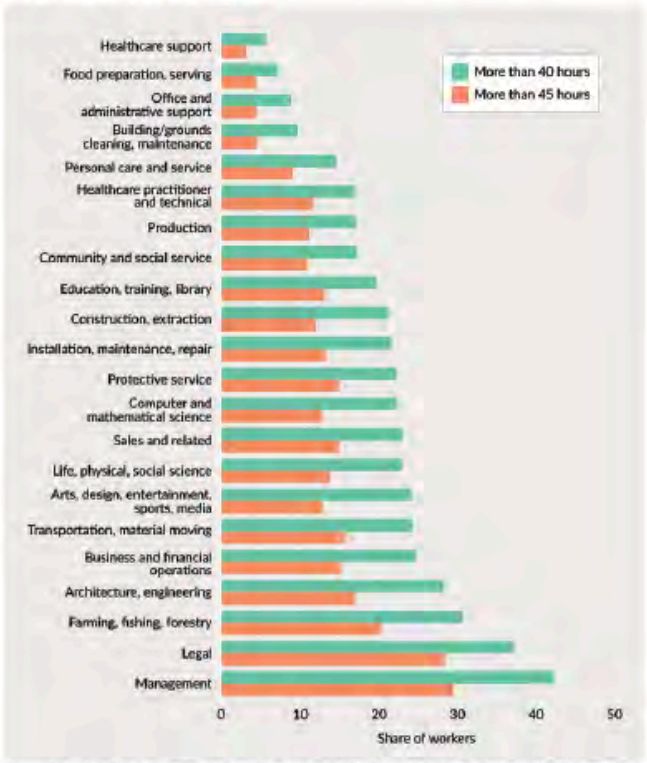
- Wages depend on number of hours worked; time = money
- Predictable or unpredictable hours
- Variable hours
  - Scheduling policies/practices
  - Seasons
  - Events
- Non-exempt to some provisions of the Fair Labor Standards Act (FLSA)
  - Entitled to overtime pay (1.5 times the hourly wage after 40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

Long hours by industry

FIGURE I

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: Authors' analysis of the CEPR extracts of the Current Population Survey Outgoing Rotation Group, 2011 to 2014. The data has been pooled across years to ensure large sample sizes.

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

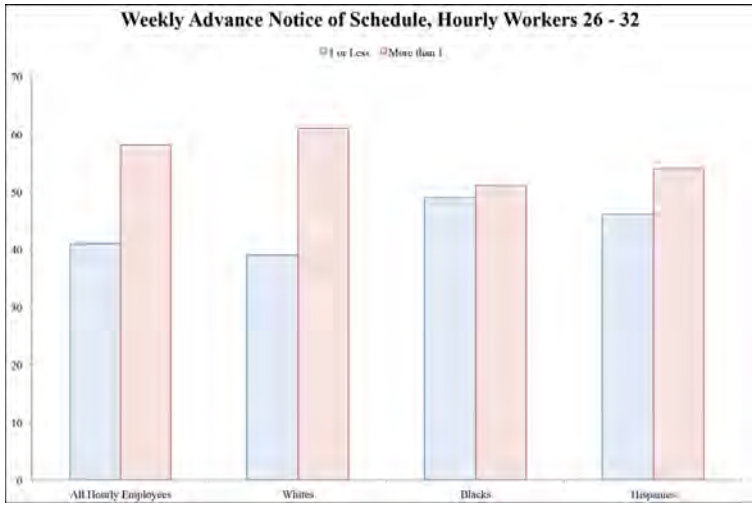
- Team 1: DDOODDD-OODDOOO-NNOONNN-OONNOOO
- Team 2: NNOONNN-OONNOOO-DDOODDD-OODDOOO
- Team 3: OONNOOO-DDOODDD-OODDOOO-NNOONNN
- Team 4: OODDOOO-NNOONNN-OONNOOO-DDOODDD

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

http://community.bmscentral.com/learnss/ZC/c4tr12-4

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



Susan J. Lambert, Peter J. Fugiel, and Julia R. Henly, "Schedule Unpredictability among Young Adult Workers in the US Labor Market: A National Snapshot," July 2014

