Meaning, Purpose, and Health: Research Findings and What They Might Mean to You

Kevin S. Masters, PhD

Meaning, Purpose, and Health: From Research to You

Professor of Psychology

Department of Psychology

Anschutz Health and Wellness Center

Thank You

Stephanie A. Hooker, PhD Research Investigator, Research and Evaluation HealthPartners Institute Minneapolis, MN

American Heart Association
National Institute on Aging
John Templeton Foundation
CU Anschutz Health and Wellness Center
Office of Research Services, CU Denver
CaLM Heart Lab; CU Denver
Jennifer Morozink Boylan, PhD; Jonathan A. Shaffer, PhD;
Kaitlyn M. Vagnini, PhD (now at Henry Ford Health System)
Christina L. Rush, PhD (now at Mass General/Harvard Medical School)

No conflicts of interest to disclose

Overview

- Meaning as studied in health psychology and social science
- Evidence regarding meaning and physical health and wellness
- Evidence regarding meaning and psychological health and wellness
- Pathways for psychological factors (meaning) to influence health and wellness
- Meaning salience i.e., awareness in the moment of what is meaningful to you
- What do people find meaningful?
- What does any of this have to do with You (and Me)?

What is Life Meaning?

Typically, three components:

- 1. Meaningful life has purpose (goals)
- 2. Meaningful life matters or has significance
- 3. Meaningful life makes sense to the person living it, is comprehensible, predictable.

Heintzelman & King, 2014; George & Park, 2016; Steger, 2009

What is Life Meaning?

"Meaning provides us with the sense that our lives matter, that they make sense, and that they are more than the sum of our seconds, days, and years."

Steger, 2012

"Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity."

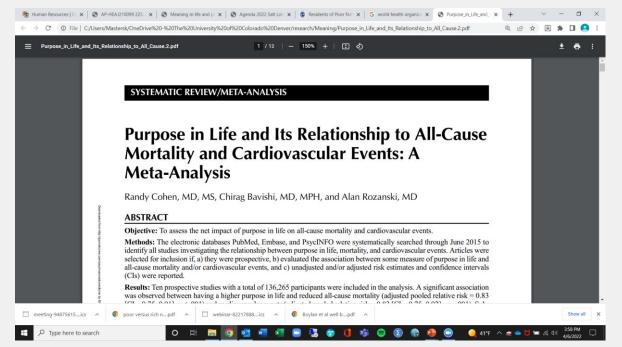
World Health Organization, 1948

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

World Health Organization, 1948

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

World Health Organization, 1948





📵 Human Resource: X | 🚱 AP-HEAJ210099 | X | 🤡 Meaning in life a: X | 🥝 Agenda 2022 Sair X | 🖫 Residents of Pool X | 🕞 world health org: X | 🚱 Purpose in Life a: X | 🚱 Meaning in life a: X +

Cohen, Bavashi, & Rozanski (2016)

Meta-analysis

10 prospective studies – total of 136,265 participants

Followed on average 7.3 years

Higher meaning predicted lower all-cause mortality

$$(RR = 0.83 [CI=0.75-0.91], p < .001)$$

Higher meaning predicted <u>fewer</u> cardiovascular events

$$(RR = 0.83 [CI=0.75-0.92], p = .001)$$

Czekierda, Banik, Park, & Luszczynska (2017)

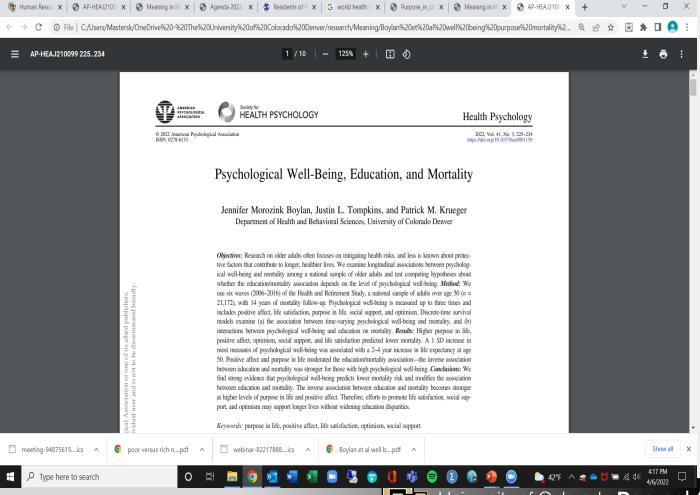
Meta-analysis

Included both prospective and cross-sectional studies (k=66)

Average effect = .258 (95% CI: .211, .304)

 moderate size indicating greater meaning predicted better health status

No evidence of publication bias



Morozink Boylan, Tompkins, & Krueger (2022)

Health and Retirement Study Data

21,172 US adults over age 50

14 years of mortality follow-up data

Purpose in life measured using Ryff's scale (7 items)

Difference in life expectancy between those +1 SD above the mean vs. -1 SD below the mean in purpose in life = 8.3 yrs.

