

# Burnout: Is Workplace Wellness Possible?



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Career Advancement Series



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# BURNOUT

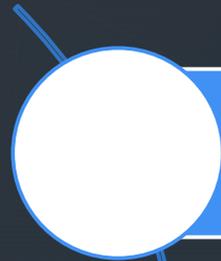
Now an official  
medical diagnosis

*Dr. Lisa  
Watson...*

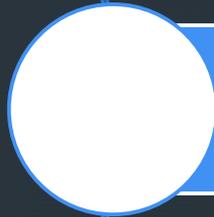


# Burnout- Definition & Epidemiology

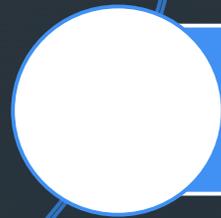
- A modern disease- now an official ICD-11 diagnosis
- Described by Herbert Freudenberger, “burn-out syndrome”, 1974
- Identified at all levels of training and practice, all industrialized countries. All jobs
- Emotional, mental, and physical exhaustion caused by excessive and prolonged stress that has not been properly managed



Organizational Factors



Personal Factors



The Future of the burnout concept

# Dimensions of the Burnout Syndrome

- Triad consisting of:
  - Emotional exhaustion
  - Depersonalization
  - Reduced sense of personal accomplishment/cynicism

Maslach C, Jackson S (1981) The measurement of experienced burnout. *J Occup Behav* 2:99–113; Maslach C, Schaufeli WB, Leiter MP (2001) Job burnout. *Annu Rev Psychol* 52:397–422)

- Or, alternatively:
  - emotional exhaustion (EE),
  - cynical attitudes toward work (CY),
  - reduced personal efficacy (rPE)

Maslach C., Schaufeli W. B., Leiter M. P. (2001). Job burnout. *Annu. Rev. Psychol.* 52 397–422. 10.1146/annurev.psych.52.1.397

## Measurement & Follow-up

- Maslach Burnout Inventory (MBI)
- Shirom Melamed Burnout Questionnaire (SMBQ)
- Oldenburg Burnout Inventory (OLBI)
- Copenhagen Burnout Inventory (CBI)
- School Burnout Inventory (SBI)
- Perceived Stress Scale (PSS)

