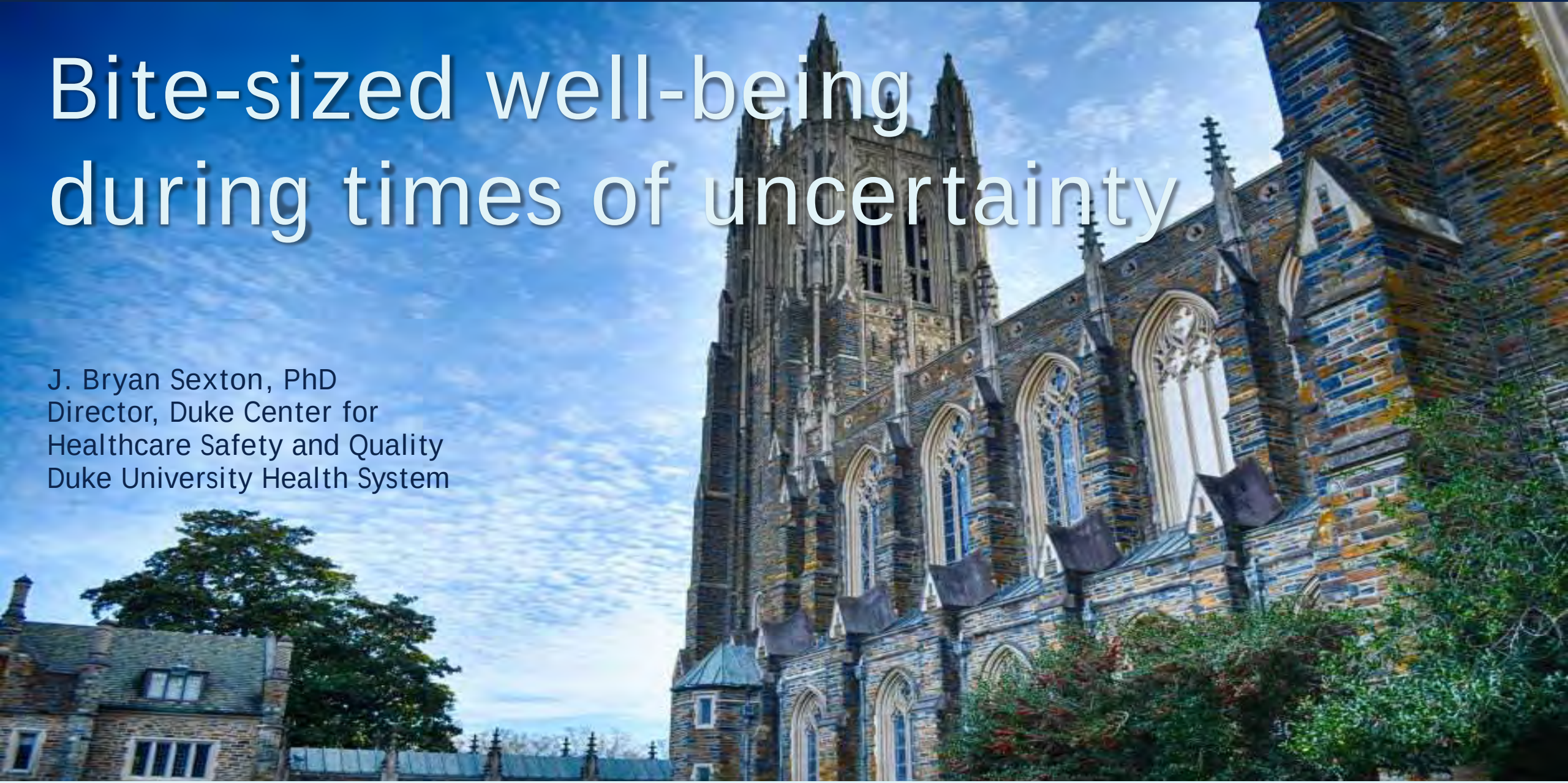
Bite-sized well-being during times of uncertainty



J. Bryan Sexton, PhD
Director, Duke Center for Healthcare Safety and Quality
Duke University Health System

Bite-sized well-being during times of uncertainty

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www.hsq.dukehealth.org

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3 links:

Option to use QR codes

Burnout Self assessment:

1 tool:

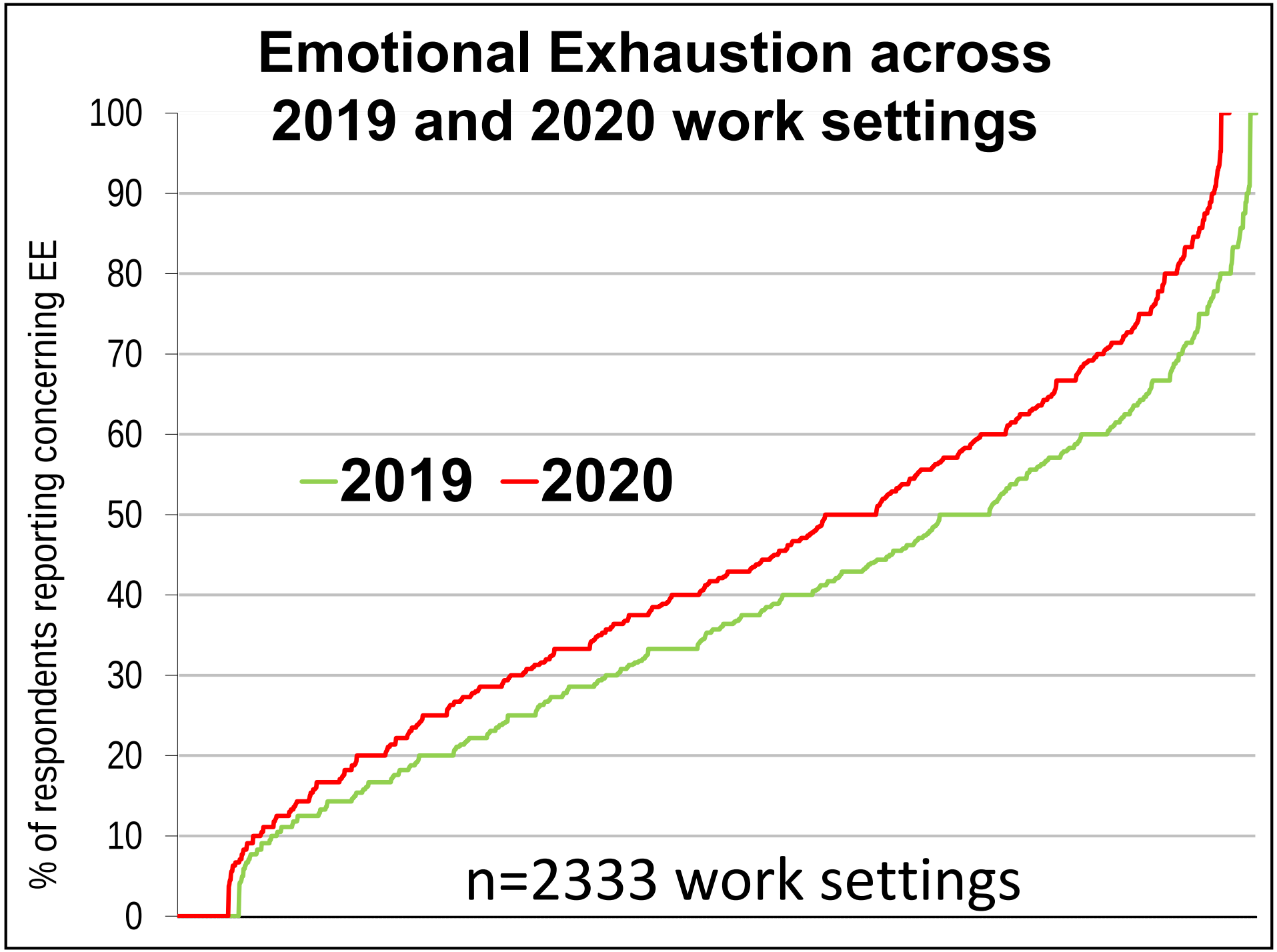
1 hour Cont Ed :

QUALITY

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

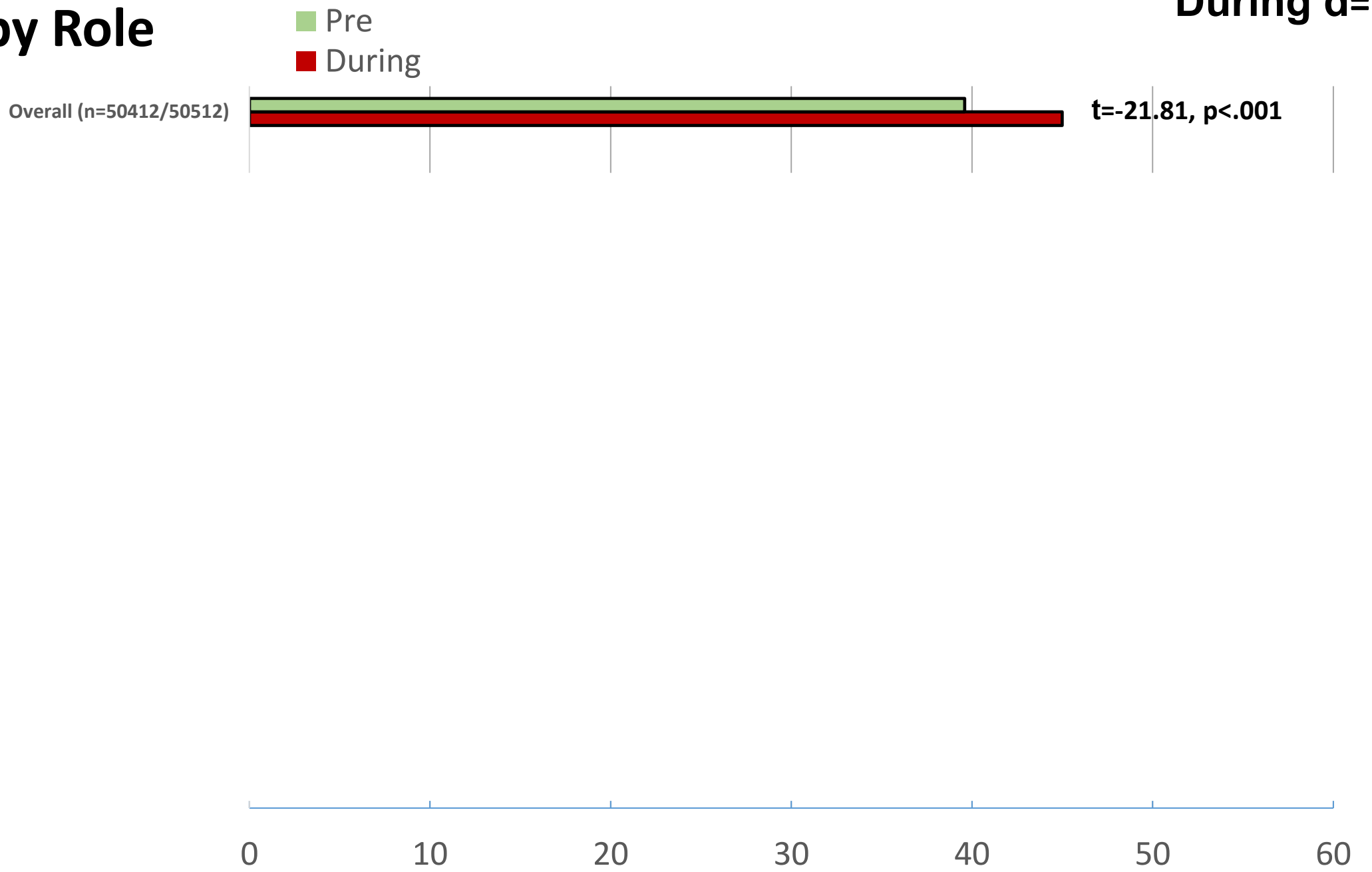
Let’s get the elephants in the room out of the way… Impact of Covid-19, and Evidence that we can fix it…

We have data from 50,000 healthcare workers in Sept 2019 and Sept 2020


Emotional Exhaustion across 2019 and 2020 work settings
% of respondents reporting concerning EE
100
90
80
70
60
50
40
30
20
10
0
2019
2020
n=2333 work settings

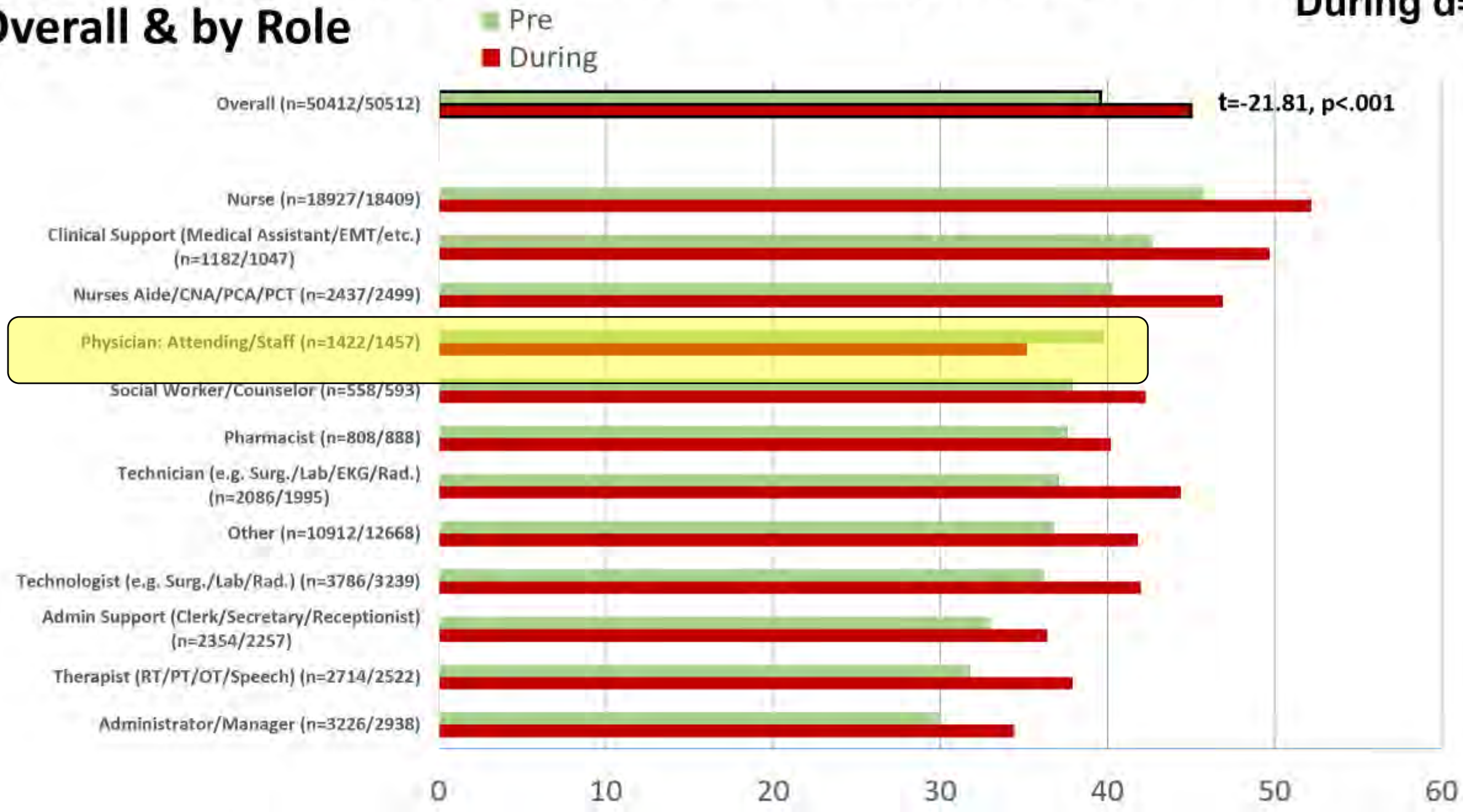
% Emotionally Exhausted Before and During Covid-19 Overall & by Role

Pre α=.93
During α=.94



% Emotionally Exhausted Before and During Covid-19
Overall & by Role

Pre α=.93
During α=.94



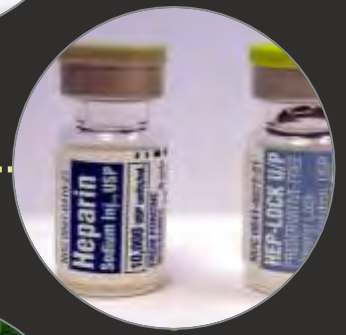
Burnout is associated with:

Lower Patient Satisfaction

Aiken et al. BMJ 2012;344: e1717 Vahey, Aiken et al. Med Care. 2004 February; 42(2 Suppl): II57-II66.

Infections

Cimiotti, Aiken, Sloane and Wu. Am J Infect Control. 2012 Aug;40(6):486-90.



Medication Errors

Fahrenkopf et al. BMJ. 2008 Mar 1;336(7642):488-91.

Higher Standardized Mortality Ratios

Welp, Meier & Manser. Front Psychol. 2015 Jan 22;5:1573.

Burnout is intense, can we cause it to go down?

Journal of Perinatology
https://doi.org/10.1038/s41372-021-01100-y

ARTICLE

Randomized controlled trial of the "WISER" intervention to reduce healthcare worker burnout

Jochen Profit[1,2] · Kathryn C. Adair[3,4] · Xin Cui[1,2] · Briana Mitchell[1] · Debra Brandon[5,6] · Daniel S. Tawfik[7] · Joseph Rigdon[8] · Jeffrey B. Gould[1,2] · Henry C. Lee[1,2] · Wendy L. Timpson[9] · Martin J. McCaffrey[10] · Alexis S. Davis[1] · Mohan Pammi[11] · Melissa Matthews[12] · Ann R. Stark[13] · Lu-Ann Papile[14] · Eric Thomas[15] · Michael Cotten[16] · Amir Khan[14] · J. Bryan Sexton[3,4]

Received: 13 January 2021 / Revised: 26 April 2021 / Accepted: 6 May 2021

Abstract

Objective Test web-based implementation for the science of enhancing resilience (WISER) intervention efficacy in reduc healthcare worker (HCW) burnout.

