Thriving vs. "Surviving" during Times of Change: The Duke Resilience Mini-Course

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  (3 days - Offered in April & September)
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  - Registration Information; April 8 - 10, 2013
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  Save the Date: April 7 - 9, 2014
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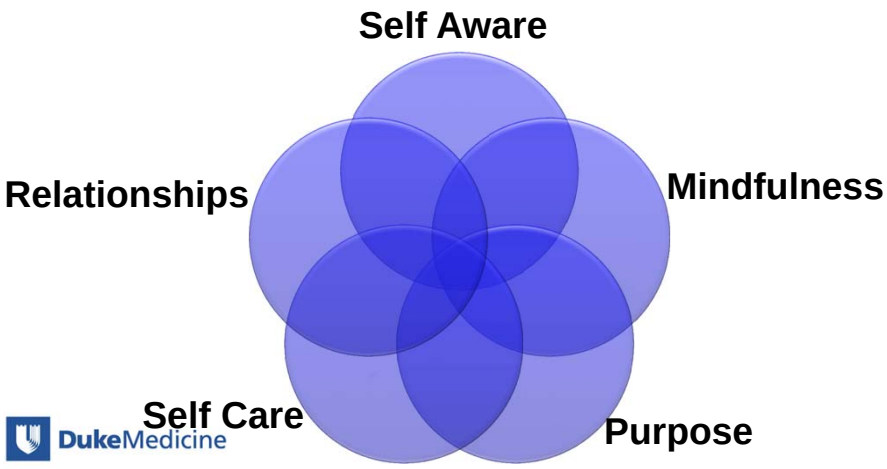
Redefining Quality

- How we take care of our patients
- How we take care of each other
- How we take care of ourselves

Resilience



DukeMedicine

What is Resilience?

- Traditionally, *resilience* has come to mean an individual's ability to overcome adversity and continue his or her normal development.
- More recently and cross-culturally (Ungar, 2008): " In the context of exposure to significant adversity, whether psychological, environmental, or both, resilience is both the capacity of individuals to navigate their way to health-sustaining resources, including opportunities to experience feelings of well-being, and a condition of the individual's family, community and culture to provide these health resources and experiences in culturally meaningful ways."

Resilience across Cultures

Michael Ungar

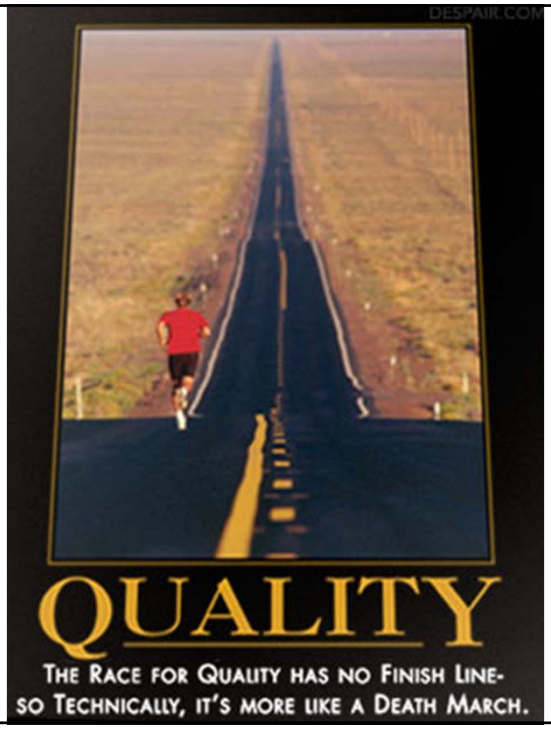
Correspondence to Michael Ungar, Dalhousie University, School of Social Work, Nova Scotia, Canada. E-mail: *michael.ungar@dal.ca*

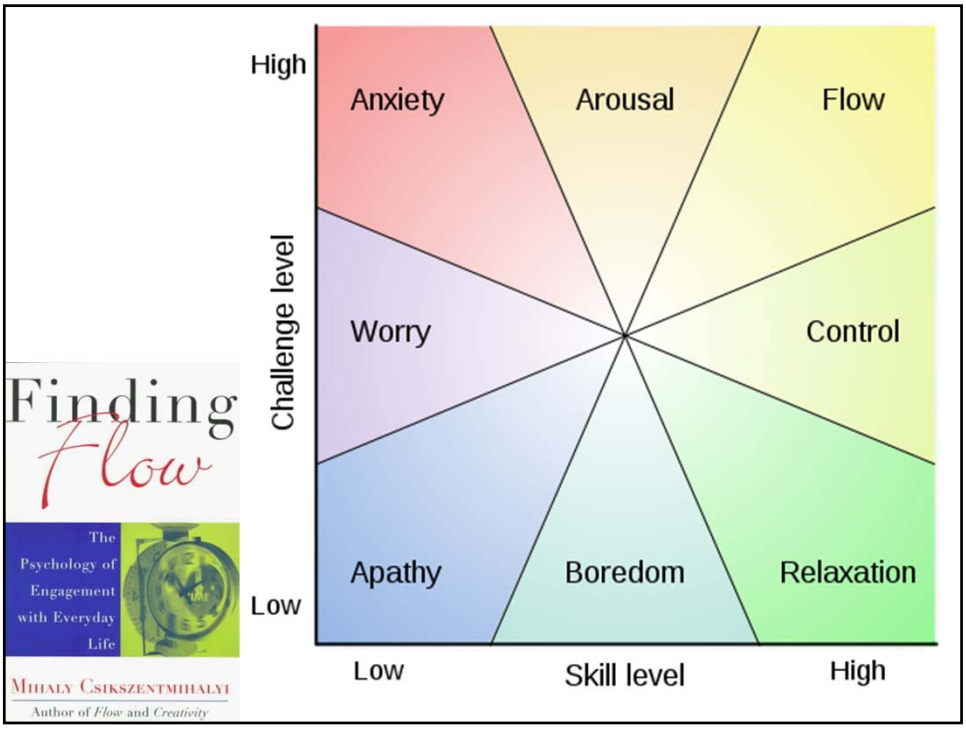
Summary

Findings from ...ed methods study of over 1500 youth globally support four propositions t... more culturally and contextually embedded understanding of resilien... global, as well as culturally and contextually specific aspects to you... that contribute to their resilience; 2) aspects of resilience exert di... influence on a child's life depending on the specific culture and co... ce is realized; 3) aspects of children's lives that con-

Resilience is a function of your ability to cope, and the availability of resources related to health and well-being.

British Journal of Social Work (2008) 38, 218–235


QUALITY
THE RACE FOR QUALITY HAS NO FINISH LINE-
SO TECHNICALLY, IT'S MORE LIKE A DEATH MARCH.


Finding Flow
The Psychology of Engagement with Everyday Life
Mihaly Csikszentmihalyi
Author of Flow and Creativity
High
Low
Challenge level
Anxiety
Arousal
Flow
Worry
Control
Apathy
Boredom
Relaxation
Low
Skill level
High

American Journal of Infection Control 40 (2012) 486-90

Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Major article

Nurse staffing, burnout, and health care–associated infection

Jeannie P. Cimiotti DNSc, RN [a,b,*], Linda H. Aiken PhD [c], Douglas M. Sloane PhD [c], Evan S. Wu BS [c]

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Key Words:
Hospital
Workload
Cost
PHC4

Background: Each year, nearly 7 million hospitalized patients acquire infections while being treated for other conditions. Nurse staffing has been implicated in the spread of infection within hospitals, yet little evidence is available to explain this association.

Methods: We linked nurse survey data to the Pennsylvania Health Care Cost Containment Council report on hospital infections and the American Hospital Association Annual Survey. We examined urinary tract and surgical site infection, the most prevalent infections reported and those likely to be acquired on any unit within a hospital. Linear regression was used to estimate the effect of nurse and hospital characteristics on health care–associated infections.

Results: There was a significant association between patient-to-nurse ratio and urinary tract infection (0.86; $P = .02$) and surgical site infection (0.93; $P = .04$). In a multivariate model controlling for patient severity and nurse and hospital characteristics, only nurse burnout remained significantly associated with urinary tract infection (0.82; $P = .03$) and surgical site infection (1.56; $P < .01$) infection. Hospitals in which burnout was reduced by 30% had a total of 6,239 fewer infections, for an annual cost saving of up to $68 million.

Conclusions: We provide a plausible explanation for the association between nurse staffing and health care–associated infections. Reducing burnout in registered nurses is a promising strategy to help control infections in acute care facilities.

Prefrontal Cortex

- Ability to regulate emotions and be socially appropriate
- Logic & Reason:
  - Focus, empathy, foresight, organization, learning from mistakes, insight, planning, judgment
- Busier in women than in men

DukeMedicine

Example of impact on critical care nurses

- half are emotionally exhausted (burned out)
- 2 out of 3 have difficulty sleeping
- 1out of 4 are clinically depressed

Sexton, et al. (2009). Palliative Care.

Am I burned out?

- You try to be everything to everyone
- You get to the end of a hard day at work, and feel like you have not made a meaningful difference
- You feel like the work you are doing is not recognized
- You identify so strongly with work that you lack a reasonable balance between work and your personal life
- Your job varies between monotony and chaos
- You feel you have little or no control over your work
- You work in healthcare

Burnout ≠ Lazy

Are they burned out?

A brief tour of prevalence…

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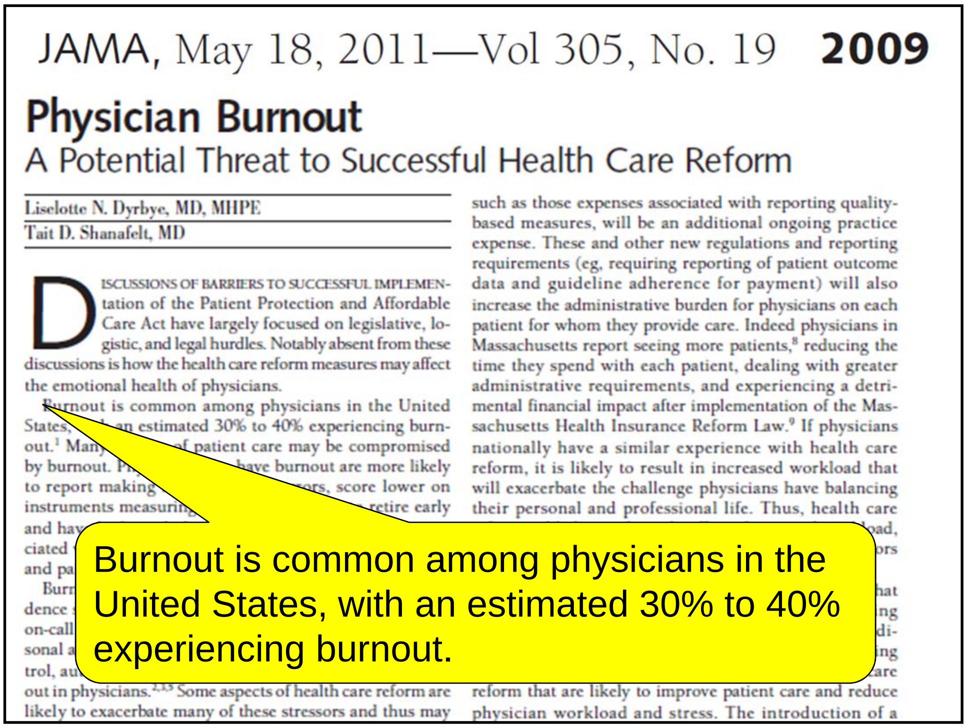

JAMA, May 18, 2011—Vol 305, No. 19 **2009**

Physician Burnout

A Potential Threat to Successful Health Care Reform

Liselotte N. Dyrbye, MD, MHPE
Tait D. Shanafelt, MD

DISCUSSIONS OF BARRIERS TO SUCCESSFUL IMPLEMENTATION of the Patient Protection and Affordable Care Act have largely focused on legislative, logistic, and legal hurdles. Notably absent from these discussions is how the health care reform measures may affect the emotional health of physicians.

Burnout is common among physicians in the United
States, … an estimated 30% to 40% experiencing burn-
out.[1] Man… of patient care may be compromised
by burnout. P… have burnout are more likely
to report making … ors, score lower on
instruments measurin… retire early
and hav…
ciated …
and pa…
Burn…
dence …
on-call…
sonal a…
trol, au…
out in physicians.[2,3,5] Some aspects of health care reform are likely to exacerbate many of these stressors and thus may

such as those expenses associated with reporting quality-based measures, will be an additional ongoing practice expense. These and other new regulations and reporting requirements (eg, requiring reporting of patient outcome data and guideline adherence for payment) will also increase the administrative burden for physicians on each patient for whom they provide care. Indeed physicians in Massachusetts report seeing more patients,[8] reducing the time they spend with each patient, dealing with greater administrative requirements, and experiencing a detrimental financial impact after implementation of the Massachusetts Health Insurance Reform Law.[9] If physicians nationally have a similar experience with health care reform, it is likely to result in increased workload that will exacerbate the challenge physicians have balancing their personal and professional life. Thus, health care
…oad,
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reform that are likely to improve patient care and reduce physician workload and stress. The introduction of a

Burnout Comparison Among Residents in Different Medical Specialties (49% 27-75%)

Martini et al. 2004, Academic Psychiatry

Objective: *To investigate resident burnout in relation to work and home-related factors.* **Method**: *Maslach Burnout Inventory was mailed to residents in eight different medical specialties, with a response rate of 35%.* **Results**: *Overall, 50% of residents met burnout criteria, ranging from 75% (obstetrics/gynecology) to 27% (family medicine). The first year of residency, being single, personal stress, and dissatisfaction with faculty were independently associated with burnout.* **Conclusions**: *Efforts to reduce resident burnout nationally would benefit from expanding beyond the work-hours regulation. (Academic Psychiatry 2004; 28:240–242)*

Burnout Comparison Among Residents in Different Medical Specialties (49% 27-75%)

Martini et al. 2004, Academic Psychiatry

TABLE 1. Percentage of Residents Meeting Criteria for Burnout by Specialty

Specialty[a]	Number of Residents	Residents Responding		Burnout Rate (%)
		N	%	
Obstetrics/gynecology	36	12	33	75
Internal medicine	114	24	21	63
Neurology	16	8	50	63
Ophthalmology	21	5	24	60
Dermatology	10	6	60	50
General surgery	59	25	42	40
Psychiatry	29	15	52	40
Family medicine	36	15	42	27
Total	321	110	35	49

[a]Three responders did not report program affiliation.

Burnout and psychiatric morbidity in new medical graduates

Simon M Willcock, Michele G Daly, Christopher C Tennant and Benjamin J Allard

To gain unconditional medical registration, all Australian medical graduates undertake a year of internship within the public hospital system. The intern year has historically been seen as a trial of spirit and stamina and a primary initiation rite,[1] and represents an initiation into a challenging career where a stoic work ethic is the dominant culture and personal needs are secondary to the needs of both patients and employers. The internship period has been associated with elevated levels of psychiatric morbidity (including depression and anxiety)[2-4] and burnout.[5]

Levels of depression and anxiety reported among interns are greater than for the general community, and increase significantly

ABSTRACT

Objective: To determine the prevalence of psychiatric morbidity and burnout in final-year medical students, and changes in these measures during the intern year.

Design: Prospective longitudinal cohort study over 18 months, with assessment of psychiatric morbidity and burnout on six occasions.

Participants: All 117 students in the first graduating cohort of the University of Sydney Graduate Medical Program were invited to participate in the study; 110 consented.

Outcome measures: Psychiatric morbidity assessed with the 28-item General Health Questionnaire and burnout assessed with the Maslach Burnout Inventory.

Results: The point prevalence of participants meeting criteria for psychiatric morbidity and burnout rose steadily throughout the study period.

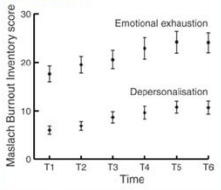
Conclusions: Internship remains a stressful time for medical graduates, despite initiatives to better support them during this period. The implications for the doctors themselves and for the communities they serve warrant further attention, including programs specifically aimed at reducing the rate of psychological morbidity and burnout during internship.

3 Maslach Burnout Inventory subscale scores (mean [SD]) for 101 participating medical students in their final year at study enrolment (Time 1)

Subscale	Participating medical students	Normative data* Medical practitioner	Normative data* Post-secondary school
Personal accomplishment (PA)	36.74 (6.72)	36.53 (7.34)	39.17 (7.92)
Emotional exhaustion (EE)	17.57 (8.27)	22.19 (10.53)	18.57 (11.95)
Depersonalisation (DP)	5.99 (4.32)	7.12 (5.22)	5.57 (6.63)

* Occupational subgroups (data from the Maslach Burnout Inventory manual).[8]

4 Mean emotional exhaustion and depersonalisation scores over the study period



Bars show 95% confidence intervals.

point (with a GHQ case-identification score of >7 to increase the specificity of the instrument), emotional exhaustion was strongly associated with risk of psychiatric

equivalent to rates reported for an Australian youth cohort. Prevalences increase significantly during internship, with 70% meeting criteria for psychiatric disturbance

ORIGINAL INVESTIGATION

Career Fit and Burnout Among Academic Faculty

Tait D. Shanafelt, MD; Colin P. West, MD, PhD; Jeff A. Sloan, PhD; Paul J. Novotny, MS; Greg A. Poland, MD; Ron Menaker, EdD; Teresa A. Rummans, MD; Lotte N. Dyrbye, MD

Background: Extensive literature documents personal distress among physicians and a decrease in their satisfaction with the practice of medicine over recent years. We hypothesized that physicians who spent more of their time in the aspect of work that they found most meaningful would have a lower risk of burnout.

Methods: Faculty physicians in the Departm… ternal Medicine at a large academic medi… ere … the percentage of effort that was devoted to each activity.

Results: Of 556 physicians sampled, 465 (84%) returned surveys. A majority (68%) reported that patient care was the aspect of work that they found most meaningful, with smaller percentages reporting research (19%), education (9%), or administration (3%) as being most meaningful. Overall, 34% of faculty members met the criteria for burnout. The amount of time spent working on the most meaningful activity was strongly related to the risk of burnout. Those spending less than 20% of their time (approximately 1 d/wk) on the activity that is most meaningful to them had higher rates of burnout (53.8% vs 29.9%; $P<.001$). Time spent on the most meaningful activity was the largest predictor of burnout on multivariate analysis (odds ratio, 2.75; $P=.001$).

Conclusions: The extent to which faculty physicians are able to focus on the aspect of work that is most meaningful to them has a strong inverse relationship to their risk of burnout. Efforts to optimize career fit may promote physician satisfaction and help to reduce attrition among academic faculty physicians.

Arch Intern Med. 2009;169(10):990-995

34% of faculty members met the criteria for burnout

Preventing Burnout in Academic Medicine

Mark Linzer, MD: *Arch Intern Med*. 2009;169(10):927-928

- The high prevalence of burnout in the academic setting (34% of surveyed physicians) noted by Shanafelt and colleagues requires that we pay attention.
  - Shanafelt TD, West CP, Sloan JA. et al. Career fit and burnout among academic faculty. Arch Intern Med 2009;169 (10) 990-995
- In comparative studies of United States and Dutch physicians, it was shown to be moderated by work control, work-home balance, and home support.
  - Linzer M, Visser MR, Oort FJ, Smets EM, McMurray JE, de Haes JC.Society of General Internal Medicine (SGIM) Career Satisfaction Study Group (CSSG), Predicting and preventing physician burnout: results from the United States and the Netherlands. Am J Med 2001;111 (2) 170- 175
- There is very real human suffering among burned out physicians and among their families.
  - Saleh KJ, Quick JC, Sime WE, Novicoff WM, Einhorn TA. Recognizing and preventing burnout among orthopaedic leaders. Clin Orthop Relat Res 2009;467 (2) 558- 565.

