Sleep and Wellness

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Why should we care about sleep?

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Sleep serves many "functions"

- Disengage from the environment
- Rest and repair
- Memory formation and organization
- Emotional regulation
- Clearance of metabolic waste

Sleep is comparable to a physical and mental workout, without having to build up a sweat.

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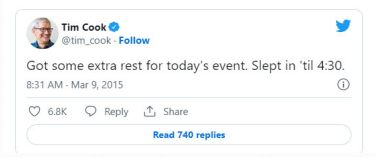
Insufficient sleep starts at the top

- 68% of nonexecutive leaders sleep 5-7 hrs per night ()
- The modal sleep time for CEOs is 6 hrs, with many sleeping only 4-5 (Money, Inc. 2022)



Hougaard & Carter; Money, Inc 2022

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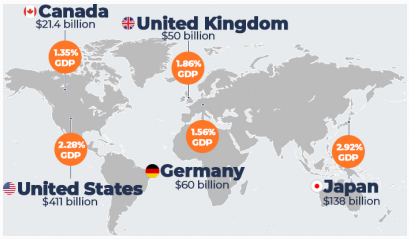
Sleep and productivity

- Around 3% of GDP is lost from sleep deprivation, which costs employers $2,280 annually per employee



Why Sleep Matters: Quantifying the Economic Costs of Insufficient Sleep, Rand Corporation, 2016

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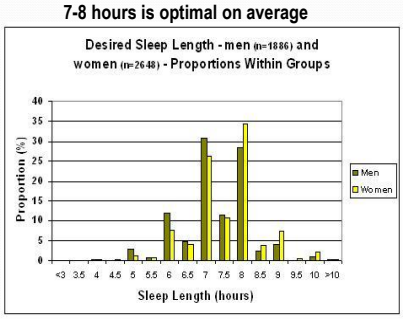
How much sleep should we be getting?

7-8 hours is optimal on average



http://www.lboro.ac.uk/departments/hu/groups/sleep/todaysurvey.html

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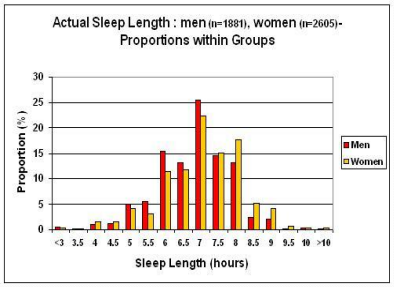
How much sleep are we getting?



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2-Process model of sleep wake regulation (Borbely, 1982)

Sleep homeostasis (process S)

Circadian rhythms (process C)

Sleep / Wake

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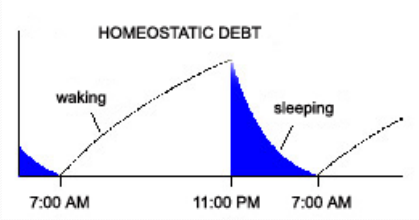
Process S: Sleep drive

- Sleep drive increases when awake and decreases when asleep
- Higher sleep drive → greater sleepiness



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Strengthening sleep drive

- Keep napping to a minimum
  - 15-20 min power naps optimal
- Avoid excessive sleeping in on the weekends

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Process C: The Circadian Clock

- Virtually all physiologic processes follow a daily rhythm
  - Circadian = Circa (about) + diem (day)
- There is a circadian rhythm of alertness (not sleep)
  - Alerting signals increase across the day starting at wake time
  - Alerting signals decrease across the night until the early morning

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Chronotype

Dimension describing individual circadian tendency/preference

- Owls (evening types)
  - Hard to fall asleep until late at night and difficulty waking up in the morning
- Larks (morning types)
  - Hard to stay awake in the evening and early morning awakenings
- Intermediate types

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Entrainment of rhythms

- Zeitgebers (time givers) are external time cues that regulate and synchronize internal circadian rhythms with the external environment.
- The light/dark cycle is the most important zeitgeber in synchronizing human circadian rhythms

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Strengthening circadian rhythms

- Setting regular bedtime and wake time
  - Same on weekends
- Regulating light exposure
  - Maximize in the morning, minimize at night
  - What are lighting levels like at the workplace?
- Regular daily activities (meals, exercise, …)

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Melatonin

- Hormone produced by the pineal gland at night
- Suppressed by bright light exposure
- Melatonin serves as a 'darkness cue' to entrain circadian rhythms
- Not very effective as a hypnotic, but can help regular circadian rhythms

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Hyperarousal process

- Arousal system is engaged from stress, threat, etc.
  - High arousal (hyperarousal) can interfere with sleep/wake processes
- Types of hyperarousal
  - Physiologic (heart rate, temp, metabolic rate)
  - Cognitive arousal
  - Emotional arousal
  - Cortical arousal

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Reducing hyperarousal

- Winding down activities before bed
  - at least 30 minutes
- Write down your thoughts at night
- Practice relaxation exercises
- Be aware of stimulants (caffeine)

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Reducing *conditioned* arousal

- Go to bed only when sleepy
- Avoid sleep-incompatible activities in bed
- If unable to sleep, get out of bed
  - Engage in relaxing activities
  - Get back in bed when sleepy

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Recipe for a good night of sleep

Strong sleep drive
+
Robust circadian rhythms with correct timing
+
Low arousal

=

Good sleep quantity and quality

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How can you utilize this information in organizational settings?

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Sleep assessment

- Survey employees about their sleep health
  - Sleep quantity/quality, chronotype, screen for sleep disorders
- Is poor sleep impacting the workplace?
  - Productivity, absenteeism, presenteeism, wellness
- To what extent are workplace policies contributing to poor sleep?

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Work shifts and circadian rhythms

- Is there room for flexibility in schedules to allow employees to work in sync with their chronotype?
  - Larks tend to receive higher supervisor ratings (Yam et al 2014)
- How often are employees traveling across time zones? Are there opportunities for better management of jet lag?
- Is there a need to sync schedules with offices in other time zones?

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Shift work

- Does a portion of your workforce do shiftwork? Is there room for improvement in how shiftwork schedules are created?
  - Frequency and direction of shift changes
  - Lighting levels during nighttime shifts
  - Employee education about strategies for reducing the impact of shiftwork on sleep

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Employee Wellness

- Employees could benefit from sleep-focused wellness programs
  - Education about sleep and circadian health
  - Screening for sleep disorders and referrals for treatment
  - Sleep coaching
  - Workplace treatment for insomnia (in person or digital)

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Take aways

- Sleep and circadian health are pillars of wellness
- Proper sleep health can improve both workplace productivity and personal well being
- At both the individual and organizational levels, there are steps that can be taken to optimize sleep health

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Questions?

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