Design RCT using two cohorts of HCWs of four NICUs each, to improve HCW well-being (primary outcome: burno Cohort 1 received WISER while Cohort 2 acted as a waitlist control.

Results Cohorts were similar, mostly female (83%) and nurses (62%). In Cohorts 1 and 2 respectively, 182 and 299 initi WISER, 100 and 176 completed 1-month follow-up, and 78 and 146 completed 6-month follow-up. Relative to cont WISER decreased burnout (−5.27 (95% CI: −10.44, −0.10), $p = 0.046$). Combined adjusted cohort results at 1-mo showed that the percentage of HCWs reporting concerning outcomes was significantly decreased for burnout (−6.3% (9 CI: −11.6%, −1.0%); $p = 0.008$), and secondary outcomes depression (−5.2% (95%CI: −10.8, −0.4); $p = 0.022$) work-life integration (−11.8% (95%CI: −17.9, −6.1); $p < 0.001$). Improvements endured at 6 months.

Conclusion WISER appears to durably improve HCW well-being.

Clinical Trials Number NCT02603133; https://clinicaltrials.gov/ct2/show/NCT02603133

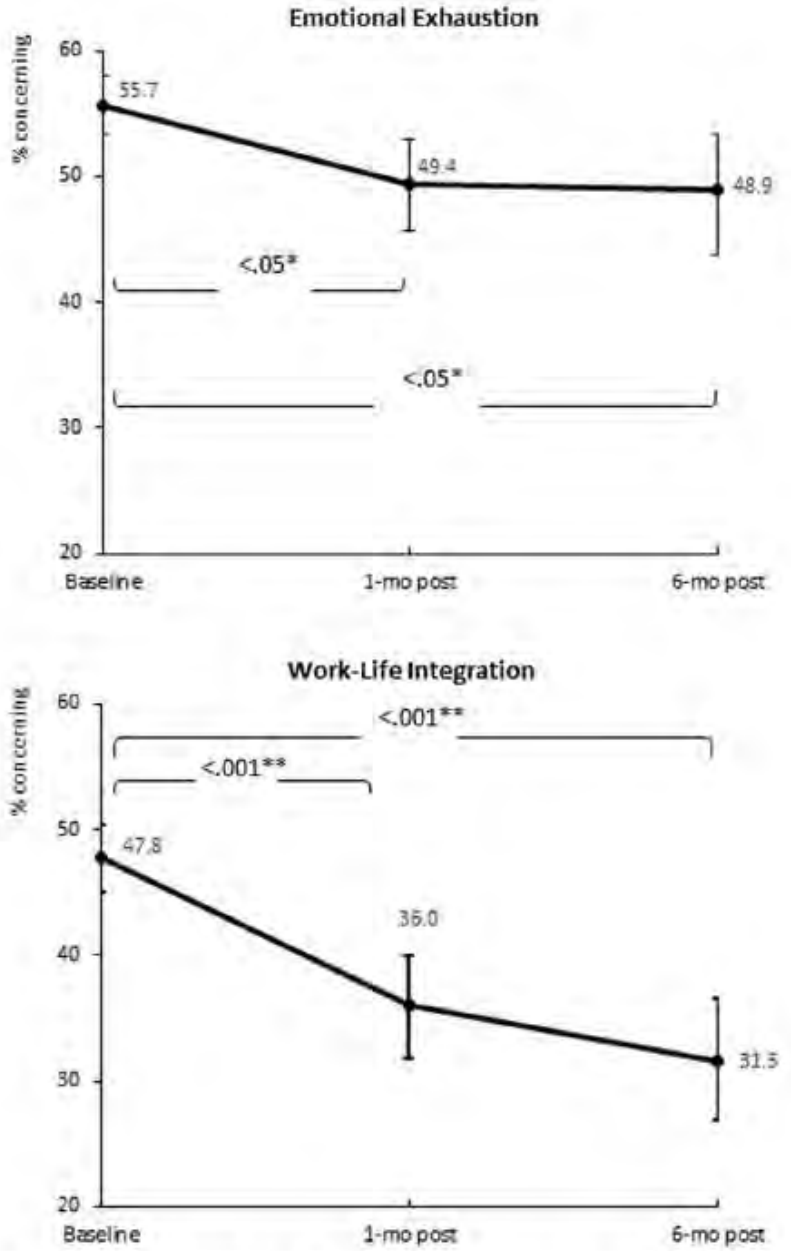


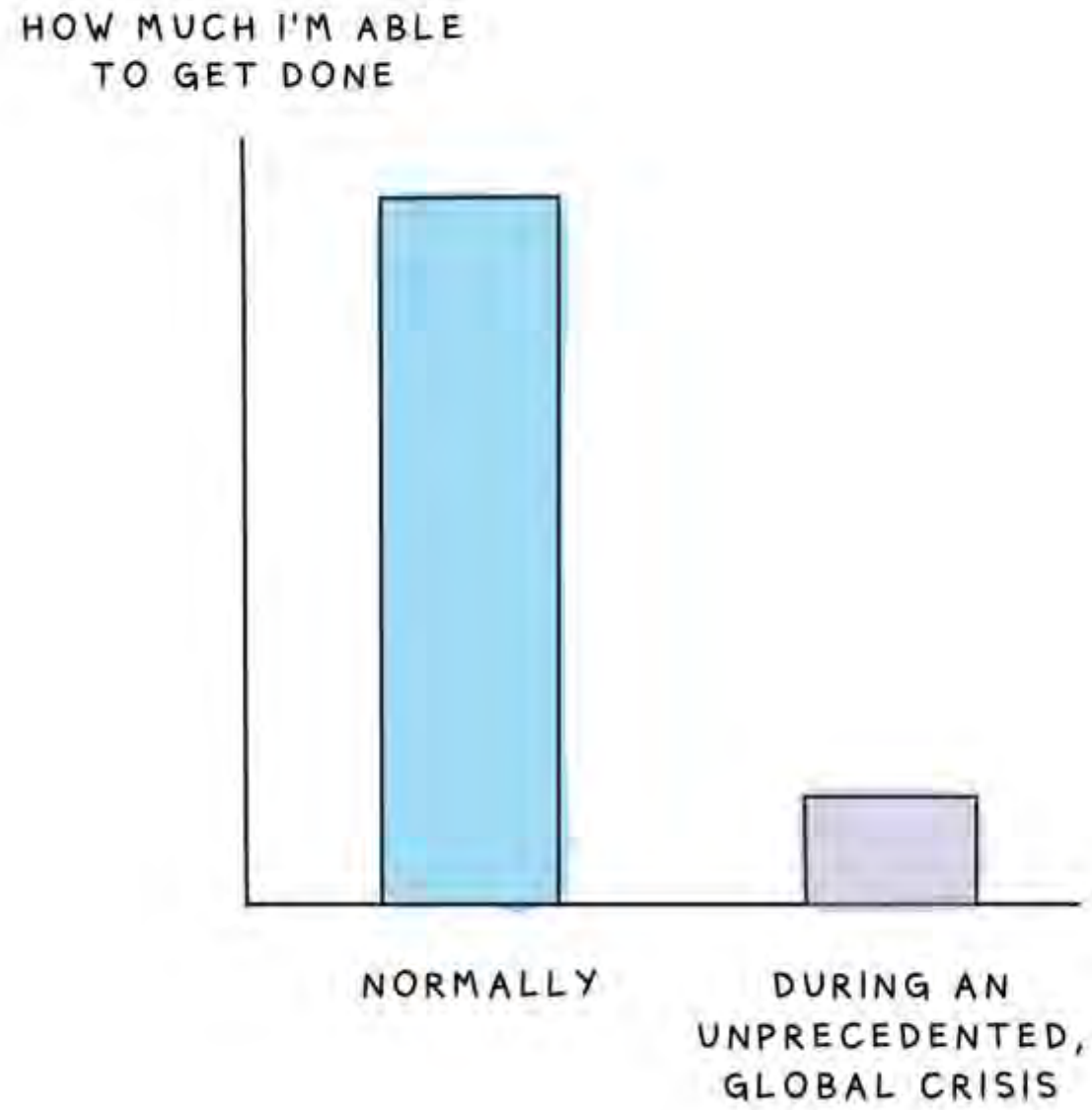
Fig. 2 Effect of WISER on the percent concerning scale. Statistical c month post provided in brackets.

Haidari et. al, 2021 *Journal of Perinatology*. Maternal and neonatal health care worker well-being and patient safety climate amid the COVID-19 pandemic.

COVID-19 impact is equivalent of 2.5 EMRs in 1 year

Haidari et. al, 2021 *Journal of Perinatology*. Maternal and neonatal health care worker well-being and patient safety climate amid the COVID-19 pandemic.

We need bite-sized strategies



The Science of Health Care Worker Burnout

Assessing and Improving Health Care Worker Well-Being

Kyle Rehder, MD; Kathryn C. Adair, PhD; J. Bryan Sexton, PhD

• ***Context.***—**Problems with health care worker (HCW) well-being have become a leading concern in medicine given their severity and robust links to outcomes like medical error, mortality, and turnover.**

Objective.—**To describe the state of the science regarding HCW well-being, including how it is measured, what outcomes it predicts, and what institutional and individual interventions appear to reduce it.**

Data Sources.—**Peer review articles as well as multiple large data sets collected within our own research team are used to describe the nature of burnout, associations with institutional resources, and individual tools to improve well-being.**

Conclusions.—**Rates of HCW burnout are alarmingly high, placing the health and safety of patients and HCWs at risk. To help address the urgent need to help HCWs, we summarize some of the most promising early interventions, and point toward future research that uses standardized metrics to evaluate interventions (with a focus on low-cost institutional and personal interventions).**

(*Arch Pathol Lab Med.* 2021;145:1095–1109; doi: 10.5858/arpa.2020-0557-RA)

"What is it that every leader... never wants, always has, often denies, and painfully mismanages?

'Workforce burnout.'

—The Wellness Troll

The ability to predict clinical and operational outcomes at the work setting level is essential in health care quality improvement. Health care worker (HCW) well-being is one of a small handful of work setting variables with this potent power. Similar to leadership concerns about staffing levels, from an operational perspective it is helpful to think of HCW well-being as workers' ability to "get the work done" and to be ready for the next task or challenge. We will take a deep dive into well-being, and in particular the variable of HCW emotional exhaustion as an essential metric predictive of clinical and operational outcomes, as well as patient and HCW outcomes. To manage and understand a workforce, it is instructive to assess and improve workforce well-being.

Before the global pandemic of 2020 placed an even greater strain on busy and stressed HCWs, the impact and consequences of HCW burnout had already captured the attention of national and international health care leaders. Organizations that have come out with formal statements around the need to address burnout include the World Health Organization, the National Academy of Medicine, the Combined Critical Care Societies, the Accreditation Council for Graduate Medical Education, and many others.[1–4] The alarm bells have rung loudly for several years in fact, but the existing peer-reviewed literature does not provide a clear road map for leaders struggling to make evidence-based decisions. A PubMed search on "burnout" during the last 2 decades reveals the number of burnout articles published each year in the medical literature have increased more than 6-fold, with an even more rapid rise in the last 3 years. Remarkably, out of more than 16 000 published articles on burnout in the medical literature, there are fewer than 50 randomized controlled trials focused on interventions to improve burnout in HCWs. Many of these are classified as pilot studies, and almost all have small numbers (<100 participants) or limited follow-up. Many more articles discuss the prevalence or epidemiology of burnout, postulating about potential causes but with minimal data to support theories, and with little direction on potential solutions. Perhaps it should not be surprising that this paucity of evidence scattered throughout the literature interferes with leadership efforts to manage workforce well-being coherently and effectively.

Given the scarcity of high-quality articles investigating HCW burnout, this review seeks to detail the environmental and psychologic factors that drive the pathophysiology of burnout, and to synthesize the existing evidence supporting effective tools to reduce burnout and improve HCW well-being. We will also share our lessons learned from our

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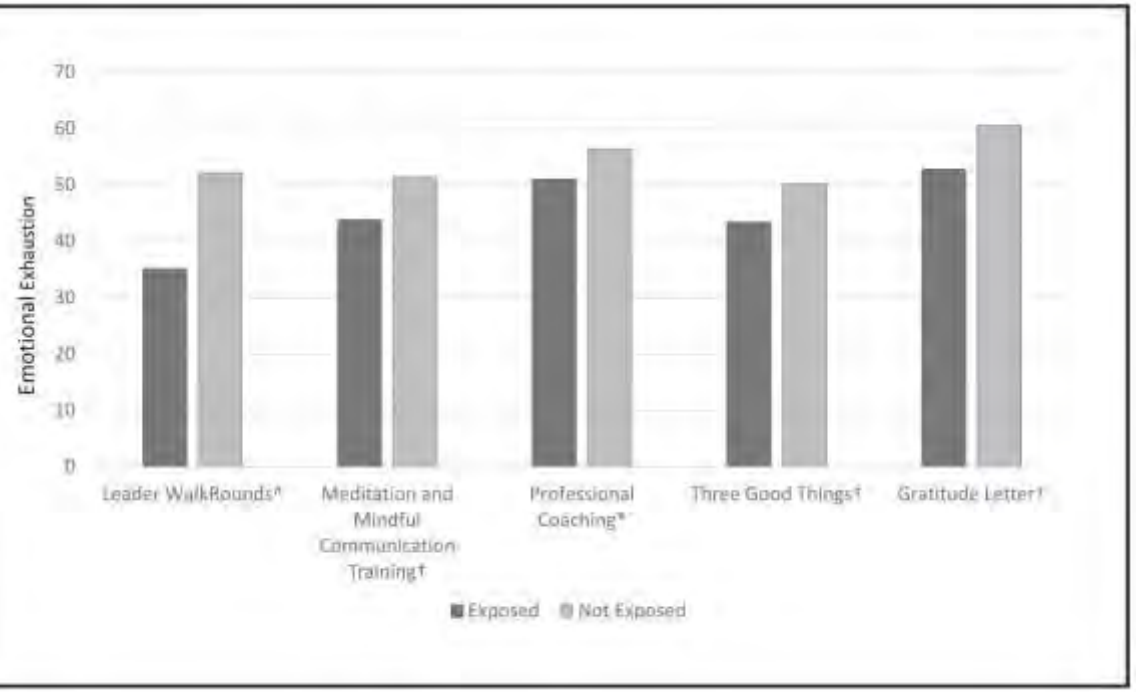
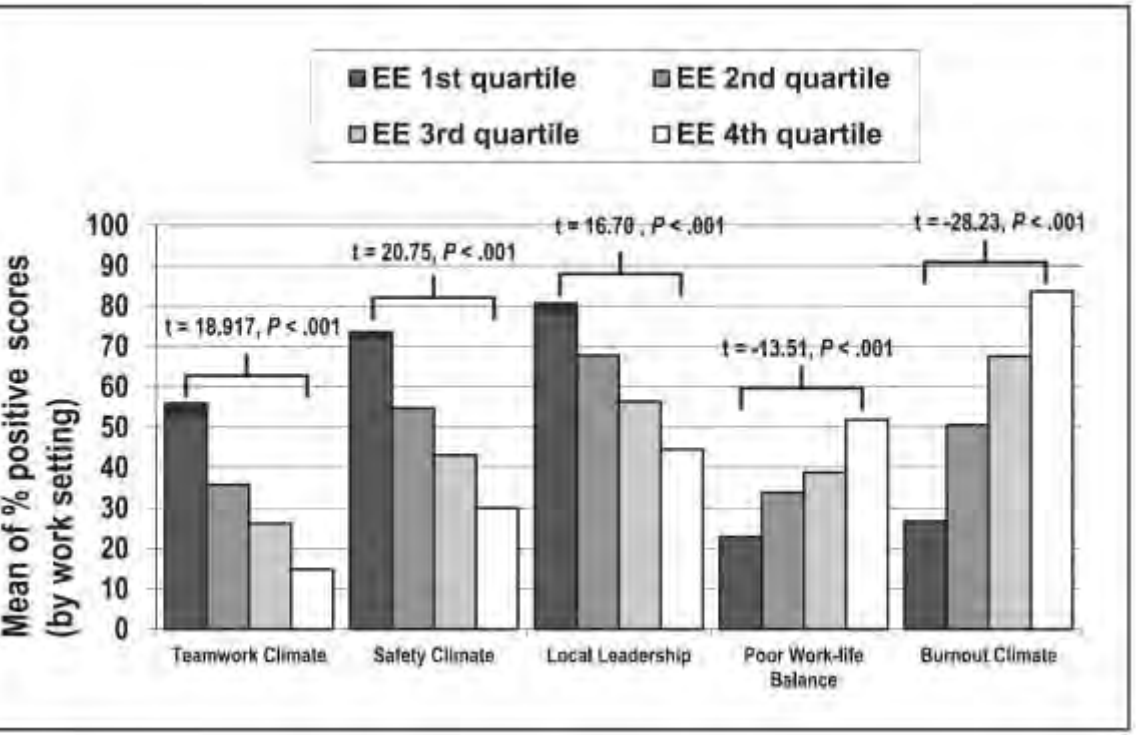




The Joint Commission Journal on Quality and Patient Safety 2019; 000:1–9

Associations Between a New Disruptive Behaviors Scale and Teamwork, Patient Safety, Work-Life Balance, Burnout, and Depression