Preventing Burnout in Academic Medicine

Mark Linzer, MD: *Arch Intern Med*. 2009;169(10):927-928

- Leaders should role model stress management and personal-professional balance and try to show how much they value the well-being of their physicians.
  - Saleh KJ, Quick JC, Sime WE, Novicoff WM, Einhorn TA. Recognizing and preventing burnout among orthopaedic leaders. Clin Orthop Relat Res 2009;467 (2) 558- 565
  - Viviers S, Lachance L, Maranda M-F, Menard C. Burnout, psychological distress and overwork: the case of Quebec's ophthalmologists. Can J Ophthalmol 2008;43 (5) 535- 546
- If time spent on their career goals < 10%, prevalence of burnout > 50%.
- Convincingly linked burnout with intent to leave costing $250 000 per primary care physician (generalists and subspecialists could cost millions).
  - Buchbinder SB, Wilson M, Melick CF, Powe NR. Estimates of costs of primary care physician turnover. Am J Manag Care 1999;5 (11) 1431- 1438

BMJ

BMJ 2012;344:e1717 doi: 10.1136/bmj.e1717 (Published 20 March 2012)

RESEARCH

Table 4| **Nurse outcomes in 12 European countries and the US. Data are number of nurses reporting outcome/total number of nurses surveyed, and percentage**

Country	Reported ward to have poor or fair quality of care		Gave ward poor or failing safety grade		Regarded themselves to be burnt out		Dissatisfied with job		Intended to leave their job in the next year		Not confident that patients can manage own care after hospital discharge		Not confident that hospital management would resolve patients' problems	
Belgium	886/3167	28	199/3150	6	730/2938	25	680/3159	22	934/3164	30	1921/3153	61	2518/3134	80
England	540/2899	19	191/2895	7	1138/2699	42	1136/2904	39	1261/2896	44	981/2901	34	1856/2893	64
Finland	141/1099	13	76/1095	7	232/1047	22	300/1114	27	546/1111	49	441/1098	40	890/1094	81
Germany	526/1507	35	94/1506	6	431/1430	30	561/1505	37	539/1498	36	473/1505	31	879/1504	58
Greece	170/361	47	61/358	17	246/315	78	199/358	56	177/358	49	231/358	65	311/356	87
Ireland	152/1389	11	117/1385	8	536/1293	41	581/1383	42	612/1380	44	588/1385	42	872/1381	63
Netherlands	756/2185	35	123/2187	6	211/2061	10	240/2188	11	418/2197	19	889/2195	41	1781/2200	81
Norway	468/3732	13	199/3712	5	823/3501	24	773/3729	21	942/3712	25	2097/3710	57	2739/3698	74
Poland	683/2581	26	463/2579	18	929/2321	40	663/2584	26	1056/2387	44	1890/2571	74	2196/2571	85
Spain	897/2794	32	173/2784	6	787/2670	29	1053/2786	38	740/2774	27	1554/2779	56	2370/2767	86
Sweden	2750/10 051	27	1117/10 035	11	2788/9477	29	2251/10 027	22	3418/10 013	34	2833/9995	28	7308/9988	73
Switzerland	324/1604	20	71/1606	4	228/1563	15	338/1610	21	447/1623	28	564/1612	35	1216/1612	75
US	4196/26 316	16	1628/26 772	6	9122/27 163	34	6692/26 935	25	3767/27 232	14	11 449/25 110	46	15 240/26 717	57

University Collegium Medicum, Krakow, Poland; [11]Department of Health Policy and Management, University of Eastern Finland, Kuopio, Finland; [12]Institute of Nursing Science, University of Basel, Basel, Switzerland; [13]IQ Healthcare, Scientific Institute for Quality of Healthcare, Radboud University Medical Centre, Nijmegen, Netherlands; [14]Laboratory of Health Informatics, Faculty of Nursing, National and Kapodistrian University of Athens, Athens, Greece; [15]Norwegian Knowledge Centre for the Health Services, Oslo, Norway ; [16]Population Studies Center, Department of Sociology, University of Pennsylvania, Philadelphia; [17]Belgian Healthcare Knowledge Centre, Brussels, Belgium

JAMA, October 23/30, 2002—Vol 288, No. 16

Hospital Nurse Staffing and Patient Mortality, Nurse Burnout, and Job Dissatisfaction

Linda H. Aiken, PhD, RN
Sean P. Clarke, PhD, RN
Douglas M. Sloane, PhD
Julie Sochalski, PhD, RN
Jeffrey H. Silber, MD, PhD

Context The worsening hospital nurse shortage and recent California legislation mandating minimum hospital patient-to-nurse ratios demand an understanding of how nurse staffing levels affect patient outcomes and nurse retention in hospital practice.

Objective To determine the association between the patient-to-nurse ratio and patient mortality, failure-to-rescue (deaths following complications) among surgical patients, and factors related to nurse retention.

Design, Setting, and Participants Cross-sectional analyses of linked data from 10 184 staff nurses surveyed, 232 342 general, orthopedic, and vascular surgery patients discharged from the hospital between April 1, 1998, and November 30, 1999, and administrative data from 168 nonfederal adult general hospitals in Pennsylvania.

Main Outcome Measures Risk-adjusted patient mortality and failure-to-rescue within 30 days of admission, and nurse-reported job dissatisfaction and job-related burnout.

Results After adjusting for patient and hospital characteristics (size, teaching status, technology), each additional patient per nurse was associated with a 7% (odds ratio [OR], 1.07; 95% confidence interval [CI], 1.03-1.12) increase in the likelihood of dying within 30 days of admission and a 7% (OR, 1.07; 95% CI, 1.02-1.11) increase in the odds of failure-to-rescue. After adjusting for nurse and hospital characteristics, each additional patient per nurse was associated with a 23% (OR, 1.23; 95% CI, 1.15-1.32) increase in the odds of burnout and a 15% (OR, 1.15; 95% CI, 1.07-1.23) increase in the odds of job dissatisfaction.

Conclusions In hospitals with high patient-to-nurse ratios, surgical patients experience higher risk-adjusted 30-day mortality and failure-to-rescue rates, and nurses are more likely to experience burnout and job dissatisfaction.

www.jama.com

For editorial comment see p 2040.

Philadelphia, PA 19104-6096 (e-mail: laiken@nursing.upenn.edu).

Race, Ethnicity, and Medical Student Well-being in the United States

Liselotte N. Dyrbye, MD; Matthew R. Thomas, MD; Anne Eacker, MD; William Harper, MD; F. Stanford Massie Jr, MD; David V. Power, MD, MPH; Mashele Huschka, BS; Paul J. Novotny, MS; Jeff A. Sloan, PhD; Tait D. Shanafelt, MD

Background: Little is known about the training experience of minority medical students. We explore differences in the prevalence of burnout, depressive symptoms, and quality of life (QOL) among minority and nonminority medical students as well as the role race/ethnicity plays in students' experiences.

Methods: Medical students (N=3080) at 5 medical schools were surveyed in 2006 using validated instruments to assess burnout, depression, and QOL. Students were also asked about the impact of race/ethnicity on their training experience.

Results: The response rate was 55%. Nearly half of students reported burnout (47%) and depressive symptoms (49%). Mental QOL scores were lower among students than among the age-matched general population (43.1 vs 47.2; $P<.001$). Prevalence of depressive symptoms was similar regardless of minority status, but more nonminority students had burnout (39% vs 33%; $P<.03$). Minority students were more likely to report that their race/ethnicity had adversely affected their medical school experience (11% vs 2%; $P<.001$) and cited racial discrimination, racial prejudice, feelings of isolation, and different cultural expectations as causes. Minority students reporting such experiences were more likely to have burnout, depressive symptoms, and low mental QOL scores than were minority students without such experiences (all $P<.05$).

Conclusions: Symptoms of distress are prevalent among medical students. While minorities appear to be at lower risk for burnout than nonminority students, race does contribute to the distress minority students do experience. Additional studies are needed to define the causes of these perceptions and to improve the learning climate for all students.

Arch Intern Med. 2007;167(19):2103-2109

BMJ

RESEARCH

Rates of medication errors among depressed and burnt out residents: prospective cohort study

Amy M Fahrenkopf, instructor of paediatrics,[1] Theodore C Sectish, associate professor of paediatrics,[2] Laura K Barger, research fellow,[3] Paul J Sharek, assistant professor of paediatrics,[2] Daniel Lewin, assistant

Results 24 (20%) of the participating residents met the criteria for depression and 92 (74%) met the criteria for burnout. Active surveillance yielded 45 errors made by participants. Depressed residents made 6.2 times as many medication errors per resident month as residents who were not depressed: 1.55 (95% confidence interval 0.57 to 4.22) compared with 0.25 (0.14 to 0.46, P<0.001). Burnt out residents and non-burnt out residents made similar rates of errors per resident month: 0.45 (0.20 to 0.98) compared with 0.53 (0.21 to 1.33, P=0.2).
Conclusions Depression and burnout are major problems among residents in paediatrics. Depressed residents made significantly more medical errors than their nondepressed peers; however, burnout did not seem to correlate with an increased rate of medical errors.

Med Care. 2004 February ; 42(2 Suppl): II57–II66. doi:10.1097/01.mlr.0000109126.50398.5a.

Nurse Burnout and Patient Satisfaction

Doris C. Vahey, PhD, RN[*], Linda H. Aiken, PhD, RN[†,‡], Douglas M. Sloane, PhD[†], Sean P. Clarke, PhD, RN[†], and Delfino Vargas, PhD[†]

[*]Mount Sinai Medical Center, Department of Nursing, New York, NY

[†]Center for Health Outcomes and Policy Research, University of Pennsylvania School of Nursing, Philadelphia, Pennsylvania

[‡]Department of Sociology, University of Pennsylvania, Philadelphia, Pennsylvania

Abstract

Background—Amid a national nurse shortage, there is growing concern that high levels of nurse burnout could adversely affect patient outcomes.

Objectives—This study examines the effect of the nurse work environment on nurse burnout, and the effects of the nurse work environment and nurse burnout on patients' satisfaction with their nursing care.

Research Design/Subjects—We conducted cross-sectional surveys of nurses (N = 820) and patients (N = 621) from 40 units in 20 urban hospitals across the United States.

Measures—Nurse surveys included measures of nurses' practice environments derived from the revised Nursing Work Index (NWI-R) and nurse outcomes measured by the Maslach Burnout Inventory (MBI) and intentions to leave. Patients were interviewed about their satisfaction with nursing care using the La Monica-Oberst Patient Satisfaction Scale (LOPSS).

Results—Patients cared for on units that nurses characterized as having adequate staff, good administrative support for nursing care, and good relations between doctors and nurses were more than twice likely as other patients to report high satisfaction with their care, and their nurses reported significantly lower burnout. The overall level of nurse burnout on hospital units also affected patient satisfaction.

Conclusions—Improvements in nurses' work environments in hospitals have the potential to simultaneously reduce nurses' high levels of job burnout and risk of turnover and increase patients' satisfaction with their care.

The Joint Commission

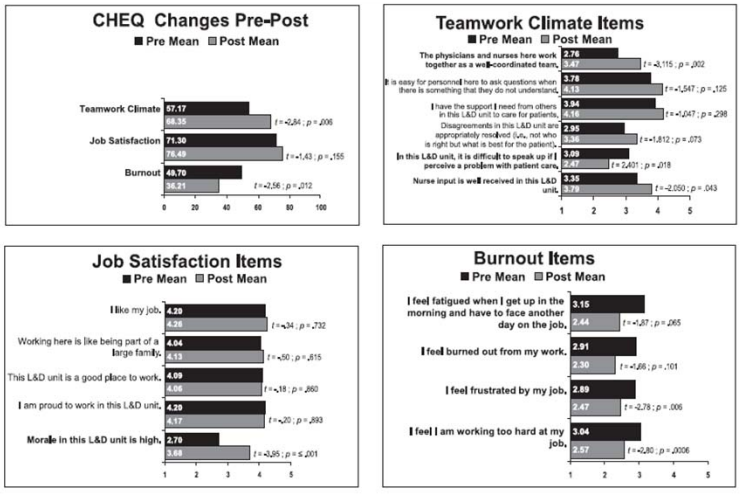


Figure 1. *Overall teamwork climate scores significantly improved from 57.17% to 68.35% (t = -2.84, p = .006), and burnout scores significantly decreased from 49.70% to 36.21% (t = -2.56, p = .012) following implementation of the tangible handoff. Job satisfaction scores improved from 71.30% in the preintervention to 76.49% in the postintervention period, although the findings were not statistically significant (t = -1.43, p = .155).*

The prevalence and impact of post traumatic stress disorder and burnout syndrome in nurses.

Depress Anxiety. 2009;26(12):1118-26.

Mealer M, Burnham EL, Goode CJ, Rothbaum B, Moss M.
Division of Pulmonary Sciences and Critical Care Medicine, Department of Medicine, University of Colorado School of Medicine, Denver, Colorado 80045, USA. Meredith.Mealer@UCDenver.edu

18% (61/332) met diagnostic criteria for PTSD
86% (277/323) met criteria for BOS

2011; 33: 834–839 MEDICAL TEACHER

Patterns of distress in US medical students

LISELOTTE N. DYRBYE[1], WILLIAM HARPER[2], STEVEN J. DURNING[3], CHRISTINE MOUTIER[4], MATTHEW R. THOMAS[1], F. STANFORD MASSIE JR[5], ANNE EACKER[6], DAVID V. POWER[7], DANIEL W. SZYDLO[8,9], JEFF A. SLOAN[8] & TAIT D. SHANAFELT[1]

Table 1. Types of distress among responding medical students at seven medical schools, 2007.

Stress domain	Prevalence (%) or mean ± SD
Burnout[a]	
Burned out, no. (%)	1069/2154 (49.6%)
Emotional exhaustion, mean ± SD	24.0 ± 10.8
Depersonalization, mean ± SD	7.3 ± 5.9
Personal accomplishment, mean ± SD	36.2 ± 7.7
QOL	
Mental, mean ± SD	43.5 ± 11.0
Mental QOL score 1/2 SD below age and gender-matched population norm, no. (%)	899/2178 (41.3%)
Physical, mean ± SD	52.2 ± 6.9
Mental QOL score 1/2 SD below age and gender-matched population norm, no. (%)	486/2178 (22.3%)
Symptoms of depression, no. (%)	1037/2228 (46.5)
Epworth Sleepiness Scale, mean ± SD	10.2 ± 4.36
Excessive fatigue, no. (%)[b]	1034/2233 (46.3)
Perceived Stress Scale, mean ± SD	16.6 ± 7.49
High stress, no. (%)[c]	1073/2206 (48.6%)

Notes: [a]Maslach Burnout Inventory (Maslach et al. 1996). A score of ≥27 on the emotional exhaustion subscale score and/or ≥10 on the depersonalization subscale. [b]Score of ≥11, and [c]Score of ≥1/2 SD than the norm for age-matched US general population.

2011; 33: 834–839 MEDICAL TEACHER

Patterns of distress in US medical students

Table 3. Factors independently associated with serious thoughts of dropping out of medical school or suicidal ideation.

Dependent variable	Independent variable	Odds ratio	*P*-value
Dropout	Burned out	2.402	<0.0001
	Positive depression screen	2.185	0.0002
	Low physical QOL	2.156	0.0021
	Low mental QOL	2.104	0.0002
	Has children	2.048	0.0011
	High stress (PSS ≥ 17)	1.954	0.0045
	Third-year student[a]	1.502	0.0204
	High fatigue (Epworth ≥ 11)	1.460	0.0221
	$50,000–$99,999 student loan debt[b]	0.589	0.0089
Suicidal ideation	Positive depression screen	4.052	<0.0001
	Low mental QOL	1.982	0.0001
	Fourth-year student[a]	1.695	0.0064
	Burned out	1.686	0.0037
	Has children	1.579	0.0399
	≥1 Negative life events last 12 months	1.545	0.0044
	Third-year student	1.458	0.0392

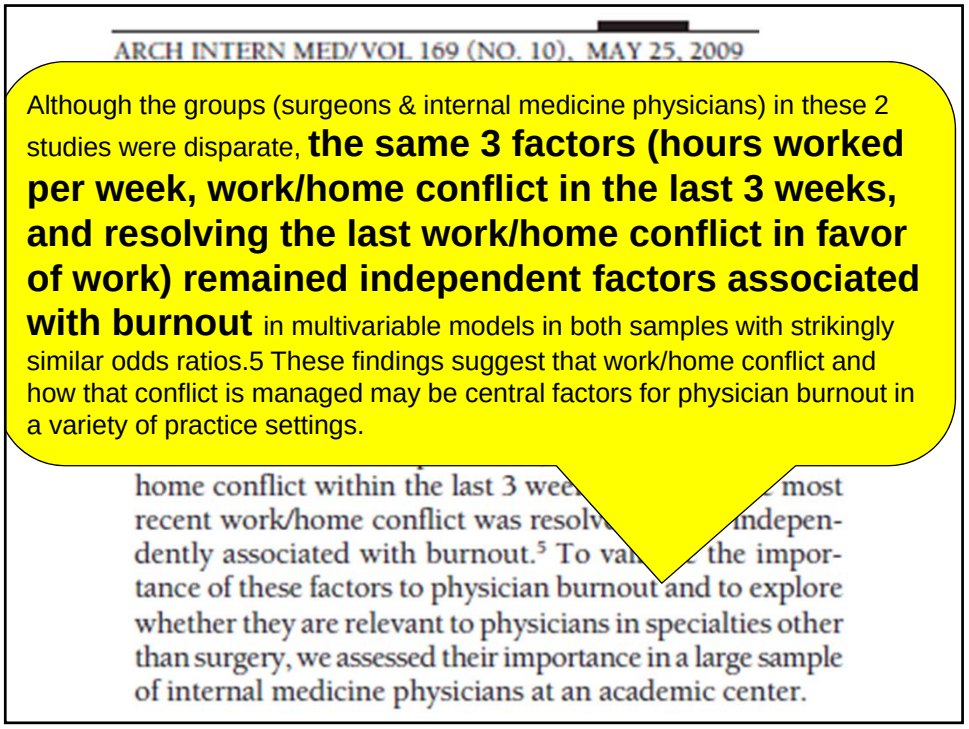
Notes: [a]For school year students who indicated they were taking a break from medical school to pursue enrichment activities, such as research projects or graduate work, were used as reference value, [b]For debt, <$50,000 was used as reference value.

Burnout and Suicidal Ideation among U.S. Medical Students

Dyrbye et al., 2010

50% of medical students burned out

10% have suicidal ideation



Burnout syndrome in critical care nursing staff.

Poncet MC, Toullic P, Papazian L, Kentish-Barnes N, Timsit JF, Pochard F, Chevret S, Schlemmer B, Azoulay E.

Am J Respir Crit Care Med. 2007 Apr 1;175(7):634-6.