Breaks and rest periods

theguardian

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

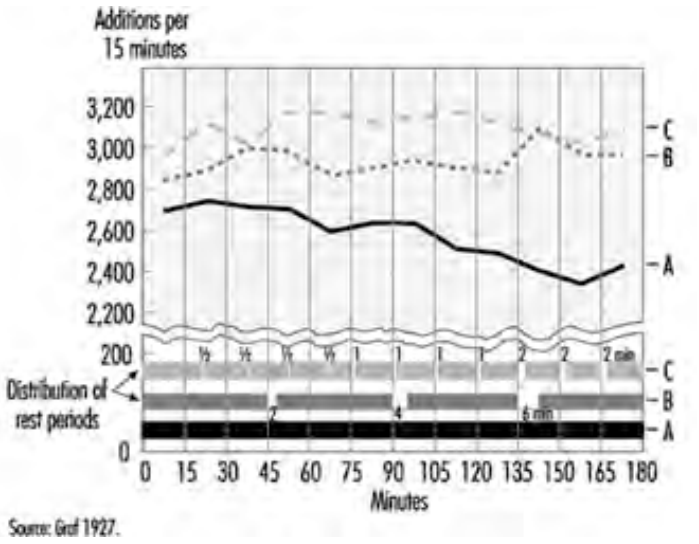
Associated Press

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.

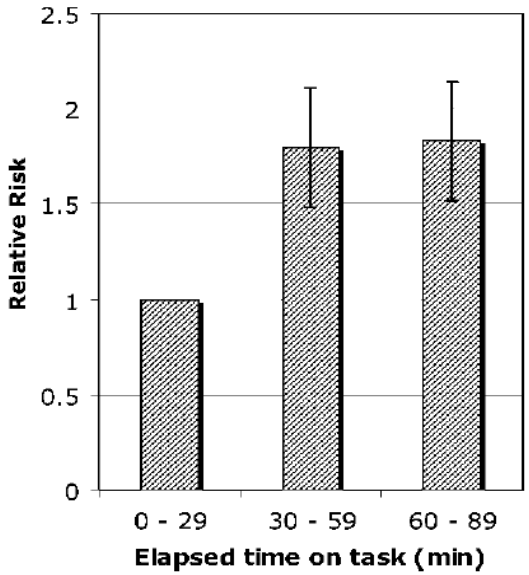
Breaks and rest periods

Effect on cognitive performance



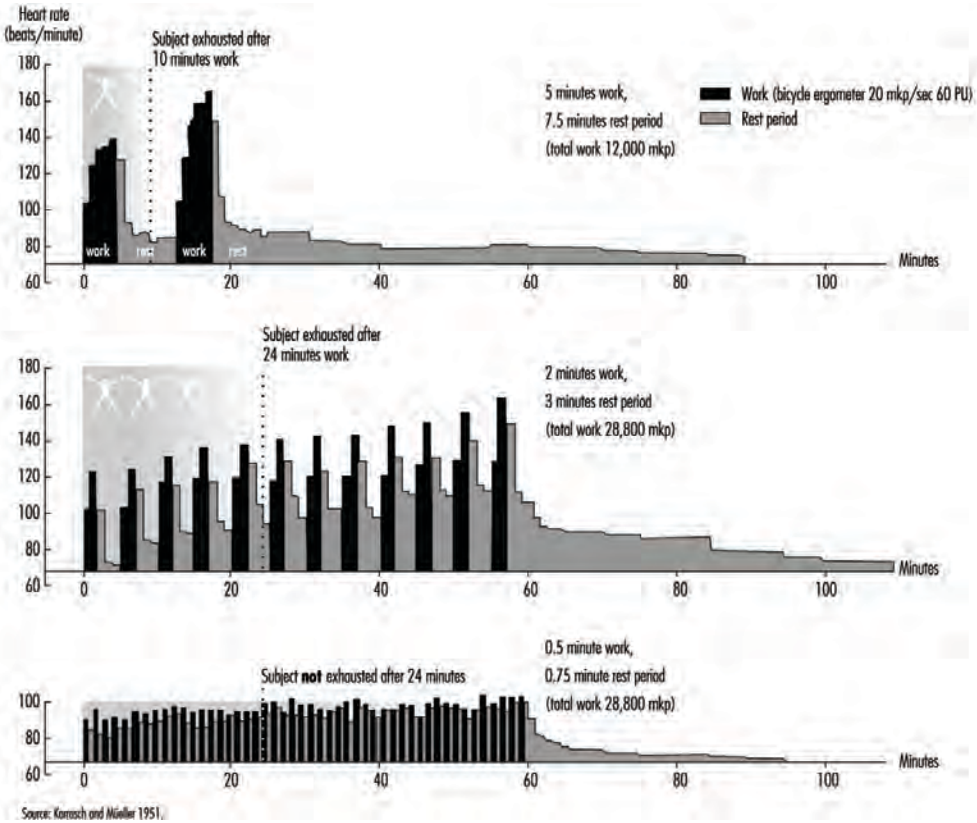
Gaf, O. 1922. Optimal rest pauses and mental work. Psychol. Arbeit., 7: 548-611.