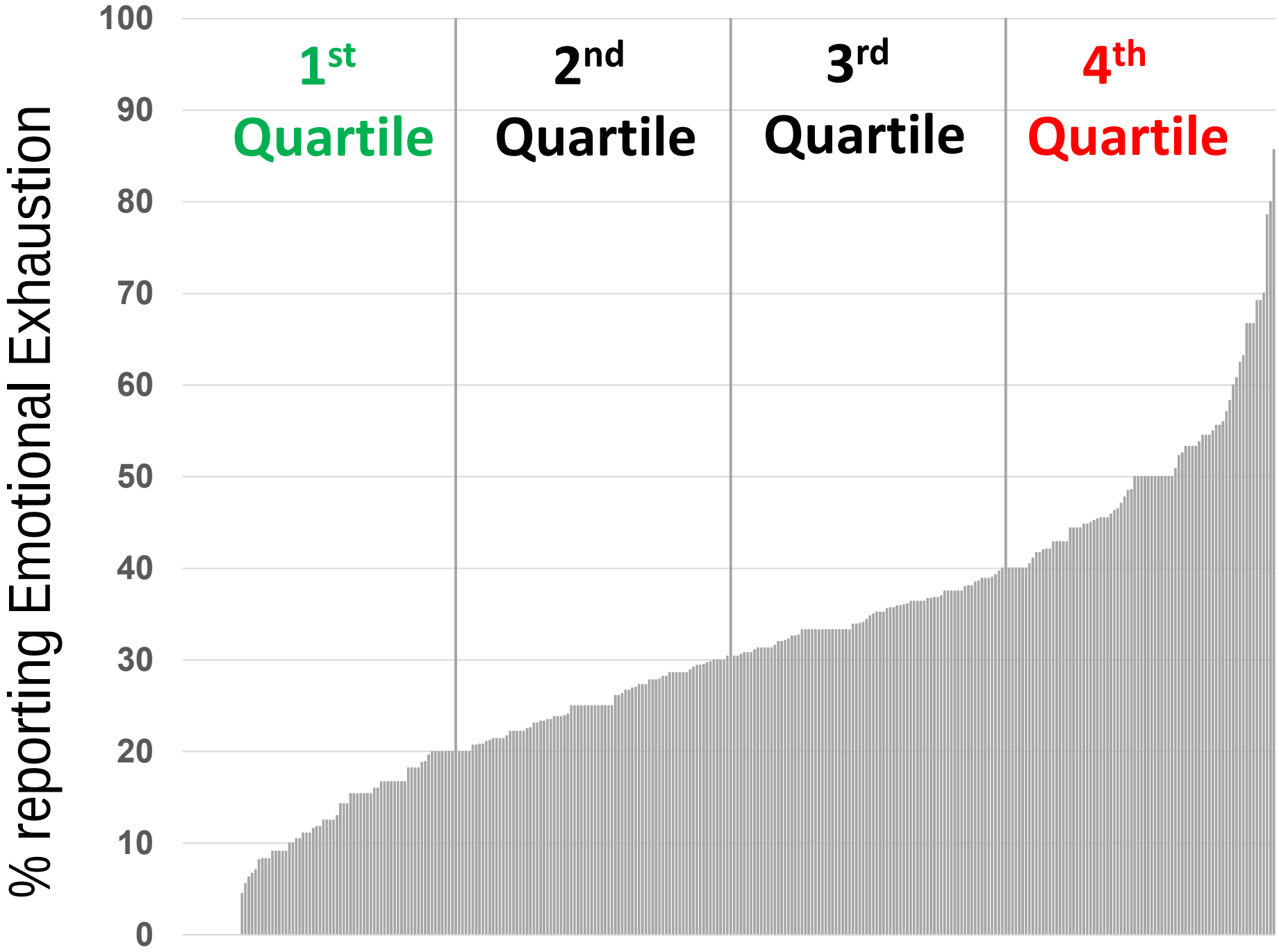
Kyle J. Rehder, MD; Kathryn C. Adair, PhD; Allison Hadley, MD; Katie McKittrick; Allan Frankel, MD; Michael Leonard, MD; Terri Christensen Frankel, RN; J. Bryan Sexton, PhD

Background: Disruptive and unprofessional behaviors occur frequently in health care and adversely affect patient care and health care worker job satisfaction. These behaviors have rarely been evaluated at a work setting level, nor do we fully understand how disruptive behaviors (DBs) are associated with important metrics such as teamwork and safety climate, work-life balance, burnout, and depression.

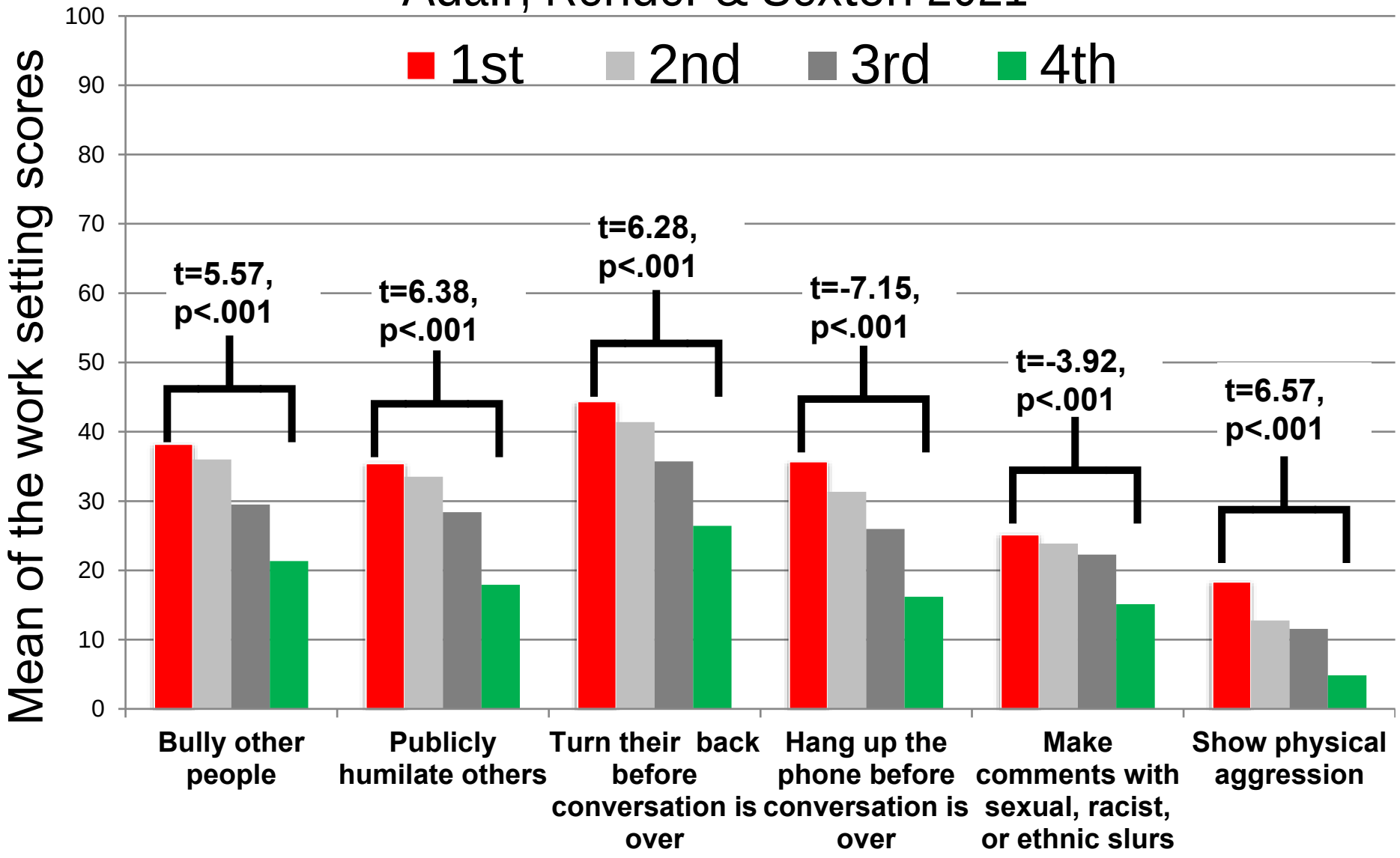
Objectives: Using a cross-sectional survey of all health care workers in a large US health system, this study aimed to introduce a brief scale for evaluating DBs at a work setting level, evaluate the scale's psychometric properties and provide benchmarking prevalence data from the health care system, and investigate associations between DBs and other validated measures of safety culture and well-being.

Results: One or more of six DBs were reported by 97.8% of work settings. DBs were reported in similar frequencies by men and women, and by most health care worker roles. The six-item disruptive behavior scale demonstrated an internal consistency of $\alpha = 0.867$. DB climate was significantly correlated with poorer teamwork climate, safety climate, job satisfaction, and perceptions of management; lower work-life balance; increased emotional exhaustion (burnout); and increased depression ($p < 0.001$ for each). A 10-unit increase in DB climate was associated with a 3.89- and 3.83-point decrease in teamwork and safety climate, respectively, and a 3.16- and 2.42-point increase in burnout and depression, respectively.

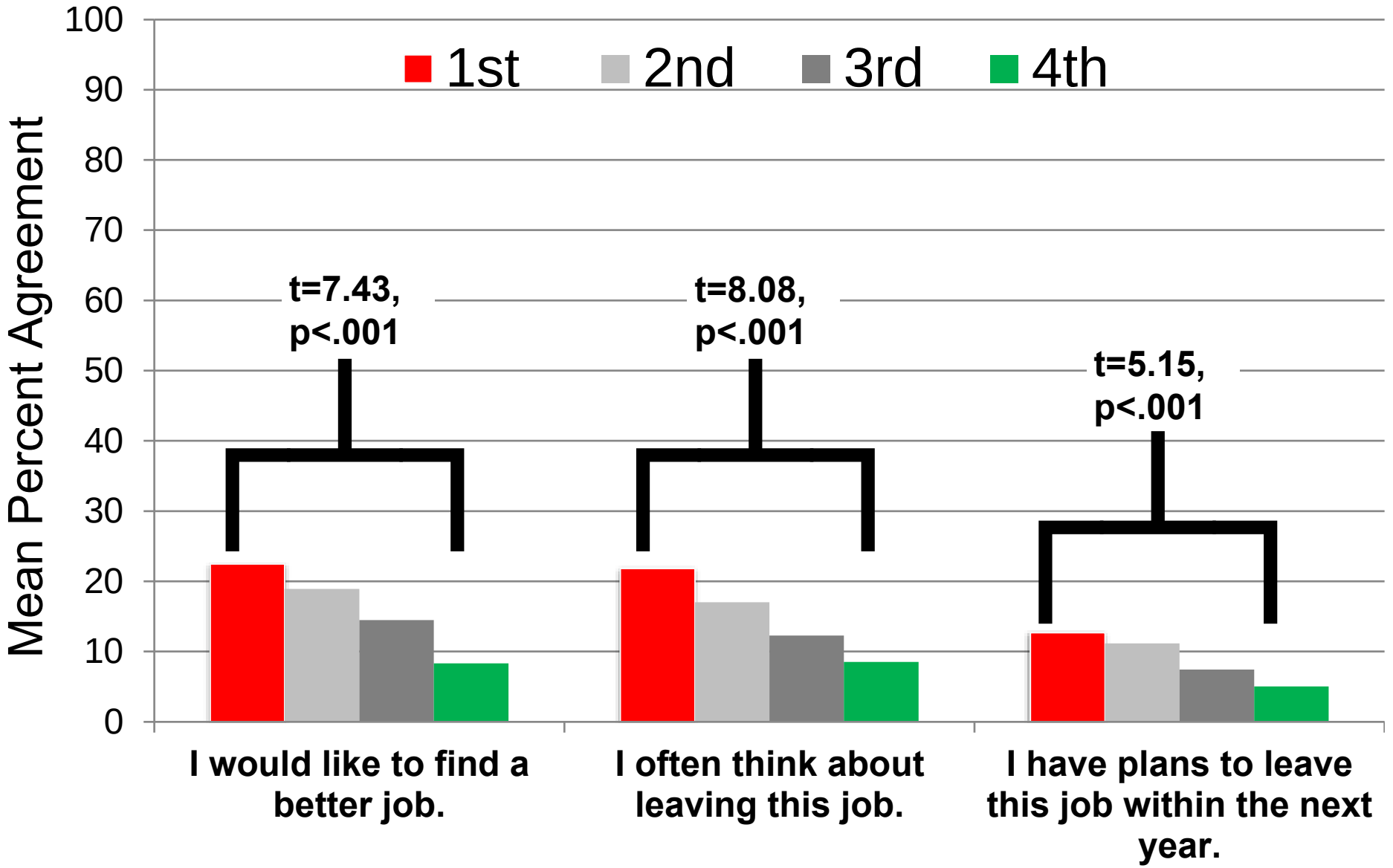
Conclusion: Disruptive behaviors are common, measurable, and associated with safety culture and health care worker well-being. This concise DB scale affords researchers a new, valid, and actionable tool to assess DBs.


% reporting Emotional Exhaustion
100
90
80
70
60
50
40
30
20
10
0
1st Quartile
2nd Quartile
3rd Quartile
4th Quartile

Disruptive Behavior Rates across 319 Work Settings by Emotional Exhaustion Quartiles; Adair, Rehder & Sexton 2021



Intention to Leave Rates across 319 Work Settings by Emotional Exhaustion Quartiles: Adair, Rehder & Sexton 2021



Adair, Rehder & Sexton 2021

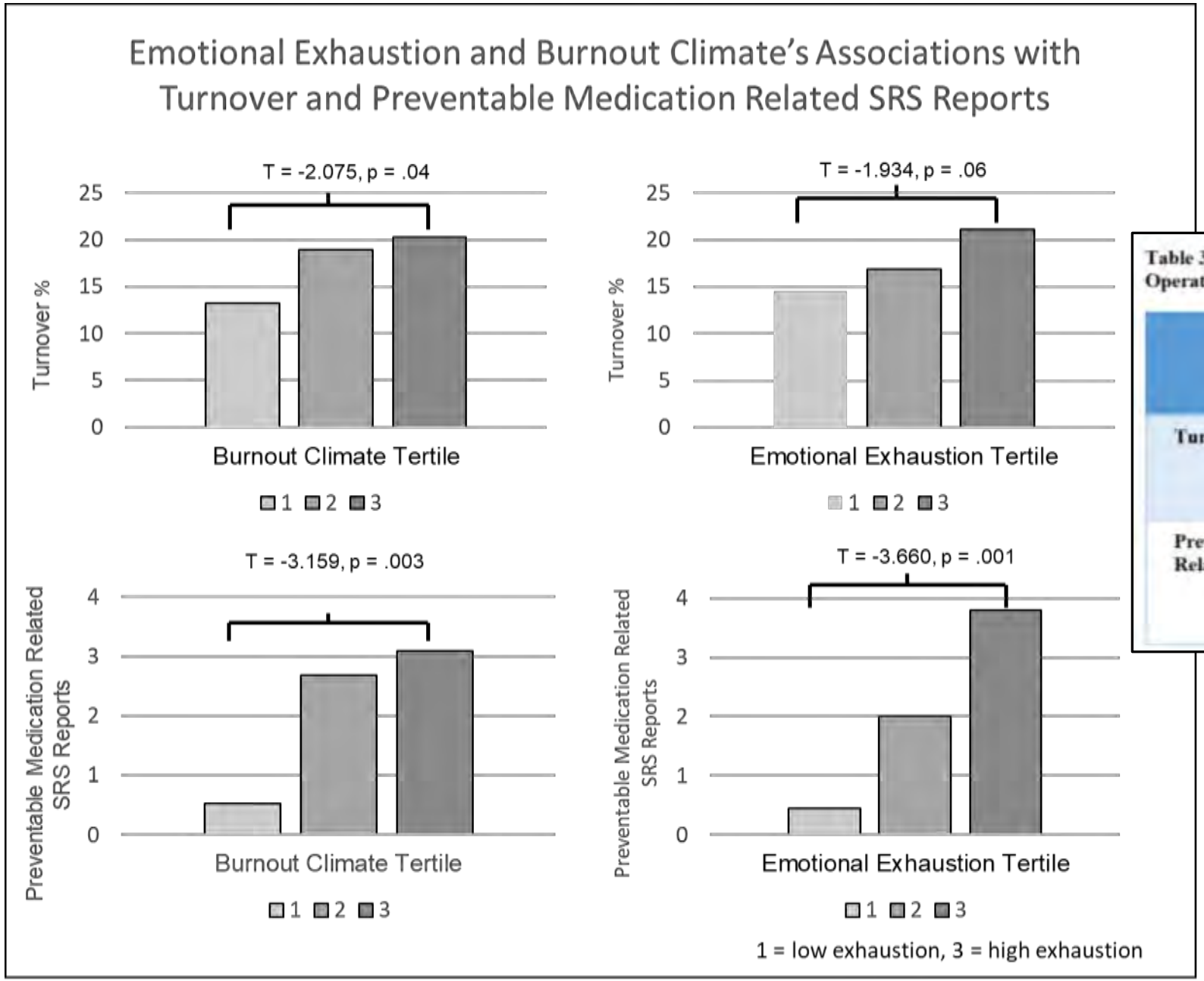


Table 3. Spearman Correlations between HCW Well-being domains, Work Culture, and Operational Outcomes at the Work Setting Level

	Burnout Climate SCORE	Emotional Exhaustion SCORE	Work-life Balance SCORE	Work Culture Press Ganey
Turnover	.35** N = 69	.26* N = 69	-.14 (NS) N = 69	-.06 (NS) N = 65
Preventable Medication Related SRS	.35** N = 68	.41*** N = 68	-.28* N = 68	-.15 (NS) N = 64