By comparison college degree vs. less than HS = 7.3 yrs.

Never smoker vs. current smokers = 9.8 yrs.



- Meaning in Life Questionnaire
 - » 2 Scales
 - Presence of meaning
 - » E.g., I understand my life's meaning
 - Search for meaning
 - » E.g., I am searching for meaning in my life.

- Li, Dou, & Liang (2021)
- Meta-analysis of 147 studies (N=92,169)
- Presence of meaning positive association with subjective well-being (ES = .418, p < .001, 95% CI [.390, .446]) medium
- Search for meaning negative association with subjective well-being (ES = -.121, p < .001, 95% CI [-.155, -.087]) small
- Of interest, our lab found that greater search for meaning measured in the lab prior to the pandemic was associated with greater fear of death during COVID-19 pandemic (Vagnini, Boylan, Shaffer, Rush, & Masters, 2021)

Less likely to experience depression, boredom, loneliness, and anxiety More likely to experience feeling good about oneself and one's abilities (self-efficacy);

optimism & hope (even among cancer patients);

life satisfaction

lower likelihood of mild cognitive impairment or Alzheimer's Disease

Less likely to experience posttraumatic stress and burnout

Lack M/P more likely to abuse drugs



Behaviors



Behaviors (e.g., smoking, exercise, sleep, diet, addictions, etc.)



Behaviors (e.g., smoking, exercise, sleep, diet, addictions, etc.)

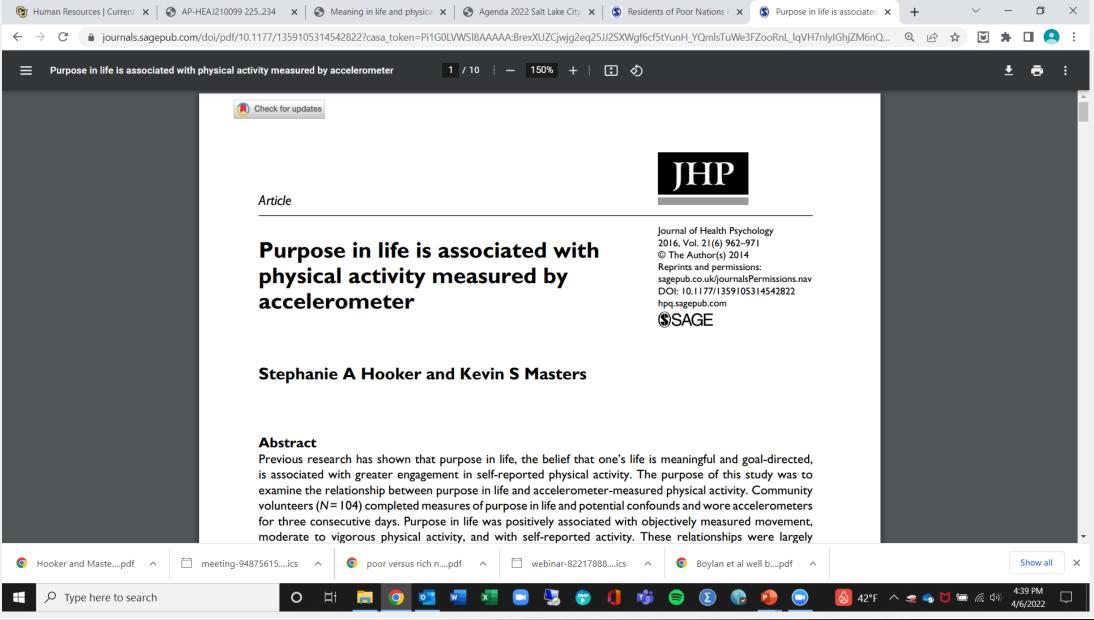


Psychophysiological Response to Psychological Stress or the Environment

Behaviors (e.g., smoking, exercise, sleep, diet, addictions, etc.)