- Protective factors:
  - research participation
  - better palliative care
  - # decisions to forego life-sustaining treatmentss in the last week
  - age
  - ability to chose days off
  - quality of working relationships (pts, mgr, MDs)

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ORIGINAL INVESTIGATION

ONLINE FIRST

Burnout and Satisfaction With Work-Life Balance Among US Pl to the Genera

Tait D. Shanafelt, MD; Sonja
Daniel Satele, BS; Colin P. W

Background: Despite exte burnout, to our knowledge, r ated rates of burnout among l ferences by specialty, or cor workers in other fields.

Methods: We conducted a in a large sample of US physi ciplines using the American cian Masterfile and surveyed of the general US populatio was measured using validate with work-life balance was e

Results: Of 27 276 physicia tion to participate, 7288 (2 When assessed using the M 45.8% of physicians reported out. Substantial differences i specialty, with the highest ra front line of care access (fam nal medicine, and emergency a probability-based sample

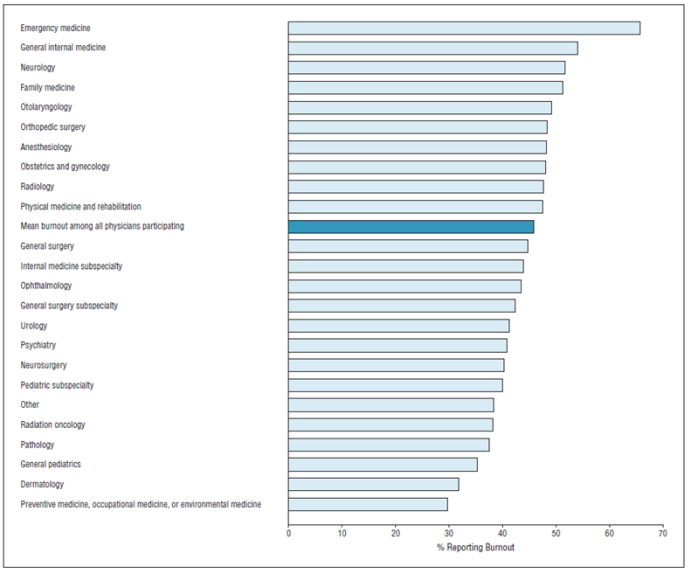


Figure 1. Burnout by specialty.

ORIGINAL INVESTIGATION

ONLINE FIRST

Burnout and Satisfaction With Work-Life Balance Among US Physicians Relative to the General US Population

Tait D. Shanafelt, MD; Sonja Boone, MD; Litjen Tan, PhD; Lotte N. Dyrbye, MD; Satile, MD;
Daniel Satele, BS; Colin P. West, MD, PhD; Jeff Sloan, PhD; Michael R. Oreskovich

In conclusion, burnout is highly prevalent among US Physicians (32%), more so than among other US workers(23.5%).

(1) the prevalence of burnout among US physicians is at an alarming level, (2) physicians in specialties at the front line of care access (emergency medicine, general internal medicine, and family medicine) are at greatest risk, (3) physicians work longer hours and have greater struggles with work-life integration than other US workers, and (4) after adjusting for hours worked per week, higher levels of education and professional degrees seem to reduce the risk for burnout in fields outside of medicine, whereas a degree in medicine (MD or DO) increases the risk. These results suggest that the experience of burnout among physicians does not simply mirror larger societal trends.

nal medicine, and emergency medicine). Compared with a probability-based sample of 3442 working US adults,

Published online August 20, 2012.
doi:10.1001/archinternmed.2012.3199

From Dr Jekyll into Hiding

- Burnout is not an attitude problem
- Burnout is a workplace problem
  - Sexton J.B., et al. J Perinat. 2006; 26:463-470.
  - Failure to recognize the human side of work or demands of superhuman efforts, people feel overloaded, frustrated and well, burned out. Self-improvement alone will not beat it.
- We slip from productive to frustrated/cranky, to not being disengaged:
  - social distancing: social networks, diet, sleep habits, all suffer , with increases in self injury, mistakes at work, illness, traffic violations, etc.

Yoda had the right idea:

Fear leads to anger. Anger leads to hate. Hate leads to suffering.

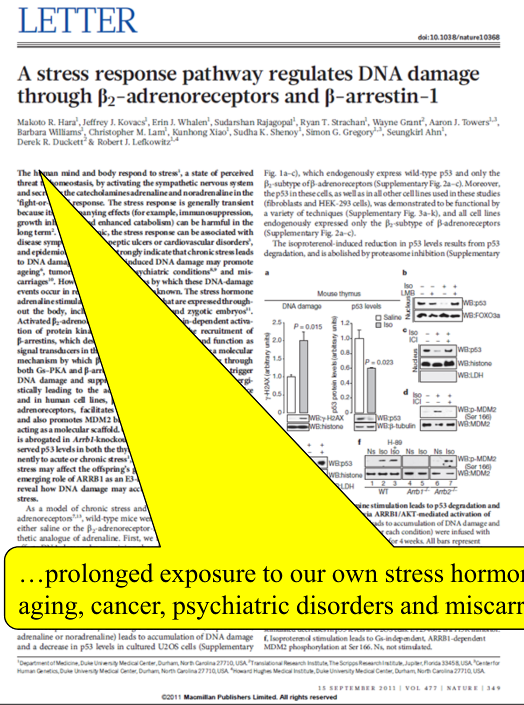
Prolonged stress leads to frustration and anger, which leads to suspicion and mistrust, and ultimately, the dark side…Burnout

From First to Worst

Those with tenacity, dedication and a strong sense of responsibility are vulnerable to burnout

Burnout Lead Weights: work hours, night shift, conflicts with colleagues, fiscal debt, poor boundaries between work/home life

Burnout Band-aides: spending time with spouse, social support, positive learning environment, having a clinician as a parent, being a parent, and getting satisfaction from conversations with others, control over days off, quality of working relationships



LETTER

doi:10.1038/nature10368

A stress response pathway regulates DNA damage through β_2-adrenoreceptors and β-arrestin-1

Makoto R. Hara[1], Jeffrey J. Kovacs[1], Erin J. Whalen[1], Sudarshan Rajagopal[1], Ryan T. Strachan[1], Wayne Grant[2], Aaron J. Towers[1,3], Barbara Williams[1], Christopher M. Lam[1], Kunhong Xiao[1], Sudha K. Shenoy[1], Simon G. Gregory[1,3], Seungkirl Ahn[1], Derek R. Duckett[2] & Robert J. Lefkowitz[1,4]

15 SEPTEMBER 2011 | VOL 477 | NATURE | 349

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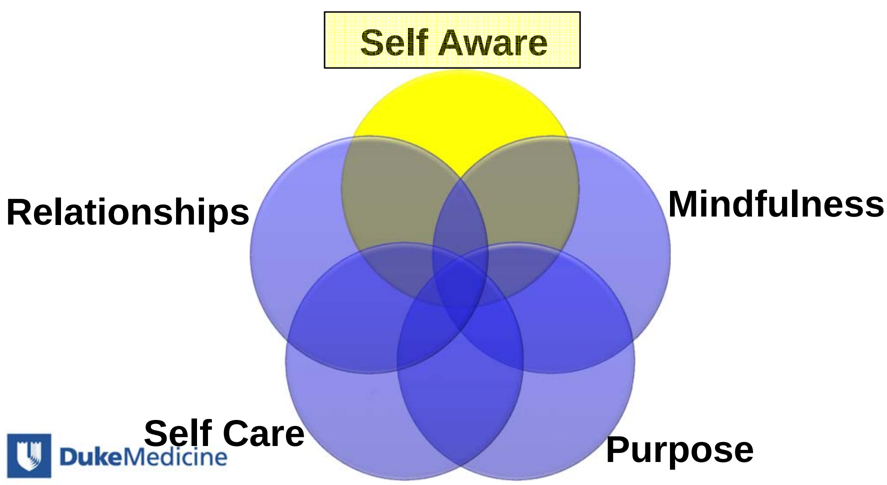
…prolonged exposure to our own stress hormones damages our DNA, promoting aging, cancer, psychiatric disorders and miscarriages…

Resilience



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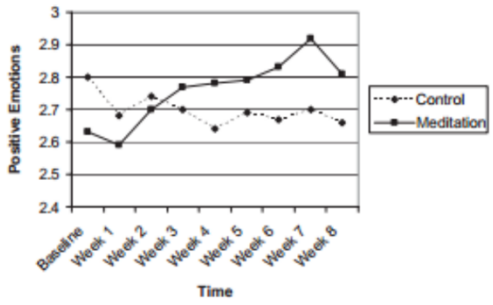
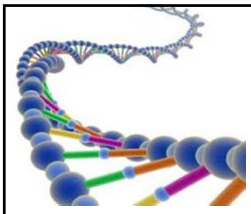
"The negative screams at you, but the positive only whispers…"

-- Barbara Fredrickson

Figure 4. Week-by-week positive emotions by experimental condition. Note: Meditation training centered on loving-kindness meditataion. Positive emotions were computed as the mean across all positive states on the mDES, rated on a scale from 0-4. (adapted from Fredrickson et al., 2008, Figure 2).





"Genetic Dispositions"

Our Darwinian DNA utilizes some negative-emotion mechanisms to help us pass our traits on to offspring:

- Ability to worry about the future
- Remember bad things that happened to us
- Anticipate new things that could go wrong

- **These help us with survival, but not with happiness**

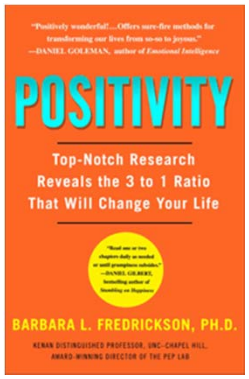
Cultivating Positive Emotion: Ratio of positive to negative

Low Performance Groups= 1:1

Mid Performance Groups= 2:1

High Performance Groups= 6:1

High performers asked questions as much as they defended their own views, and cast their attention outward as much as inward.
Low performers asked almost no questions, and showed almost no outward focus (not listening, rather, waiting to talk to defend their own view).



Cultivating Positive Emotion: Ratio of positive to negative

Low Performance Groups= 1:1

Divorcing couples/Depression (0.5-1):1

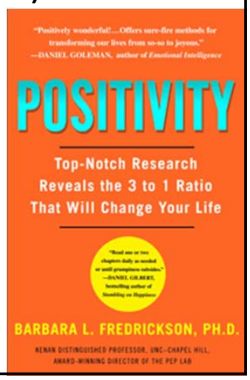
Mid Performance Groups= 2:1

Most people are 2:1

High Performance Groups= 6:1

only 20% are 3:1 or higher

flourishing marriages average 5:1

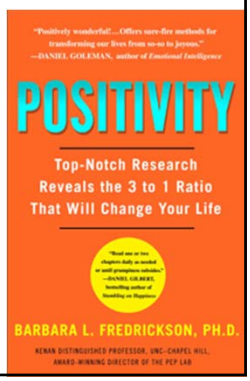


Cultivating Positive Emotion: Ratio of positive to negative

Upper bound for flourishing?

11:1

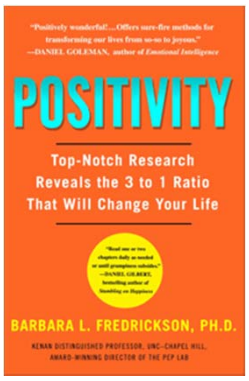
"if you jump really high in the gymnasium, you will hit your head on the ceiling…"



Cultivating Positive Emotion: 3 to 1 Ratio

Meeting agenda item:

What are we doing well?



Cultivating Positive Emotion: 3 to 1 Ratio

Chapter 3: What Is Positivity?

The 10 Forms of Positivity

- Joy
- Gratitude
- Serenity
- Interest
- Hope
- Pride
- Amusement
- Inspiration
- Awe
- Love

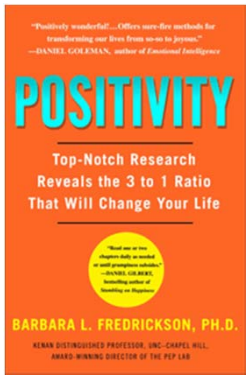


Table 1. Ten Representative Positive Emotions

Emotion Label	Appraisal Theme	Thought-Action Tendency	Resources Accrued	Core trio in mDES item
Joy	safe, familiar, unexpectedly good	play, get involved	skills gained via experiential learning	*joyful, glad, or happy*
Gratitude	receive a gift or benefit	creative urge to be prosocial	skills for showing care; loyalty; social bonds	*grateful, appreciative, or thankful*
Serenity (a.k.a., Contentment)	safe, familiar, low effort	savor and integrate	new priorities; new views of self	*serene, content, or peaceful*
Interest	safe, novel	explore, learn	knowledge	*interested, alert, or curious*
Hope	fearing the worst, yearning for better	plan for a better future	resilience; optimism	*hopeful, optimistic, or encouraged*
Pride	socially valued achievement	dream big	achievement motivation	*proud, confident, or self-assured*
Amusement	non-serious social incongruity	share joviality, laugh	social bonds	*amused, fun-loving, or silly*
Inspiration	witness human excellence	strive toward own higher ground	motivation for personal growth	*inspired, uplifted, or elevated*
Awe	encounter beauty or goodness on a grand scale	absorb and accommodate	new worldviews	*awe, wonder, amazement*
Love	any/all of the above in an interpersonal connection	any/all of the above, with mutual care	any/all of the above, especially social bonds	*love, closeness, or trust*

Don’t use defensive framing when asking questions of frontline staff:

“So how are we going to kill the next patient around here?”

FRAMING:

- Use the 3:1 ratio for psychological safety

  "Please share three things that are going well around here, and one thing that could be better."

- Make it about what you can do

  "How can I help to remove barriers, so that the safety defects you are most concerned about can be better addressed?"

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www.positivityratio.org

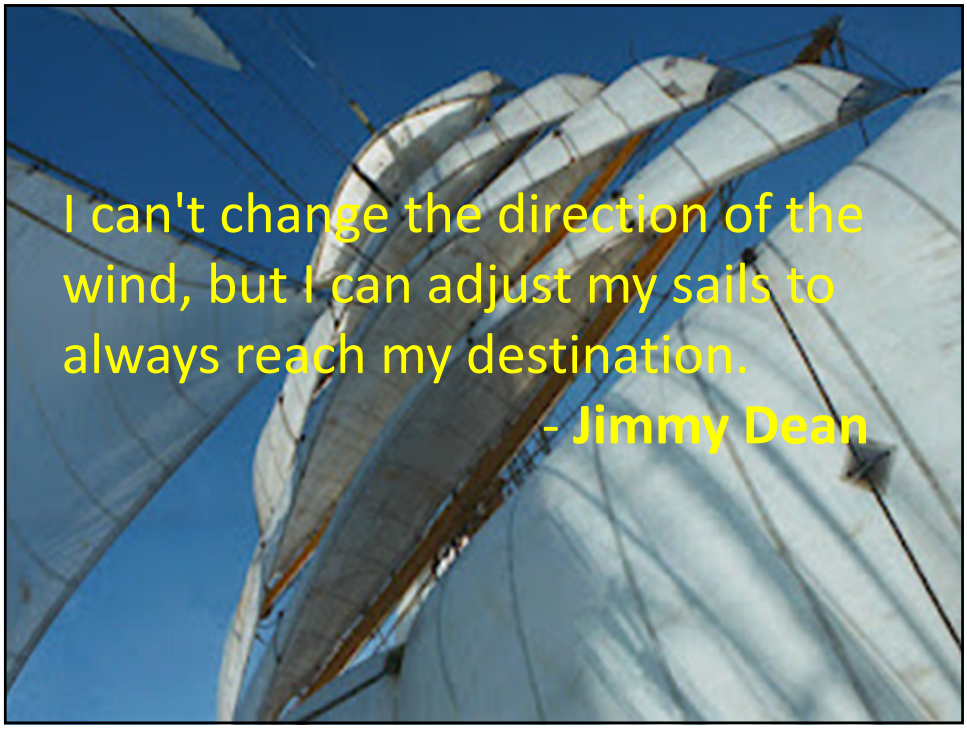
modified Differential Emotions Scale (mDES)

Instructions: Please think back to how you have felt during the past twenty-four hours. Using the 0-4 scale below, indicate the *greatest amount* that you've experienced each of the following feelings.

Not at all	A little bit	Moderately	Quite a bit	Extremely
0	1	2	3	4

____ 1. What is the most **amused, fun-loving**, or **silly** you felt?
____ 2. What is the most **angry, irritated**, or **annoyed** you felt?
____ 3. What is the most **ashamed, humiliated**, or **disgraced** you felt?
____ 4. What is the most **awe, wonder**, or **amazement** you felt?
____ 5. What is the most **contemptuous, scornful**, or **disdainful** you felt?
____ 6. What is the most **disgust, distaste**, or **revulsion** you felt?
____ 7. What is the most **embarrassed, self-conscious**, or **blushing** you felt?
____ 8. What is the most **grateful, appreciative**, or **thankful** you felt?
____ 9. What is the most **guilty, repentant**, or **blameworthy** you felt?
____ 10. What is the most **hate, distrust**, or **suspicion** you felt?
____ 11. What is the most **hopeful, optimistic**, or **encouraged** you felt?
____ 12. What is the most **inspired, uplifted**, or **elevated** you felt?
____ 13. What is the most **interested, alert**, or **curious** you felt?
____ 14. What is the most **joyful, glad**, or **happy** you felt?
____ 15. What is the most **love, closeness**, or **trust** you felt?
____ 16. What is the most **proud, confident**, or **self-assured** you felt?
____ 17. What is the most **sad, downhearted**, or **unhappy** you felt?
____ 18. What is the most **scared, fearful**, or **afraid** you felt?
____ 19. What is the most **serene, content**, or **peaceful** you felt?
____ 20. What is the most **stressed, nervous**, or **overwhelmed** you felt?

Based on Fredrickson, 2009 and Fredrickson, Tugade, Waugh, & Larkin, 2003. Scoring: Use single items to assess specific emotions, or create overall positive and negative emotion scores by computing the mean of 10 positive and 10 negative emotions, respectively. Instructions can be modified to assess emotions in response to specific incidents (e.g., laboratory manipulations or episodes recalled using the Day Reconstruction Method). Scale can be modified to capture emotions experienced over the past two weeks by changing the instructions to "how often have you/ve experienced...," the items to "How often have you felt ___?" and the response options to 0 = never; 1 = rarely; 2 = some of the time; 3 = often; 4 = most of the time.



Random acts of Kindness:

Doing a kindness produces the single most reliable momentary increase in well-being of any exercise that has been tested

Find one wholly unexpected kind thing to do tomorrow and just do it. Notice what happens to your mood.

