

# Mindfulness: Promoting Total Work Health & Safety by Being in the Moment

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**Mindfulness & Safety Research Coordinator**  
**Environmental Health & Safety, UC Irvine**



# Agenda

- 1. University of California**
2. UC Irvine Injuries & Root Causes
3. Stress & Mind Wandering: Role in Illness & Injury
4. Mindfulness: An Antidote
5. Mindfulness Research
6. UC Mindful Health & Safety Research

# University of California (UC)

- 10 campuses, 5 medical centers, 3 national labs
- > 233,000 students and > 190,000 employees



# UC Office of the President (UCOP)

- Systemwide Headquarters
  - Manages fiscal & business operations
  - Supports academic & research missions



# UCOP Office of Risk Services

- Implement Enterprise Risk Management
  - Includes UC Systemwide Centers of Excellence
    - Proactively leverage knowledge across system



Cheryl Lloyd  
Interim Chief Risk Officer

# UC Irvine

## Environmental Health & Safety

- Consistently Low Employee Injury Rates
  - Workers Compensation
    - Over \$30 million savings over past 9 years
    - Average rate significantly lower than UC average
- Two UC Centers of Excellence
  - Safety Management & Metrics
  - Mindful Health & Safety





**Mindful**

HEALTH & SAFETY

UNIVERSITY OF CALIFORNIA



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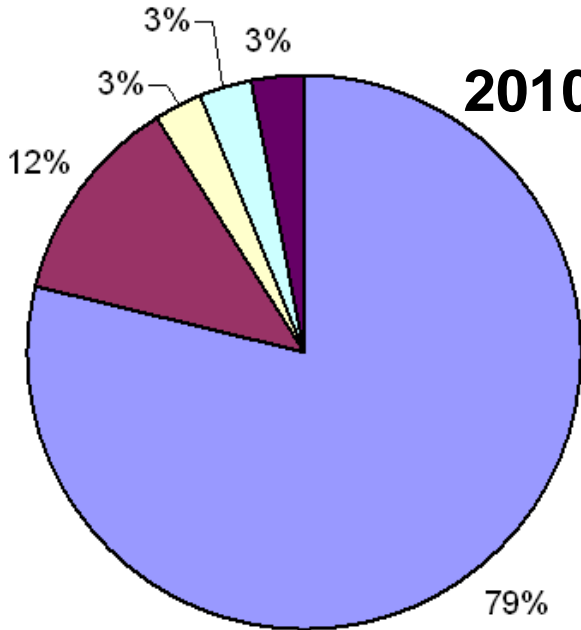