Psychophysiological Response to Psychological Stress or the Environment



Meaning in Life Predicts Physical Activity

- N = 104 adults (71% female, Age 34.5)
- Completed self-report of meaning in life and potential confounds (depression, optimism, sense of control, positive mood)
- Wore accelerometers for 3 consecutive days (Thursday/ Friday/Saturday)

Hooker & Masters, 2016

Meaning in Life Predicts Physical Activity

- Positive relationship between meaning and total movement
- After controlling potential confounds, relationship was maintained so it was not due to optimism, positive mood, etc.
- Similar trends for moderate-vigorous PA and self-report of PA

Hooker & Masters, 2016

Behaviors (e.g., smoking, exercise, sleep, diet, addictions, etc.)



Psychophysiological Response to Psychological Stress



Contents lists available at ScienceDirect

Journal of Psychosomatic Research

Purpose in life predicts allostatic load ten years later

Samuele Zilioli ^{a,*}, Richard B. Slatcher ^a, Anthony D. Ong ^b, Tara L. Gruenewald ^c

a Department of Psychology, Wayne State University, United States

Purpose in life pred... ×

451 (1 of 7)

- ^b Department of Human Development, Cornell University, United States
- ^c Davis School of Gerontology, University of Southern California, United States

ARTICLE INFO

Article history: Received 9 April 2015 Received in revised form 2 September 2015 Accepted 26 September 2015

Keywords: Allostatic load Purpose in life Health locus of control

ABSTRACT

Objective: Living a purposeful life is associated with better mental and physical health, including longevity. Accumulating evidence shows that these associations might be explained by the association between life purpose and regulation of physiological systems involved in the stress response. The aim of this study was to investigate the prospective associations between life purpose and allostatic load over a 10-year period.

Methods: Analyses were conducted using data from the Midlife in the United States (MIDUS) survey. Assessment of life purpose, psychological covariates and demographics were obtained at baseline, while biomarkers of allostatic load were assessed at the 10-year follow-up.

Results: We found that greater life purpose predicted lower levels of allostatic load at follow-up, even when controlling for other aspects of psychological well-being potentially associated with allostatic load. Further, life pur-









Sign In



















Tools

Klussman meaning ...

Home















































Examined allostatic load

- Cumulative multi-faceted physiological burden experienced by the body as a result of its attempts to repeatedly adjust to environmental challenges via allostasis (i.e., physiological change that cardiovascular, autonomic, neuroendocrine, immune and metabolic systems simultaneously undergo in situations of stress)

- "wear and tear on the body"

Zilioli, Slatcher, Ong, & Gruenewald, 2015

What is the prospective association between life purpose and allostatic load over 10 years?

Data from MIDUS (Midlife in the United States) study (N for this study = 985; those in the biomarker sample are a subset of overall MIDUS)

Zilioli, Slatcher, Ong, & Gruenewald, 2015

Life purpose assessed by 3 items from Ryff Scales of Psychological Well-Being

Allostatic load – sum of 7 system-level (cardiovascular, lipid, glucose metabolism, inflammation, SNS, PNS, HPA) risk scores

Greater life purpose predicted lower allostatic load at 10 years, even when controlling for other aspects of psychological well-being (positive and negative affect, positive relations with others)