Effects on injury risk



Tucker, Philip, et al. "The impact of rest breaks on temporal trends in injury risk." *Chronobiology international* 23.6 (2006): 1423-1434.

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.

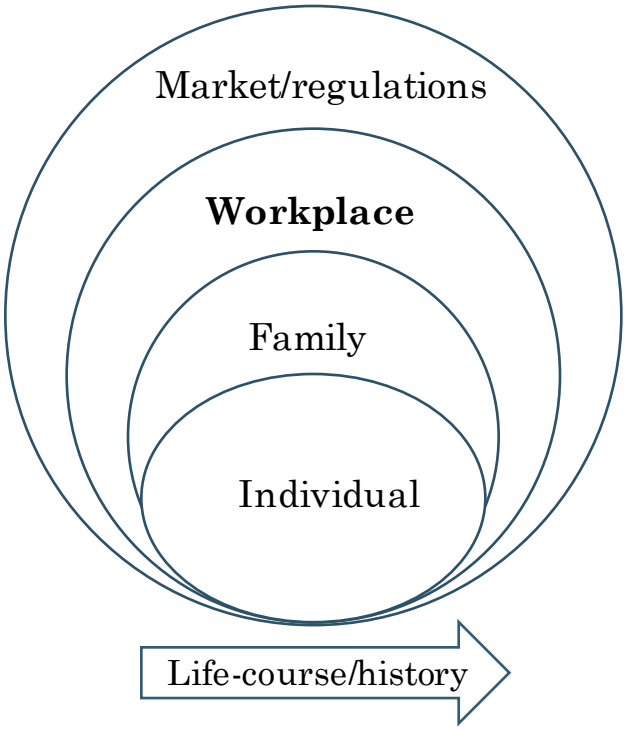
Shorter but more frequent breaks may enhance performance and decrease the risk of errors