-- Marti Seligmann, 2011

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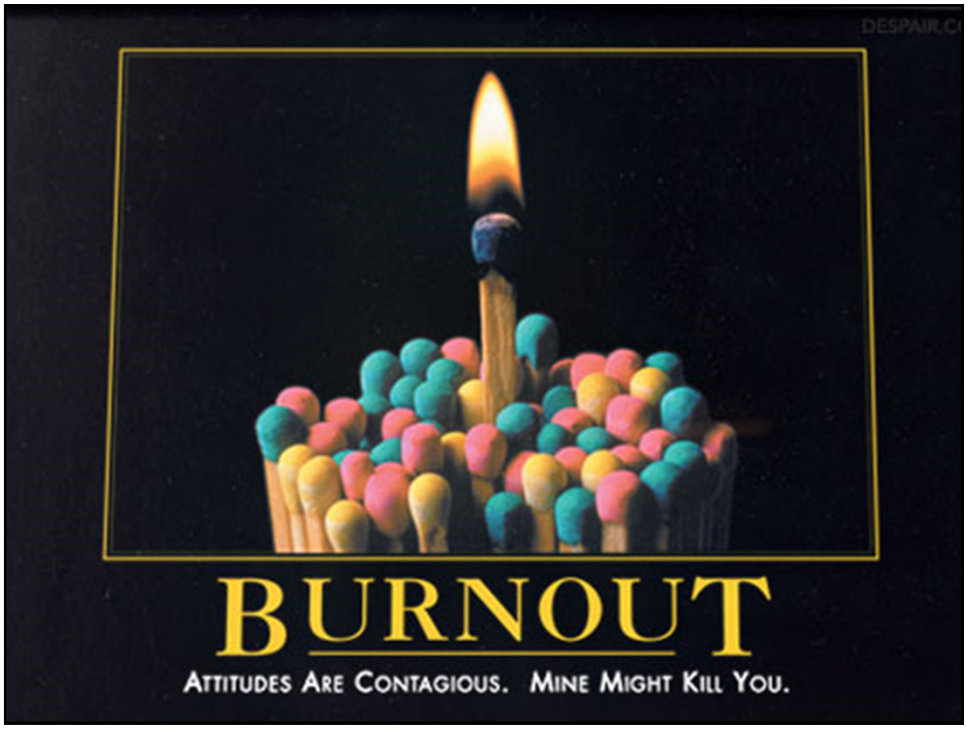

I WANT YOU TO DELETE ME AS YOUR FACEBOOK FRIEND

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4 a.m. Friend:

Is there someone in your life whom you would feel comfortable phoning at four in the morning to tell your troubles to?

- If so, you are likely to live longer than those who say "no." Discovered by George Vaillant (Harvard psychiatrist) and called the capacity to *be* loved.
- Conversely, loneliness is such a disabling condition that it suggests the pursuit of relationships is a fundamental to well-being.

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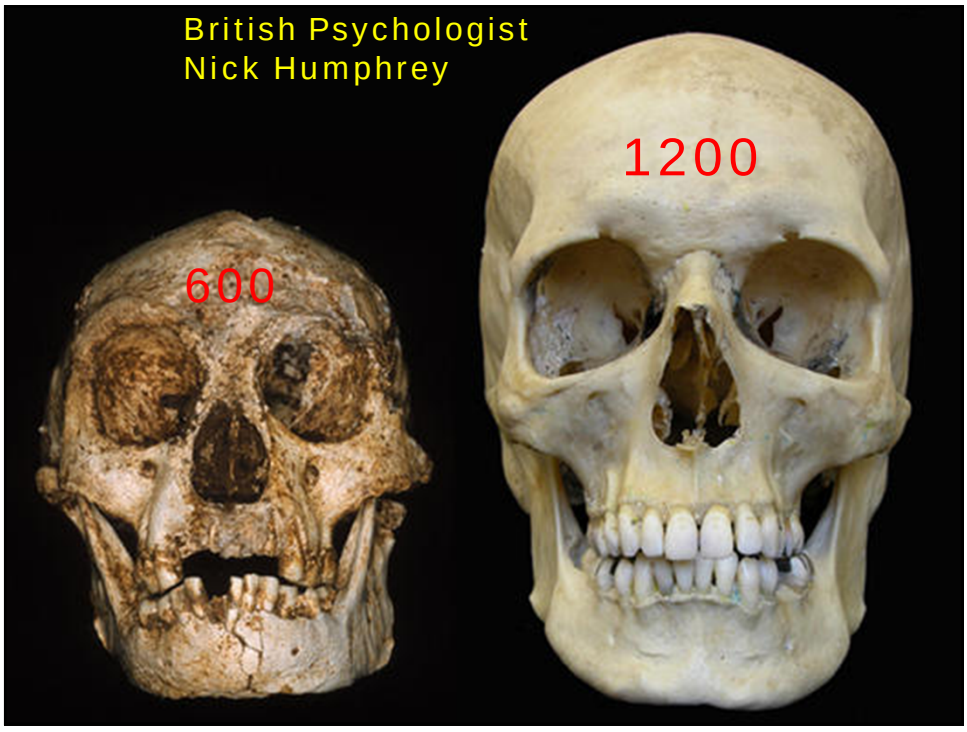
-- Marti Seligmann, 2011 Page 60

Friendship Networks:

Half of all friends replaced every 7 years

- Who do you talk with, regarding personal issues?
- Who helps you with DIY in your home?
- Who do you pop by to see?

-Sociologist Gerald Mollenhorst of Utrecht University



The most important single ingredient in the formula of success is knowing how to get along with people.

Theodore Roosevelt;
The 26th US President

Good Attachments = you are there for me when things go wrong

Collins, N. L., & Feeney, B. C. (2000). A safe haven: An attachment theory perspective on support seeking and caregiving in intimate relationships. *Journal of Personality and Social Psychology, 78,* 1053–1073.

Pasch, L. A., Bradbury, T. N., & Davila, J. (1997). Gender, negative affectivity, and observed social support behavior in marital interaction. *Personal Relationships, 4,* 361–378.

Post-traumatic stress disorder, resilience and vulnerability

Adv. Psychiatr. Treat. 2007 13: 369-375

Ayesha S. Ahmed

Box 2 Factors promoting resilience

Internal characteristics

- Self-esteem
- Trust
- Resourcefulness
- Self-efficacy
- Internal locus of control
- Secure attachments
- Sense of humour
- Self-sufficiency
- Sense of mastery
- Optimism
- Interpersonal abilities such as social skills, problem-solving skills and impulse control

External factors

- Safety
- Religious affiliation
- Strong role models
- Emotional sustenance: the extent to which others provide the individual with understanding, companionship, sense of belonging and positive regard

Attachment

An abundance of research shows that the perception that one has supportive others to turn to in times of stress (i.e., perceived support) buffers against the harmful effects of stress (e.g., Cohen, 1992; Collins & Feeney, 2000; Sarason, Sarason, & Gurung, 1997).

But if things go right, and you are there for me, does that have an independent impact on relationship functioning?

Journal of Personality and Social Psychology
2006, Vol. 91, No. 5, 904–917

0022-3514/06/$12.00 DOI: 10.1037/0022-3514.91.5.904

Will You Be There for Me When Things Go Right? Supportive Responses to Positive Event Disclosures

Shelly L. Gable
University of California, Los Angeles

Gian C. Gonzaga
University of California, Los Angeles, and Eharmony.com

Amy Strachman
University of California, Los Angeles

…n share successes and triumphs with one another, but this experience is
…this study, 79 dating couples completed measures of relationship

…79 dating couples…Both self-report data and observational codes showed that 2 months later, responses to positive event discussions were more closely related to relationship well-being and break-up than were responses to negative event discussions. The results are discussed in terms of the recurrent, but often overlooked, role that positive emotional exchanges play in building relationship resources.

Shelly Gable
Professor, Psychology
UC Santa Barbara

How do you respond when people share good news with you? The manner in which you respond when others share triumph with you directly builds or undermines your relationships. Research into couples and intimate relationships suggests that supporting partners when good things happen is as important in building a relationship as supporting when bad things happen.

“Don’t Worry, Be Open”

Robert "Bobby" McFerrin, Jr. is a virtuoso American vocalist and conductor. He is best known for his 1988 hit song "Don't Worry, Be Happy".

Don’t Worry implies “Worry about Future and/or ruminate about the past” The Present is relatively benign/good, but “bad” grabs our attention

Toxicity of Insincerity

Active Destructive Responding	Finding the bad in the good: where you find the cloud in the silver lining
Passive Destructive Responding	Not caring at all about their news
Passive Constructive Responding	Not making a big deal out of it
Active Constructive Responding	**Reacting positively, being interested and caring about their news.**

Active Constructive Responding

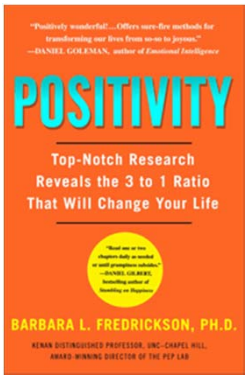
Maintain eye contact / smile / touch / laugh

- Don't overdo the praise and positive feedback (it can make people feel uncomfortable/patronized)
- Concentrate on asking questions which encourage the person to talk about their good news/ savor their positive emotions.
- If this type of active and constructive response does not come easily to you try to ask at least three questions.

Time Remaining: **00:00**

Cultivating Positive Emotion:

3 to 1 Ratio

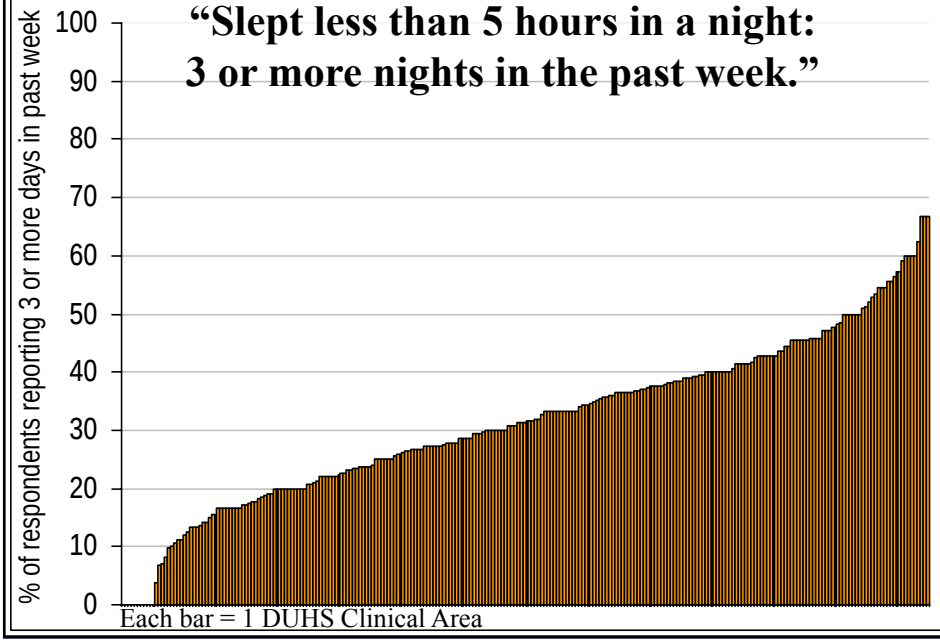


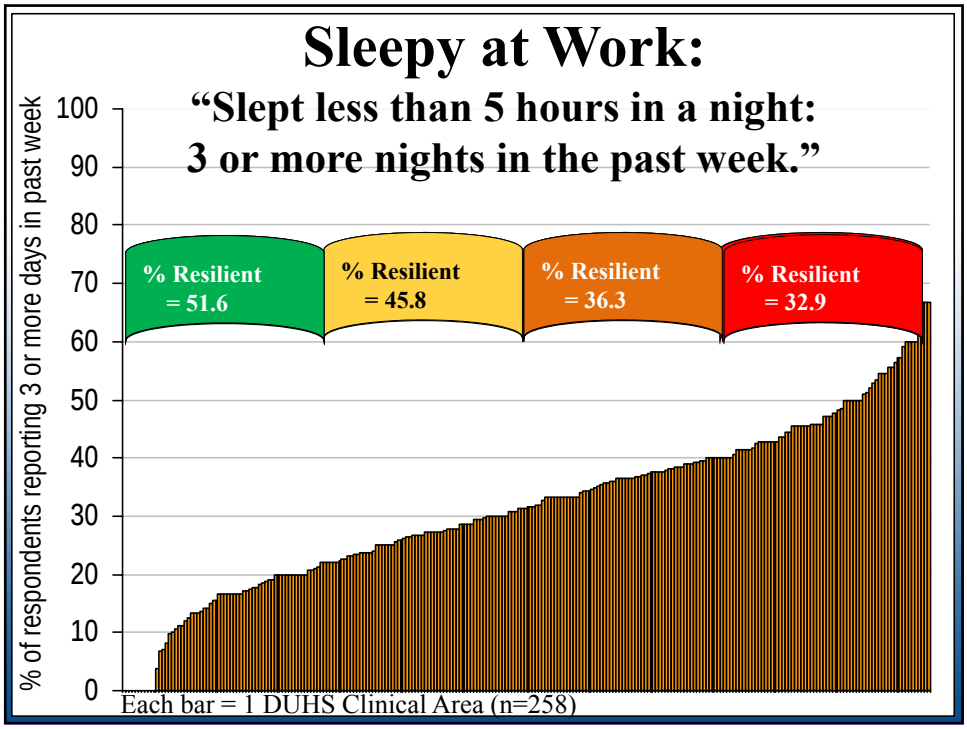
In the past week, how many of you…

- Skipped a meal?
- Ate a poorly balanced meal?
- Worked an entire shift without any breaks?
- Changed personal/family plans because of work?
- Arrived home late from work?
- Drank too much coffee?
- Slept less than 5 hours in a night?
  - Over 40% of Americans regularly sleep less than 5 hours a night
    - 2X as likely to die of heart disease
    - 1.7x as likely to die of all causes (Cappoccino, 2007)

Sleepy at Work:

"Slept less than 5 hours in a night: 3 or more nights in the past week."





Our brains interpret prolonged fatigue as a stressor, releasing additional glucocorticoids…

Source: J. Bryan Sexton, PhD

Why do we sleep?

- Recharge our batteries: repair and rejuvenate
  - -Improved Immune System Function
- Memory Consolidation
- Emotional Regulation

In a pinch, choose <3 or >5 hours

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Psychological Bulletin
2009, Vol. 135, No. 5, 731–748

0033-2909/09/$12.00 DOI: 10.1037/a0016570

Overnight Therapy? The Role of Sleep in Emotional Brain Processing

Matthew P. Walker and Els van der Helm
University of California, Berkeley

Cognitive neuroscience continues to build meaningful connections between affective behavior and human brain function. Within the biological sciences, a similar renaissance has taken place, focusing on the role of sleep in various neurocognitive processes and, most recently, on the interaction between sleep and emotional regulation. This review surveys an array of diverse findings across basic and clinical research domains, resulting in a convergent view of sleep-dependent emotional brain processing. On the basis of the unique neurobiology of sleep, the authors outline a model describing the overnight modulation of affective neural systems and the (re)processing of recent emotional experiences, both of which appear to redress the appropriate next-day reactivity of limbic and associated autonomic networks. Furthermore, a rapid eye movement (REM) sleep hypothesis of emotional-memory processing is proposed, the implications of which may provide brain-based insights into the association between sleep abnormalities and the initiation and maintenance of mood disturbances.

Keywords: REM sleep, emotion, affect, memory, depression

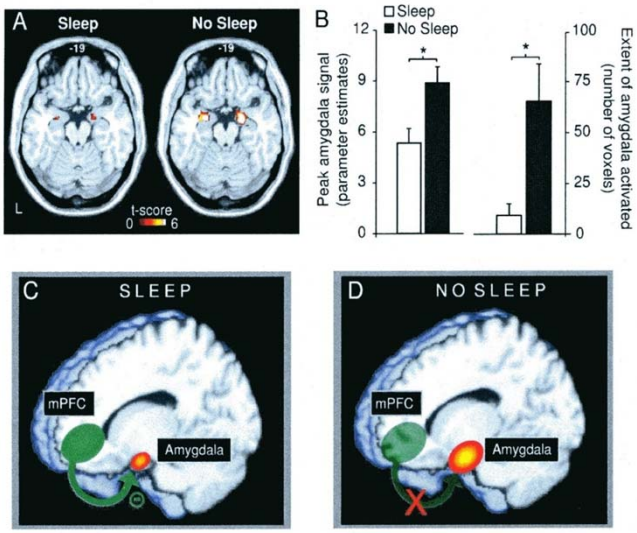
Self Care Tip

"Sleep allows the brain to sift through that day's events, process any negative emotion attached to them, then strip it away from the memories…like applying a 'nocturnal soothing balm'."

-Matthew Walker

http://walkerlab.berkeley.edu

The Impact of Sleep Deprivation on Emotional Brain Reactivity and Functional Connectivity



Seung-Schik Yoo, Ninad Gujar, Peter Hu, Ferenc A. Jolesz and Matthew P. Walker. *Current Biology, Volume 17, Issue 20, 23 October 2007, Pages R877-R878*

Source: J. Bryan Sexton, PhD

The Cognitive Consequences of Sleep and Sleep Loss

Walker, MP. Sleep Medicine 9 Suppl. 1 (2008) S29-S34

One night of sleep deprivation:
-40% reduction in ability to form new memories in humans.
-Negative memories are most resilient to fatigue, so you are tired and grumpy.

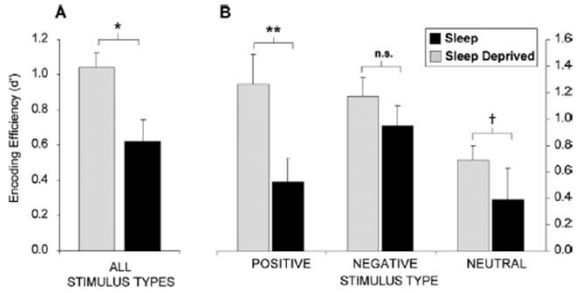
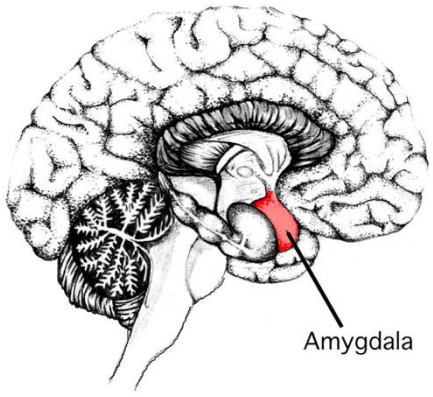


Fig. 4. Sleep deprivation induced emotional and neutral memory encoding impairments [3,18]. *$P \leq 0.05$, **$P \leq 0.01$. Reprinted, with permission, from the Annual Review of Psychology, Volume 57. © 2006 by Annual Reviews www.annualreviews.org

Bar-On et al, (2003). Exploring the neurological substrate of emotional and social intelligence. Brain, 126, 1790-1800.



Patients with lesions or other injuries in the right amygdala showed a loss in emotional self awareness, the ability to be aware of and understand our own feelings.

84

Top 5 Amygdala Triggers in the workplace:

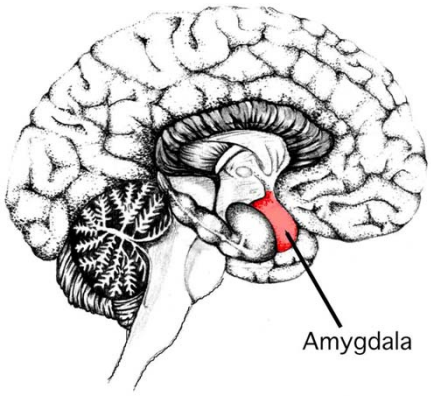
Condescension and lack of respect

Being held to unrealistic deadlines

Being treated unfairly

Being unappreciated

Feeling unheard



Tony Schwartz, 2010. Five common emotional triggers. The Way We're Working isn't Working: The Four Forgotten Needs that Energize Great Performance.