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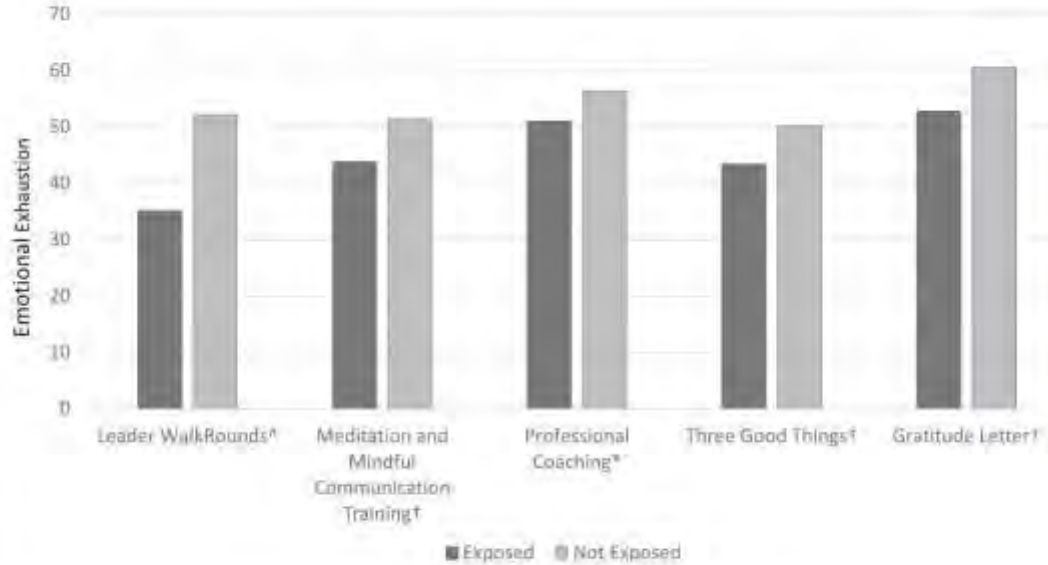
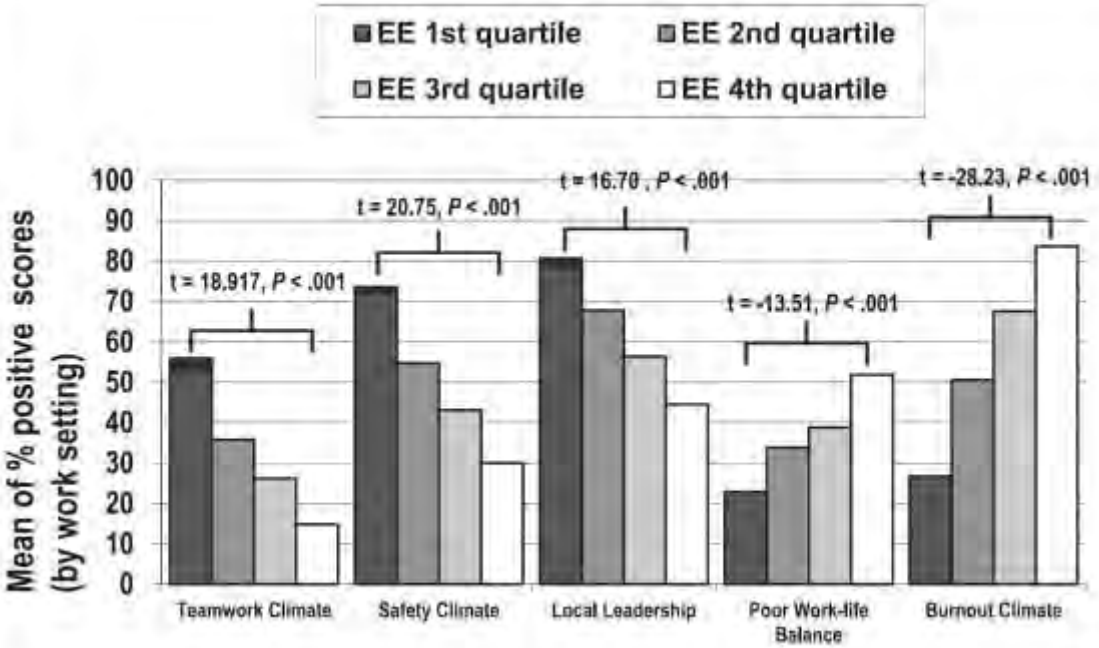




Included in your cont ed credit

What is burnout?

What is burnout?

Burnout is what happens when it gets really hard to notice something funny, interesting, or amazing…

Burnout, at its core, is the impaired ability to experience positive emotion

Christina Maslach, PhD
author of the
Maslach Burnout Inventory (MBI)
Professor Emeritus, Berkeley

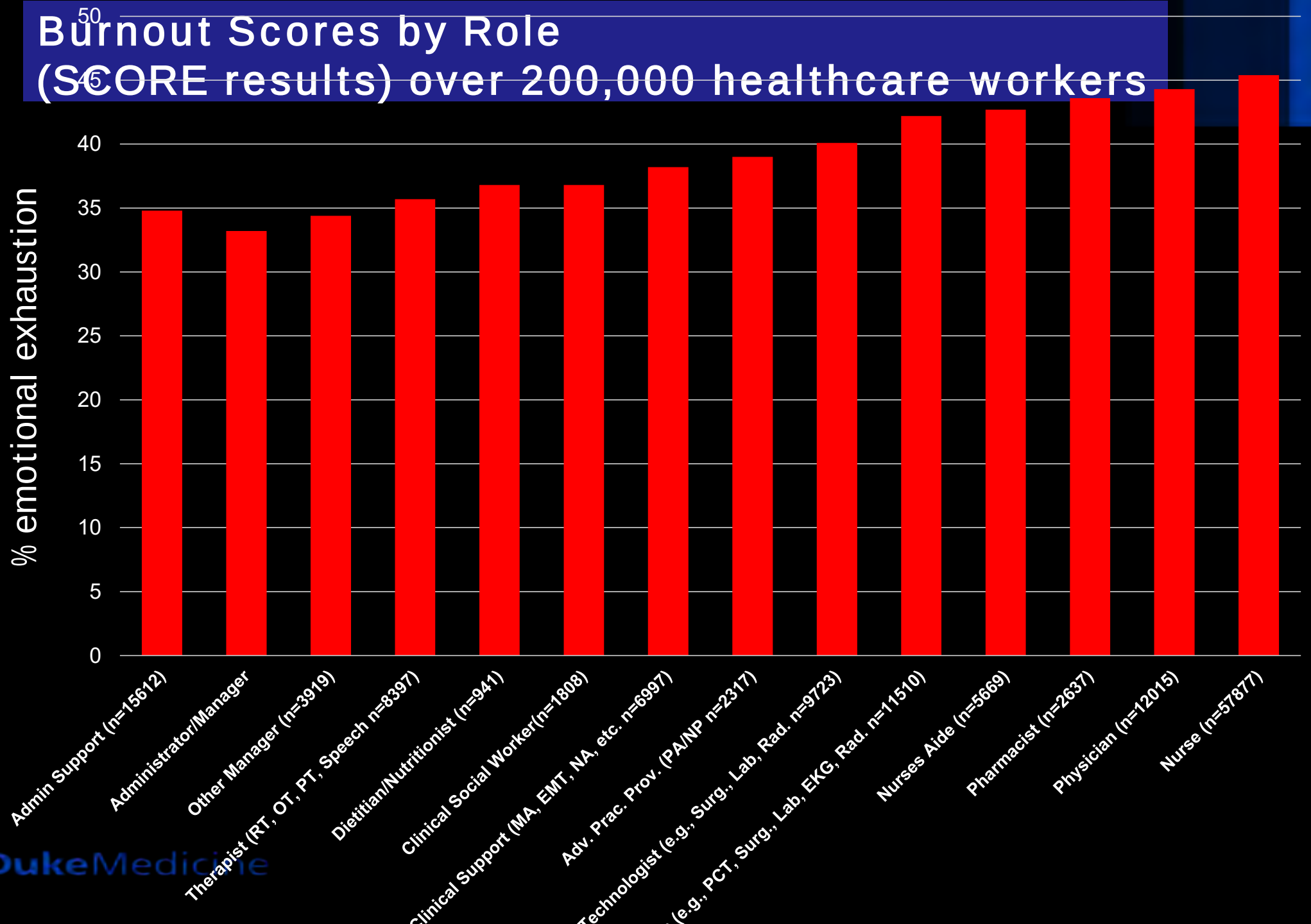
MBI 3 Pillars of Burnout:

- **Emotional Exhaustion (overwhelmed, drained, unable to meet demands)**
- Depersonalization (callousness, seeing others as objects)
- Inefficacy (diminishes sense of accomplishment)

Emotional Exhaustion Items:

- I feel fatigued when I get up in the morning and have to face another day on the job.
- I feel burned out from my work.
- I feel frustrated by my job.
- I feel I am working too hard on my job.
- Events at work affect my life in an emotionally unhealthy way.

Burnout Scores by Role
(SCORE results) over 200,000 healthcare workers



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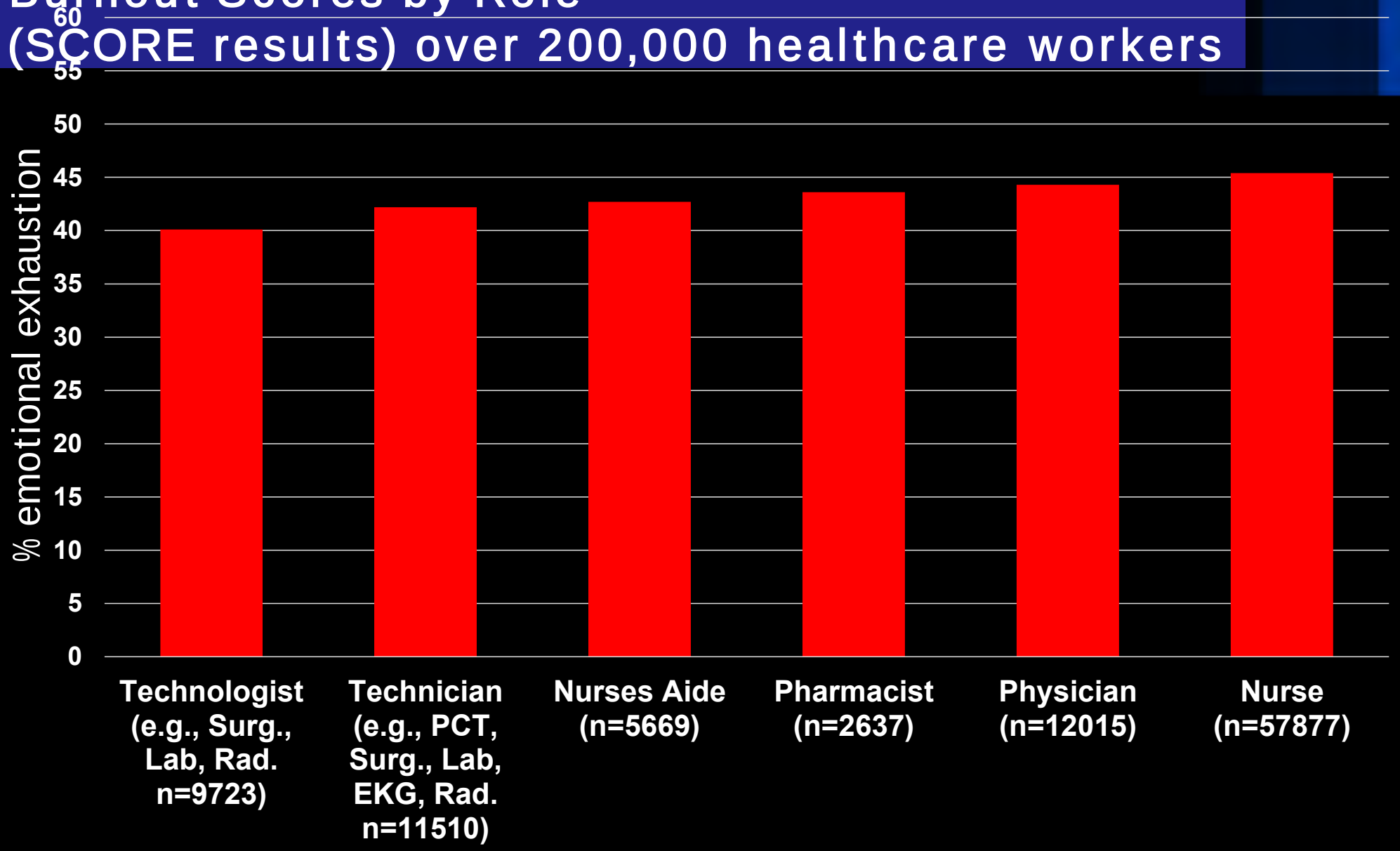

DukeMedicine

bit.ly/yearofwellbeing

qualtrics@duke.edu

to me

Hello,

Here is your feedback from the brief survey today:

Your Score is: 95

out of 100 (higher is more burned out)

For context*, the most burned out quartile ranges from 68-100

Second quartile ranges from 48-67.9

Third quartile ranges from 28-47.9

Fourth quartile is less than 28 (least burned out)

*This sample comes from 135,000 USA healthcare workers

Severe Burnout is 100

Moderate Burnout is 75-99

Mild Burnout is 50-74

Resilient is 0-49

[redacted]

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Resilient is 0-49

[redacted]

03:00

What is well-being?

The ability to see the good ***and*** the bad across situations.

DukeMedicine

Psychology of Burnout

Your focus and reflections determine your reality

Analogy:

- Noticing something about the world
- Commenting on it briefly through your mobile phone
- Seeing what other people commented on

Psychological Science OnlineFirst, published on January 20, 2015 as doi:10.1177/0956797614557867

Research Article

Psychological Science
1–11

DOI: 10.1177/0956797614557867
pss.sagepub.com

Psychological Language on Twitter Predicts County-Level Heart Disease Mortality

Johannes C. Eichstaedt[1], Hansen Andrew Schwartz[1,2], Margaret L. Kern[1,3], Gregory Park[1], Darwin R. Labarthe[4], Raina M. Merchant[5], Sneha Jha[2], Megha Agrawal[2], Lukasz A. Dziurzynski[1], Maarten Sap[1], Christopher Weeg[1], Emily E. Larson[1], Lyle H. Ungar[1,2], and Martin E. P. Seligman[1]

[1]Department of Psychology, University of Pennsylvania; [2]Department of Computer and Information Science, University of Pennsylvania; [3]Graduate School of Education, University of Melbourne; [4]School of Medicine, Northwestern University; and [5]Department of Emergency Medicine, University of Pennsylvania

Twitter Topics Negatively Correlated With County-Level AHD Mortality

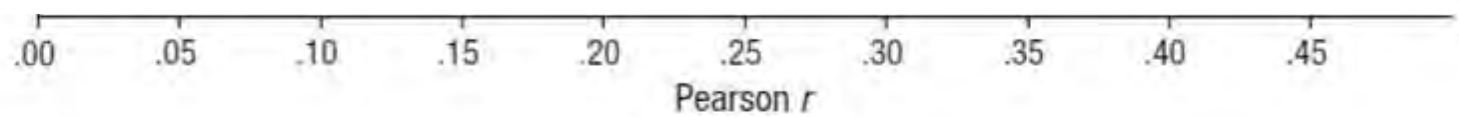
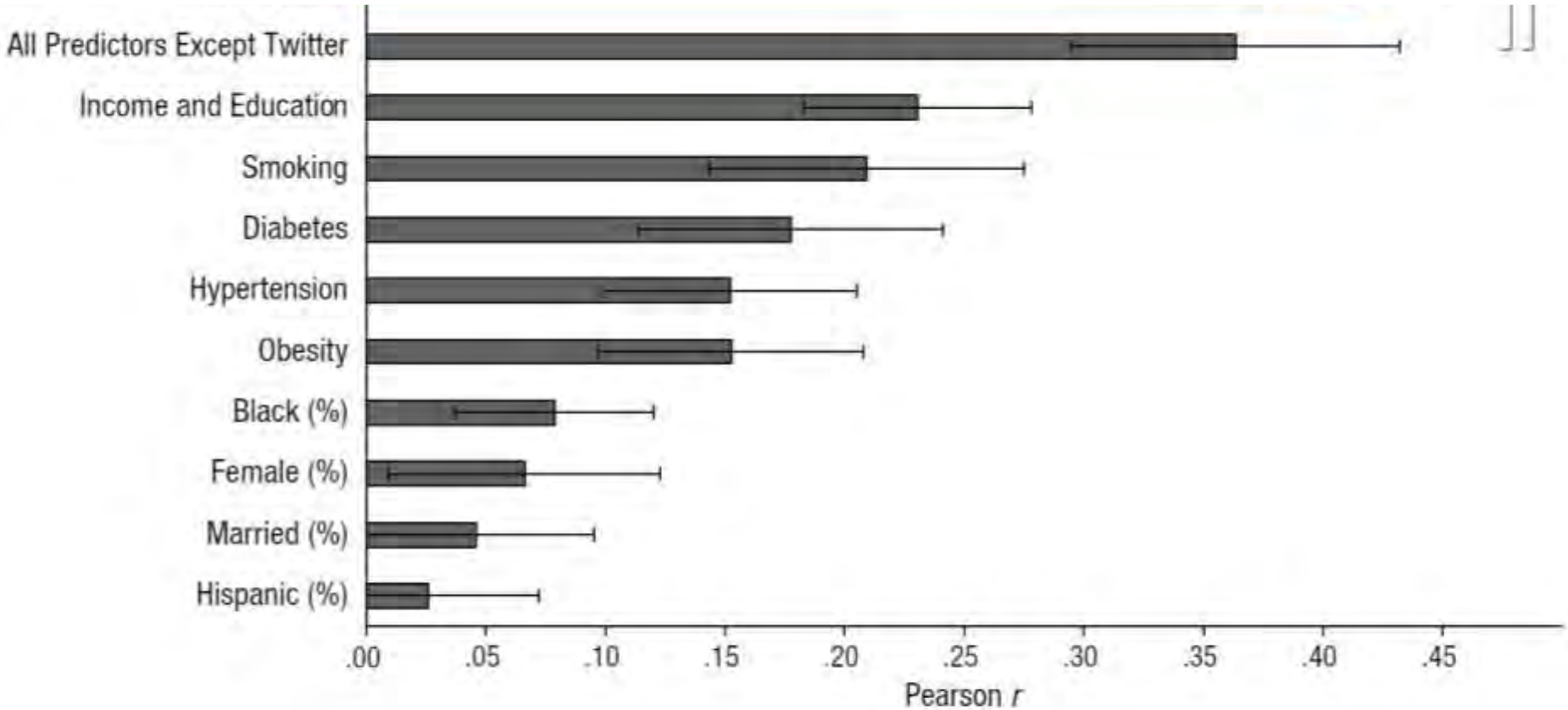


Fig. 2. Performance of models predicting age-adjusted mortality from atherosclerotic heart disease (AHD). For each model, the graph shows the correlation between predicted mortality and actual mortality reported by the Centers for Disease Control and Prevention. Predictions were based on Twitter language, socioeconomic status, health, and demographic variables singly and in combination. Higher values mean better prediction. The correlation values are averages obtained in a cross-validation process used to avoid distortion of accuracy due to chance (overfitting; for details, see the text). Error bars show 95% confidence intervals. Asterisks indicate significant differences between models (*$p < .05$).