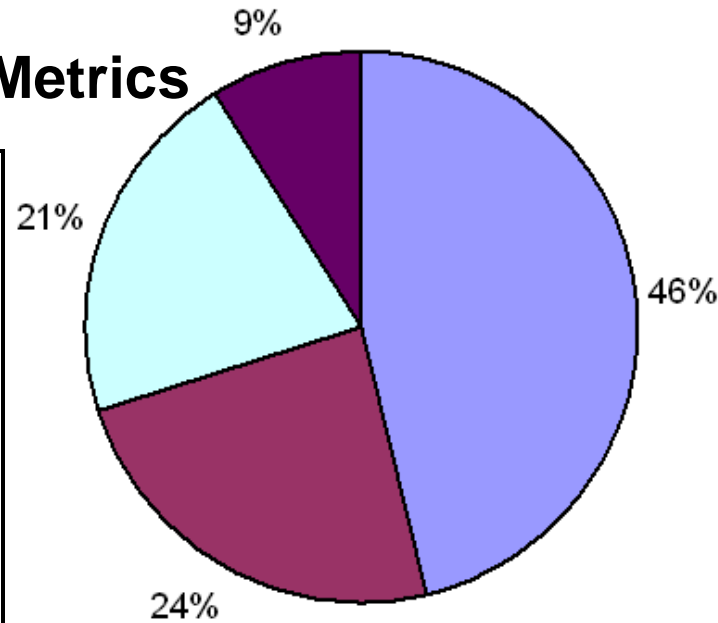
# UCI Campus

## 2010 Injury Investigation Metrics

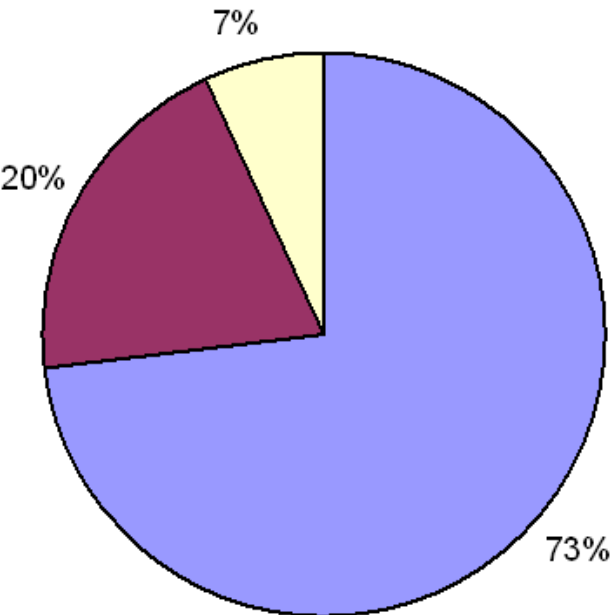
Needlesticks/Sharps Injuries (67)



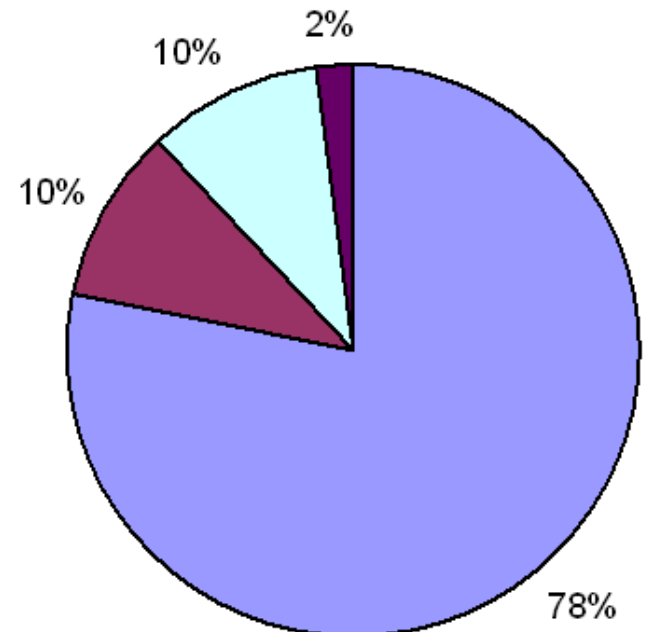
Struck By Object (55)



Trip and Fall Injuries (45)



Struck An Object Injuries (40)



- Subject Inattentive / Distracted
- Proper Procedures Ignored
- Inadequate Skills or Knowledge
- Inadequate Tools or Equipment
- Lack of or Inadequate Job Procedures
- Management Lacks Resources/Funding
- Lack of Communication of Expectations

TAKE CARE...