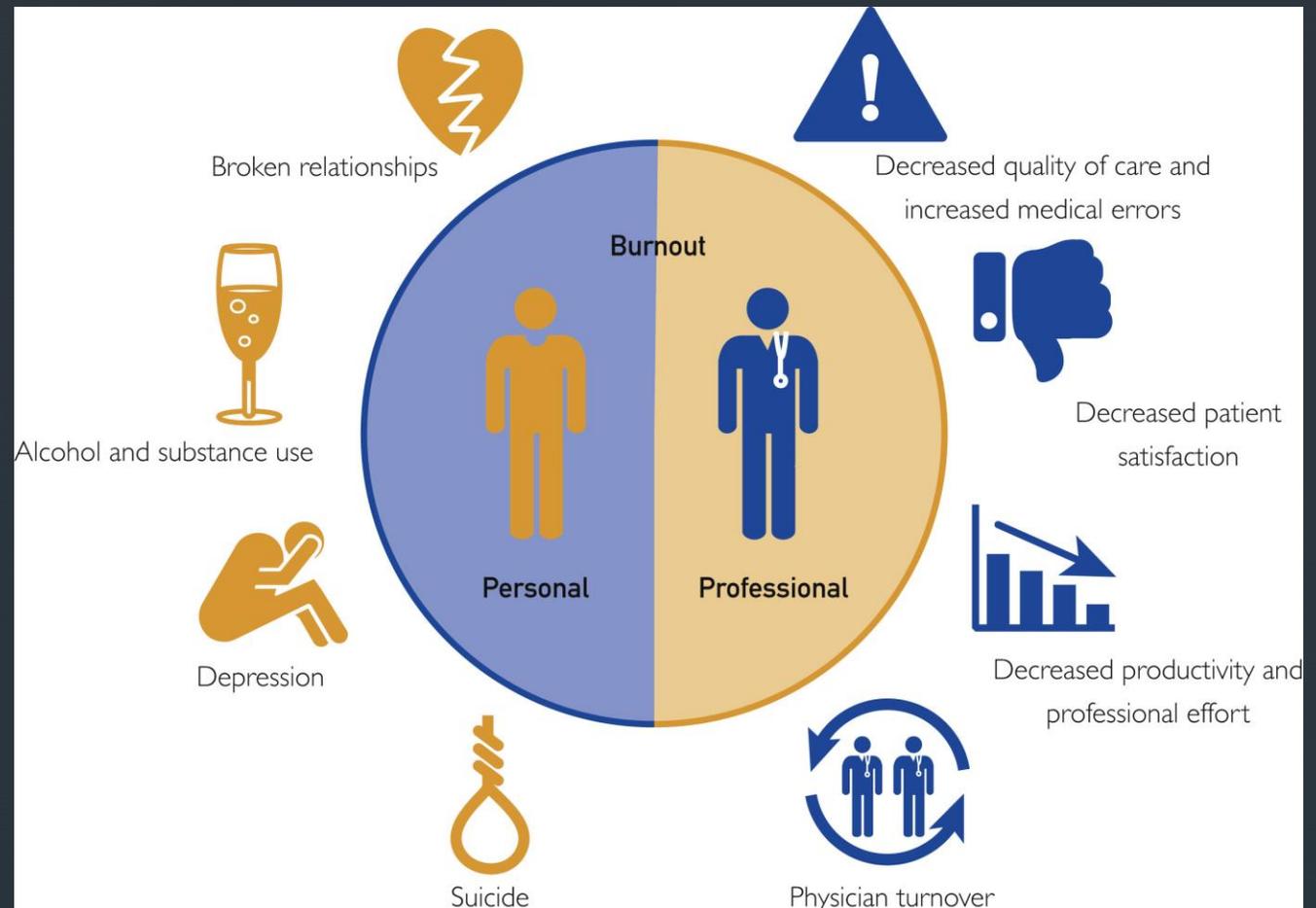
# Occupational Stress Models

- Burnout predictive models are about the effect of the psychosocial work environment on the individual
  - Job Strain model
  - Effort/Reward Imbalance model
  - Job Demands-Resources model
  - Cox transactional model of job stress
- Attention to physical, emotional & cognitive demands of job versus what it offers
- Context versus content

# Causes of Work Dissatisfaction- C

- Physical environment (Content)
  - Setting aspects
  - Material conditions
  - Commute/journey/access
- Organization (Content)
  - Schedules
  - Structure
  - Interpersonal relations
- Individual conditions (Context)
  - Workload vs resources
  - Powerlessness vs autonomy
  - Rewards

# The Effects of Burnout on Individuals:



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Tait D. Shanafelt, MD, John H. Noseworthy, MD, CEO

Mayo Clinic Proceedings 2017 92, 129-146 DOI: (10.1016/j.mayocp.2016.10.004)



# The Impact of Organizational Efforts

# The Engagement to Burnout Spectrum:



# What Can an Organization do?



Acknowledge and assess the problem



Harness the power of leadership



Develop and implement targeted work unit interventions<sup>a</sup>



Cultivate community at work



Use rewards and incentives wisely



Align values and strengthen culture



Promote flexibility and work-life integration



Provide resources to promote resilience and self-care



Facilitate and fund organizational science



# Healthcare/Academic-Specific Stressors

- Increasing workload/Perceived lack of recognition
- Conflicting demands/ Evolving standards
- Feeling isolated
- Last recourse for patients/families/pressure to have “answers”
- Funding pressure
- NOT ENOUGH VACATIONS TAKEN:
  - Need for coverage
  - Revenue issues
  - Pressure/expectations

# What Works

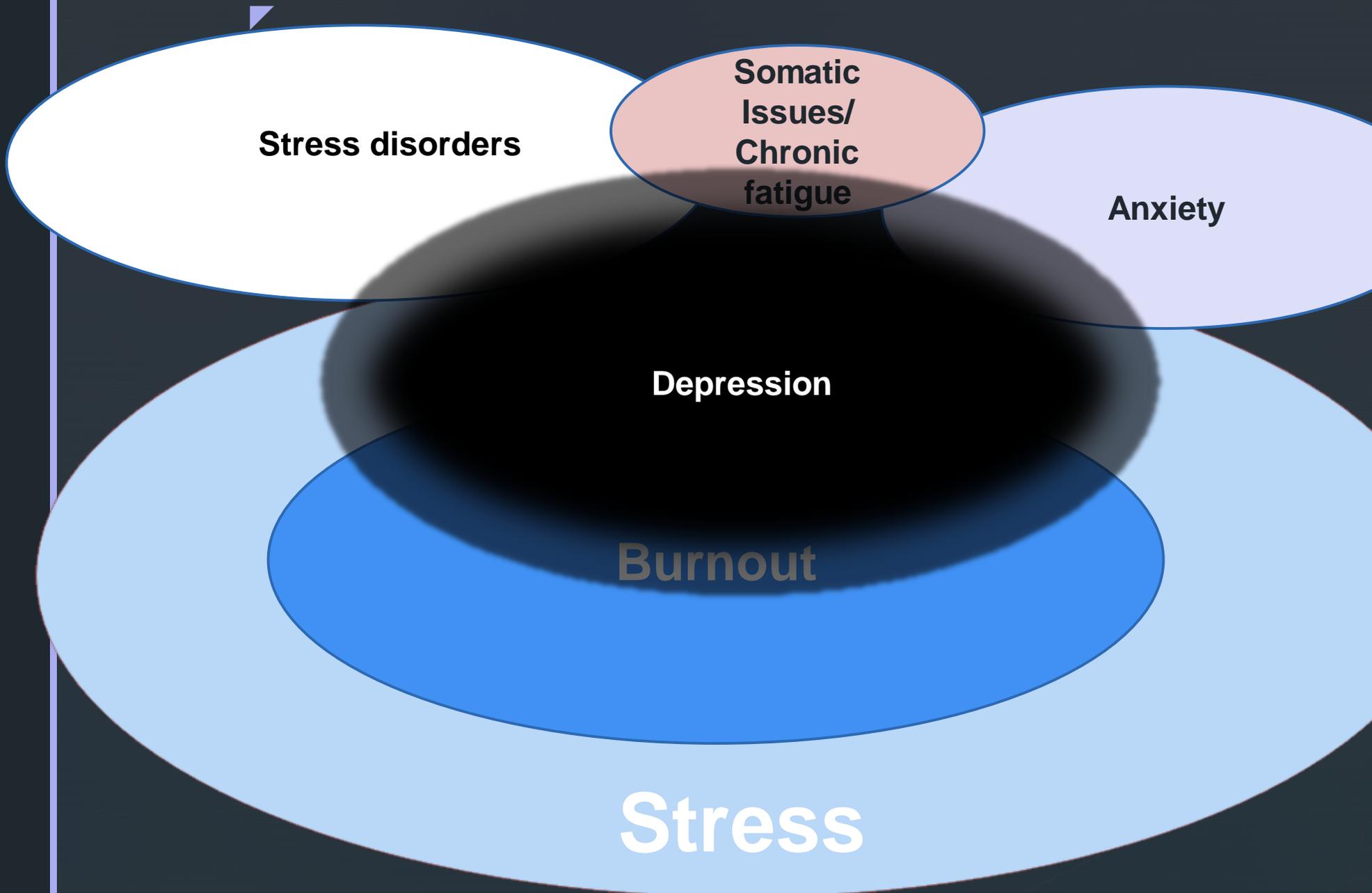
- In a review of 15 randomized trials and 37 cohort studies, marked decreases in emotional exhaustion and depersonalization were found with most interventions
- Organizational changes
- Individual-focused attempts
- Combination interventions
- Focus on building resilience as well as enhancing wellness