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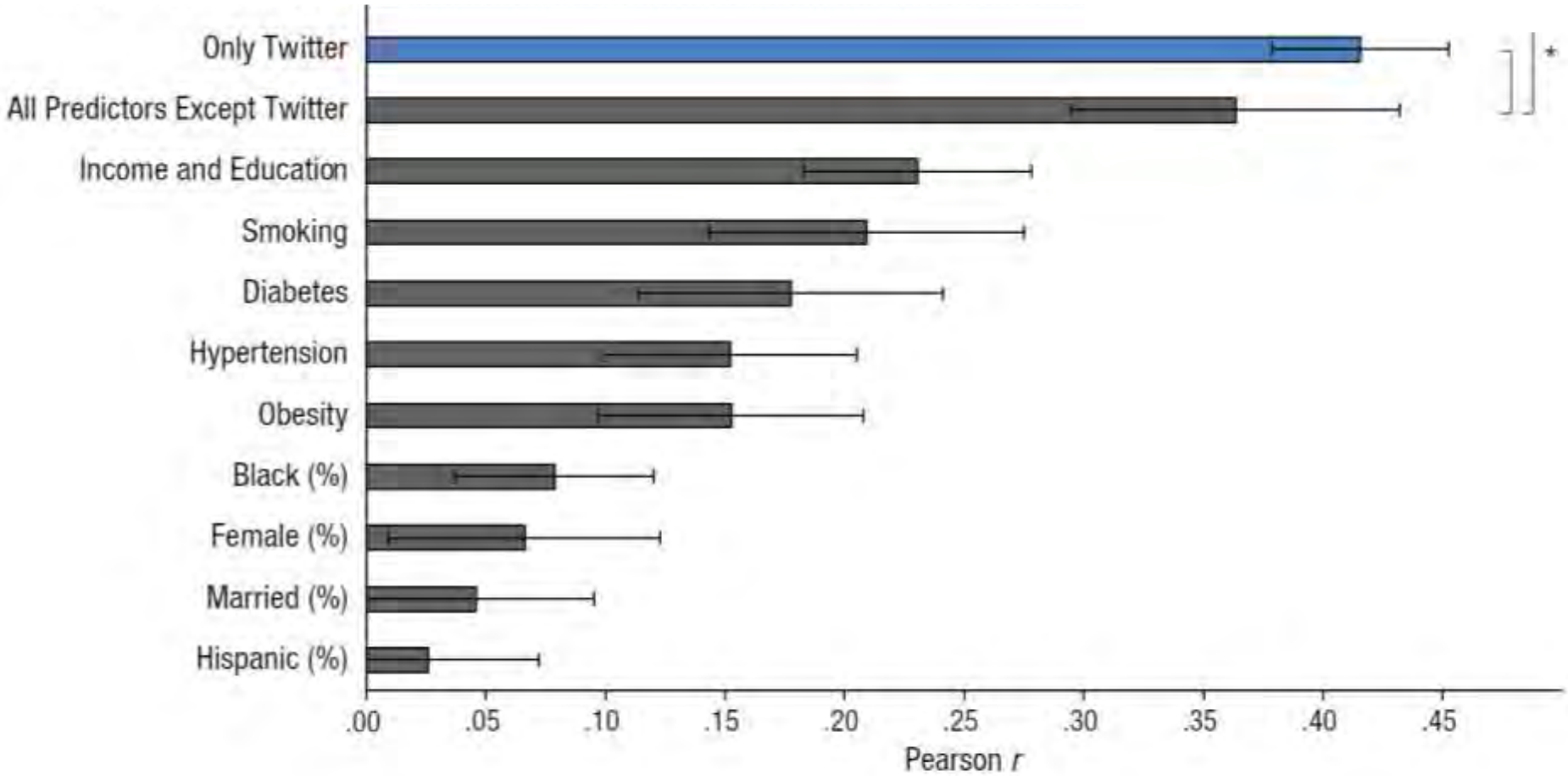

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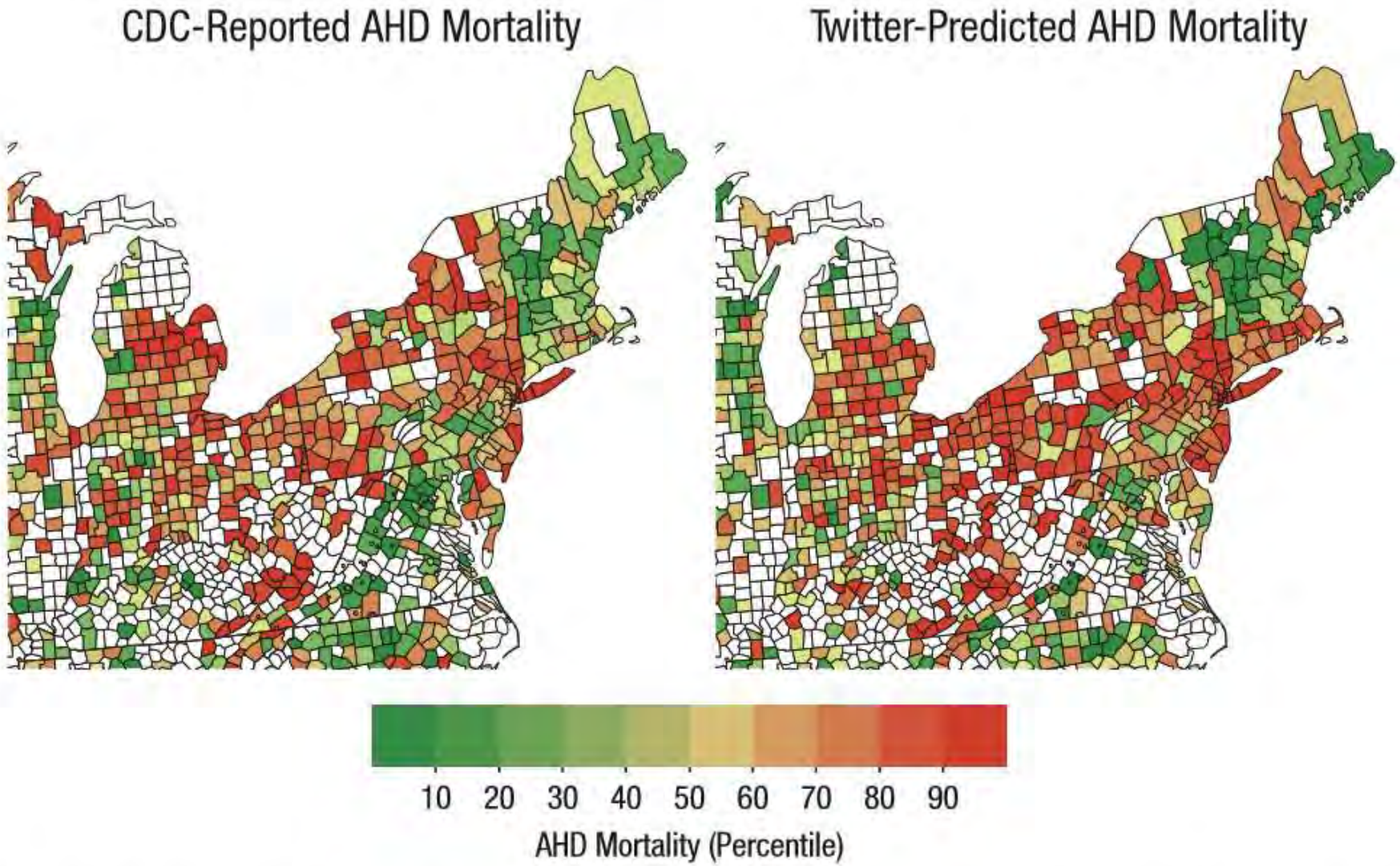
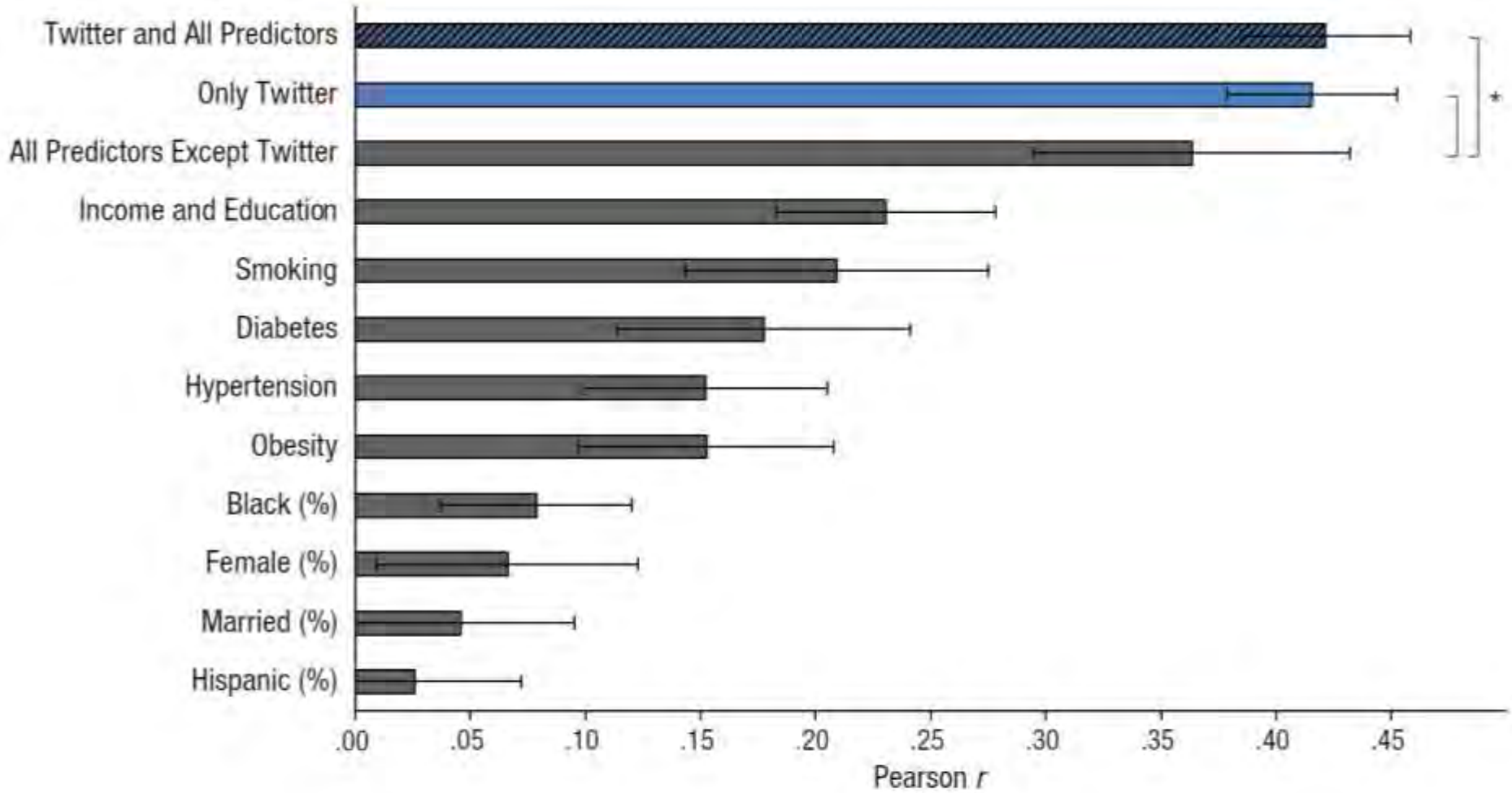


Fig. 3. Map of counties in the northeastern United States showing age-adjusted mortality from atherosclerotic heart disease (AHD) as reported by the Centers for Disease Control and Prevention (CDC; left) and as estimated through the Twitter-language-only prediction model (right). The out-of-sample predictions shown were obtained from the cross-validation process described in the text. Counties for which reliable CDC or Twitter language data were unavailable are shown in white.



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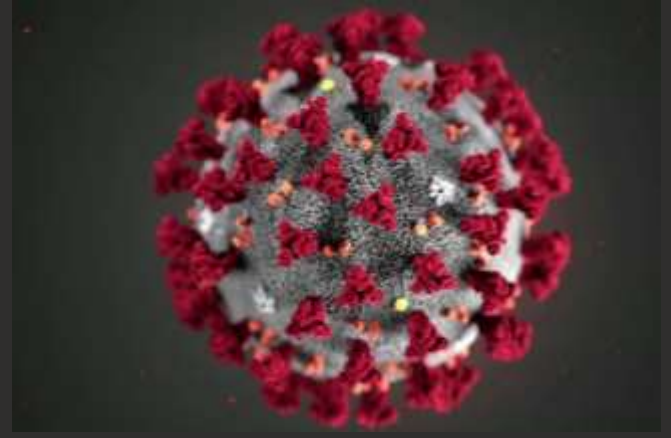
Burnout, at its core, is the impaired ability to experience positive emotion

QUESTION:



It seems like the world is on fire, how do I access hope right now?


Joy

Gratitude


Serenity


Interest



Hope


Pride

Amusement

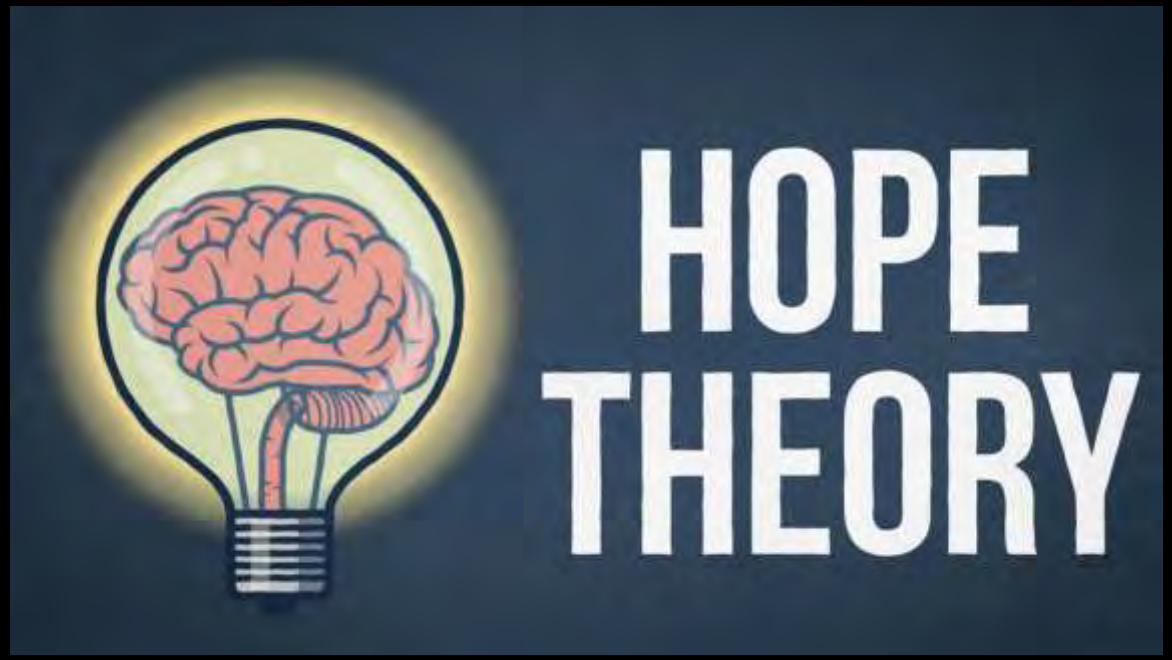





Inspiration

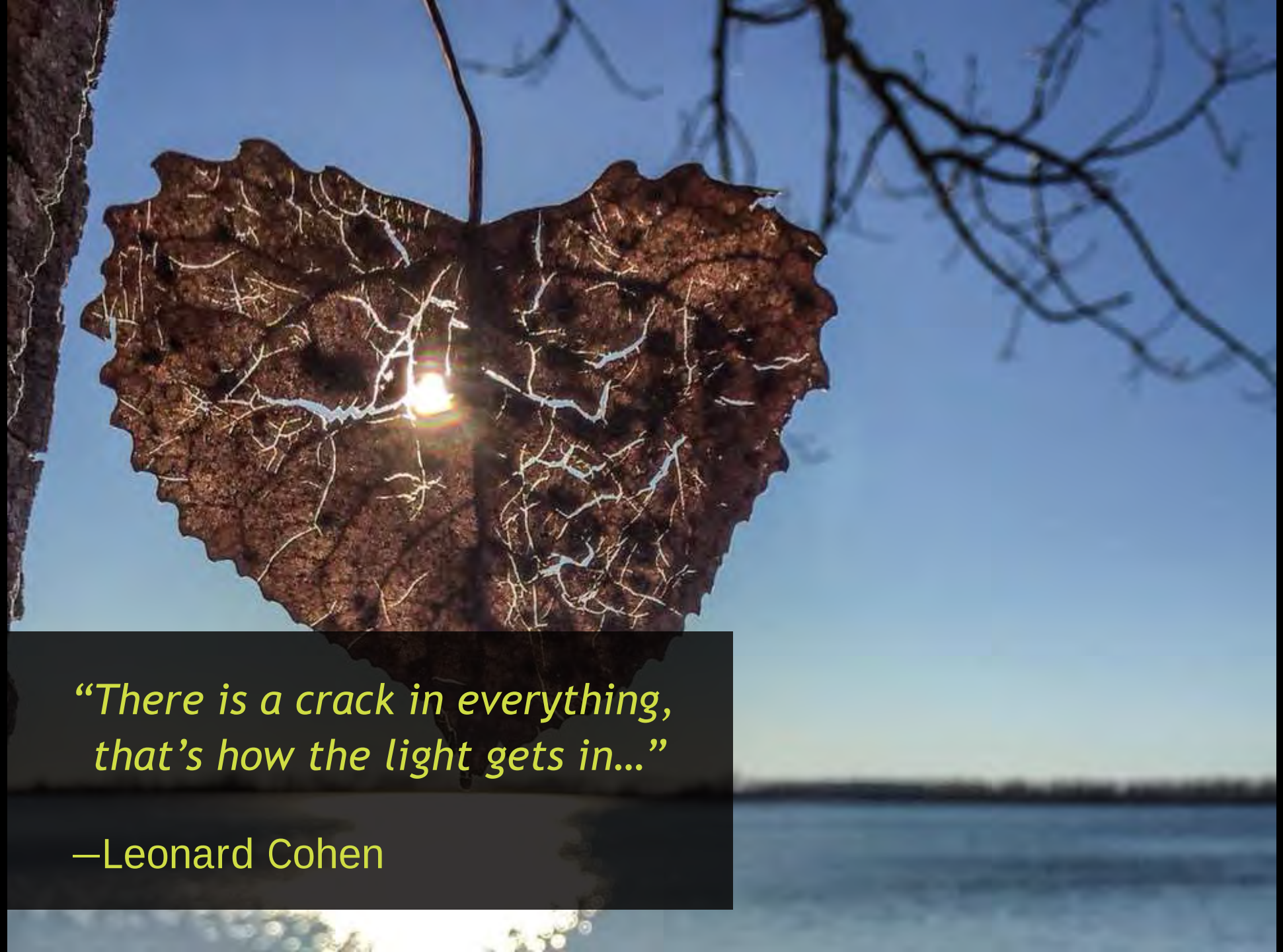

Awe

Love



HOPE
THEORY

“There is a crack in everything,
that’s how the light gets in…”