**DANGER**  

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**DEEP  
HOLE**





**MIND ON TASK!** **PAY ATTENTION TO PREVENT INJURIES.**





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# Stress

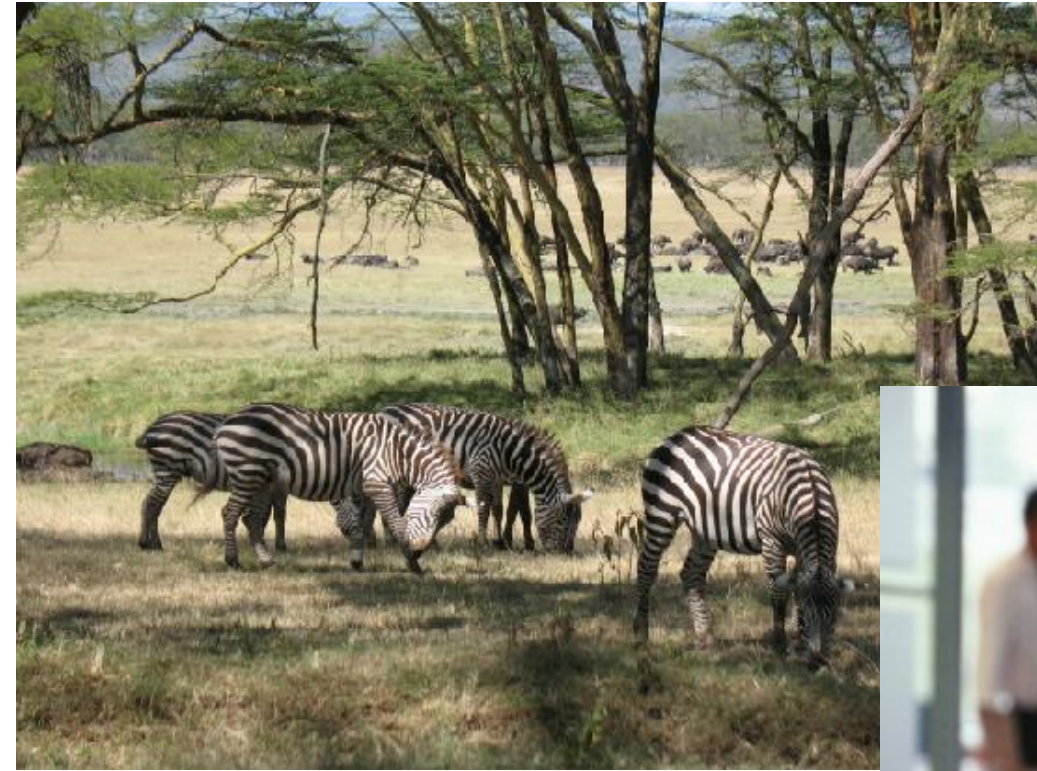


# Fight or Flight Response





# Maladaptive Human Response



# Role of Stress in Illness



# Mind Wandering

© Mike Baldwin / Cornered



# Mind Wandering & Happiness

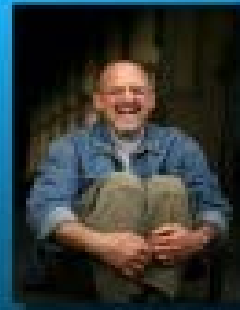
Researchers analyzed 2250 adults during common activities

## **Research: Professor Gilbert & Killingsworth**

People spend 46.9 percent of their waking hours thinking about something other than what they're doing, and this mind-wandering typically makes them unhappy.

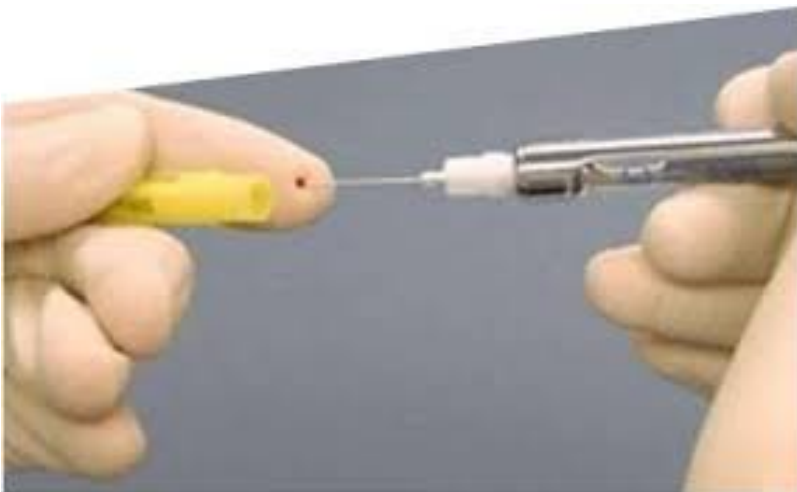
(November 11 2010 in the journal Science)

© Awareness In Action 2010



Conclusion: If you want to stay cheerful, focus on the present, no matter how unpleasant it is