Organization of time at work

Work-time control and flexible schedules

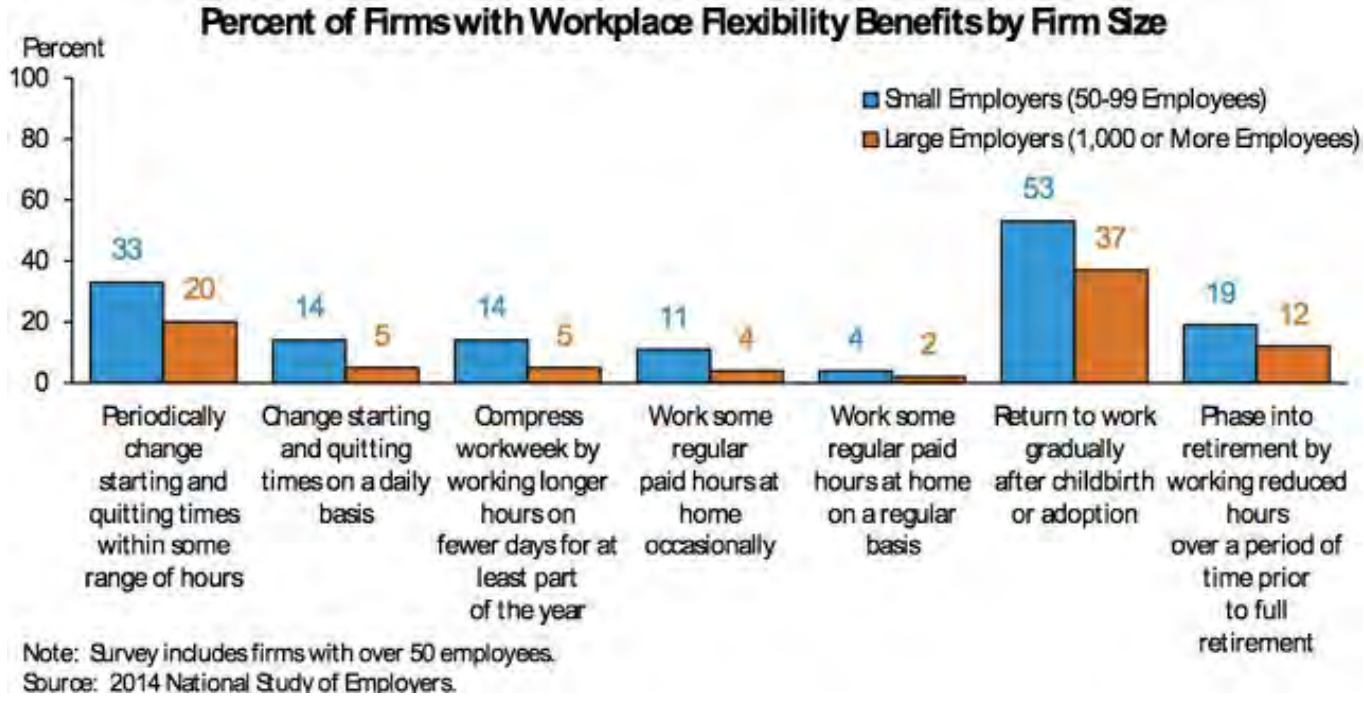
Work-time Control

- "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



Jeffrey Hill, E. et al (2008). Defining and conceptualizing workplace flexibility. *Community, Work and Family, 11*(2), 149-163.

Flexible schedules in the USA



Socioeconomic disparities in access and use

Limited Access: Disparities in Flexible Work Schedules and Work-at-home

J Fam Econ Iss (2008) 29:86–109

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

Barack Obama Become a fan
44th President of the United States

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

Posted: 06/23/2014 10:05 am EDT | Updated: 1 hour ago

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

https://www.opm.gov/policy-data-oversight/pay-leave/reference-materials/handbooks/alternative-work-schedules/#CollectiveBarg