—Leonard Cohen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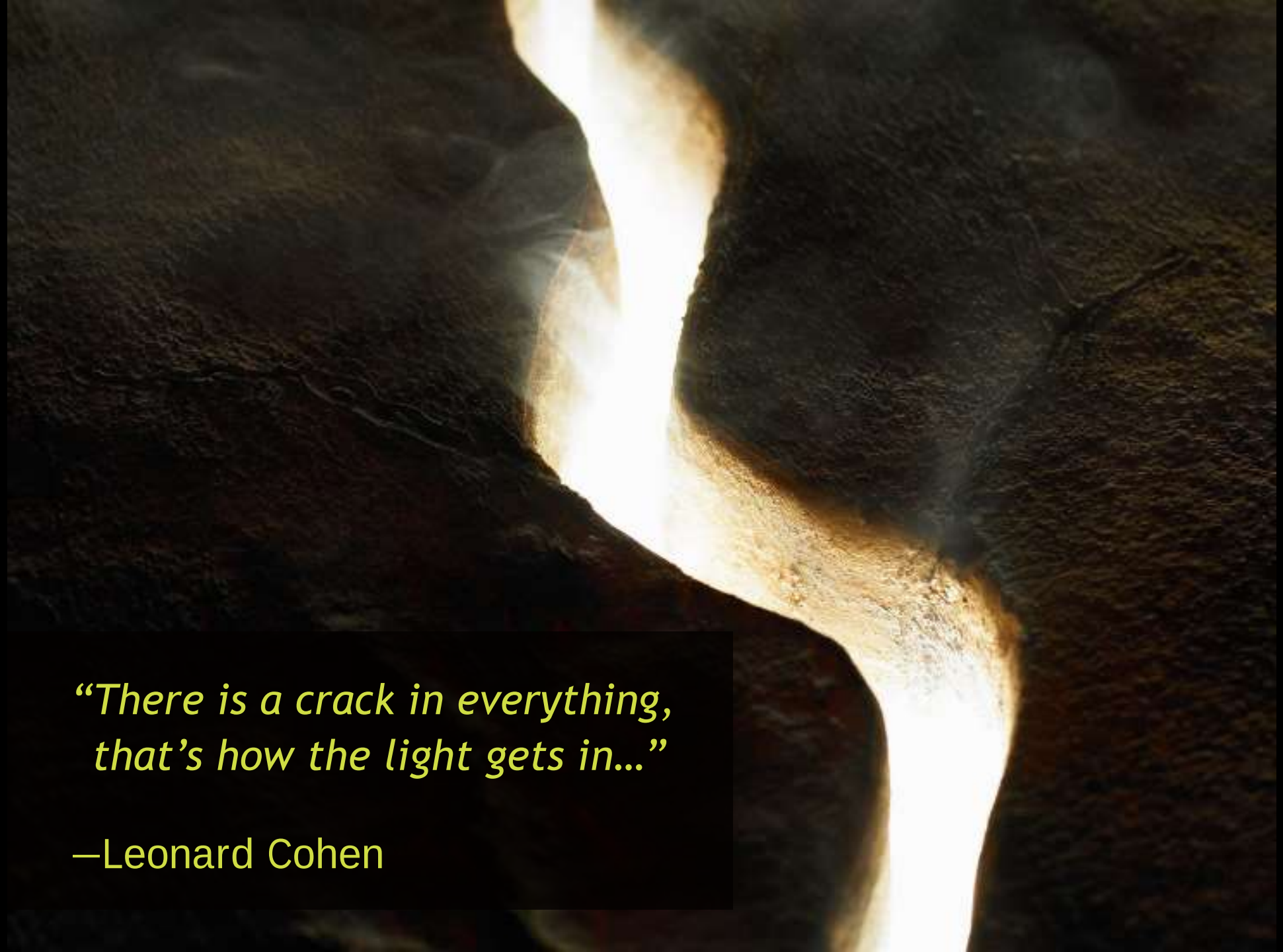
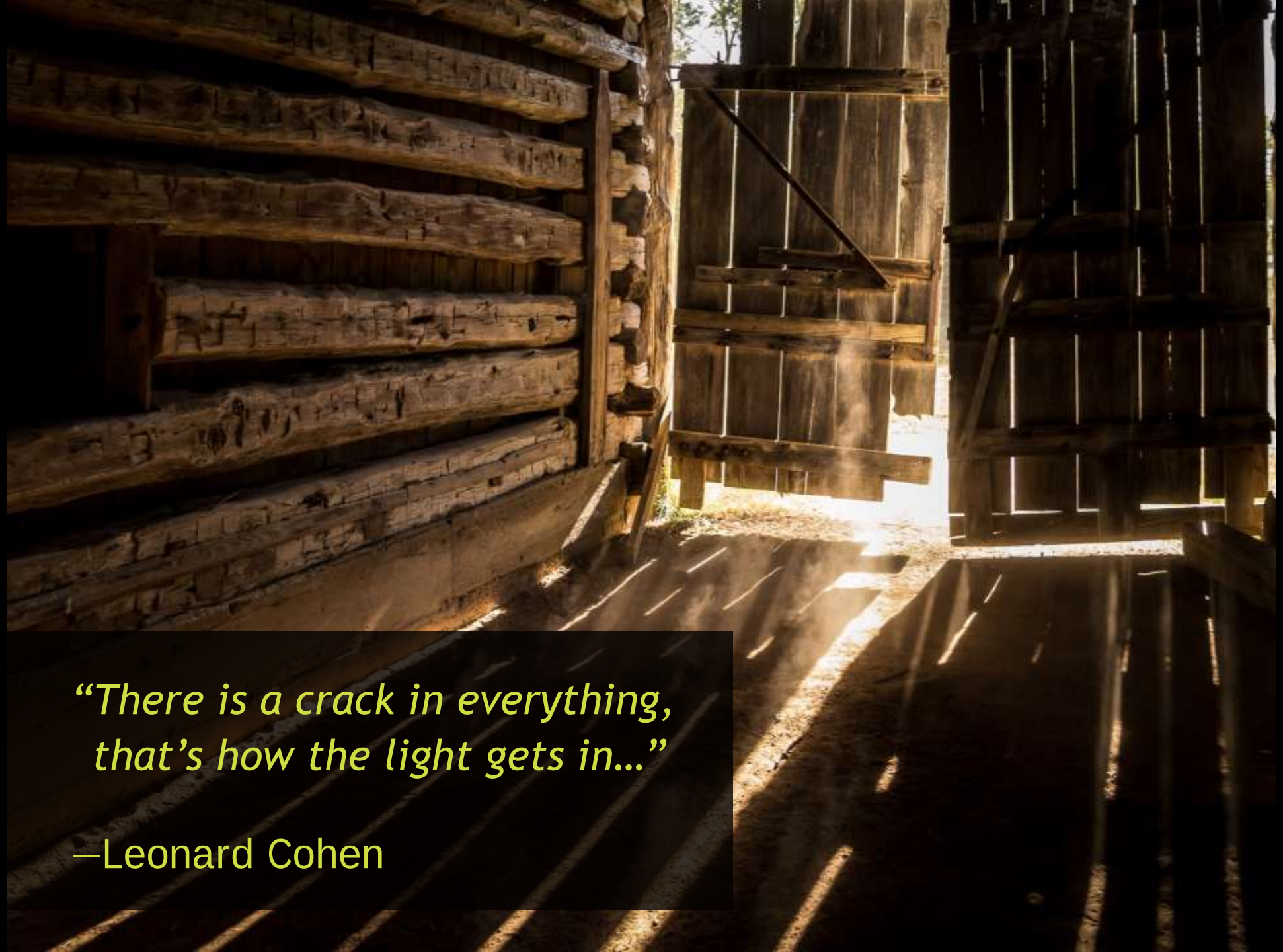

*“There is a crack in everything,
that’s how the light gets in…”*
—Leonard Cohen


*“There is a crack in everything,
that’s how the light gets in…”*
—Leonard Cohen

The opposite of depression isn’t happiness…

Joy

Gratitude

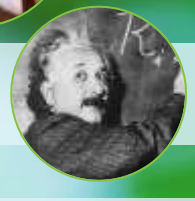
Serenity

Interest

Hope

Pride

Amusement



Inspiration

Awe

Love

WISER

The Opposite of Depression is Hope

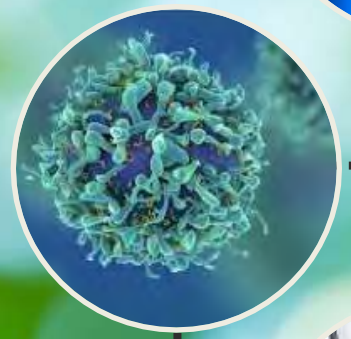
- Most people bounce back from traumas and difficulties
- Those who don't, in very large part, have negative/pessimistic beliefs about the future—
  - *"Things will never get better"*
  - *"This is my fault.*
    I'm never going to succeed.
    I might as well stop trying."

A practice of looking forward to what we hope for may shift our perspective…

WISER

Optimism is Associated with:

Less Chronic Pain



Higher T Cell Count/Immune Functioning

Lower Blood Pressure

Lower all-cause Mortality

Rasmussen, Scheier, & Greenhouse, 2009

WISER

What is the evidence?

ORIGINAL ARTICLE

Dispositional Optimism and All-Cause and Cardiovascular Mortality in a Prospective Cohort of Elderly Dutch Men and Women

Erik J. Giltay, MD, PhD; Johanna M. Geleijnse, PhD; Frans G. Zitman, MD, PhD; Tiny Hoekstra, PhD; Evert G. Schouten, MD, PhD

Background: Major depression is known to be related to higher cardiovascular mortality. However, epidemiological data regarding dispositional optimism in relation to mortality are scanty.

Objective: To test whether subjects who are optimistic live longer than those who are pessimistic.

Design: Our analysis formed part of a prospective population-based cohort study in the Netherlands (Arnhem Elderly Study).

Setting: General community.

Participants: Elderly subjects aged 65 to 85 years (900 men and women) completed the 30-item validated Dutch Scale of Subjective Well-being for Older Persons, with 5 subscales: health, self-respect, morale, optimism, and contacts. A total of 941 subjects (466 men and 475 women) had complete dispositional optimism data, and these subjects were divided into quartiles.

Main Outcome Measure: Number of deaths during the follow-up period.

Results: During the follow-up period of 9.1 years (1991-2001), there were 397 deaths. Compared with subjects with a high level of pessimism, those reporting a high level of optimism had an age- and sex-adjusted hazard ratio of 0.55 (95% confidence interval, 0.42-0.74; upper vs lower quartile) for all-cause mortality. For cardiovascular mortality, the hazard ratio was 0.23 (95% confidence interval, 0.10-0.55) when adjusted for age, sex, chronic disease, education, smoking, alcohol consumption, history of cardiovascular disease or hypertension, body mass index, and total cholesterol level. Protective trend relationships were observed between the level of optimism and all-cause and cardiovascular mortality ($P < .001$ and $P = .001$ for trend, respectively). Interaction with sex ($P = .04$) supported a stronger protective effect of optimism in men than women for all-cause mortality but not for cardiovascular mortality.

Conclusions: Our results provide support for a graded and independent protective relationship between dispositional optimism and all-cause mortality in old age. Prevention of cardiovascular mortality accounted for much of the effect.

Arch Gen Psychiatry. 2004;61:1126-1135

MANY STUDIES HAVE consistently linked depressions to an excess risk of cardiovascular and all-cause mortality,[1-7] whereas relationships with positive aspects of personality have received less attention. The personality trait of optimism for a given individual is relatively stable across time and has been related to better health outcomes. However, optimism has been conceptualized in 2 rather different ways; that is, as an explanatory-style measure by Peterson et al[8-10] (ie, the general belief that the causes of bad events are not one's own fault, are temporary, and are confined to the present circumstances rather than attributable to internal, stable, and/or global factors) and as dispositional optimism by Scheier et al[11-14] (ie, generalized outcome expectancies that good things rather than bad things will happen). On the one hand, evidence suggests that explanatory-style optimism has been associated with better health and lower morbidity and mortality.[8,10,15-18] Explanatory-style optimism was associated with a lower incidence of coronary heart disease in cohort studies.[16,18] On the other hand, dispositional optimism has been linked to medical staff ratings of better physical health after surgery for heart transplantation,[19] a more rapid recovery from coronary artery bypass surgery,[13] and a lower rate of rehospitalization after coronary artery bypass grafting.[14] The related score for positive life orientation was linked to physicians' and patients' ratings of good recovery after hospitalization for myocardial infarction.[20] Another study found that

Author Affiliations: Psychiatric Center GGZ Delfland, Delft (Dr Giltay); Division of Human Nutrition, Wageningen University, Wageningen (Drs Geleijnse, Hoekstra, and Schouten); and Leiden University Medical Center, Department of Psychiatry, Leiden (Dr Zitman), the Netherlands.

Optimism is associated with exceptional longevity in 2 epidemiologic cohorts of men and women

Lewina O. Lee[a,b,1], Peter James[c], Emily S. Zevon[a], Eric S. Kim[a,e], Claudia Trudel-Fitzgerald[d,f], Avron Spiro III[b,f,g], Francine Grodstein[h,i,2], and Laura D. Kubzansky[a,e,2]

[a]National Center for Posttraumatic Stress Disorder, Veterans Affairs Boston Healthcare System, Boston, MA 02130; [b]Department of Psychiatry, Boston University School of Medicine, Boston, MA 02118; [c]Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, MA 02215; [d]Department of Social and Behavioral Sciences, Harvard T.H. Chan School of Public Health, Boston, MA 02115; [e]Lee Kum Sheung Center for Health and Happiness, Harvard T.H. Chan School of Public Health, Boston, MA 02115; [f]Massachusetts Veterans Epidemiology Research and Information Center, Veterans Affairs Boston Healthcare System, Boston, MA 02130; [g]Department of Epidemiology, Boston University School of Public Health, Boston, MA 02118; [h]Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA 02115; and [i]Channing Division of Network Medicine, Brigham and Women's Hospital, Boston, MA 02115

Edited by Bruce S. McEwen, The Rockefeller University, New York, NY, and approved July 30, 2019 (received for review January 18, 2019)

Most research on exceptional longevity has investigated biomedical factors associated with survival, but recent work suggests nonbiological factors are also important. Thus, we tested whether higher optimism was associated with longer life span and greater likelihood of exceptional longevity. Data are from 2 cohorts, women from the Nurses' Health Study (NHS) and men from the Veterans Affairs Normative Aging Study (NAS), with follow-up of 10 y (2004 to 2014) and 30 y (1986 to 2016), respectively. Optimism was assessed using the Life Orientation Test–Revised in NHS and the Revised Optimism–Pessimism Scale from the Minnesota Multiphasic Personality Inventory-2 in NAS. Exceptional longevity was defined as survival to age 85 or older. Primary analyses used accelerated failure time models to assess differences in life span associated with optimism; models adjusted for demographic confounders and health conditions, and subsequently considered the role of health behaviors. Further analyses used logistic regression to evaluate the likelihood of exceptional longevity. In both sexes, we found a dose-dependent association of higher optimism levels at baseline with increased longevity (P trend < 0.01). For example, adjusting for demographics and health conditions, women in the highest versus lowest optimism quartile had 14.9% (95% confidence interval, 11.9 to 18.0) longer life span. Findings were similar in men. Participants with highest versus lowest optimism levels had 1.5 (women) and 1.7 (men) greater odds of surviving to age 85; these relationships were maintained after adjusting for health behaviors. Given work indicating optimism is modifiable, these findings suggest optimism may provide a valuable target to test for strategies to promote longevity.

optimism | longevity | aging | psychological well-being | longitudinal study

As life span has increased in industrialized countries, exceptional longevity—commonly defined as survival to 85 y (1)—has become less rare. Research across diverse organisms consistently demonstrates that increases in life span are often accompanied by delayed morbidity (2). Therefore, factors that promote exceptional longevity are highly relevant to public health as they may extend the duration of good health (also known as "health span"; ref. 3). Research on exceptional longevity has largely focused on identifying biomedical factors (e.g., genetic variants) associated with increased survival, but emerging evidence suggests nongenetic factors also contribute. Recent epidemiologic studies have identified psychosocial assets such as optimism as potential predictors of longer life, based on findings linking higher optimism to reduced risk of developing chronic diseases of aging and premature mortality (4–10).