# Role of Stress & Mind Wandering in Injuries



# Need to Train Mind





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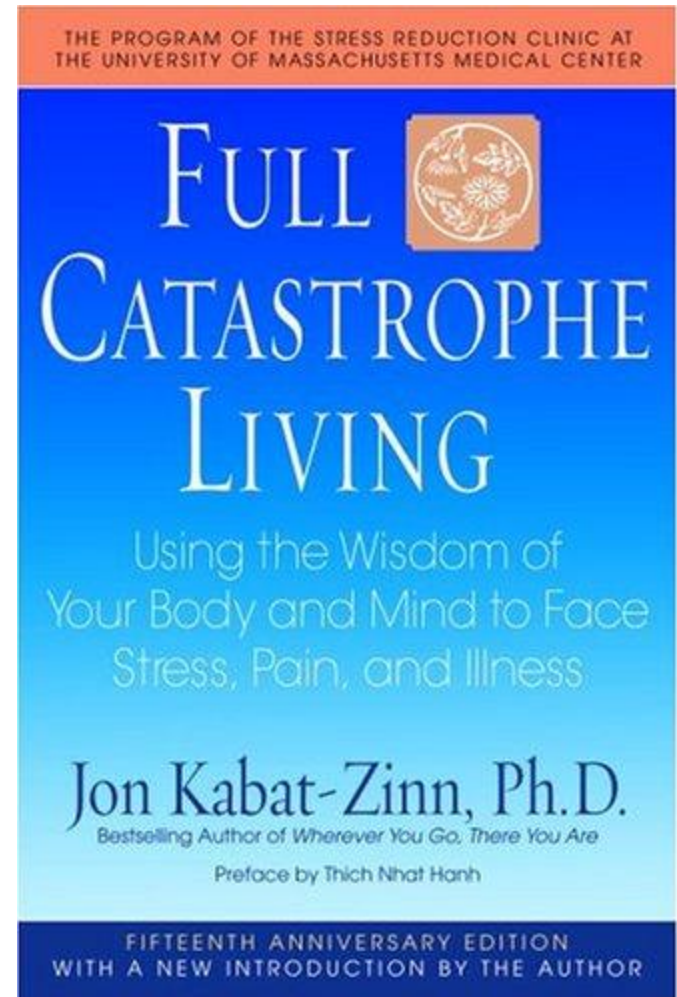
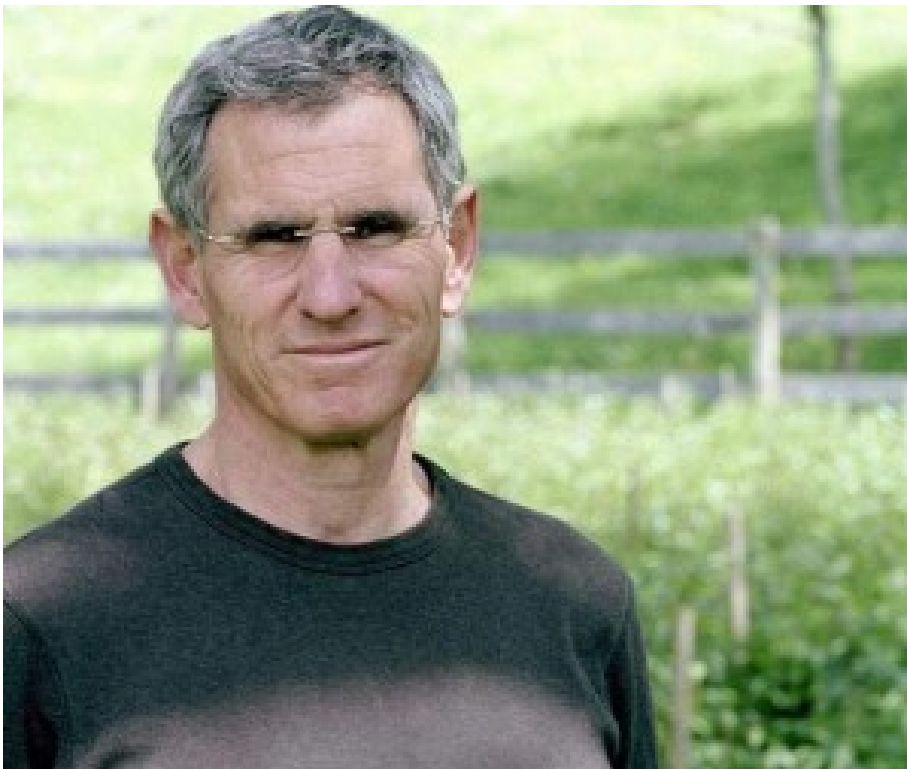