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

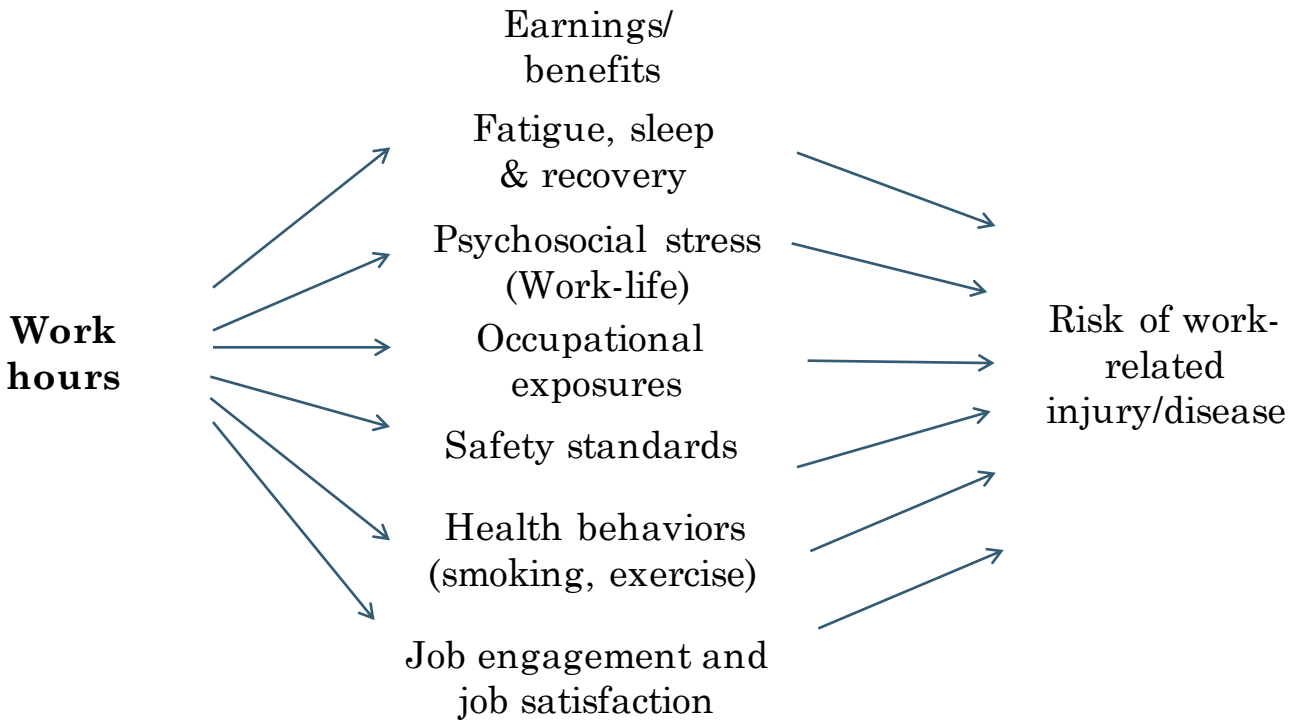
Health and time at work

Pathways

Challenges

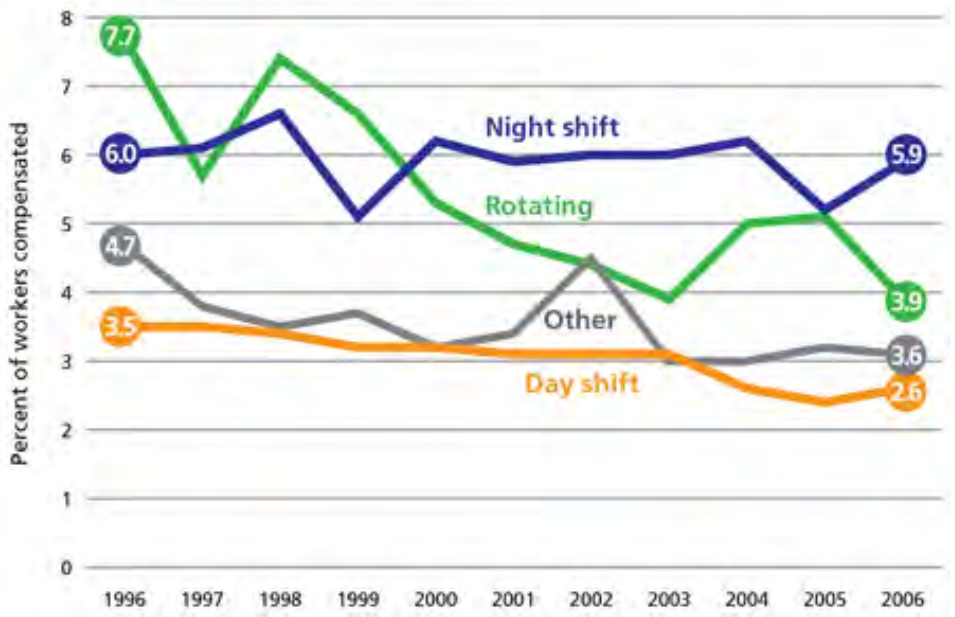
Preventive strategies

Health Pathways



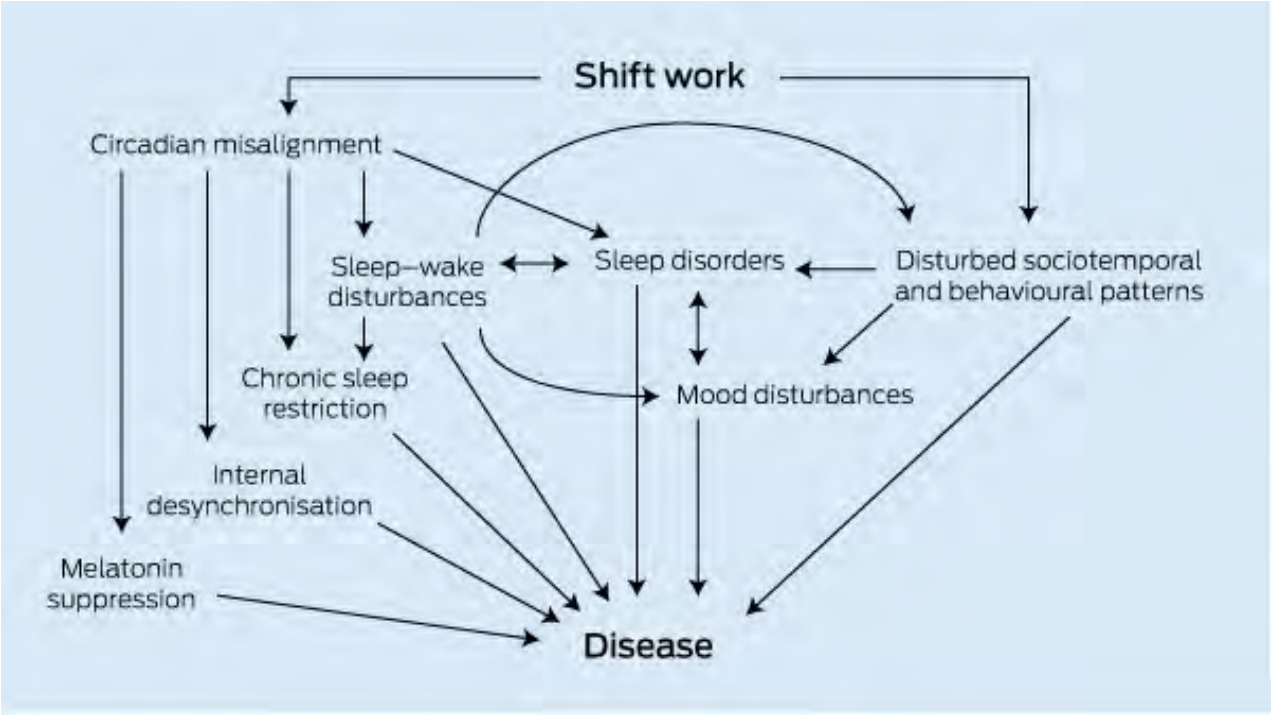
*References at the end of the presentation