85

Graduate Medical Education

The Effects of a Mid-Day Nap on the Neurocognitive Performance of First-Year Medical Residents: A Controlled Interventional Pilot Study

Mohammad M. Amin, MD, Mark Graber, MD, Khalid Ahmad, MD, Dragos Manta, MD, Sayeed Hossain, MD, Zuzana Belisova, MD, William Cheney, PhD, Morris S. Gold, DSc, and Avram R. Gold, MD

Abstract

Purpose
Despite shorter duty hours, fatigue remains a problem among medical residents. The authors tested the effect of a short, mid-day nap on the cognitive functioning and alertness of first-year internal medicine (IM) residents during normal duty hours.

Method
This was a controlled, interventional study performed between July 2008 and April 2010. The authors recruited a nap group of 18 residents and a rest (control) group of 11 residents. Investigators connected all participants to an ambulatory sleep monitor before the beginning of their shifts in order to monitor rolling eye movements, a proxy for attention failures. At mid-day, both groups took Conner's Continuous Performance Test (CPT II) to evaluate their cognitive functioning and then were placed in a reclining chair designed for napping. The authors instructed nap group residents to nap for up to 20 minutes and chatted with control group residents to prevent them from napping. All residents took the CPT II again immediately after the intervention. Residents' attention failures were recorded until the end of the workday. The authors compared the mean outcome parameters of the two groups through analysis of variance, using effect-of-treatment and baseline covariates.

Results
Nap group participants slept a mean of 8.4±3.0 minutes. Compared with controls whose cognitive functioning and number of attention failures did not change from morning to afternoon, the nap group's cognitive functioning improved and their number of attention failures decreased.

Conclusions
A short, mid-day nap can improve cognitive functioning and alertness among first-year IM residents.

Psychological Bulletin
2009, Vol. 135, No. 5, 731–748

0033-2909/09/$12.00 DOI: 10.1037/a0016570

Overnight Therapy? The Role of Sleep in Emotional Brain Processing

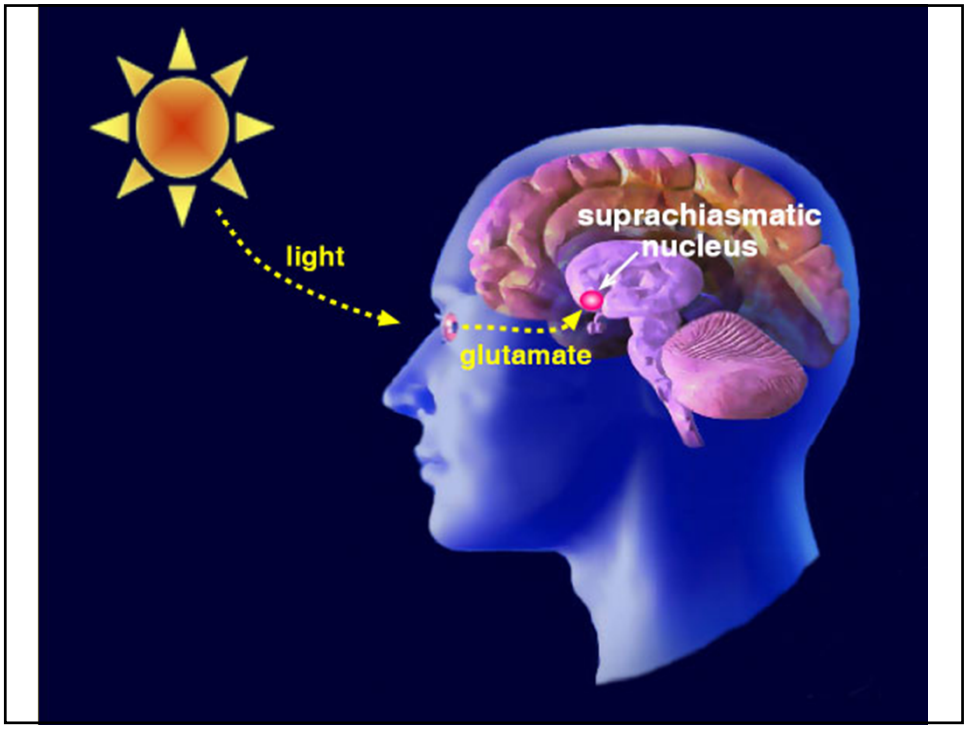
Matthew P. Walker and Els van der Helm
University of California, Berkeley

Cognitive neuroscience continues to build meaningful connections between affective behavior and human brain function. Within the biological sciences, a similar renaissance has taken place, focusing on the role of sleep in various neurocognitive processes and, most recently, on the interaction between sleep and emotional regulation. This review surveys an array of diverse findings across basic and clinical research domains, resulting in a convergent view of sleep-dependent emotional brain processing. On the basis of the unique neurobiology of sleep, the authors outline a model describing the overnight modulation of affective neural systems and the (re)processing of recent emotional experiences, both of which appear to redress the appropriate next-day reactivity of limbic and associated autonomic networks. Furthermore, a rapid eye movement (REM) sleep hypothesis of emotional-memory processing is proposed, the implications of which may provide brain-based insights into the association between sleep abnormalities and the initiation and maintenance of mood disturbances.

Keywords: REM sleep, emotion, affect, memory, depression

Typical night shift creates biological clock stress equivalent of jet lag from flying back and forth between Tokyo and San Francisco every few days.

-Davidson, et al. 2006. Current Biology



Better Night of Sleep

Blue Blockers

"Blue blockers represent an elegant means to prevent the light-induced melatonin suppression"
J Pineal Res. 2006 Aug;41(1):73-8.
Sasseville A, Paquet N, Sévigny J, Hébert M.

Chronobiol Int. 2009 Jul;26(5):913-25.
Wearing blue-blockers in the morning could improve sleep of workers on a permanent night schedule: a pilot study.
Sasseville A, Benhaberou-Brun D, Fontaine C, Charon MC, Hebert M.
Source
Centre de Recherche Universite Laval Robert-Giffard/Department of Oto Rhino Laryngology and Ophtalmology, Universite Laval, Quebec, Canada.
Abstract
Night shiftworkers often complain of disturbed sleep during the day. This could be partly caused by morning sunlight exposure during the commute home, which tends to maintain the circadian clock on a daytime rhythm. The circadian clock is most sensitive to the blue portion of the visible spectrum, so our aim was to determine if blocking short wavelengths of light below 540 nm could improve daytime sleep quality and nighttime vigilance of night shiftworkers. Eight permanent night shiftworkers (32-56 yrs of age) of Quebec City's Canada Post distribution center were evaluated during summertime, and twenty others (24-55 yrs of age) during fall and winter. Timing, efficacy, and fragmentation of daytime sleep were analyzed over four weeks by a wrist activity monitor, and subjective vigilance was additionally assessed at the end of the night shift in the fall-winter group. The first two weeks served as baseline and the remaining two as experimental weeks when workers had to wear blue-blockers glasses, either just before leaving the workplace at the end of their shift (summer group) or 2 h before the end of the night shift (fall-winter group). They all had to wear the glasses when outside during the day until 16:00 h. When wearing the glasses, workers slept, on average +/-SD, 32+/-29 and 34+/-60 more min/day, increased their sleep efficacy by 1.95+/-2.17% and 4.56+/-6.1%, and lowered their sleep fragmentation by 1.74+/-1.36% and 4.22+/-9.16% in the summer and fall-winter group, respectively. Subjective vigilance also generally improved on Fridays in the fall-winter group. Blue-blockers seem to improve daytime sleep of permanent night-shift workers.

The Cognitive Consequences of Sleep and Sleep Loss

Walker, MP. Sleep Medicine 9 Suppl. 1 (2008) S29-S34

One night of sleep deprivation:
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-Negative memories are most resilient to fatigue, so you are tired and grumpy.

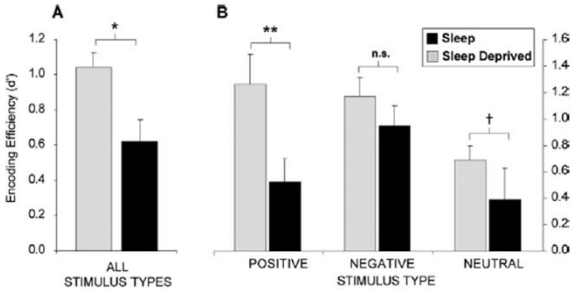
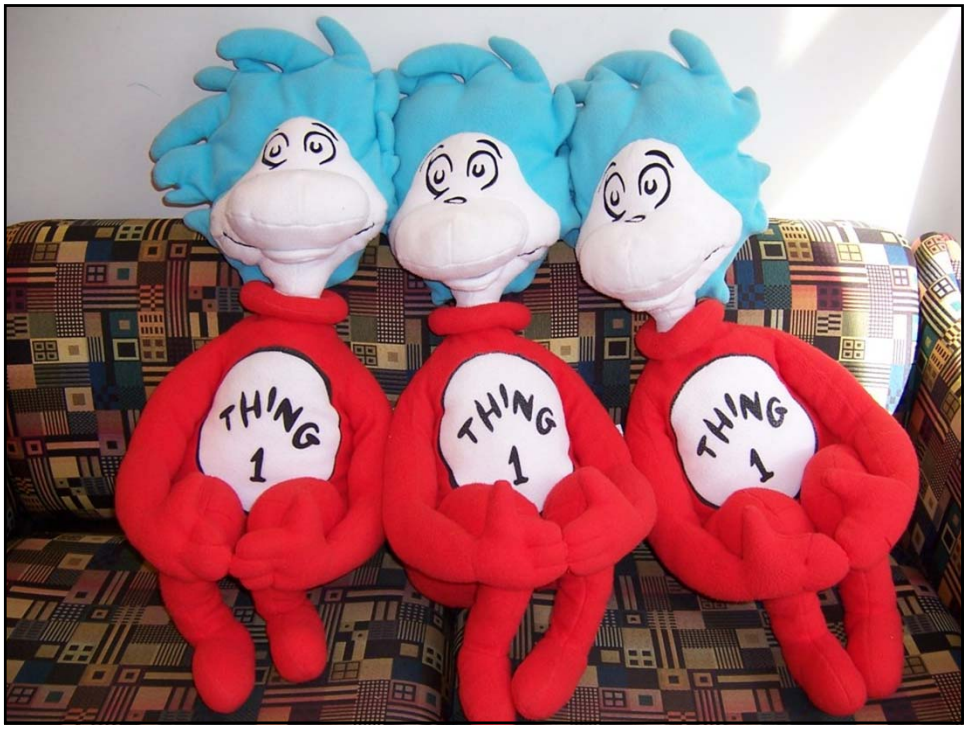


Fig. 4. Sleep deprivation induced emotional and neutral memory encoding impairments [3,18]. *$P \leqslant 0.05$, **$P \leqslant 0.01$. Reprinted, with permission, from the Annual Review of Psychology, Volume 57. © 2006 by Annual Reviews www.annualreviews.org

"The negative screams at you, but the positive only whispers…"

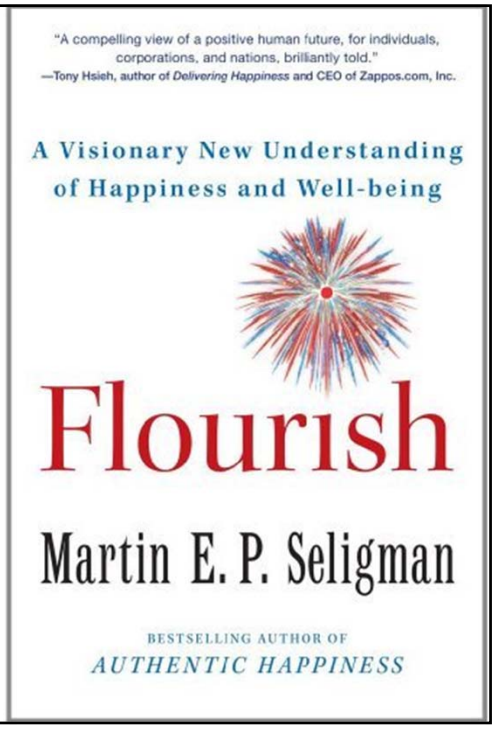
-- Barbara Fredrickson


THING 1
THING 1
THING 1


THING 2
THING 4
THING 3
THING 1

DHCH: "What, if anything, was particularly special and resonated with you during WISER?"

Three Good Things



"The negative screams at you, but the positive only whispers…"

-- Barbara Fredrickson

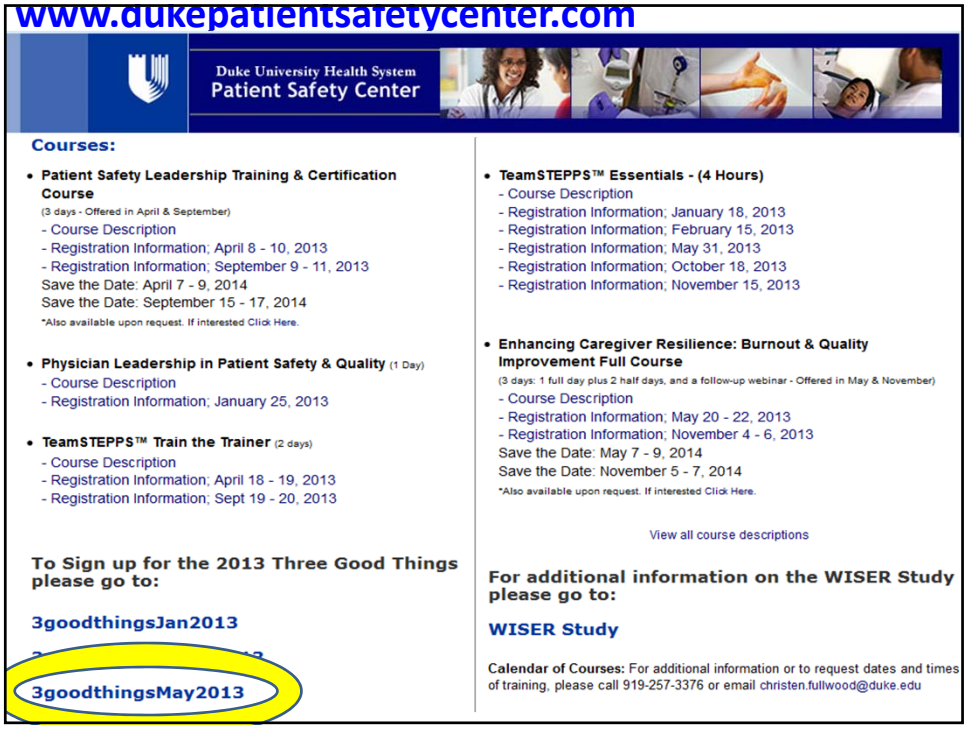
#1) We are hard-wired to remember the negative.

#3) With practice (by day 4 or 5) reflecting on the positive leads to noticing more positive.

#2) Enhanced recall of material reviewed during last 2 wakeful hours.

#1) We are hard-wired to remember the negative.

www.dukepatientsafetycenter.com



Three Good Things

- Memories are tricky: good ones are like Teflon, they slip away, while the bad ones stick like Velcro (especially when we are tired)
- Three Good Things retrains our brains so that we can remember the good things, and our role in bringing them about
- Marti Seligman
  http://www.youtube.com/watch?v=dwkDEM4gFBA

Positive Psychology Progress

Empirical Validation of Interventions

Martin E. P. Seligman and Tracy A. Steen — *University of Pennsylvania*
Nansook Park — *University of Rhode Island*
Christopher Peterson — *University of Michigan*

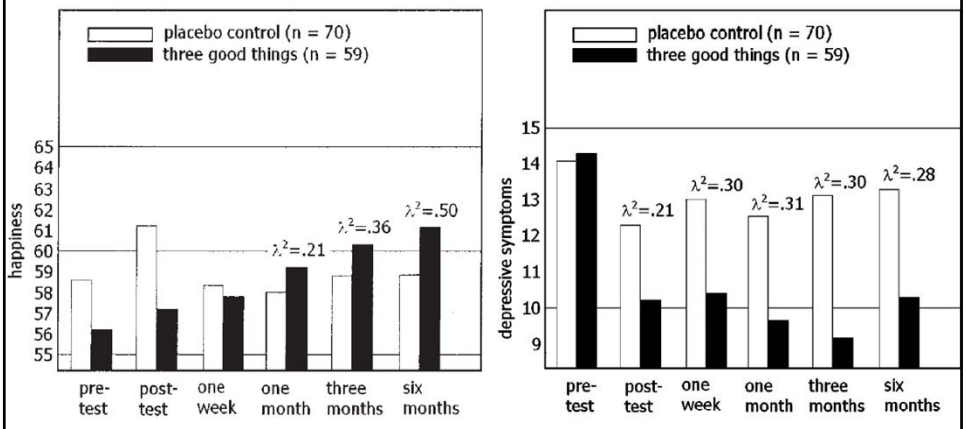
Positive psychology has flourished in the last 5 years. The authors review recent developments in the field, including books, meetings, courses, and conferences. They also discuss the newly created classification of character strengths and virtues, a positive complement to the various editions of the Diagnostic and Statistical Manual of Mental Disorders *(e. g., American Psychiatric Association, 1994), and present some cross-cultural findings that suggest a surprising ubiquity of strengths and virtues. Finally, the authors focus on psychological interventions that increase individual happiness. In a 6-group, random-assignment, placebo-controlled Internet study, the authors tested 5 purported happiness interventions and 1 plausible control exercise. They found that 3 of the interventions lastingly increased happiness and decreased depressive symptoms. Positive interventions can supplement traditional interventions that relieve suffering and may someday be the practical legacy of positive psychology.*

July–August 2005 • American Psychologist
 0003-066X/05/$12.00
Vol. 60, No. 5, 410–421 DOI: 10.1037/0003-066X.60.5.410

Three good things

- http://www.youtube.com/watch?v=dwkDEM4gFBA

Seligman, Steen, Park & Petersen, 2005



Three Good Things Examples

Self-Aware

- Accomplished everything I needed to in preparation for tomorrow ahead of schedule. My role was to stay calm and focus.
- On a daily basis I stop and question why I react to the children's behavior and then I am able to respond with out talking harshly
- Much less stressful day, in part due to a concerted attitude shift on my part. My role was to use the lessons from yesterday to make better choices today.

Mindfulness

- Had an unusually long and stressful day of running around... reminded me of what not to do and encouraged me to stop and center myself this evening, and to plan better for tomorrow.
- I had a wonderfully generative and exciting conversation with some colleagues about an innovative new way of implementing a project. / I listened, asked lots of questions, exchanged ideas, and suspended judgment.
- Made it through another day at work without crying! Kept thinking + thoughts.

Purpose

- One of my nurses was in a bad mood when I arrived to work. I sent her an email to come and talk to me about meeting her daughter's boyfriend the previous Monday. We talked for half an hour about her family, work, etc and she left in an improved mood. The atmosphere in the clinic was much happier!
- My daughter told me she loves me and that I've been a safe and supportive mom. Wow.
- It restarted knitting my daughters college graduation afghan again after at least a year. It felt so good to knit again and work on a promise that I gotten halfway on. I put my knitting bag near my chair, the next day I gave myself an hour or so to just get into the process.