# Mindfulness: Presence of Heart

念



# Jon Kabat-Zinn, Ph.D.



# Mindfulness

Awareness that arises through paying attention;  
on purpose, in the present moment, and nonjudgmentally



# Mindfulness-Based Stress Reduction (MBSR) Program

- 8 weeks
  - 2 hours/week
  - One 6-hour retreat
- Supportive Group
- Develop Practice
  - Body scan
  - Yoga based-movement
  - Sitting & walking meditations



# MBSR Offered Worldwide



# Workplace Applications



SEARCH  
INSIDE  
YOURSELF

FEBRUARY 3, 2014

Fleeing Syria Photographs by James Nachtwey / Peyton Power / Steve McQueen

TIME

THE  
MINDFUL  
REVOLUTION

The science of finding focus in a stressed-out, multitasking culture

BY KATE PICKERT









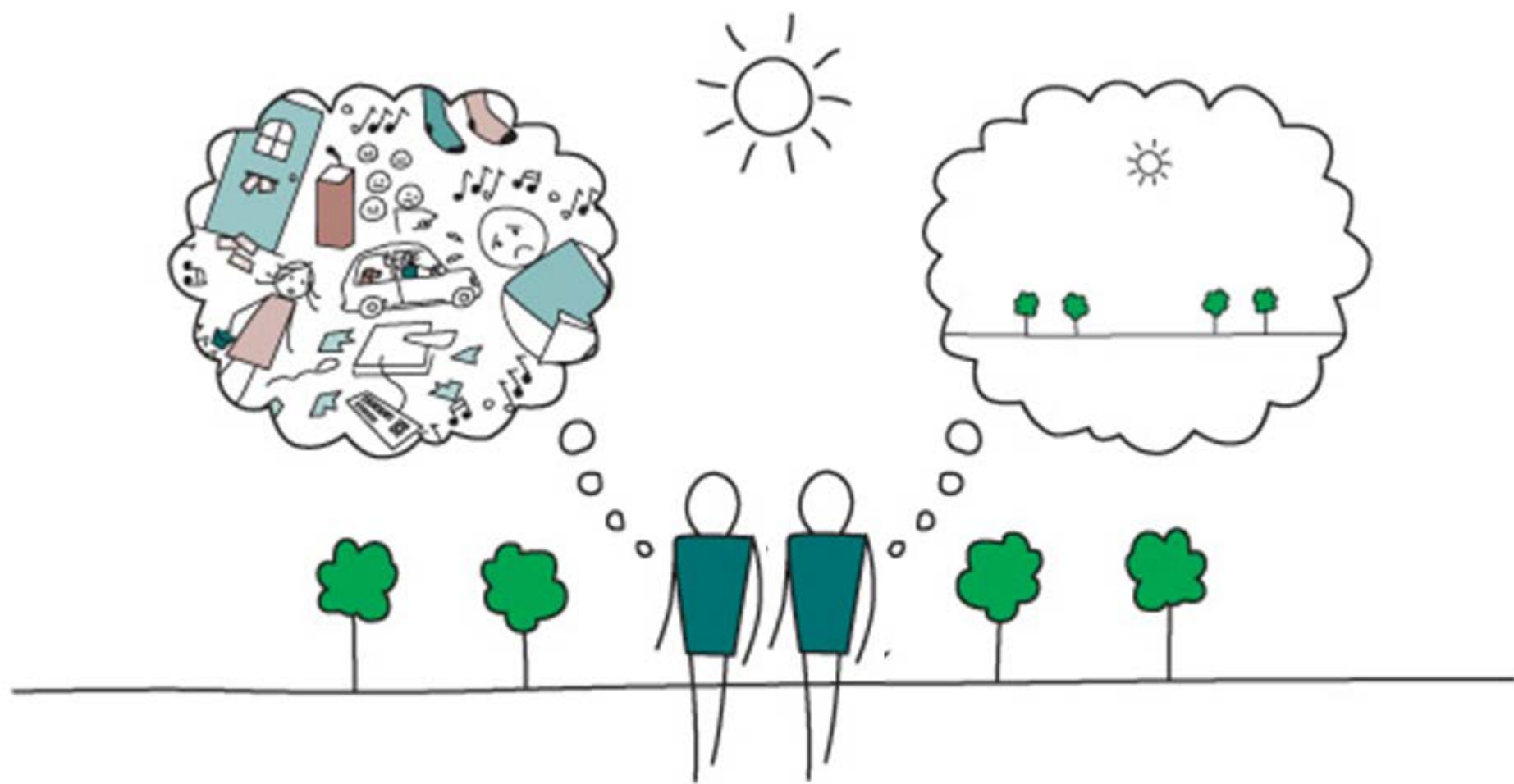
# Mindfulness Meditation

- It's about retraining your attention
- Becoming aware when your mind is wandering
- Knowing where your attention is
- Being aware of & letting go of distractions
- Having a kind, open, curious attitude to your present moment experience, whatever it is



# Paradox by Gunilla Norris

paradox



Mind Full, or Mindful?



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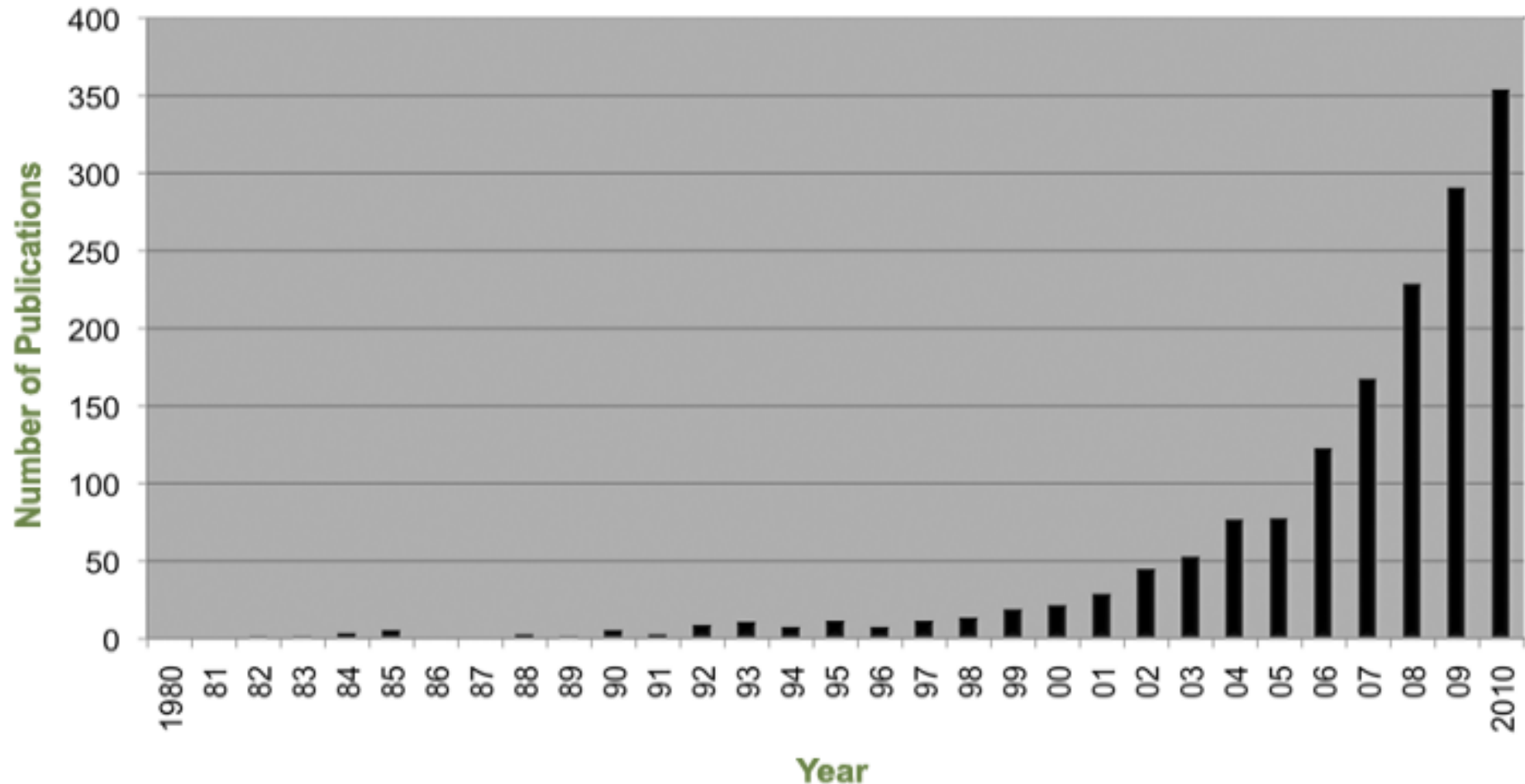