West et al, [Lancet](#). 2016 Sep 28. pii: S0140-6736(16)31279-X

# Examples of Organizational Effort

- Baylor College of Medicine:
  - Be Well program; Wellness & Vitality program
  - Wellness Council
  - PEEPSS program
- Mayo Clinic Healthy Living Program:
  - Hands on courses
  - Individualized wellness plan
  - Improving sense of community- engagement- Paying for lunch/dinner off camera
- Stanford- “time in the bank”
  - Family-friendly policies were being under-used
  - Time earned doing service work = Time-bank credits to get help:
  - Writing grants /Home cleaning/Food catering

# **Personal Factors & Burnout:**



**Stress disorders**

**Somatic  
Issues/  
Chronic  
fatigue**

**Anxiety**

**Depression**

**Burnout**

**Stress**

## “Work more. Live less”

- Cultural conflict- physician role/prestige
- Majority of physicians in practice would NOT recommend medicine as a career to younger individuals
- The percentage of physician who own their practice has declined
- Bureaucratic demands + EHR are ranked as the top reasons job dissatisfaction

# Physical Effects Of Burno

- Increased somatic symptoms:
  - Fatigue
  - Weight fluctuations
- Risk factors for cardiac disease
- Overexpression of pro-inflammatory cytokines (gender effect)
- HPA dysregulation, possibly leading to a decrease of BDNF
- Extreme cases may link to impaired neurogenesis and limbic structures atrophy

[Chow Y et al.](#) Limbic brain structures and burnout-A systematic review. *Adv Med Sci*. 2018 Mar;63(1):192-198. doi: 10.1016/j.advms.2017.11.001. Epub 2017 Nov 22.