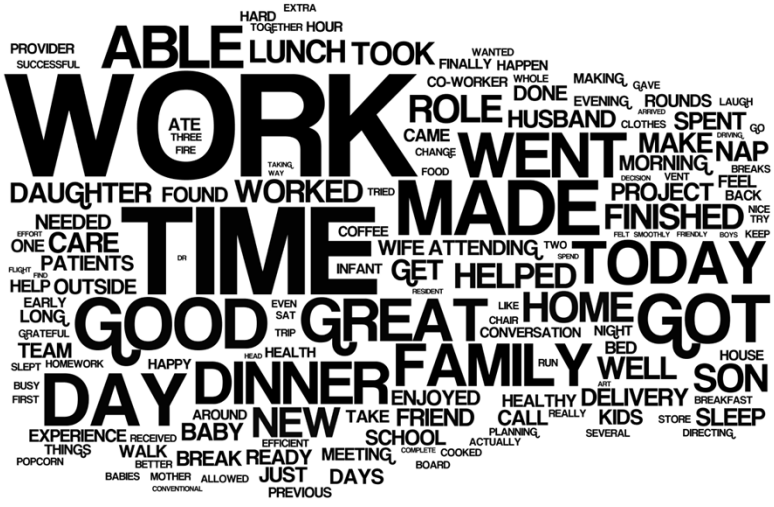
Self Care

- I went to the Dr for my annual exam. I took care of myself and made my appointment 4 weeks ago.
- I listened to my body and went to bed earlier than anticipated.
- I enjoyed an hour of self-time today at an acupuncture appointment. I scheduled the appointment weeks ahead of time knowing I would need the reprieve especially this week. In addition, I was asked some really thought provoking questions while there. My role was to actively plan self-care and to be receptive to challenging thoughts.

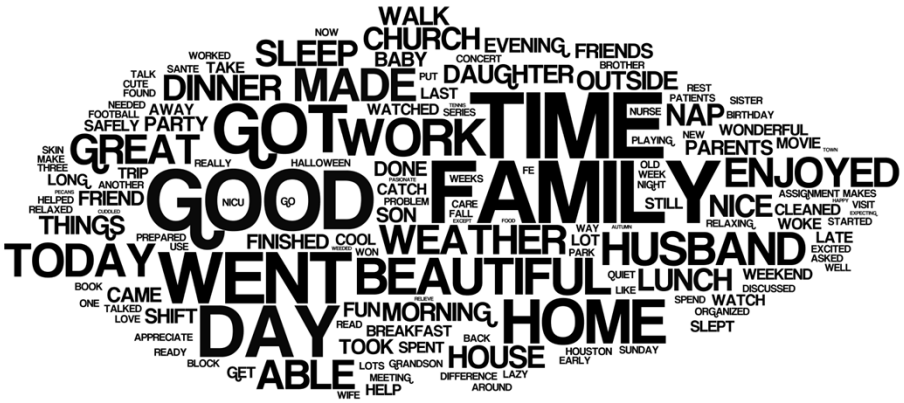
Relationships

- I really listened to my husband as he talked about some things he felt good about at work. He felt heard. When our daughter came in, he really listened to her--I think in part because someone listened to him.
- I had a good laugh with my direct reports today. I took the time to seek them out and talk to them purposefully not about work.
- I had a great conversation with a new Nurse Practitioner and made her feel welcome to working in my clinic. I took the time at the end of the day when I could have gone home early to get to know her.

Day 1 NICU



Day 14 NICU


WALK
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DAUGHTER
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GREAT
PARTY
PARENTS
GOOD
FAMILY
ENJOYED
DONE
CATCH
SON
NICE
CLEANED
WOKE
THINGS
FINISHED
WEATHER
HUSBAND
TODAY
WENT
BEAUTIFUL
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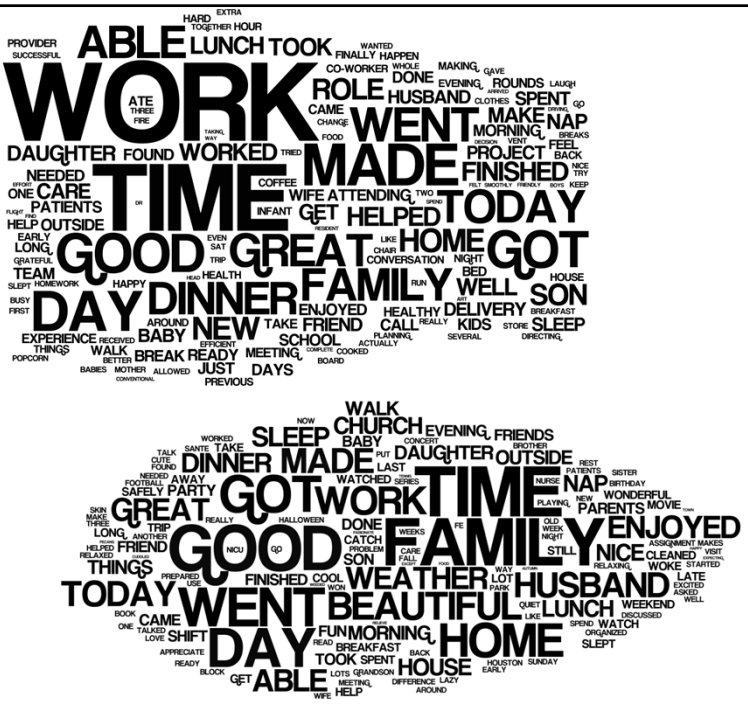
HOUSE
ABLE
HELP


ABLE
LUNCH
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HUSBAND
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CAME
WENT
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NAP
DAUGHTER
FOUND
WORKED
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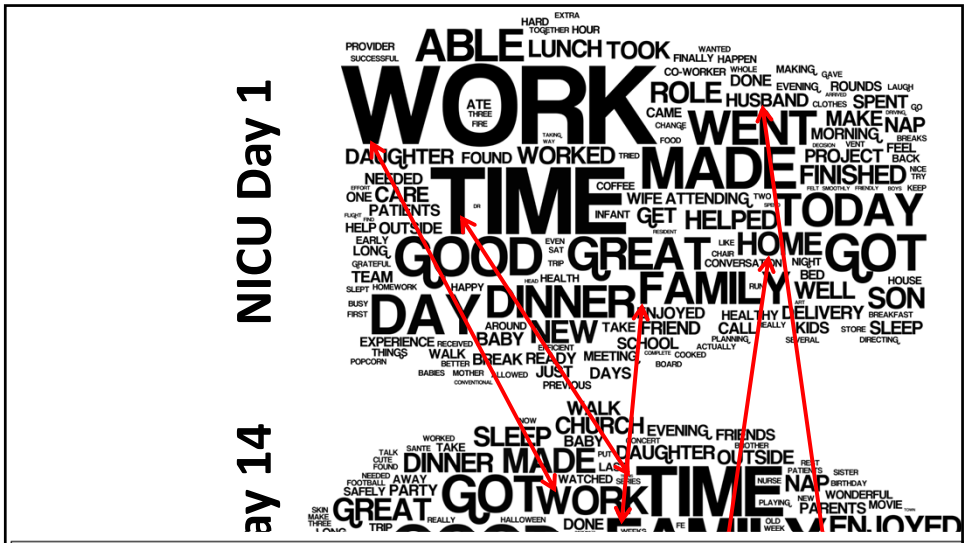
PROJECT
FINISHED
NEEDED
TIME
WIFE
ATTENDING
CARE
PATIENTS
INFANT
GET
HELPED
TODAY
HELP
OUTSIDE
GOOD
GREAT
HOME
GOT
CONVERSATION
TEAM
DAY
DINNER
FAMILY
WELL
SON
ENJOYED
HEALTHY
DELIVERY
EXPERIENCE
BABY
NEW
TAKE
FRIEND
CALL
KIDS
SLEEP
SCHOOL
WALK
BREAK
READY
MEETING
JUST
DAYS
PREVIOUS



Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	burnoutscore - burnoutscore14	6.90972	22.62264	2.92057	1.06568	12.75377	2.366	59	.021
Pair 2	happyscore - happyscorex14	-3.32423	11.95918	1.53122	-6.38711	-.26134	-2.171	60	.034

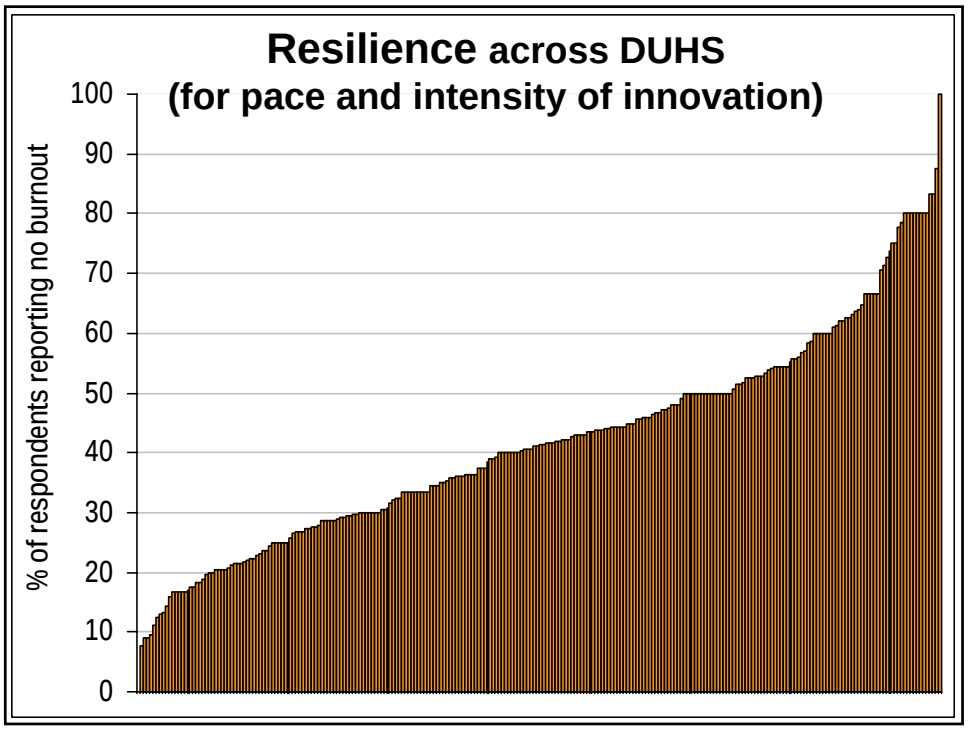
Duke Internal Medicine Residents

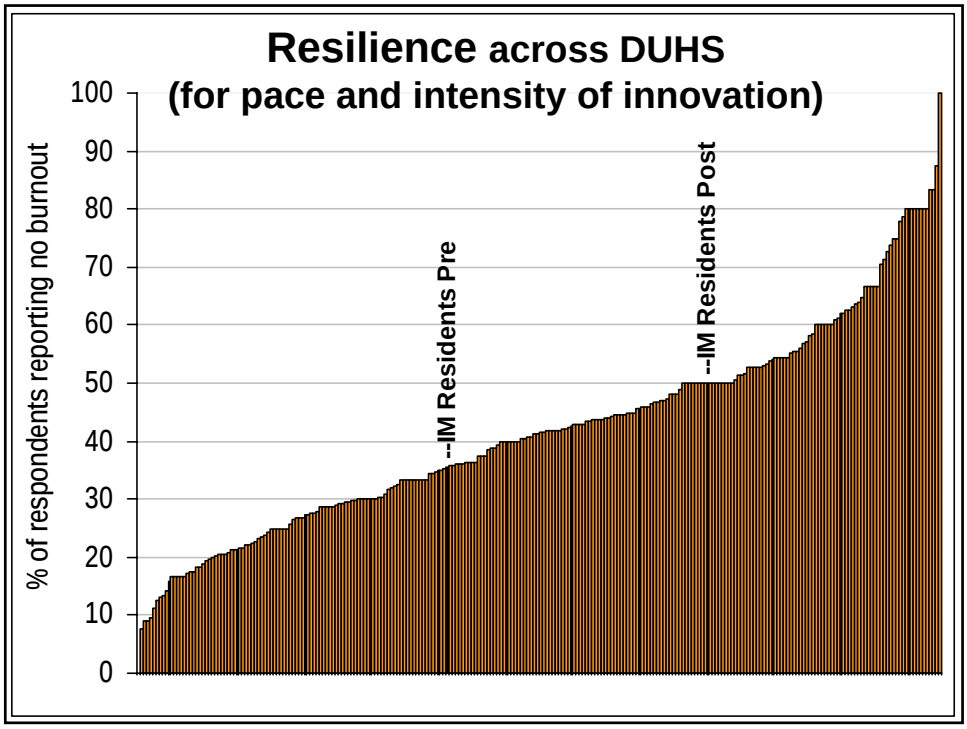
Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	burnoutscore - burnoutscorexpost	7.29167	20.48016	2.95606	1.34485	13.23849	2.467	47	.017
Pair 2	happyscore - happyscorexpost	-2.69608	11.98447	1.67816	-6.06676	.67461	-1.607	50	.114
Pair 3	sumnewCESD - sumnewCESDxpost	2.22222	4.76678	.71059	.79012	3.65432	3.127	44	.003
Pair 4	Communication breakdowns that lead to delays are common in my work setting. - Communication breakdowns that lead to delays are common in my work setting.	.388	1.222	.175	.037	.739	2.222	48	.031
Pair 5	I sometimes fall asleep when I don't intend to (e. g., in the car watching a movie, etc.). - I sometimes fall asleep when I don't intend to (e. g., in the car watching a movie, etc.).	.347	1.284	.183	-.022	.716	1.892	48	.065
Pair 6	Dealing with difficult colleagues is consistently a challenging part of my job. - Dealing with difficult colleagues is consistently a challenging part of my job.	.479	1.072	.155	.168	.790	3.098	47	.003
Pair 7	I often take work home with me to complete after hours. - I often take work home with me to complete after hours.	.400	1.214	.181	.035	.765	2.211	44	.032

Duke Internal Medicine Resident Results

- Thanks to the efforts of Drs. Jon Bae and Amy Zaas, as well as our Medical Student researcher Whitney Chadwick.
- Main Findings:
  - Lower burnout, lower depression in the post
  - Fewer delays
  - Less conflict
  - Better work-life balance
- Residents enjoyed participating in the research





Duke PS Leadership Cohort

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	happyscorepre - happyscore15	-5.21978	11.12334	1.16604	-7.53633	-2.90323	-4.476	90	.000
Pair 2	Worklife Balance Scale Score PRE - Worklife Balance Scale Score DAY 15	.29796	.55200	.05819	.18235	.41358	5.121	89	.000
Pair 3	burnoutscore - burnoutscore15	9.34066	22.80986	2.39112	4.59028	14.09104	3.906	90	.000
Pair 4	Skipped a meal - Skipped a meal	.273	.798	.085	.104	.442	3.205	87	.002
Pair 5	Worked through a shift/day without any breaks - Worked through a shift/day without any breaks	.447	.893	.097	.254	.640	4.615	84	.000
Pair 6	Changed personal/family plans because of work - Changed personal/family plans because of work	.244	.950	.105	.035	.453	2.325	81	.023
Pair 7	Slept less than 5 hours in a night - Slept less than 5 hours in a night	.169	.856	.091	-.012	.349	1.858	88	.067
Pair 8	Arrived home late from work - Arrived home late from work	.398	.936	.103	.193	.602	3.869	82	.000
Pair 9	Ate a poorly balanced meal - Ate a poorly balanced meal	.227	.840	.090	.049	.405	2.537	87	.013
Pair 10	Had difficulty sleeping - Had difficulty sleeping	.318	.865	.092	.135	.501	3.451	87	.001

Duke PS Leadership Cohort

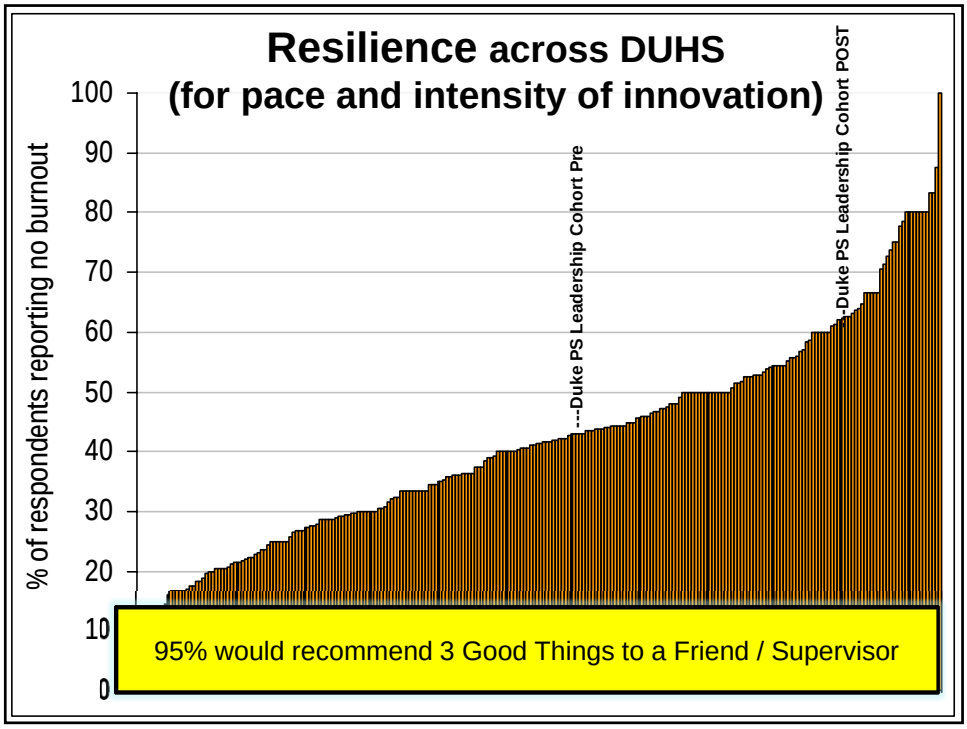
Paired Samples Test

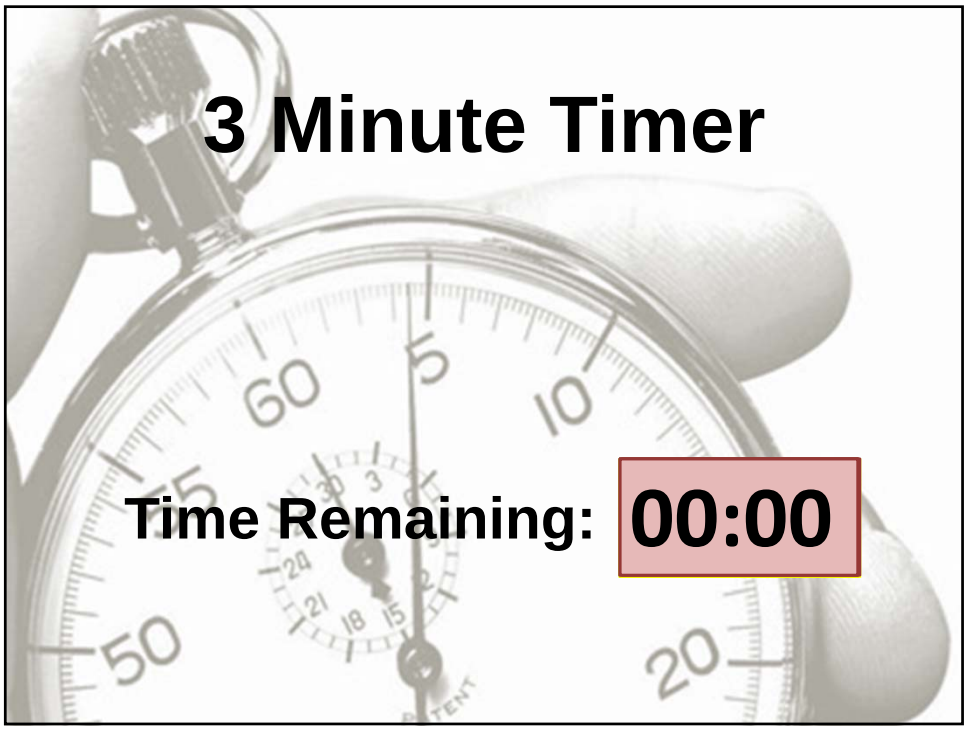
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	happyscorepre - happyscore15	-5.21978	11.12334	1.16604	-7.53633	-2.90323	-4.476	90	.000
Pair 2	In general, I consider myself: - iamhappy15	-.20879	.73811	.07738	-.36251	-.05507	-2.698	90	.008
Pair 3	Compared to most of my peers, I consider myself: - Compared to most of my peers, I consider myself:	-.292	.772	.082	-.455	-.130	-3.571	88	.001
Pair 4	Some people are generally not very happy. Although they are not depressed, they never seem as happy... - Some people are generally not very happy. Although they are not depressed, they never seem as happy...	.253	1.379	.145	-.034	.540	1.748	90	.084
Pair 5	Some people are generally very happy. They enjoy life regardless of what is going on, getting the mo... - Some people are generally very happy. They enjoy life regardless of what is going on, getting the mo...	-.484	1.158	.121	-.725	-.242	-3.982	90	.000