Importantly, psychosocial assets are associated with health outcomes above and beyond their role in signaling the absence of poor psychosocial functioning (11), such as depression (4), and independent of sociodemographic confounders, health conditions, and health behaviors (12, 13). Identifying diverse positive assets that promote health across the life course, particularly in aging, could contribute to optimal functioning and improved health. Among psychosocial factors that appear to be potential health assets (e.g., social integration; ref. 14), optimism has some of the strongest and most consistent associations with a wide range of health outcomes, including reduced risk of cardiovascular events, lung function decline, and premature mortality (4–10), and associations that are independent of other psychosocial factors such as depression, anxiety, or anger (12). Investigators have speculated that optimism may facilitate healthier biobehavioral processes and ultimately longevity, because optimism directly contributes to how goals are translated into behaviors (15). Optimism is ∼25% heritable but is also shaped by social structural factors and can be learned, as demonstrated in experimental research (e.g., refs. 16 and 17).

Higher levels of optimism have been linked to reduced risk of premature mortality (4); however, researchers have not considered the association between optimism and achievement of exceptional longevity (18–20). Although no standard definition for exceptional longevity has been established, it has been defined as surviving to older age, and age 85 is a commonly used cutoff (1, 21) as it is well beyond the average life expectancy of individuals born

Significance

Optimism is a psychological attribute characterized as the general expectation that good things will happen, or the belief that the future will be favorable because one can control important outcomes. Previous studies reported that more optimistic individuals are less likely to suffer from chronic diseases and die prematurely. Our results further suggest that optimism is specifically related to 11 to 15% longer life span, on average, and to greater odds of achieving "exceptional longevity," that is, living to the age of 85 or beyond. These relations were independent of socioeconomic status, health conditions, depression, social integration, and health behaviors (e.g., smoking, diet, and alcohol use). Overall, findings suggest optimism may be an important psychosocial resource for extending life span in older adults.

Author contributions: E.G. and L.D.K. designed research; L.O.L., P.J., E.S.Z., E.S.K., and C.T.-F. performed research; L.O.L., P.J., and E.S.Z. analyzed data; and L.O.L., P.J., E.S.Z., E.S.K., C.T.-F., A.S., F.G., and L.D.K. wrote the paper.

Conflict of interest statement: E.S.K. has worked as a consultant with AARP and United Health Group.

This article is a PNAS Direct Submission.

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[2]F.G. and L.D.K. contributed equally to this work.

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Published online August 30, 2019.

Optimism, Cynical Hostility, and Incident Coronary Heart Disease and Mortality in the Women's Health Initiative

Hilary A. Tindle, MD, MPH; Yue-Fang Chang, PhD; Lewis H. Kuller, MD, DrPH; JoAnn E. Manson, MD, DrPH; Jennifer G. Robinson, MD, MPH; Milagros C. Rosal, PhD; Greg J. Siegle, PhD; Karen A. Matthews, PhD

Background—Trait optimism (positive future expectations) and cynical, hostile attitudes toward others have not been studied together in relation to incident coronary heart disease (CHD) and mortality in postmenopausal women.

Methods and Results—Participants were 97 253 women (89 259 white, 7994 black) from the Women's Health Initiative who were free of cancer and cardiovascular disease at study entry. Optimism was assessed by the Life Orientation Test–Revised and cynical hostility by the cynicism subscale of the Cook Medley Questionnaire. Cox proportional hazard models produced adjusted hazard ratios (AHRs) for incident CHD (myocardial infarction, angina, percutaneous coronary angioplasty, or coronary artery bypass surgery) and total mortality (CHD, cardiovascular disease, or cancer related) over ≈8 years. Optimists (top versus bottom quartile ["pessimists"]) had lower age-adjusted rates (per 10 000) of CHD (43 versus 60) and total mortality (46 versus 63). The most cynical, hostile women (top versus bottom quartile) had higher rates of CHD (56 versus 44) and total mortality (63 versus 46). Optimists (versus pessimists) had a lower hazard of CHD (AHR 0.91, 95% CI 0.83 to 0.99), CHD-related mortality (AHR 0.70, 95% CI 0.55 to 0.90), cancer-related mortality (blacks only; AHR 0.56, 95% CI 0.35 to 0.88), and total mortality (AHR 0.86, 95% CI 0.79 to 0.93). Most (versus least) cynical, hostile women had a higher hazard of cancer-related mortality (AHR 1.23, 95% CI 1.09 to 1.40) and total mortality (AHR 1.16, 95% CI 1.07 to 1.27; this effect was pronounced in blacks). Effects of optimism and cynical hostility were independent.

Conclusions—Optimism and cynical hostility are independently associated with important health outcomes in black and white women. Future research should examine whether interventions designed to change attitudes would lead to altered risk. (***Circulation***. 2009;120:656-662.)

Key Words: cardiovascular diseases ■ mortality ■ women ■ hostility ■ optimism

Evidence suggests that psychological factors influence risk for cardiovascular disease (CVD) morbidity and mortality. Persistent negative affect, such as depression, anxiety, or anger, and cynical, hostile attitudes toward others predict CVD.[1–4] Recently, research has investigated the health effects of low levels of positive attributes.[5] One attribute that has received particular attention is dispositional optimism, defined as the general expectation that good things, rather than bad things, will happen in the future.[6] Evidence shows, for example, that optimistic individuals have a lower risk of rehospitalization after bypass surgery[7] and are at reduced risk of mortality.[8,9]

Clinical Perspective on p 662

Important gaps remain in understanding the role of psychosocial factors. These gaps include whether the associations between optimism and cynical hostility with CVD and mortality vary by race or ethnicity, because most of the evidence is based on white participants. Second, optimism and cynical hostility are inversely related[10] and have not been examined together extensively. Thus, it is not clear whether the effects are mirror images or whether they are independent of one another. Third, the link between incident coronary heart disease (CHD) and cynical hostility has been studied,[11] but not the link with optimism. The Women's Health Initiative[12] affords the largest sample to date to study health associations of optimism and cynical hostility prospectively in postmenopausal women. Our objectives were to determine the association of optimism and cynical hostility with a wide spectrum of cardiovascular risk factors, to assess the combined and independent influences of optimism and cynical hostility on incident CHD and mortality across 8 years of follow-up, and to evaluate associations by race/ethnicity.

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Three Good Tools: Positively reflecting backwards and forwards is associated with robust improvements in well-being across three distinct interventions

Kathryn C. Adair[a], Lindsay A. Kennedy[b] and J. Bryan Sexton[a,c]

[a]Duke Center for Healthcare Safety and Quality, Duke University Health System, Durham, NC, USA; [b]Department of Psychology, Hendrix College, Conway, AR, USA; [c]Department of Psychiatry, Duke University School of Medicine, Durham, NC, USA

ABSTRACT

Burnout in healthcare workers (HCWs) is costly, consequential, and alarmingly high. Many HCWs report not having enough time or opportunities to engage in self-care. Brief, engaging, evidence-based tools have unique potential to alleviate burnout and improve well-being. Three prospective cohort studies tested the efficacy of web-based interventions: Three Good Things (n = 275), Gratitude Letter (n = 123), and the Looking Forward Tool (n = 123). Metrics were emotional exhaustion, depression, subjective happiness, work-life balance, emotional thriving, and emotional recovery. Across all studies, participants reported improvements in all metrics between baseline and post assessments, with two exceptions in study 1 (emotional thriving and happiness at 6 and 12-month post) and study 3 (optimism and emotional thriving at day 7). The Three Good Things, Gratitude Letter, and Looking Forward tools appear promising interventions for the issue of HCW burnout.

ARTICLE HISTORY
Received 6 June 2019
Accepted 21 April 2020

KEYWORDS
Positive psychology interventions; Three Good Things; gratitude; hope; burnout; healthcare

Introduction

Globally, over half a billion people struggle with anxiety, depression or both, and the rates of these and other mental disorders are on the rise (World Health Organization, 2017). A recent study by the World Health Organization found that such disorders cost the global economy $1 trillion in lost productivity each year (World Health Organization, 2017). The U.S. Department of Health and Human Services estimates that annually, one out of five adults have a mental illness, and less than half of them received mental health services (Hedden et al., 2015). The prevalence of suffering is high, and the utilization of resources is not keeping pace. This is particularly pronounced for healthcare workers (HCWs), who put themselves in sufferings' way at great personal cost to their own well-being (e.g. Mata et al., 2015; Shanafelt et al., 2015).

Roughly a third to a half of HCWs meet the criteria for burnout (Poghosyan et al., 2010; Shanafelt et al., 2019), and rates of burnout continue to climb. We know that HCW burnout is common (Poghosyan et al., 2010; Shanafelt et al., 2015), consequential to patients (i.e. mortality and healthcare acquired infection; Aiken et al., 2002; Cimiotti et al., 2012), interferes with the safe delivery of patient care (Hall et al., 2016), and the ability to engage in quality improvement efforts (Adair et al., 2018). We also know burnout is bad for HCWs, with consequences ranging from marital problems (Kumar, 2016) to shorter lifespan (Ahola et al., 2010). Moreover, recent evidence suggests burnout and problems with work-life balance are socially contagious (Pyltta et al., 2017; Schwartz et al., 2019). In other words, eating lunch, taking breaks, and leaving work on time, as well as your burnout level, are variables that are associated with the behavior and well-being of your colleagues.

Positive emotion

Just as depression and anxiety have been linked to lower levels of positive emotions (Fredrickson, 2001; Gloria & Steinhardt, 2016), the same has been found for burnout (Gong, Schooler, Yong, & Mingda, 2018). Research has consistently shown that experiencing positive emotion is a causal link in the chain of feeling greater purpose (Fredrickson et al., 2008) and recovery after emotional upheavals (Fredrickson et al., 2000). Positive emotions, like hope, serve as little engines that effectively recharge our depleted batteries (Fredrickson & Joiner, 2002; Gong & Li, 2017). In controlled experiments, positive emotions

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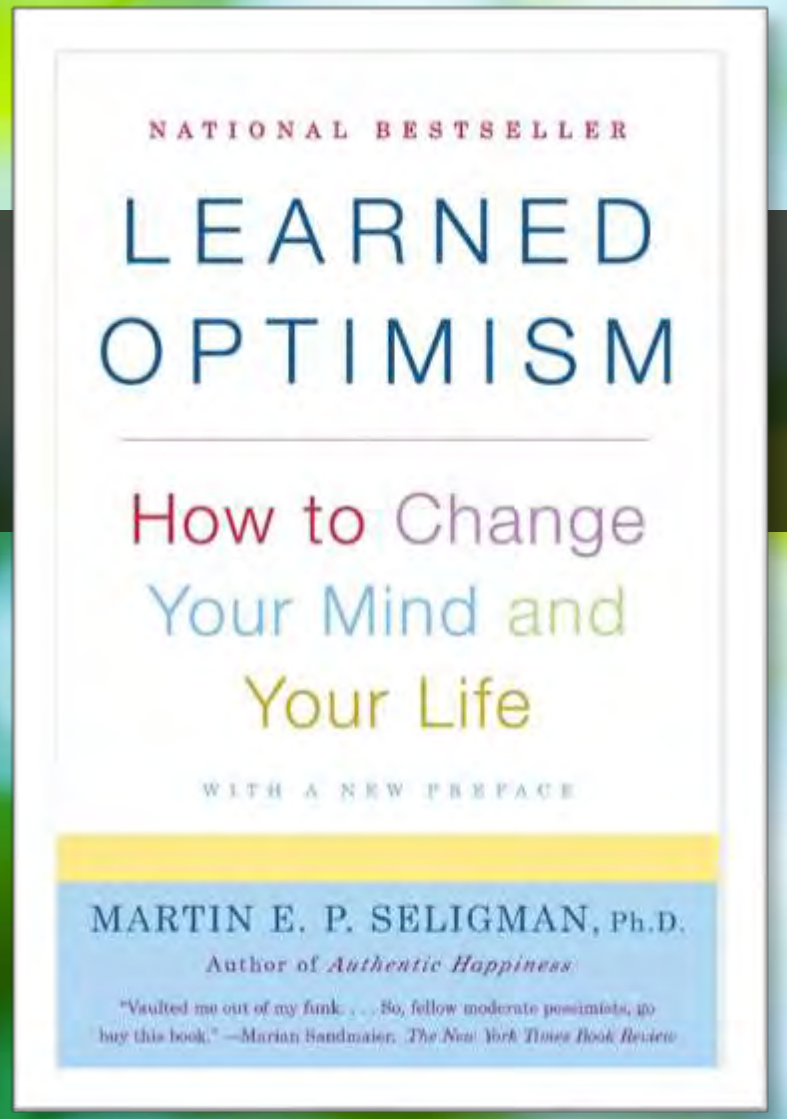
Both Dr. Adair and Dr. Sexton developed the tools, conducted the studies, performed analyses, and contributed to the write-up. Dr. Kennedy contributed to the development of the Looking Forward tool and the write up.

Supplemental data for this article can be accessed here.

The good news is that hope is a muscle that we can strengthen…



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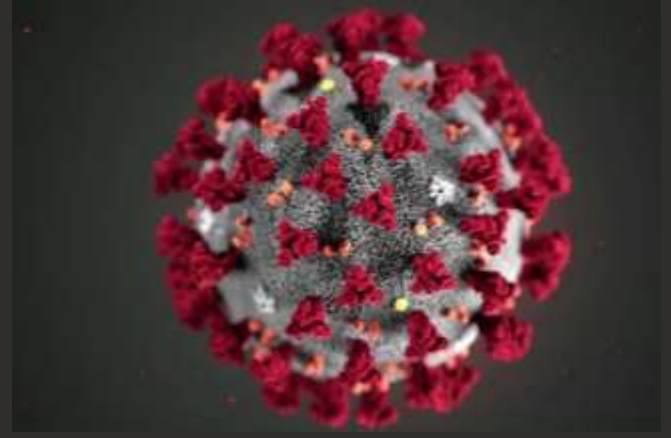


It seems like the world is on fire, how do I access hope right now?

…hint, there is a link coming up

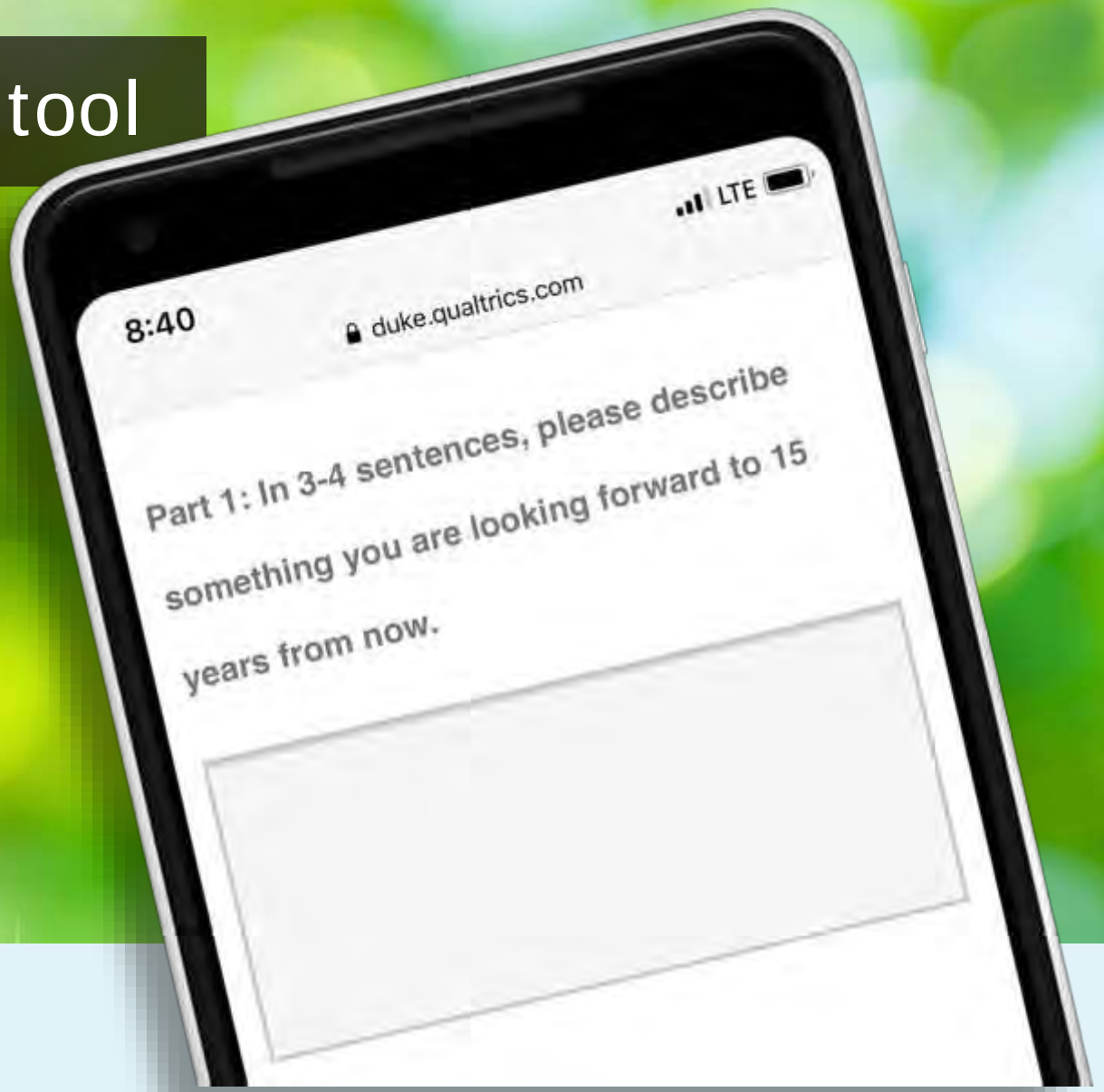
Does anyone have a mobile phone?