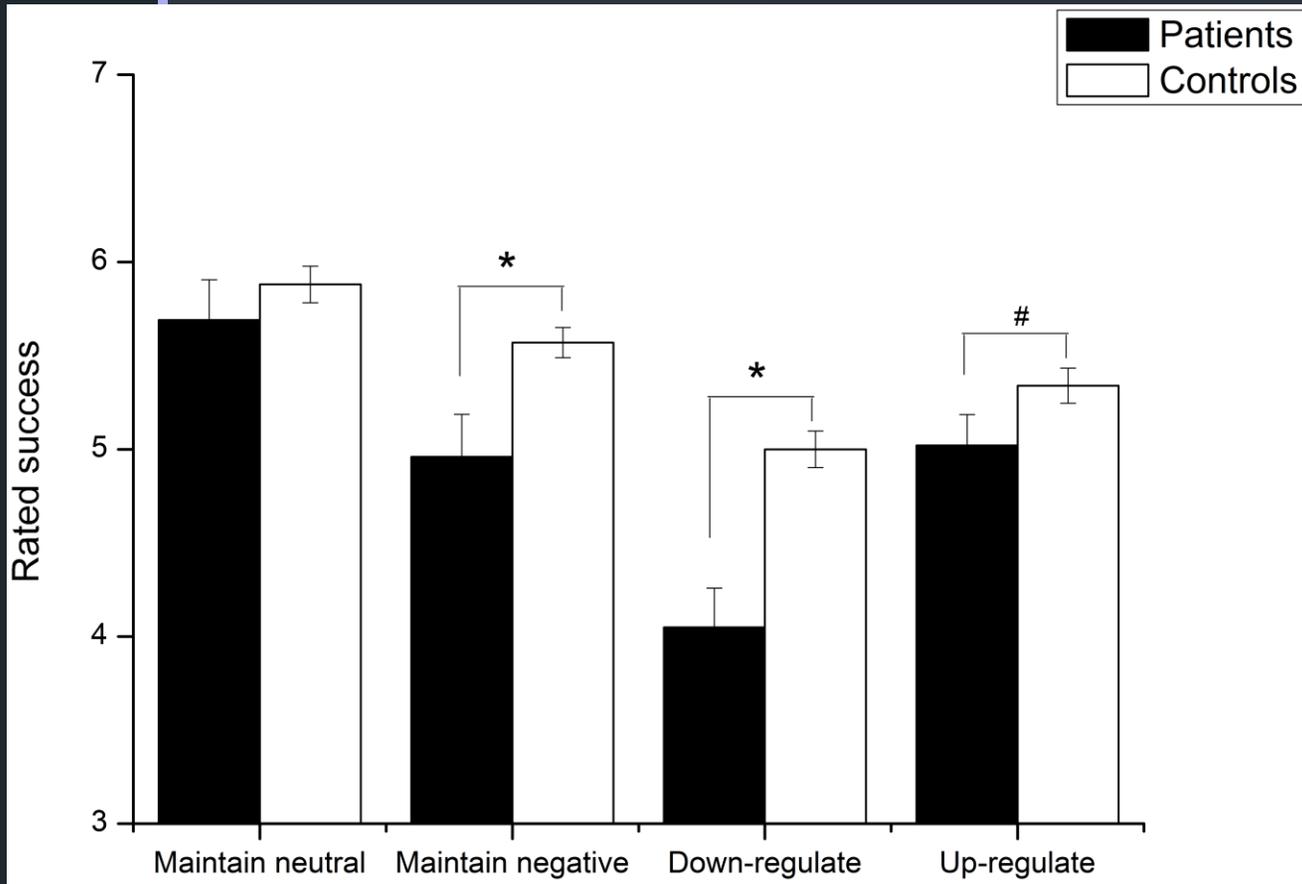
# Burnout Affects Brain Connectivity

- Biological underpinnings of chronic occupational stress
- Impaired ability to modulate emotions
- Altered connectivity between amygdala and mPFC
- Correlates with scores on Maslach Burnout inventory
- Different than pattern observed in depression
  - Possible relation with hypocortisolism
  - Use of antidepressant common and confounding

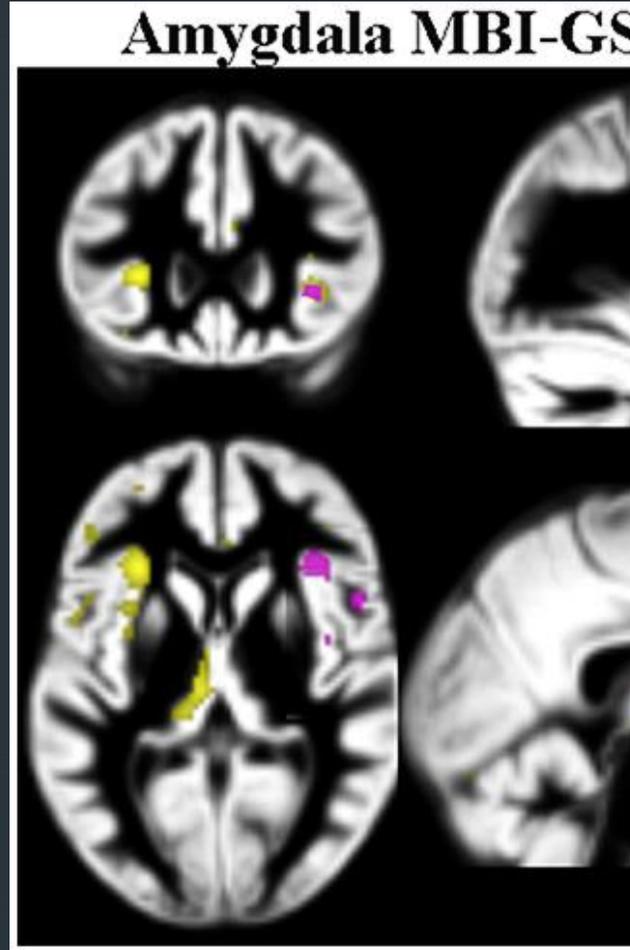
- Lennartsson et al, Frontiers in Psychiatry February 2015

1

- Golkar et al, Plos one, Sep 2014;9:9



Comparison between burnout patients and controls regarding rated regulation success across task instructions. The burnout group rated themselves as generally less successful at implementing the task instruction after viewing negative pictures. \* =  $p < .05$ , # =  $p < .1$ .  
 doi:10.1371/journal.pone.0104550.g003



Yellow clusters denote significant interaction between connectivity map and the MBI-GS score merging. Pink clusters denote corresponding clusters from another analysis. Clusters calculated at  $p < 0.05$  FWE corrected, a grey matter template (in the MNI space) from the...  
 doi:10.1371/journal.pone.0104550.g005