Duke PS Leadership Cohort

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	burnoutscore - burnoutscore15	9.34066	22.80986	2.39112	4.59028	14.09104	3.906	90	.000
Pair 2	I feel fatigued when I get up in the morning and have to face another day on the job. - I feel fatigued when I get up in the morning and have to face another day on the job.	.604	1.316	.138	.330	.878	4.383	90	.000
Pair 3	I feel burned out from my work. - I feel burned out from my work.	.330	1.055	.111	.110	.549	2.982	90	.004
Pair 4	I feel frustrated by my job. - I feel frustrated by my job.	.198	1.276	.134	-.068	.463	1.479	90	.143
Pair 5	I feel I am working too hard on my job. - I feel I am working too hard on my job.	.360	1.245	.132	.097	.622	2.724	88	.008


Resilience across DUHS
(for pace and intensity of innovation)
% of respondents reporting no burnout
100
90
80
70
60
50
40
30
20
10
0
---Duke PS Leadership Cohort Pre
---Duke PS Leadership Cohort POST
95% would recommend 3 Good Things to a Friend / Supervisor


3 Minute Timer
Time Remaining:
00:00

Three good things

- For 14 days, reflect on the positive, and your role in bringing it about
- Best time is right before sleep onset
- Learning about how others use it can be very helpful/inspiring
- Remember your resilience pillars as "Good Thing Prompts"
- Better sleep quality, positive interactions, see positive patterns
- Beware of transitions – some people fall off on their Three Good Things in transitions to and from the weekend

Three Good Things Results (Severe Depression N=50)

	Happiness	CES-D
Pre-test	53.4 (15th percentile)	33.90 (severe)
Post-test	69.8 (50th percentile)	17.20 (mild-moderate)
Change	+16.4 (92% increased)	-16.70 (94% Decreased)

*Results within 14.8 days on average

In other words – your resilience is a function of your ability to cope (person), and the availability of resources (situation) related to health/well being

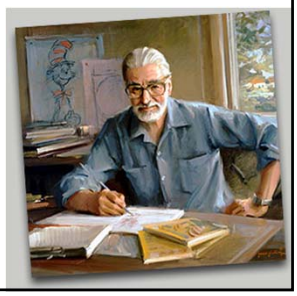
Take Home

- Redefine Quality
- Burnout/Resilience predicts quality
  - 1 out of 3 are burned out
- Protect prefrontal reserves
  - Cultivate what you do well (3:1 ratio)
  - Three Good Things
  - ACR
  - Sleep: <3or >5 hours; nap prophylactically; Vitamin D; Blue Blockers; skip snooze
- **bit.ly/WISERstudy**
- www.dukepatientsafetycenter.com

Source: J. Bryan Sexton, PhD

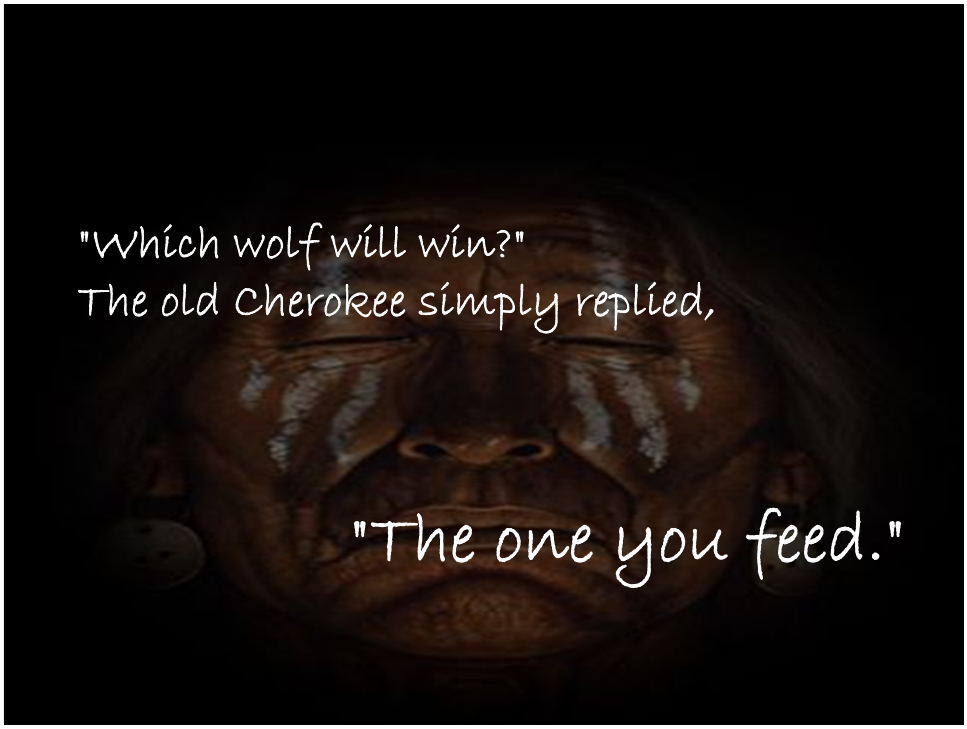
Unless someone like you cares a whole awful lot, nothing is going to get better. It's not.

Theodor (“Dr. Seuss”) Geisel, The Lorax



The Two Wolves Cherokee Legend

An old Cherokee is teaching his grandson about life. "A fight is going on inside me," he said to the boy.
"It is a terrible fight and it is between two wolves. One is evil - he is anger, envy, sorrow, regret, greed, arrogance, self-pity, guilt, resentment, inferiority, lies, false pride, superiority, and ego." He continued, "The other is good - he is joy, peace, love, hope, serenity, humility, kindness, benevolence, empathy, generosity, truth, compassion, and faith. The same fight is going on inside you - and inside every other person, too."
The grandson thought about it for a minute and then asked his grandfather:



www.dukepatientsafetycenter.com

Duke University Health System
Patient Safety Center

Courses:

- **Patient Safety Leadership Training & Certification Course**
  (3 days - Offered in April & September)
  - Course Description
  - Registration Information; April 8 - 10, 2013
  - Registration Information; September 9 - 11, 2013

  Save the Date: April 7 - 9, 2014
  Save the Date: September 15 - 17, 2014
  *Also available upon request. If interested Click Here.

- **Physician Leadership in Patient Safety & Quality** (1 Day)
  - Course Description
  - Registration Information; January 25, 2013

- **TeamSTEPPS™ Train the Trainer** (2 days)
  - Course Description
  - Registration Information; April 18 - 19, 2013
  - Registration Information; Sept 19 - 20, 2013

To Sign up for the 2013 Three Good Things please go to:

3goodthingsJan2013

3goodthingsMarch2013

3goodthingsMay2013

- **TeamSTEPPS™ Essentials - (4 Hours)**
  - Course Description
  - Registration Information; January 18, 2013
  - Registration Information; February 15, 2013
  - Registration Information; May 31, 2013
  - Registration Information; October 18, 2013
  - Registration Information; November 15, 2013

- **Enhancing Caregiver Resilience: Burnout & Quality Improvement Full Course**
  (3 days: 1 full day plus 2 half days, and a follow-up webinar - Offered in May & November)
  - Course Description
  - Registration Information; May 20 - 22, 2013
  - Registration Information; November 4 - 6, 2013

  Save the Date: May 7 - 9, 2014
  Save the Date: November 5 - 7, 2014
  *Also available upon request. If interested Click Here.

View all course descriptions

For additional information on the WISER Study please go to:

WISER Study

Calendar of Courses: For additional information or to request dates and times of training, please call 919-257-3376 or email christen.fullwood@duke.edu

http://bit.ly/WISERstudy

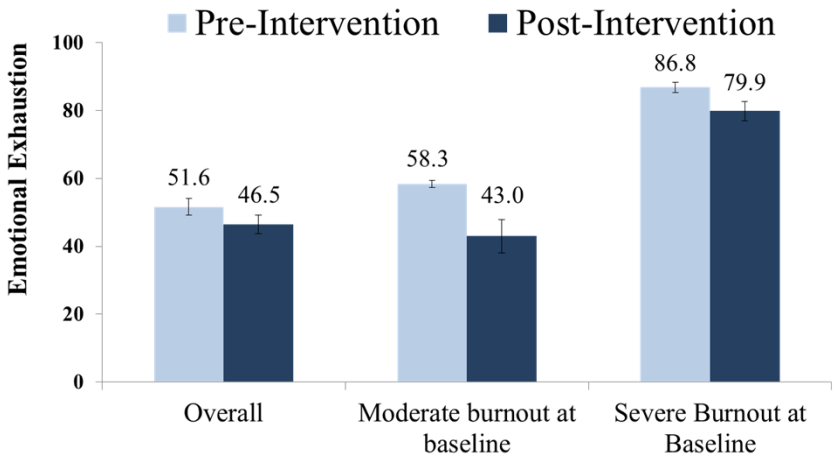
Duke Resilience Collaborative

WISER #1: Introduction to Resilience
WISER #2: Fatigue Management
WISER #3: Mindfulness
WISER #4: Dealing with Difficult Colleagues
WISER #5: Resilience Writing #1
WISER #6: Resilience Writing #2
WISER #7: Resilience Writing #3
WISER #8: Coping with Change

This is a Gift

- Decreased depressive symptoms [5,1]
- Improved psychological well-being [6]
- Improved working memory [2]
- Improved sleep [3]
- Improved immune system function [4]
- Improved relationships [5]
- Improved coping with emotional upheavals [6]

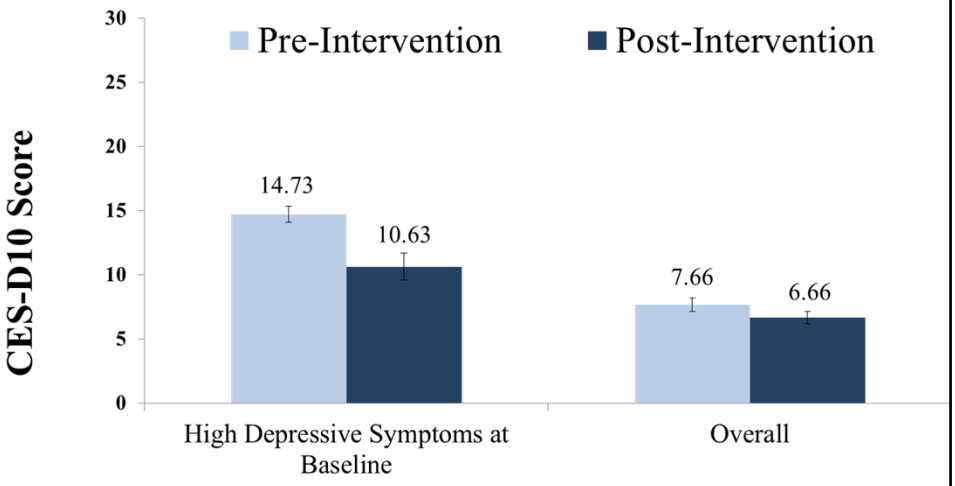
Emotional Exhaustion decreased



4 -item Emotional Exhaustion (MBI)	Mean (stdev) at Baseline	Mean (stdev) at Course Completion	t statistic	p value
Low Emotional Exhaustion at Baseline (<49) , n = 60	25.62 (14.40)	27.19 (22.92)	-0.556	0.580
Moderate Emotional Exhaustion at Baseline (50-74), n = 33	58.33 (6.38)	42.99 (28.37)	3.152	0.004
High Emotional Exahaustion at Baseline (≥75), n = 38	86.84 (9.62)	79.88 (17.59)	2.637	0.012
Overall, n = 131	51.62 (32.03)	46.45 (28.57)	2.568	0.011

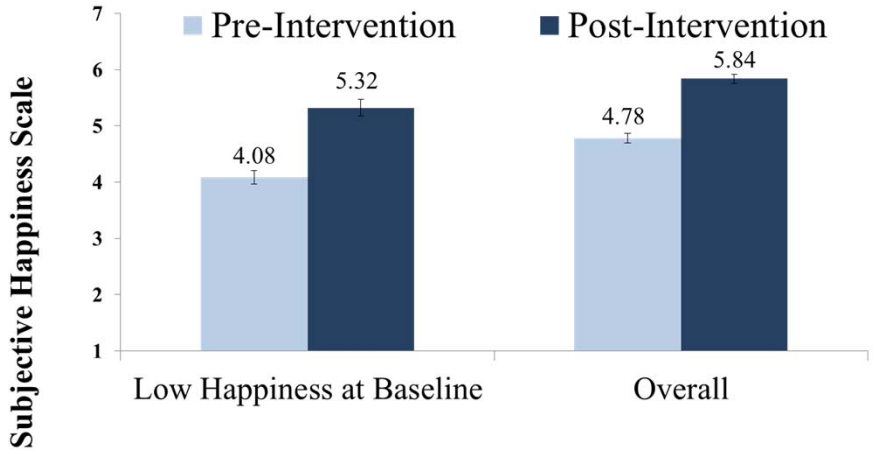
this figure was compiled by Whitney Chadwic

Depressive symptoms decreased



CES-D10 Score	Mean (stdev) at Baseline	Mean (stdev) at Course Completion	t statistic	p value
Low Depressive Symptoms at Baseline (<11), n = 75	4.83 (3.13)	5.07 (4.43)	-0.49	0.624
High Depressive Symptoms at Baseline (≥ 11), n = 30	14.73 (3.56)	10.63 (5.77)	4.53	<0.0005
Overall, n = 105	7.66 (5.54)	6.66 (5.45)	2.12	0.036

Subjective Happiness increased

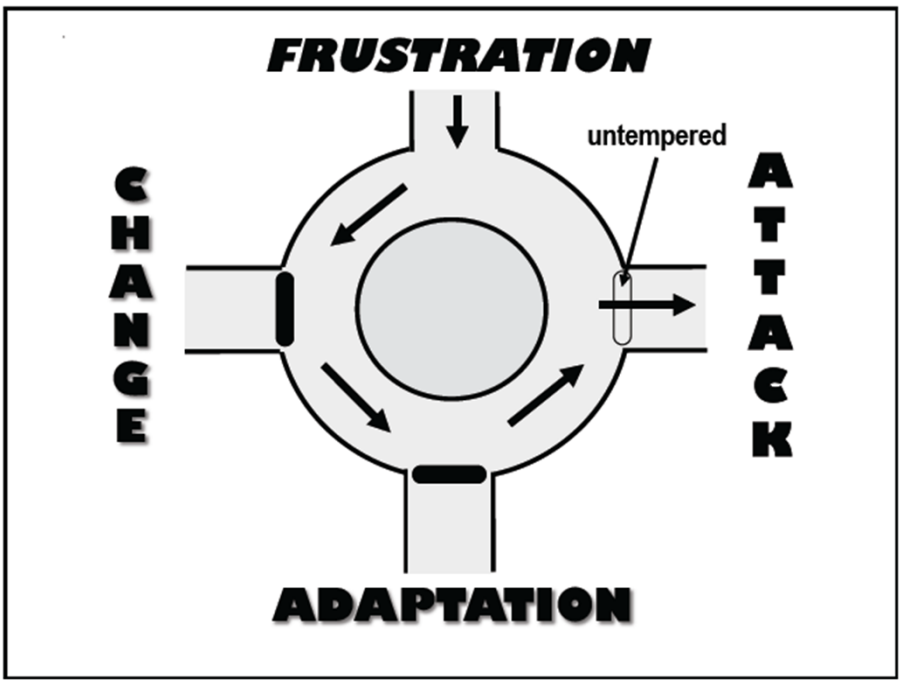


Subjective Happiness Scale Score	Mean (stdev) at Baseline	Mean (stdev) at Course Completion	t statistic	p value
Low Happiness at Baseline (<5), n = 40	4.08 (0.74)	4.78 (0.97)	-5.957	< 0.0005
High Happiness at Baseline (≥5), n = 92	5.86 (0.55)	5.84 (0.76)	0.342	0.733
Overall, n =132	5.32 (1.02)	5.51 (0.96)	-3.003	0.003

Work-Life Balance Variables, Pre and Post Intervention

	Pre-WISER[≠]	Post-WISER[≠]	t-statistic[^]	p-value
Deliberately attempted to notice things without evaluating or judging them	54.8%	82.2%	-4.346	<0.0005
Deliberately helped my circadian rhythms through skin exposure to sunlight	43.8%	75.3%	-7.915	<0.0005
Spent time outside, enjoying nature	87.7%	90.4%	-4.874	<0.0005
Spent time stretching	46.6%	69.9%	-3.96	<0.0005
Thought about my personal resilience	61.6%	85.0%	-4.623	<0.0005
Thought about the resilience of others	58.9%	80.8%	-3.657	<0.0005
Prayed at work	59.1%	69.3%	-2.817	0.006
Argued with a coworker	17.0%	8.0%	2.726	0.008
Spent time thinking about and learning from my past	75.0%	79.6%	-2.533	0.013
Reflected on my day or my life	76.7%	89.0%	-2.313	0.022
Had difficulty sleeping	70.4%	61.4%	2.17	0.032
Used aspirin or other pain relievers	56.2%	49.3%	2.02	0.046
Exercised	61.4%	70.4%	-1.215	0.227
Ate a poorly balanced meal	69.2%	76.9%	1.156	0.250

[≠]Pre and post WISER percentages represent the percent of respondents who reported engaging in the referenced activity once or more in the previous week. [^]T-test conducted on mean values for each item, percentages reported here for interpretability.