# Mindfulness Research Centers

- Columbia
- Duke
- Eisenhower Medical Center
- Harvard
- Oxford
- Kaiser Permanente
- Scripps
- Stanford
- U Mass Medical School
- UCLA
- UCSD
- Numerous Programs Worldwide

# Growth in Mindfulness Research

Figure 1. An example of growth in the mindfulness research literature across 30 years, 1980 - 2010



*Notes.* Results obtained from a search of the term "mindfulness" in the abstract and keywords of the ISI Web of Knowledge database on Feb. 5, 2011. The search was limited to publications with English language abstracts.

# Summary of Research Findings

- Physical Health
  - Reduces chronic pain, headaches, blood pressure, cholesterol
  - Improves immune function
- Mental Health
  - Reduces anxiety, depression & substance use
- Healthy & Workplace Populations
  - Reduces stress
  - Improves immune response, sleep & overall well-being



# Changes Brain Regions

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Science News

## Mindfulness Meditation Training Changes Brain Structure in Eight Weeks

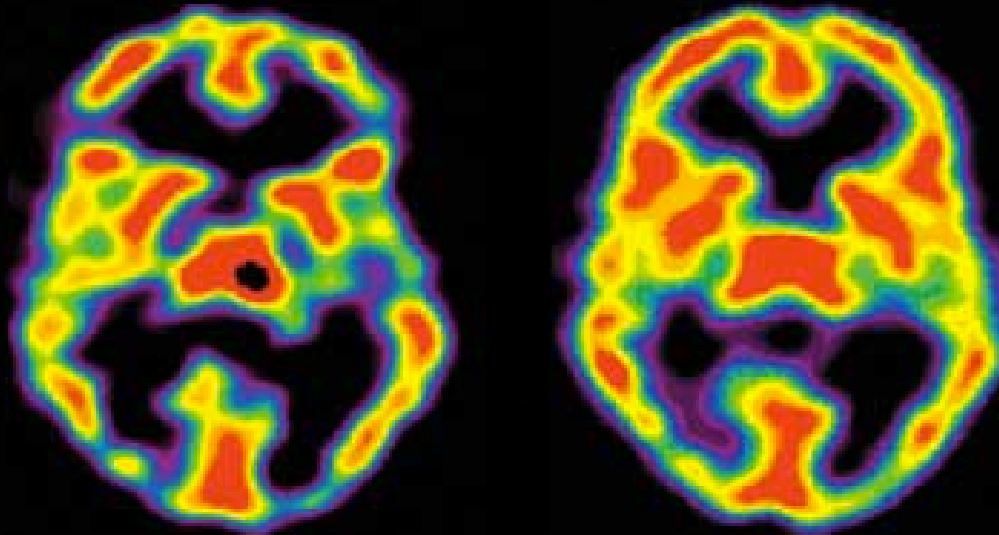
ScienceDaily (Jan. 21, 2011) — Participating in an 8-week mindfulness meditation program appears to make measurable changes in brain regions associated with memory, sense of self, empathy and stress. In a study that will appear in the January 30 issue of *Psychiatry Research: Neuroimaging*, a team led by Massachusetts General Hospital (MGH) researchers report the results of their study, the first to document meditation-produced changes over time in the brain's grey matter.