# Cognitive Difficulties Related to Burnout

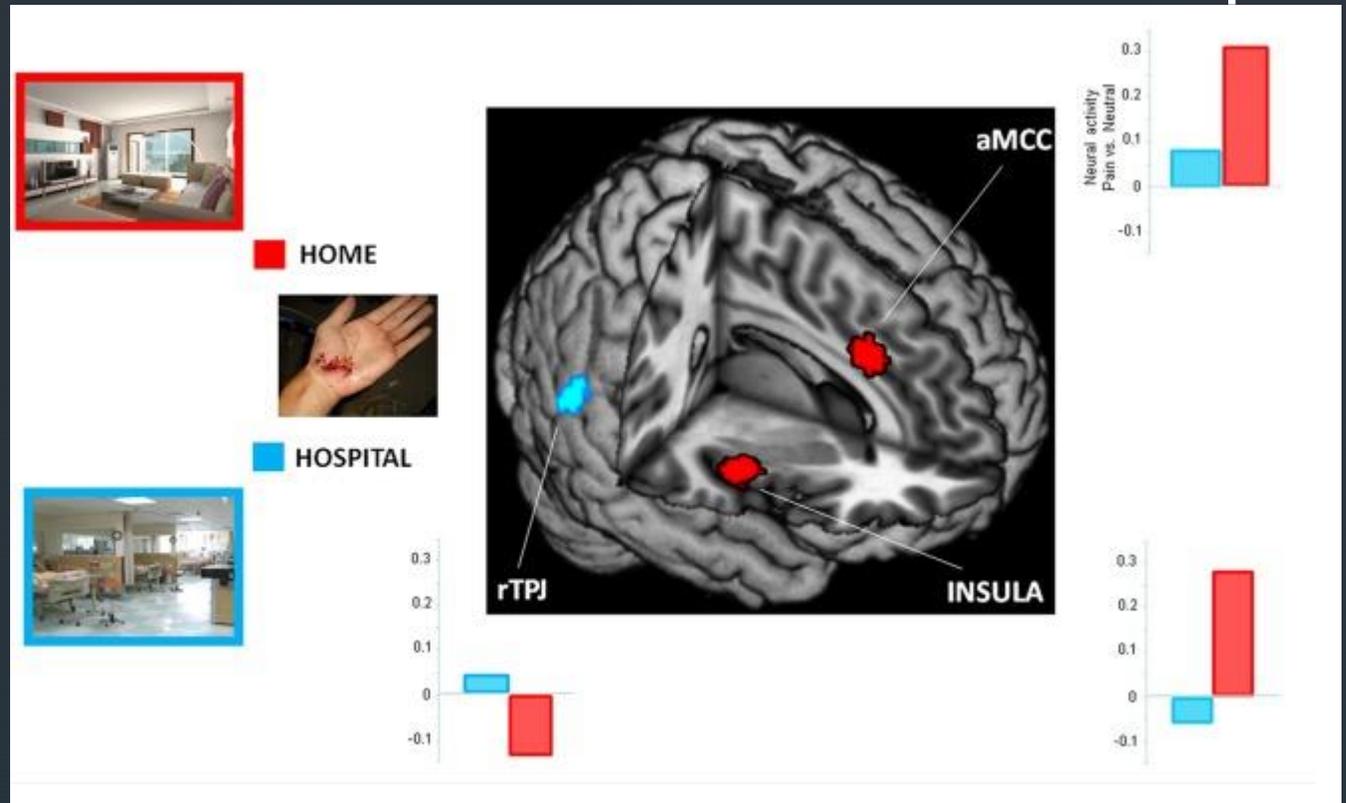
- Cognitive difficulties- decreased executive functioning
- Fronto-striatal neural responses related to working memory are modulated by burnout severity- need to recruit further brain resources to complete tasks
- Pain perception and empathy are particularly relevant- burnout may disrupt contextual empathy, thought to be protective

[Gajewski PD](#). Executive control, ERP and pro-inflammatory activity in emotionally exhausted middle-aged employees. Comparison between subclinical burnout and moderate depression. [Psychoneuroendocrinology](#). 2017 Dec;86:176-186. doi: 10.1016/j.psyneuen.2017.09.017. Epub 2017 Sep 18.

Cheng Y1,2, Chen C1, Decety J3. How Situational Context Impacts Empathic Responses and Brain Activation Patterns. *Front Behav Neurosci*. 2017 Sep 4;11:10.3389/fnbeh.2017.00165. eCollection 2017.

Gavelin HM et al, [Neural activation in stress-related exhaustion: Cross-sectional observations and interventional effects](#). *Psychiatry Res Neuroimaging*. 2017 Nov 30;269:17-25

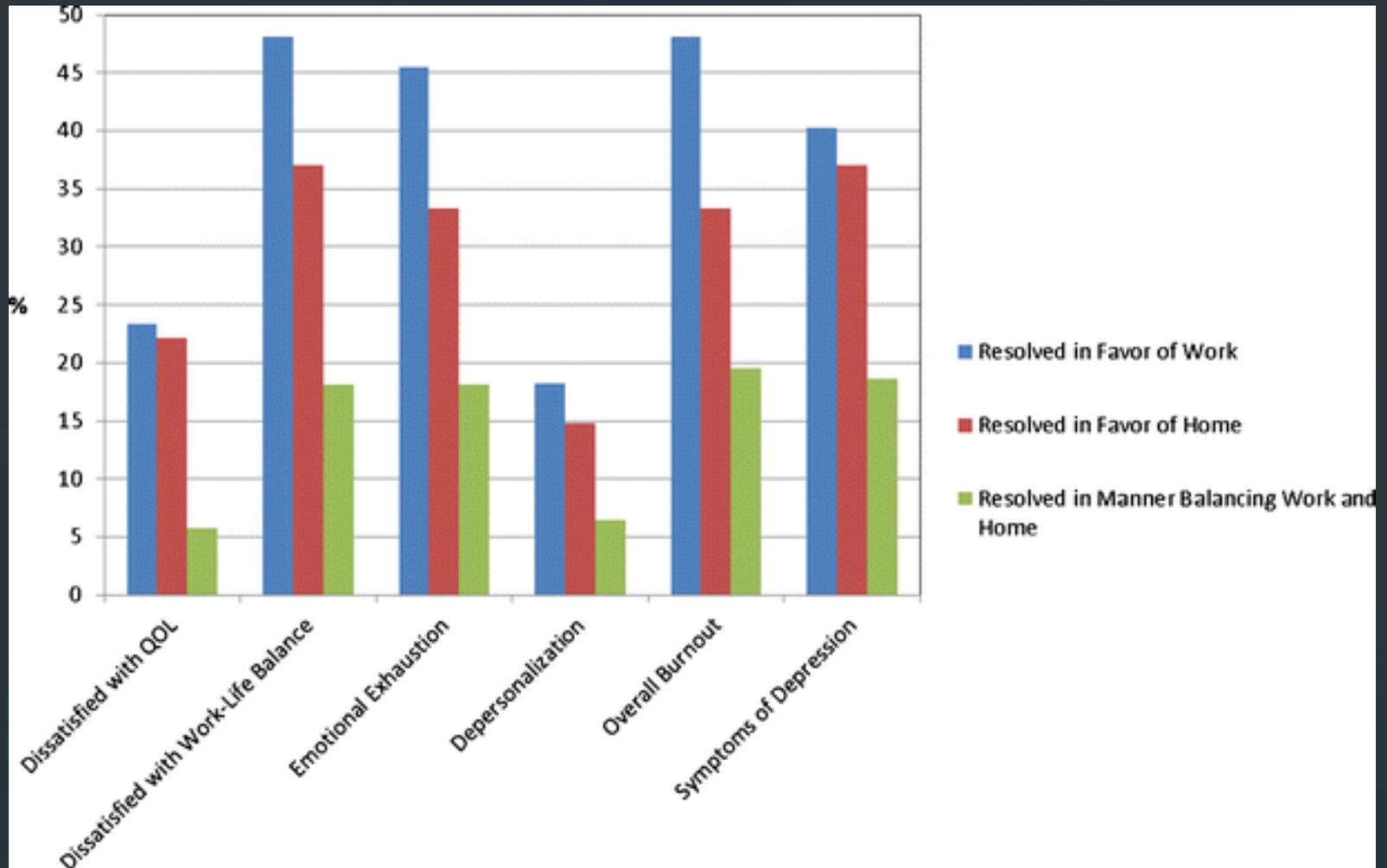
# Neuro-hemodynamic Activity In Response To Viewing Pain Stimuli Is Context dependent