Shift work and risk of injury



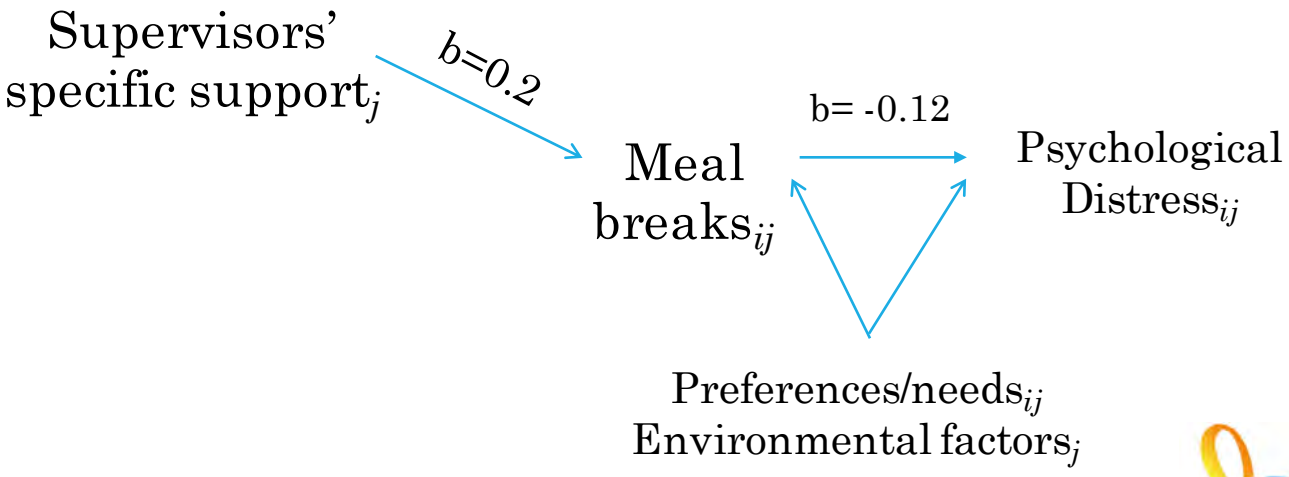
Wong I, McLeod CB, Demers P. Scandinavian Journal of Work, Environment & Health. 2011;37(1):54-61.

Shift work increases the risk of disease



Knutsson A. Health disorders of shift workers. *Occup Med (Lond)* 2003; 53: 103-108.