Zilioli, Slatcher, Ong, & Gruenewald, 2015





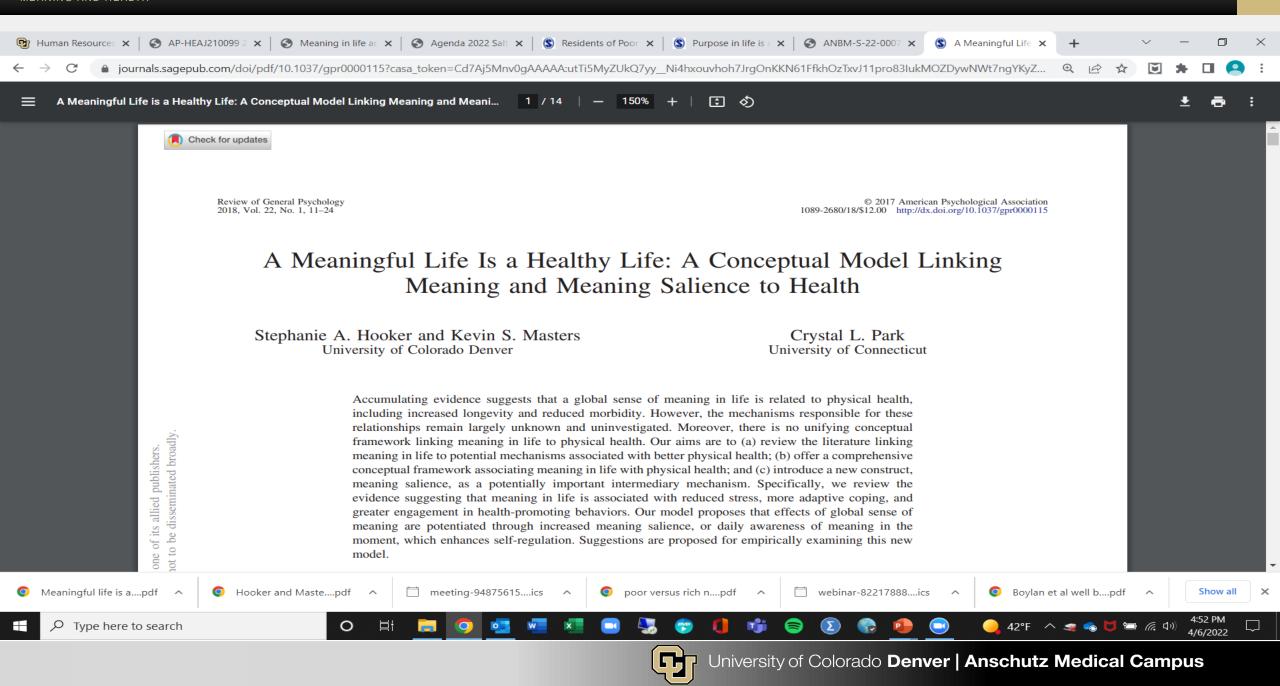




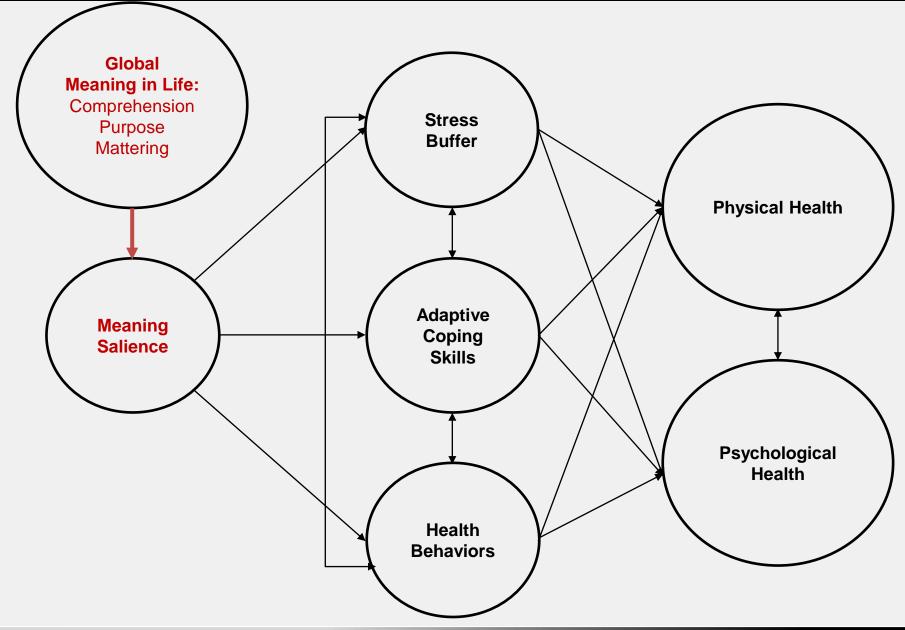
Drilling Down on Meaning: Making it Real Day by Day

"For the meaning of life differs from man to man (sic), from day to day and from hour to hour. What matters, therefore, is not the meaning of life in general but **rather the specific meaning of a person's life at a given moment**." (Frankl, 1988)

Meaning Salience – Awareness of meaning in the moment



MEANING AND HEALTH



Annals of Behavioral Medicine, 2023, XX, 1–6 https://doi.org/10.1093/abm/kaac079 Advance access publication 20 March 2023 **Brief Report**

Meaning Salience and Meaning in Life Prospectively **Predict Lower Distress During the COVID-19 Pandemic**