Front Behav Neurosci. 2017; 11: 165.  
Published online 2017 Sep 4.



# ▶ Burnout As A Function Of Conflict Resolution



# Changes in Work Structure

- Since work hour restrictions in the US:
  - Less residents scored positive on depression screen/Less exhausted
  - Less satisfaction
  - Less educational activity attendance

Gopal, Jasheen, Miyoshi et al, ARCH INTERN MED/VOL 165, DEC 12/26, 2005

- More burnout in senior physicians Richter, A., Kostova, P., Baur, X. et al. Int Arch Occup Environ Health. 2012;85(1):1-10
- Shorter clinical assignments:
  - Less burnout
  - Worse ratings on teaching, professionalism by house staff and students
  - Little effects on patient care and re-admission

Lucas, Trink, Evans et al, JAMA. 2012;308(21):2199-2207

# Burnout Starts In Medical Training

- Matriculating medical students have lower rates of burnout and depression than age-matched college graduates
- Matriculating medical students have higher quality of life scale scores

Le Brazeau et al, Distress among Matriculating medical students relative to the general population, Acad Med 2014;89:00)

- By second/third year of medical school, up to half of medical students report burnout symptoms

Cecil et al, Behaviour & Burnout in Medical students, Med Ed Online, 2014; 19:25209

- Decrease in well-being progresses with level of training

Mirza et al., Well-being Assessment of Medical Professionals in Progressive Levels of Training: Derived from the WHO-5 Well-being Index. Cureus. 2018 Dec 28;10(12):e3790. doi: 10.7759/cureus.3790.

# Resilience

- Traits involved in resilience and inversely related to stress
  - Genetic factors
  - Flexible intrapersonal factors
  - Personality traits
    - Neuroticism , e.g. being “high-strung”
    - Mindfulness, being able to detach from a situation, de-center/not judge
    - Coping style
    - Self-efficacy

Rees et al, “Understanding individual resilience in the workplace: the international collaboration of workforce resilience model” Frontiers in Psychology J.

- Pro-resilience: Commitment to self-fulfilling goals
- Pro-resilience: Reasonable levels of challenge in daily life- high frequency difficult cases, protected time, number of patients, etc

Thomsens SB, Arnetz P, Nolan I, et al. Individual and organizational well-being in psychiatric nursing. / Adv Nursing. 1999;30:749-757

Personality Factors Potentially Linked To  
Resilience & Burnout

Conscientiousness

Extraversion

Agreeableness

Neuroticism

Openness

*Need for cognition (NFC)*

# Mitigating Burnout & Building Resilience

- Meditation
- Mindfulness
- Emotional regulation skills training/coping
- Cultural training
- Peer to peer support
- Aerobic exercise

Eskilsson T et al, [Aerobic training for improved memory in patients with stress-related exhaustion: a randomized controlled trial](#). BMC Psychiatry. 2017 Sep 2;17(1):322.

# Major Impediments To Treatment Physicians

- No specialized training for “a physician’s physician”, or a therapist therapist
- No formal mentorship
- Malpractice insurance issues
- Fear of loss of ability to practice
  - Fear of loss of respect
  - Confidentiality issues
- Self-treatment
- Guilt for having symptoms



# The Future of The Burnout Concept

# Practical & Research Limitation

- Self-assessment
- Subjective suffering:
  - health problems
  - reduced work efficacy
- Less stigmatization compared to disclosing depression
- Lack standardized, international valid procedure
- Lacks objective medical parameters, assessment by outside observers