The Stages

- Rumination (negative loops)
- Burnout
  - Physical, Mental and Emotional Exhaustion
  - Shame and Doubt (imposter syndrome grows)
  - Cynicism and Negativity
- Depression and/or PTSD (time for meds)

Prevalence of adverse events in hospitals

Author, year, country (N)	AE (%)	Disability (%)	Mortality (%)	Preventability (%)
Brennan, 1991, USA (30,195)	3.7	2.6	13.6	NA
Gawande,1992, USA (14,700)	2.9	NA	8.8	53
Wilson, 1995, AUS (14,179)	16.6	13.7	4.9	51
Vincent, 2001, UK (1,014)	10.8	6	8	48
Schioler, 2002, DK (1,097)	9	26.3		40.4
Davis, 2004, NZ (6,579)	8.8	15		58.8
Baker, 2004, CND (3,745)	7.5	5.2	15.9	36.9
Michel, 2004, F (786)	15.4	NA		6.4
Soop, 2009, SW (1,967)	12.3	NA	3	70
Zegers, 2009, NL (7,926)	5.7	12.8		2.3
Aranaz-A, 2009, SP (5,908)	11.6	16	4.4	43
Mendes, 2009, BR (1,103)	7.6	NA		66.7
Aranaz-A, 2011, LAc (11,379)	10.5	28	6	59
	9.4	18		44.6

Remove the pin, and pass it around….

DukeMedicine

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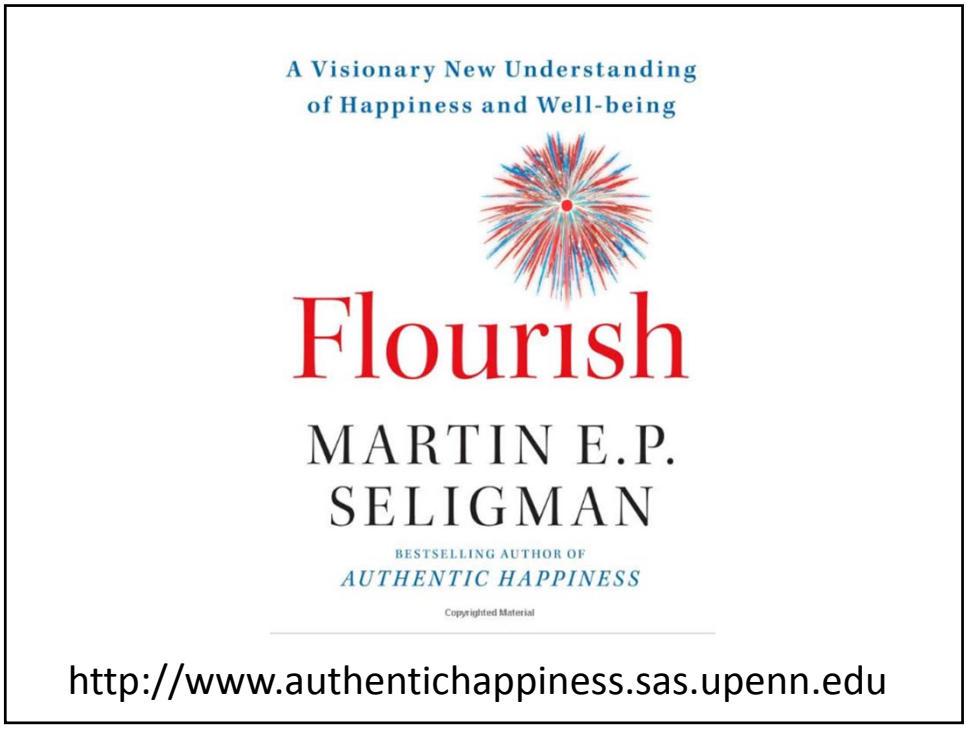


http://www.authentichappiness.sas.upenn.edu

Positive Psychology Progress

Empirical Validation of Interventions

Martin E. P. Seligman and Tracy A. Steen — *University of Pennsylvania*
Nansook Park — *University of Rhode Island*
Christopher Peterson — *University of Michigan*

Positive psychology has flourished in the last 5 years. The authors review recent developments in the field, including books, meetings, courses, and conferences. They also discuss the newly created classification of character strengths and virtues, a positive complement to the various editions of the Diagnostic and Statistical Manual of Mental Disorders *(e. g., American Psychiatric Association, 1994), and present some cross-cultural findings that suggest a surprising ubiquity of strengths and virtues. Finally, the authors focus on psychological interventions that increase individual happiness. In a 6-group, random-assignment, placebo-controlled Internet study, the authors tested 5 purported happiness interventions and 1 plausible control exercise. They found that 3 of the interventions lastingly increased happiness and decreased depressive symptoms. Positive interventions can supplement traditional interventions that relieve suffering and may someday be the practical legacy of positive psychology.*

application (Linley & Joseph, 2004). Can psychologists take what they have learned about the science and practice of treating mental illness and use it to create a practice of making people lastingly happier? That is, can they create an evidence-based practice of positive psychology?

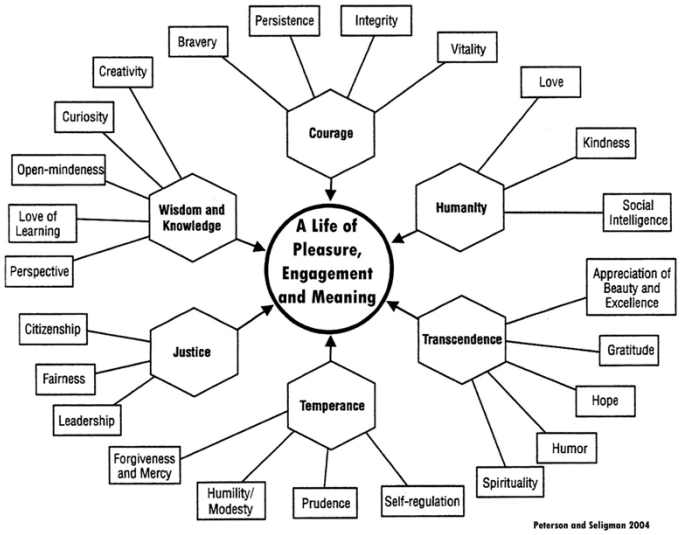
In this article, we first review the recent growth within positive psychology. Next, we describe basic research that bears on whether people can become lastingly happier, and then we present the results of our own happiness interventions that we rigorously tested with a randomized, placebo-controlled design.

Progress Report

Positive psychology is an umbrella term for the study of positive emotions, positive character traits, and enabling institutions. Research findings from positive psychology

 0003-066X/05/$12.00
Vol. 60, No. 5, 410–421 DOI: 10.1037/0003-066X.60.5.410

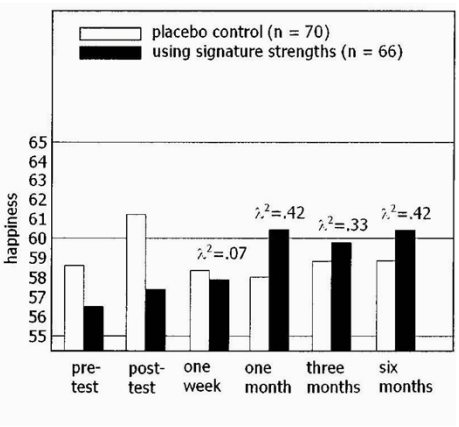
Signature Strengths

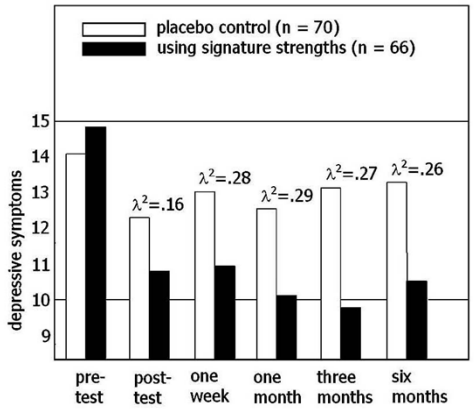


Signature Strengths

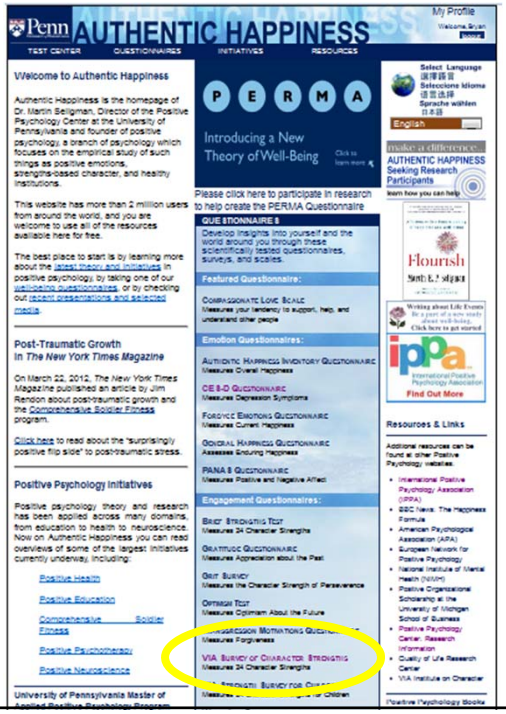
- "Does this strength express who I am?"
- "Do I feel excited to display this quality?"
- "Do I feel that no one can stop me when I'm using this strength?"
- "Do I express enthusiasm and joy when using this strength?"
- "Do I feel invigorated by it?"

Signature Strengths





http://www.authentichappiness.sas.upenn.edu/



Autobiography In Five Short Chapters
by Portia Nelson

I

I walk down the street.
There is a deep hole in the sidewalk
I fall in.
I am lost … I am helpless.
It isn't my fault.

It takes me forever to find a way out.

II

I walk down the same street.
There is a deep hole in the sidewalk.
I pretend I don't see it.
I fall in again.
I can't believe I am in the same place
but, it isn't my fault.

It still takes a long time to get out.

III

I walk down the same street.
There is a deep hole in the sidewalk.
I see it is there.
I still fall in … it's a habit.
my eyes are open
I know where I am.
It is my fault.

I get out immediately.

IV

I walk down the same street.
There is a deep hole in the sidewalk.

I walk around it.

V

I walk down another street.

In the past 20 years…

- Productivity up 21%
- Ability to make well-informed decisions is remarkably better
  - 20 year ago due diligence = reference book
  - Today there is the internet, google, smartphone apps
- Stress levels have soared
- Worklife Balance Plummeted
  - Intergenerational warfare

In the past 10 years…

- The unintended consequences of "smart phones"
  - Information fatigue harms ability to make smart, creative, successful decisions
    - Sacrificing accuracy and thoughtfulness for immediacy
    - Even objectively better decisions result in less satisfaction

    Angelika Dimoka, Director of the Center for Neural Decision Making at Temple University
- The opportunity vs. requirement to multitask
  - 2001 Multitasking = Thrill
  - 2011 Multitasking = Frustration

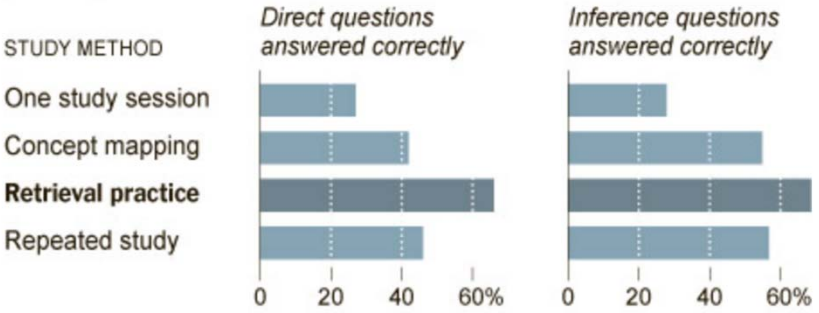
Turn it off… for an island of 30-90 minutes of prefrontal restoration

http://www.theemotionmachine.com/the-power-of-the-pen-5-scientific-reasons-to-write-more

The New York Times — January 21, 2011

Learning Through Testing

Researchers asked college students to study a short science text using one of four study methods, then tested them a week later. The most effective study method combined two study sessions with retrieval practice, tests that asked the students to recall what they had read.

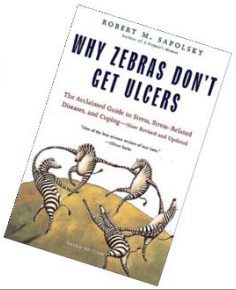


Source: Science

Stress Comes from Things you can not Predict and/or Control

"Stress can wreak havoc with your metabolism, raise your blood pressure, burst your white blood cells, make you flatulent, ruin your sex life, and if that is not enough, possibly damage your brain."

--Dr. Robert Sapolsky, Professor of Biological Sciences and Neuroscience at Stanford University



Source: J. Bryan Sexton, PhD

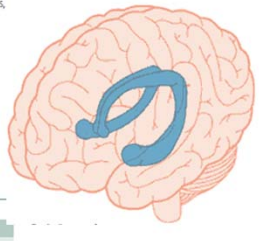
3F's

Stress Predicts Brain Changes in Children: A Pilot Longitudinal Study on Youth Stress, Posttraumatic Stress Disorder, and the Hippocampus

Victor G. Carrion, MD[a], Carl F. Weems, PhD[b], Allan L. Reiss, MD[a]

[a]Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, California; [b]Department of Psychology, University of New Orleans, New Orleans, Louisiana

The authors have indicated they have no financial interests relevant to this article to disclose.



ABSTRACT

OBJECTIVE. Does stress damage the brain? Studies of adults with posttraumatic stress disorder have demonstrated smaller hippocampal volumes when compared with the volumes of adults with no posttraumatic stress disorder. Studies of children with posttraumatic stress disorder have not replicated the smaller hippocampal findings in adults, which suggests that smaller hippocampal volume may be caused by neurodevelopmental experiences with stress. Animal research has demonstrated that the glucocorticoids secreted during stress can be neurotoxic to the hippocampus, but this has not been empirically demonstrated in human samples. We hypothesized that cortisol volumes would predict hippocampal volume reduction in patients with posttraumatic symptoms.

PATIENTS AND METHODS. We report data from a pilot longitudinal study of children (n = 15) with history of maltreatment who underwent clinical evaluation for posttraumatic stress disorder, cortisol, and neuroimaging.

RESULTS. Posttraumatic stress disorder symptoms and cortisol at baseline predicted hippocampal reduction over an ensuing 12- to 18-month interval.

CONCLUSIONS. Results from this pilot study suggest that stress is associated with hippocampal reduction in children with posttraumatic stress disorder symptoms and provide preliminary human evidence that stress may indeed damage the hippocampus. Additional studies seem to be warranted.

www.pediatrics.org/cgi/doi/10.1542/peds.2006-2028

doi:10.1542/peds.2006-2028

Key Words
stress, child maltreatment, cortisol, MRI, hippocampus

Abbreviations
PTSD—posttraumatic stress disorder
DSM-IV—Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition
CAPS-CA—Clinician-Administered PTSD Scale for Children and Adolescents
CSF—cerebrospinal fluid
HPA—hypothalamic-pituitary-adrenal

Accepted for publication Oct 23, 2006

Address correspondence to Victor G. Carrion, MD, Stanford Early Life, Stress Research Program, Stanford University, 401 Quarry Rd, Stanford, CA 94305. E-mail: vcarrion@stanford.edu

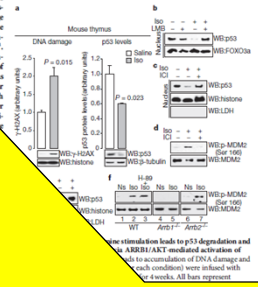
PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

LETTER

doi:10.1038/nature10368

A stress response pathway regulates DNA damage through β_2-adrenoreceptors and β-arrestin-1

Makoto R. Hara[1], Jeffrey J. Kovacs[2], Erin J. Whalen[1], Sudarshan Rajagopal[1], Ryan T. Strachan[1], Wayne Grant[2], Aaron J. Towers[1,3], Barbara Williams[3], Christopher M. Lam[1], Kunhong Xiao[1], Sudha K. Shenoy[1], Simon G. Gregory[3,5], Seungkirl Ahn[1], Derek R. Duckett[4] & Robert J. Lefkowitz[1,4]



…prolonged exposure to our own stress hormones damages our DNA, promoting aging, cancer, psychiatric disorders and miscarriages…

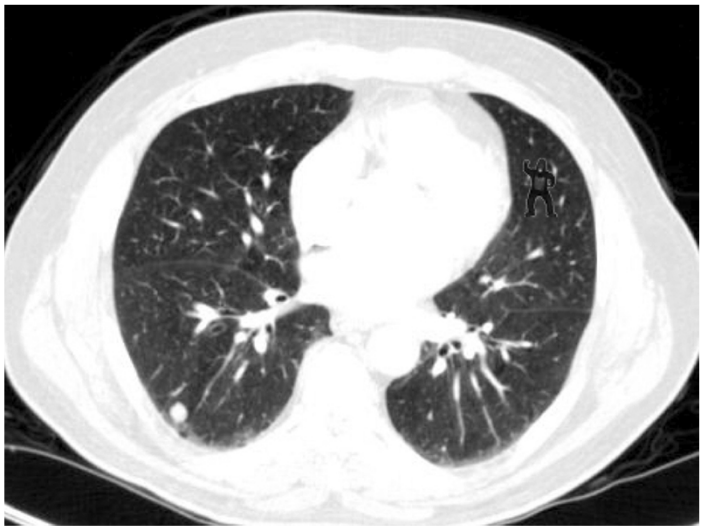
Rituals grow out of context and a belief in that context.

- Coffee, travel, watching TV, Holiday Parties, Prayer, potlucks, reading, nap, eating with family, laying clothes out, making to-do lists

- A **ritual** is also a series of steps – but it's a sequence of carefully edited, selected steps, with a side benefit. The side benefit might be relaxation. Feeling grounded. A spiritual connection. A sense of nourishment. A sense of purpose. Or pure enjoyment.

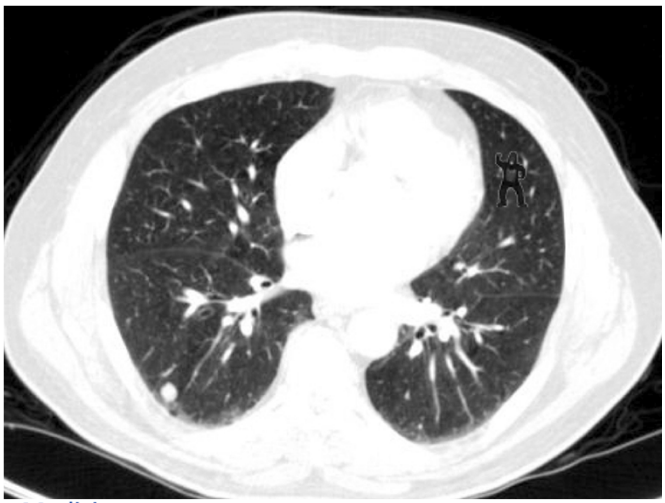
The difference between a routine and a ritual is not the action, but the attitude behind the action. To some, a routine is getting up every morning, brushing your teeth, taking a shower, getting dressed, and going to work. It is not a meaningful part of our day, but it needs to get done so we do it. It's a chore. Rituals, on the other hand, are viewed as more meaningful practices. Often, there is symbolism involved, and a real sense of purpose. A big part of it is your subjective experience of the activity. I define the key differences as follows:

Routines	Rituals
Minimal engagement.	Full engagement.
Tedious and meaningless.	Symbolic and meaningful
Externally motivated.	Internally motivated.
Life as a duty.	Life as a celebration.
Dull awareness.	Bright awareness.
Disconnected series of events.	Tells a story.
Little sense of belonging.	Sense of belonging.
Focus only on completion of tasks.	Focus on performance of tasks.



DukeMedicine

Notice anything unusual about this lung scan? Harvard researchers found that 83 percent of radiologists didn't notice the gorilla in the top right portion of this image.



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