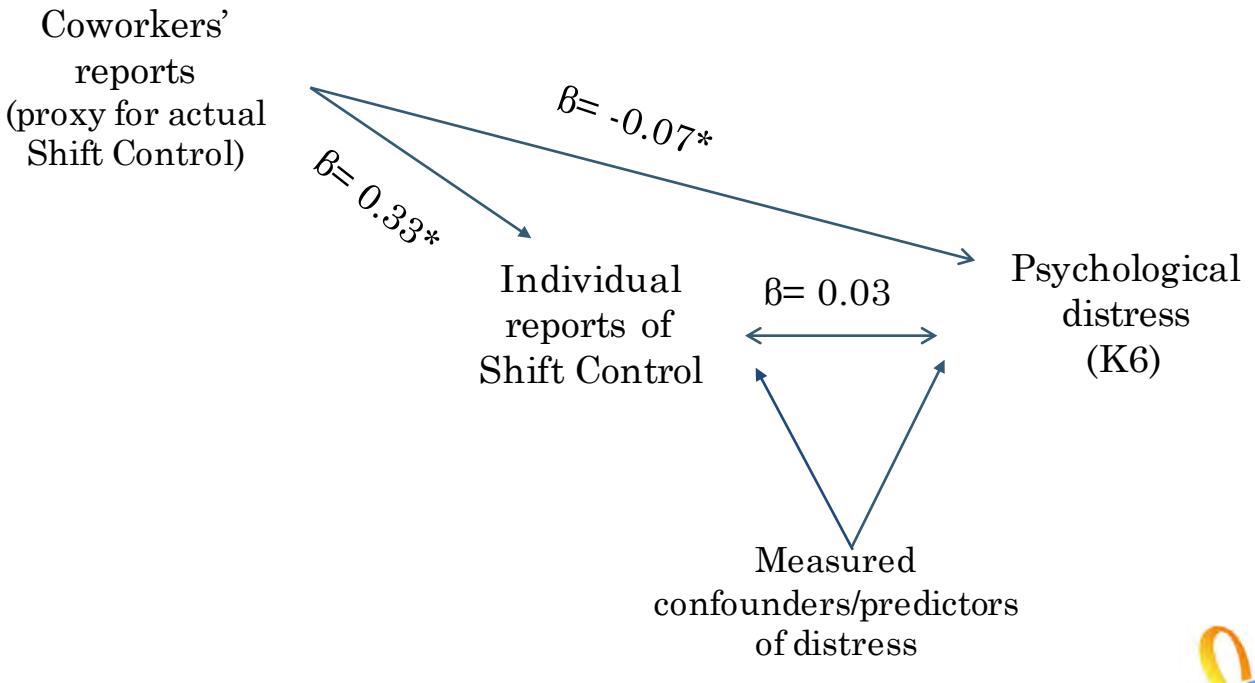
Meal Breaks and Mental Health



Be Well Work Well

Hurtado et al. Supervisors' support for nurses' meal breaks and mental health, *Workplace Health & Safety*, 2015.

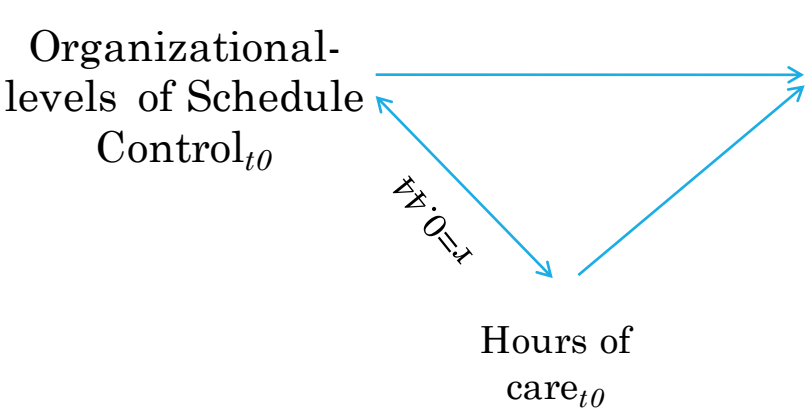
Shift control and Mental Health



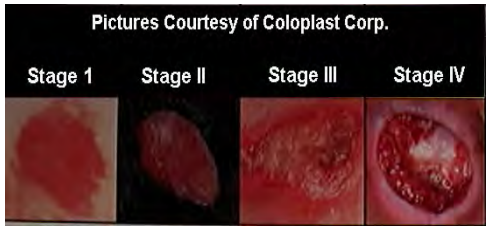
β= standardized regression coefficient
*p<0.05

Be Well Work Well

Schedule Control and Quality of Care



Prevalence of Pressure Ulcers$_{t1}$
(b= -2.5%, p<0.05)



work, family & health study

Hurtado et al. Schedule control and nursing home quality: exploratory evidence of a psychosocial predictor of resident care. *Journal of Applied Gerontology*, 2014.

Experimental Evidence on Health Behaviors

Random Assignment → Work-Family Intervention (including schedule control) → Reductions of smoking$_{t1}$ (b= -7.6 cigs/wk, p<0.05)