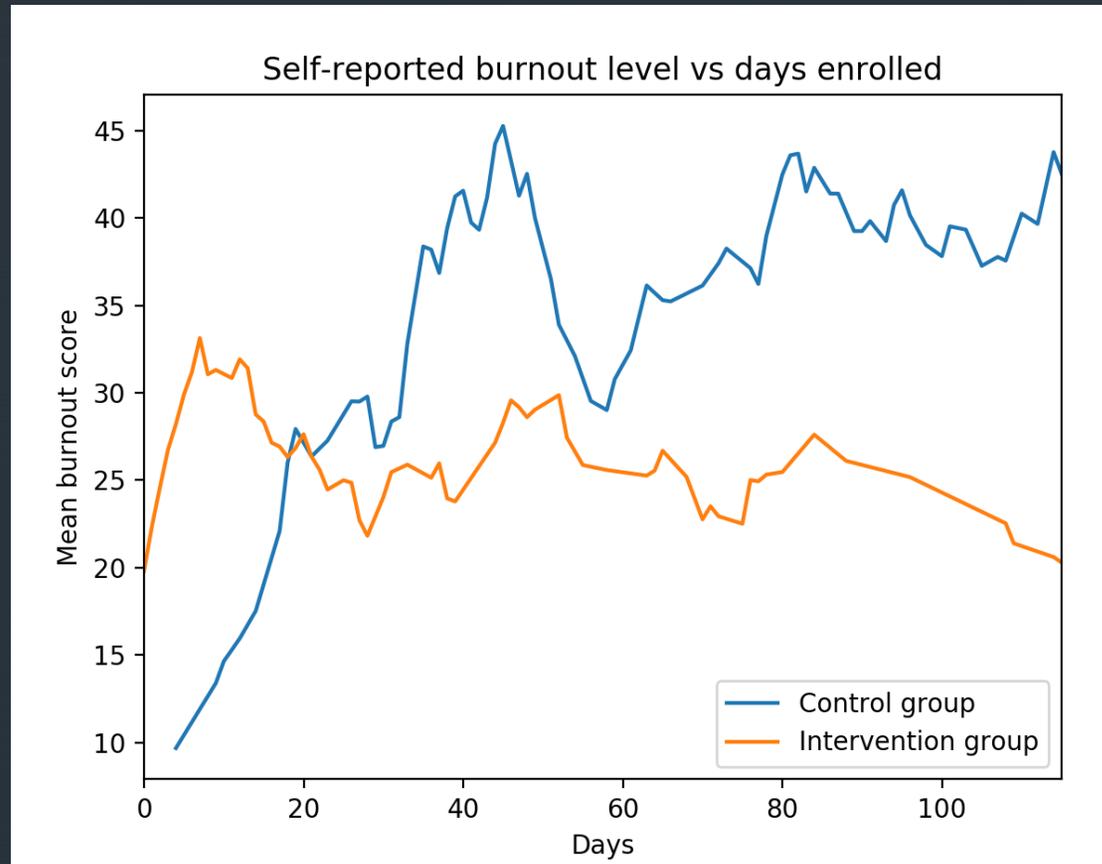
## The next frontier: Using apps

- Smartphone apps can be a useful tool for implementation of anti-burnout measures
- They can be useful for meditation, mindfulness and wellness reminders
- Time-saving
- Little research on sensor-based detection

# ▶ Pilot For Brief Intervention

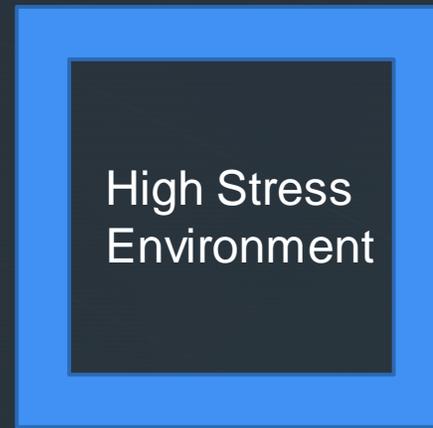
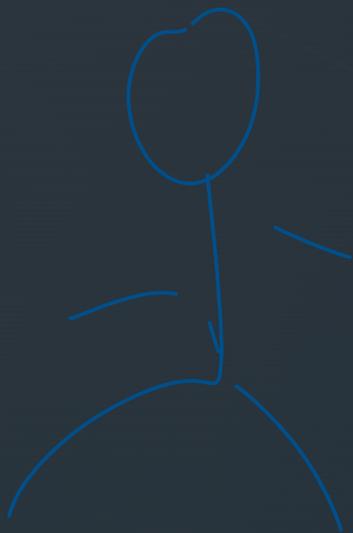
- Brief reminder, 3-4 times per week
- Combination of:
  - Light, introspective statements- indicate agreement
  - Sensor-based data (steps, phone on/off, ambient light)
  - One screen question: *I feel burned out*
- Pilot, n=25 residents