Although the practice of meditation





# Changes Way Brain Works



**BASELINE**

**MEDITATING**

*Two functional brain scans of the author's brain: a baseline scan and one done while meditating. These show metabolic activity—red is most active, black is inactive. The one done while meditating shows a different pattern of metabolic activity. "This shows that meditation doesn't just affect our mind—it changes the way that the brain works," Michael Baime says.*

# Testing Performance

Decreased mind-wandering

Improved working memory capacity

Better performance on GRE reading comprehension



Mrazek, MD et al. (2013) *Psychological Science*, 24 (5), 776-781

# Job Performance

# Mind Fitness

**Improving Operational Effectiveness and  
Building Warrior Resilience**

By ELIZABETH A. STANLEY and AMISHI P. JHA



# Driving Safety

- Mindfulness May Improve Driving Performance
  - Increases environmental awareness
  - Blocks out distractions
  - Helps to quickly identify hazards
  - Young adults lower in mindfulness texted more



# Nuclear Power Plant Safety

Results suggest the benefit of being mindful outweighs its cost for complex but not simple tasks







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# UC Mindful Health & Safety Research

- UCI EH&S proposed idea to UCOP
  - UCOP agreed to fund
  - UC Center of Excellence
- Aim: Explore potential for “Mindful Health & Safety” program to improve workplace health & safety record





# Hypothesis

Compared to the active control, those in the mindfulness-based program will demonstrate:

Reduced



- Work-Related Injuries\*
- Medication Errors
- Organizational Costs\*
- Stress Levels
- Burnout
- Sick days\*

Increased



- Attention\*
- Work Engagement
- Job Retention

\*Objective Measures

# Research Steps



1) Build Collaborative Research Team

2) Adapt MBSR to Integrate Safety

3) Obtain IRB Approval

4) Apply for Funding

5) Pilot at UCI & other UCs

# 1) Build Collaborative Research Team

UCI

UCOP



UCI Medical  
Center

UCI Susan Samueli Center  
for Integrative Medicine

Beginning Conversations  
with Other UCs

## 2) Adapt MBSR

- Session 1: Paying Attention
- Session 2: Health
- Session 3: Safety
- Session 4: Self-Care
- Session 5: Fully Present
- Session 6: Mindful Communication
- Session 7: Creating a Culture of Mindfulness
- Session 8: Intentions



### 3) Obtain Approval: Institutional Review Board

**I  
R  
B**





## 4) Apply for Funding



- University of California  
Be Smart About Safety Funding
- National Institute of Health

# 5) Formal Pilot: Fall 2014

## Nurses at UCI Medical Center

- Sample
  - 60+ nurses
  - High-risk occupation
  - Compensation - 22 CEUs
- Random Assignment
  - Experimental
    - Mindfulness
  - Active Control
    - Health education (nutrition/exercise)



# 2 Informal Pilots

## EH&S Staff & Facilities Managers



- Approximately 25 participants
- No active control group
- Abbreviated protocol (12 vs. 22 hours)
- 1 hour/week for 9 weeks + 3-hour retreat



# What Meditation Really Is





- Experiment with Protocol
  - 22 Hours vs. Abbreviated Programs
  - Blended Learning (Classroom & Online)
- Implement with Various Populations
  - Additional UC Employee Groups
  - Other Industries
- Distribute Mindful Health & Safety Resources

UNIVERSITY  
OF  
CALIFORNIA

# Mindful HEALTH & SAFETY

• Cultivating Present Moment Awareness in the Workplace •



University of California, Irvine [Environmental Health & Safety](#) (EH&S) is collaborating with the [Susan Samueli Center for Integrative Medicine](#) to research the impact of mindfulness on workplace health and safety. Sponsored by [University of California Office of the President Risk Services](#), this project seeks to offer a complementary paradigm for creating safe and healthy workplaces across a variety of industries.

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