work, family & health study

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

Type of WTC	Work–non-work balance	Health/ well-being	Job-related outcomes
Global			
CS study	**15(+), 25/26(+), 27/28/29(+), 41(+) 42(+) 43(0), 44(+),45(0), 47(+), 51(+), 53(0), 54(+), 56(0), 58(+), 60(0), 61(+)**	**25(+), 27(0), 29(+), 43(0), 49(0), 51(+), 52(0), 53(-),57(+), 60(0), 61(0)**	**29(+), 47(0), 52(+), 53(+),55(0), 56(0), 59(0), 61(+)**
Intervention study	**32(+), 46(0), 48(+)**	**38(0), 40(0), 46/50(0), 48(0)**	33(+), 48(+)
Longitudinal study	42(0), 47(0)		47(0)
Strength of evidence based on SIC	CS: SIC (N=16) 0.69(+++) Intervention: SIC (N=3)=0.67(++)	CS: SIC (N=11) 0.27(0) Intervention: SIC (N=4) 0.00(0)	CS: SIC (N=8) 0.50(++)
Multi-dimensional			
CS study	**62(+), 64(0), 65(+)**	**30/31(0), 63(+), 65(+), 66(0)**	**16(+), 39(0), 65(0)**
Longitudinal study		19/20/21/24(+), 64(0)	39(0), 64(0)
Strength of evidence based on SIC	CS: SIC (N=3) 0.67(++)	CS: SIC (N=4) 0.50(+)	CS: SIC (N=3) 0.33(+)
Flextime			
CS study	**67(+), 69(+), 71(0), 72(0), 73(+) 74(0), 75(0), 76(0)**	**68(+), 70(+), 71(0)**	**67(0), 73(+), 76(+), 77(+)**
Longitudinal study		22/23(+)	
Strength of evidence based on SIC	CS: SIC (N=8) 0.38(++)	CS: SIC (N=3) 0.67(++)	CS: SIC (N=4) 0.75(++)
Leave control			
CS study	74(+), 78(+)	68(+), 79(0)	
Longitudinal study	42(+), 78(+)	22(+)	
Other subdimensions			
CS study	**27(+), 76(+), 82(+)**	**12(+), 27(0), 66(0), 80(+), 81(+)**	**12(+), 76(+), 80(+), 82(+)**
Strength of evidence based on SIC	CS: SIC (N=3) 1.0(++)	CS: SIC (N=5) 0.6(++)	CS: SIC (N=4) 1.0(++)

Nijp, H. H., et al (2012). Systematic review on the association between employee worktime control and work-non-work balance, health and well-being, and job-related outcomes. *SJWE, 38*(4), 299-313.

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

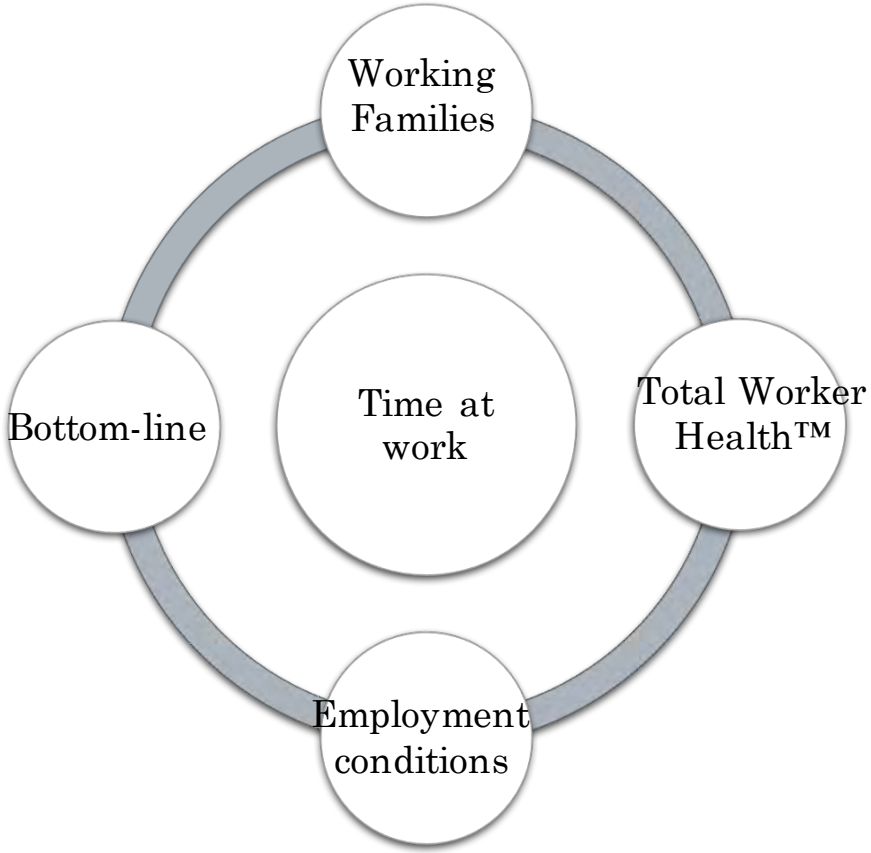
The organization of time at work affects health and safety through multiple independent and interactive pathways

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

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

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