Please use your mobile browser to go to:

bit.ly/fwdtool

...or hold your phone camera over QR code

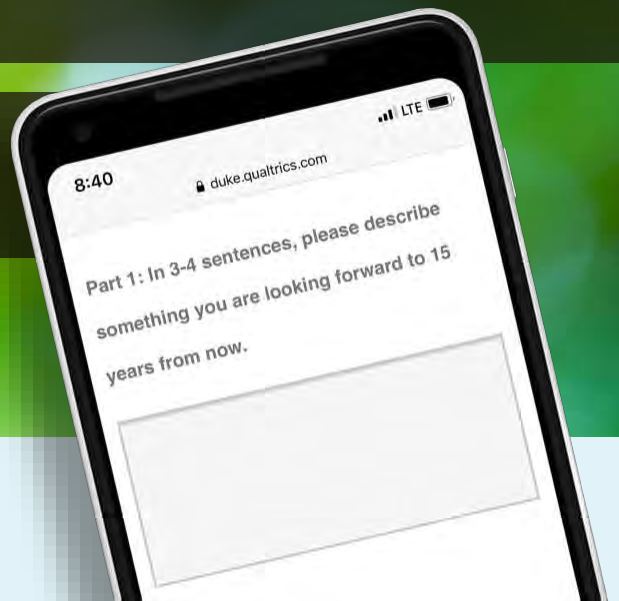
bit.ly/fwdtool



Enroll for a week of brief looking-forward tasks:

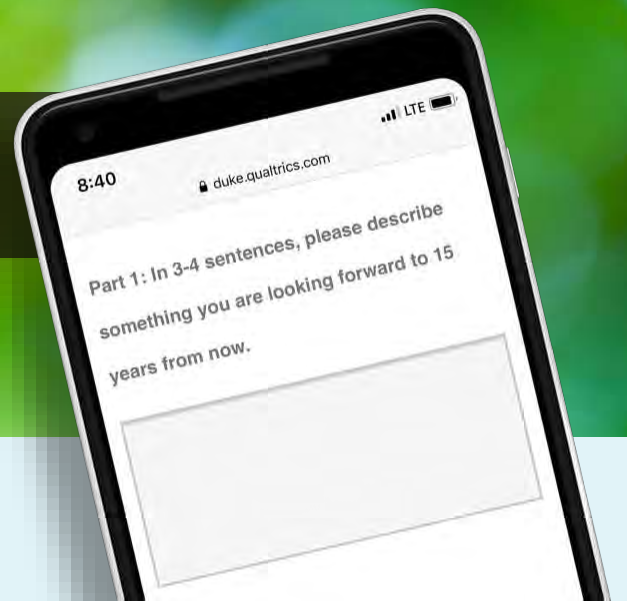
- Day 1
- Day 2
- Day 3
- Day 4 follow-up
- Day 5
- Day 6
- Day 7
- Day 8 follow-up

bit.ly/fwdtool



- Time to enroll:
  2-5 minutes
- Time each evening:
  2 minutes
- Time to finish:
  8 days

bit.ly/fwdtool



81% agreed “I enjoyed this Looking Forward tool.”

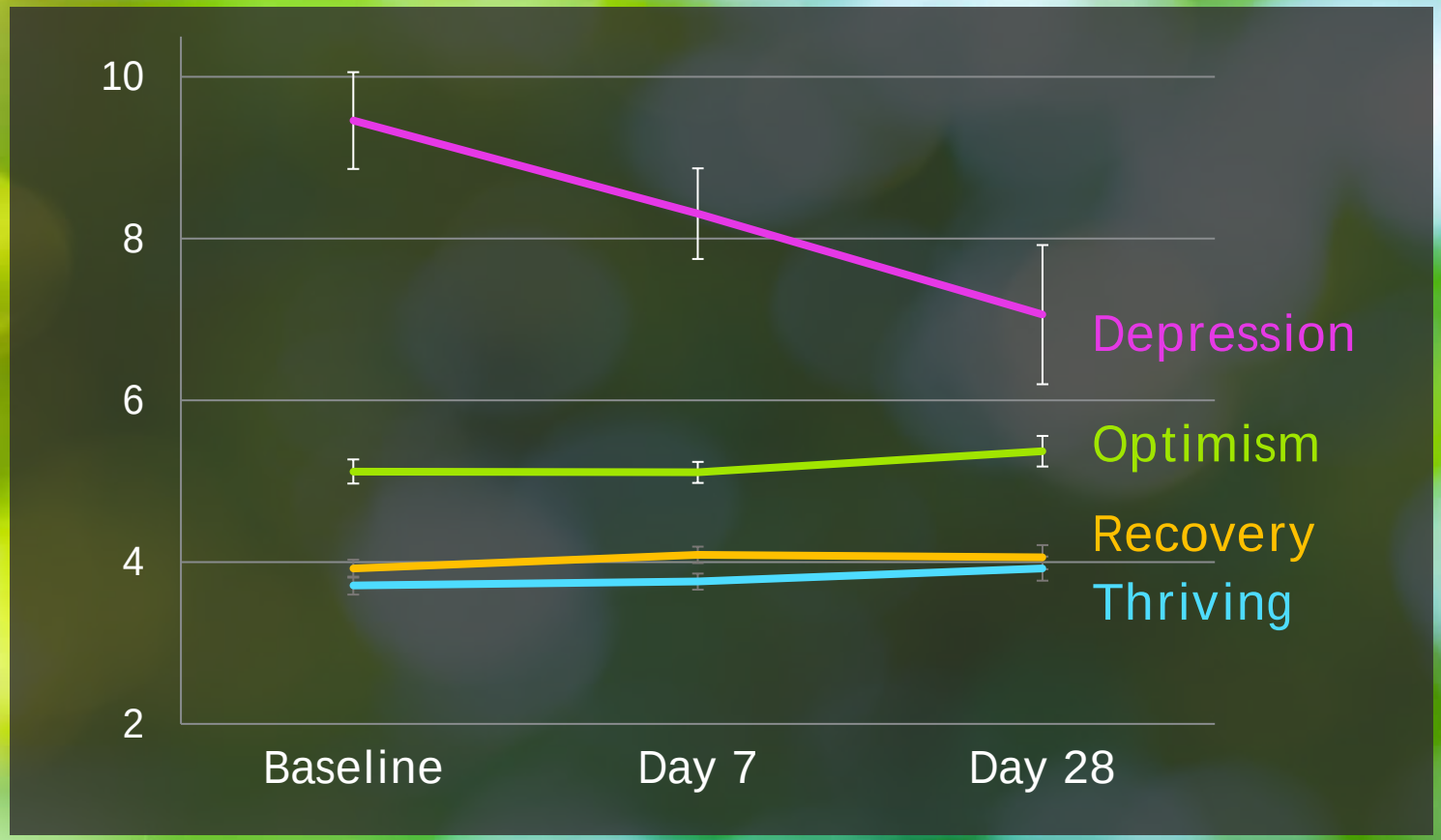
94% agreed “The Looking Forward tool was relatively straightforward.”

73% agreed “I noticed that it got easier to use the tool over time.”

bit.ly/fwdtool

Means and Standard Errors for Depression Symptoms, Optimism, Thriving, and Recovery Across Assessment Points

Significant improvements in depression symptoms, optimism, emotional thriving and emotional recovery between baseline and day 28.



bit.ly/fwdtool

Adair, Kennedy & Sexton 2020

WISER

Table 2: Changes in well-being metrics across all three studies

	Time 0 (Baseline)	**Time 1**	**Time 2**	**Time 3**	**Time 4**
	Mean (*SD*)	Baseline to T1:	Baseline to T2:	Baseline to T3:	Baseline to T4:
		Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)
		t, df	*t, df*	*t, df*	*t, df*
Study 1: *Three Good Things*					
Emotional Exhaustion	62.32 (25.34)	53.71 (25.52) 5.36, 145***	50.40 (27.40) 5.65, 88***	52.34 (27.26) 4.62, 84***	50.01 (27.91) 4.91, 112***
Subjective Happiness	64.14 (21.61)	66.95 (20.22) -2.24, 145*	69.87 (21.97) -1.91, 88*	64.39 (23.37) -1.34 84	69.54 (20.6) -2.39, 115*
Work-life Balance	2.32 (0.62)	1.95 (0.51) 9.74,145**	1.81 (0.47) 9.10, 86***	1.93 (0.58) 5.96, 84***	1.9 (0.60) 8.65, 112***
Depression Symptoms	10.79 (5.87)	8.03 (4.90) 6.35, 132***	7.02 (5.26) 7.86, 82***	7.83 (5.31) 4.31, 80***	7.29 (4.79) 5.45, 100***
Emotional Thriving	61.35 (25.34)	65.93 (22.99) -3.47 144**	66.43 (25.54) -2.27, 87 *	64.78 (25.93) -1.67, 82[t]	68.69 (22.52) -1.72, 110[t]
Emotional Recovery	74.08 (19.69)	77.21 (17.29) -2.38, 144*	77.51 (19.40) -2.76, 87**	77.28 (19.07) -3.89, 83**	78.83 (17.64) -3.04, 112**
Study 2: *Gratitude Letter*					
Emotional Exhaustion	61.38 (25.28)	54.14 (26.44) 4.56, 122***			
Subjective Happiness	65.71 (17.25)	68.73 (17.71) -3.05, 122**			
Work-life Balance	2.33 (0.63)	2.04 (0.59) 6.21, 121***			
Study 3: *Looking Forward*					
Depression Symptoms	9.46 (5.56)	8.31 (5.27) 2.69, 86 **	7.06 (6.23) 2.75, 51**		
Optimism	5.12 (1.36)	5.11 (1.24) .11, 86	5.37 (1.36) -2.49, 51*		
Emotional Thriving	67.7 (26.33)	68.90 (26.33) -.75, 85	72.84 (27.83) -2.20, 51*		
Emotional Recovery	72.97 (20.68)	77.25 (18.91) -2.87, 85**	76.60 (20.02) -2.37, 51*		

*** $p < .001$, ** $p < .01$, * $p < .05$, [t] $p < .10$ Note: Baseline means, *SD*s, and *N*s reported are those used in the baseline to T1 paired T-tests. Assessment timing for each study was as follows: Study 11 (T1 = Day 15; T2 = 1 month; T3 = 6 months; T4 = 12 months); Study 2 (T1 = 1 month); Study 3 (T1 = Day 7; T2 = Day 28).

Session Summary

- Burnout/Resilience predicts care quality
  - Roughly half of USA healthcare workers are burned out 
  - Burnout linked to:
    - clinical quality; patient mortality; patient satisfaction; depression and suicide

- Burnout: impaired ability to experience positive emotions

- Positive reflections backwards (3 good things) has a counterpart for reflecting on the future (fwdtool)

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Things to do…

- Finish bit.ly/fwdtool
- Share bit.ly/yearofwellbeing self assessment so that others can assess their own well-being
  - knowing facilitates action on well-being
- Normalize burnout because it is so very common, it is validating to others
- Read/share the Science of Well-being article included in the cont ed email
- Ask others what they are looking forward to

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www.hsq.dukehealth.org :

Enduring Resources (for Pausing & Reflecting)

- Positive Rounding
- 2nd Victim Support
- Psychologically Safe Leadership
- Leader WalkRounds

Institutional resources

Individual resources

bit.ly/joyreflections | 2 minutes | 8 days
Simple joys. Cultivate joy and playfulness.

bit.ly/awetool | 10 minutes | 2 days
Cultivate awe.

bit.ly/grattool | 10 minutes | 2 days
Cultivate gratitude.

bit.ly/start3ft | 2 minutes | 8 days
3 Funny Things. Cultivate humor.

bit.ly/wlbtool | 2 minutes | 4 days
Cultivate work-life balance.

bit.ly/fwdtool | 2 minutes | 8 days
Looking Forward. Cultivate hope.

bit.ly/inttool | 5 minutes | 3 days
Interest Tool. Cultivate engagement.

bit.ly/3goodminutes | 3 minutes | 8 days
3 Good Minutes. Cultivate mindfulness.

bit.ly/doortool | 10 minutes | 2 days
1 Door Closes, Another Opens. Cultivate perspective.

bit.ly/posfbtool | 3 minutes | 8 days
Positive Feedback. Cultivate the ability to uplift others.

bit.ly/kindtext | 3 minutes | 8 days
Cultivate kindness.

bit.ly/selfcomptool | 10 minutes | 2 days
Self-Compassion. Cultivate a kinder internal voice.

bit.ly/serenitytool | 2 minutes | 4 days
Serenity. Cultivate routines and rituals.

bit.ly/strengthstool | 3 minutes | 8 days
Signature Strengths. Cultivate your strengths.

bit.ly/sleeptool | 2 minutes | 8 days
Sleep Tool. Cultivate rest.

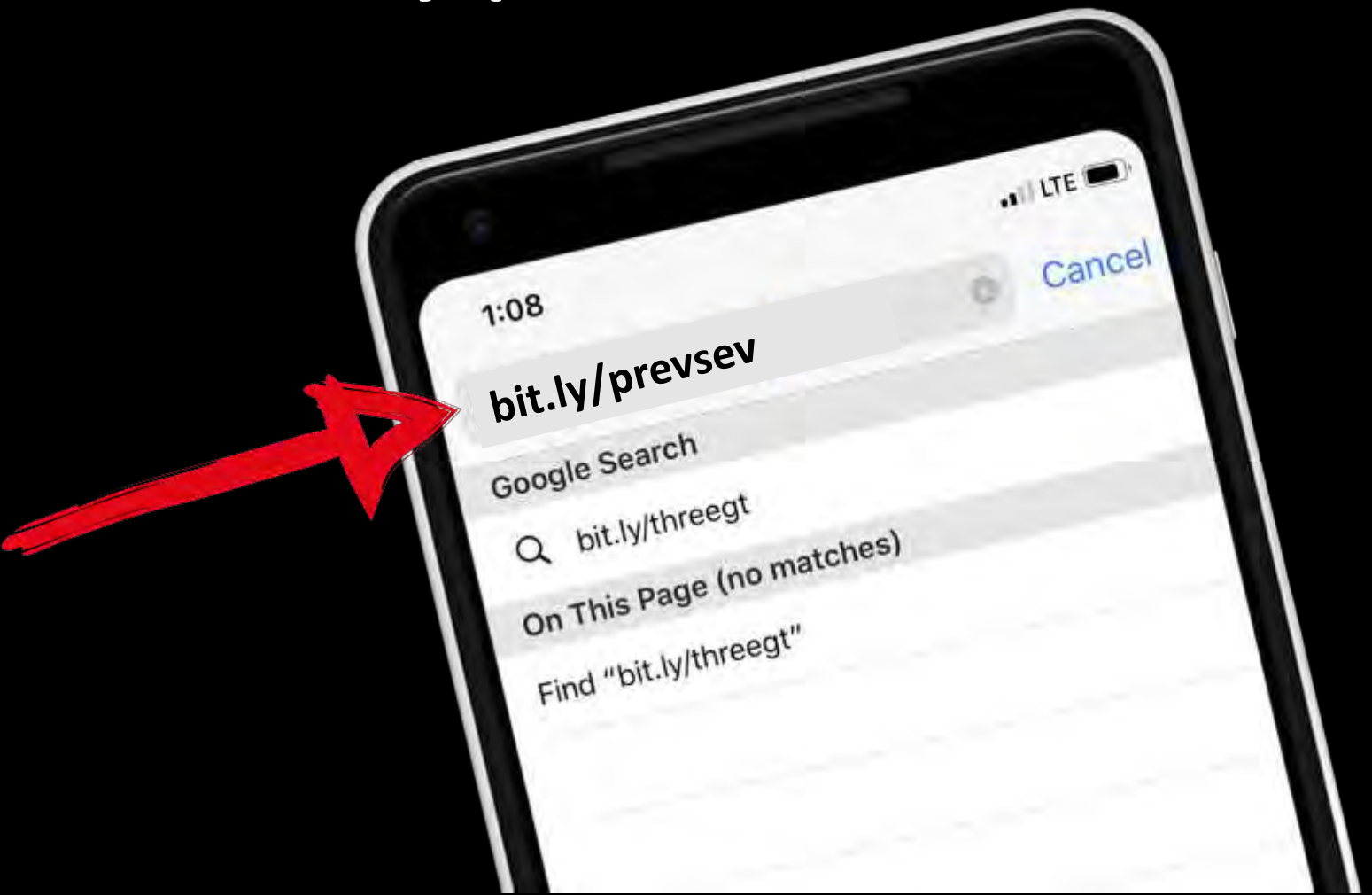
bit.ly/start3gt | 2 minutes | 15 days
3 Good Things. Cultivate your uplifts.

bit.ly/3wiser | 5-in-1 tool | 10 days
WISER. A sampler of multiple resilience tools.

bit.ly/storyburn | 20 minutes | 3 days
Your Burnout Story. Cultivate healing through reflective writing

For continuing education credit:

Go to: bit.ly/prevsev



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BS Bryan Sexton

Attendee:

CA Carrie Adair (me)

Q&A

All (0)

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Science of Health Care Worker Burnout

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What questions do you have?