# Brief Intervention Can Decrease Burnout Levels Over 6 Months

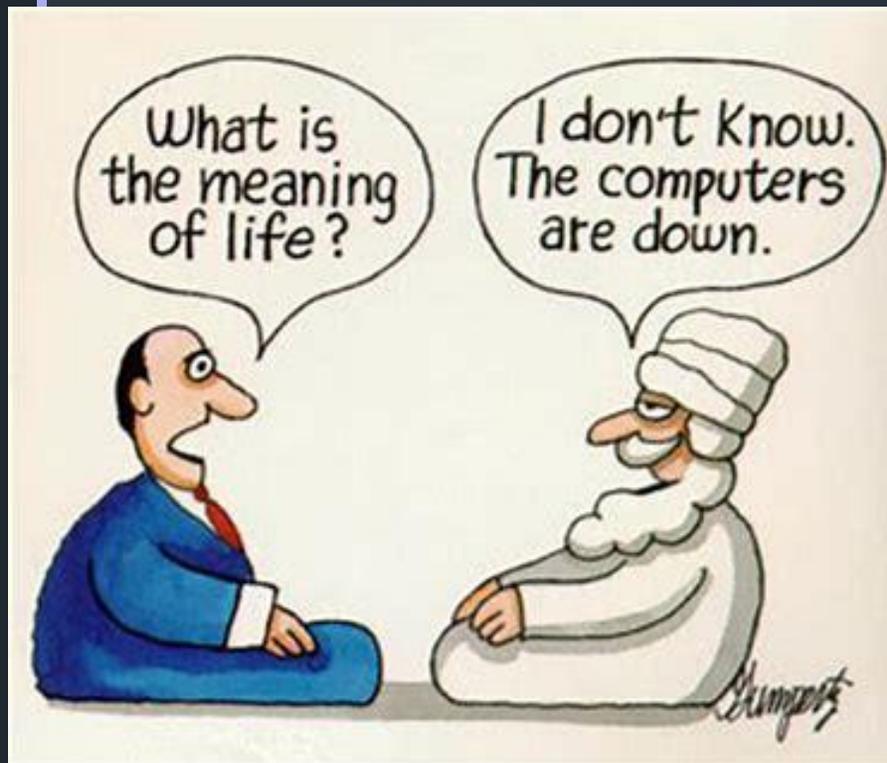


- Moderate correlation between self-reported burnout with depression scores
- High levels of satisfaction among users
- App can predict whether an individual is working on or vacation
- Sensor data can predict self-reported burnout levels at 75% accuracy
- Next gen: automated objective detection of burnout and assignment of high-risk locations

# Better Detection of Emotional Exhaustion Geofencing & Just-in-time Intervention



# The Bigger P



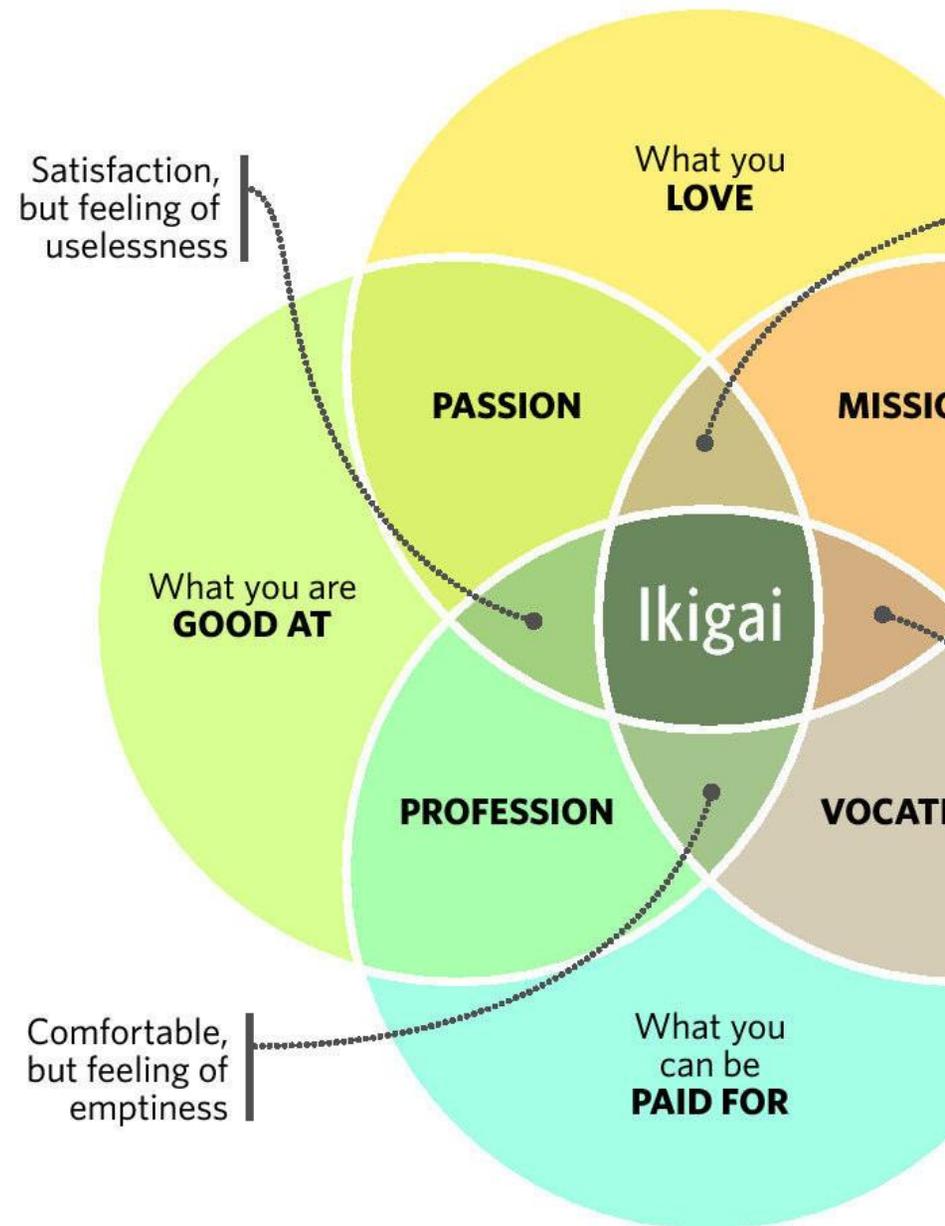
- Loss of the idealism or dream with entered your career
- Loss of the role or identity that originated with your job
  - Cultural conflict
- Loss of physical and emotional energy
- Loss of friends, fun, and sense of community
- Loss of joy, meaning and purpose to work – and life – worthwhile

# Ikigai

- The concept of balance is not new
- Wellness is one component but it is not the only one
- Quest for meaning

# Ikigai

A JAPANESE CONCEPT MEANING "A REASON FOR



SOURCE: dreamstime