Jennifer Morozink Boylan, PhD¹, • Kaitlyn M. Vagnini, MA² • Christina L. Rush, MA² • Emily K. Larson, BS¹ · Monica Adams, MA¹ · Caitlyn L. Wilson, BS² · Jonathan A. Shaffer, PhD² · Kevin S. Masters, PhD², 10

¹Department of Health and Behavioral Sciences, University of Colorado Denver, Denver, CO, USA

²Department of Psychology, University of Colorado Denver, Denver, CO, USA

Jennifer Morozink Boylan

Jennifer.Boylan@ucdenver.edu

Abstract

Background The COVID-19 pandemic is a widespread source of stress with adverse mental health impacts. Meaning in life, both as a trait and as momentary awareness of what is personally meaningful (meaning salience), is associated with positive health outcomes and may buffer against the deleterious effects of stress.

Purpose This project examines prospective associations between baseline meaning salience (daily, post-laboratory stressor) and meaning in life with perceived stress during COVID-19.

Methods A community sample of healthy adults (n = 147) completed a laboratory stress protocol in 2018–2019, where perceived stress,

Downloaded from https://academic.oup.com/abm/a

































OXFORD







CaLM Lab

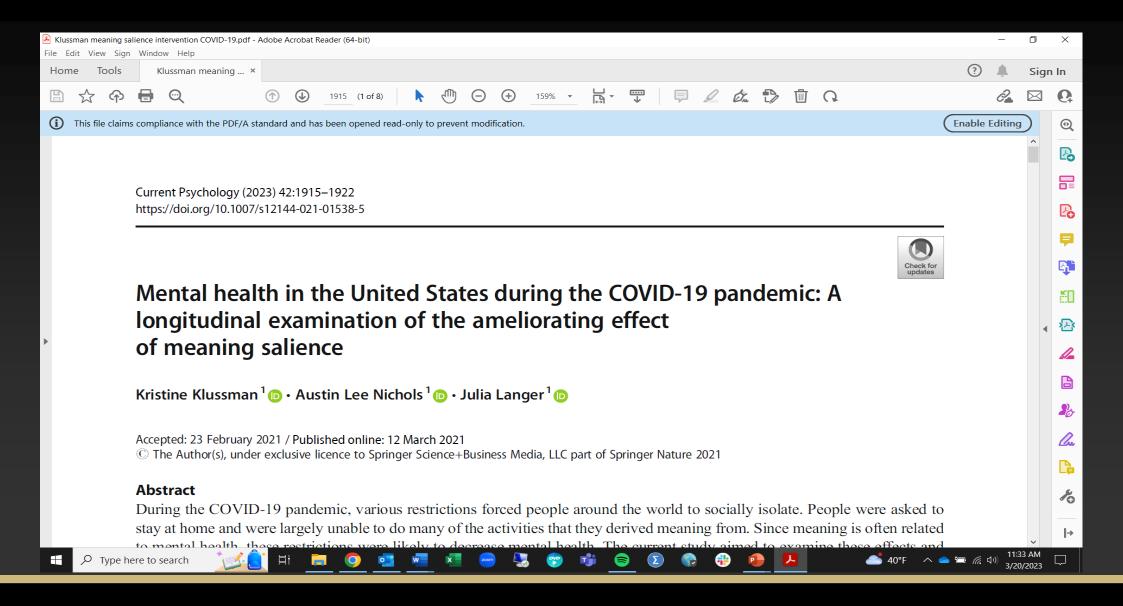
- Wondered if awareness of meaning (meaning salience) when experiencing acute stress would predict perceived stress during the COVID-19 pandemic
- 147 community dwelling adults came in for a lab stress study in 2018-19
- Measured meaning in life as well as meaning salience (in lab and as perceived overall)
- Underwent standard laboratory stressors
- Measured meaning salience during stress experience
- Measured perceived stress in early pandemic; April 2020 (essentially lockdown) and July 2020 (not lockdown but what do we do?)

Boylan, Vagnini, Rush, Larson, Wilson, Shaffer, & Masters, 2023

CaLM Lab

- General linear mixed effects model adjusting for gender, age, and baseline perceived stress – one SD increase in post-stressor meaning salience associated with .57 unit decrease in perceived stress in COVID-19 (scored 0 – 4)
- Baseline meaning salience = .70 unit decrease in perceived stress in COVID-19
- Global meaning in life = .64 unit decrease in perceived stress in COVID-19

Boylan, Vagnini, Rush, Larson, Wilson, Shaffer, & Masters, 2023



Meaning salience during COVID-19

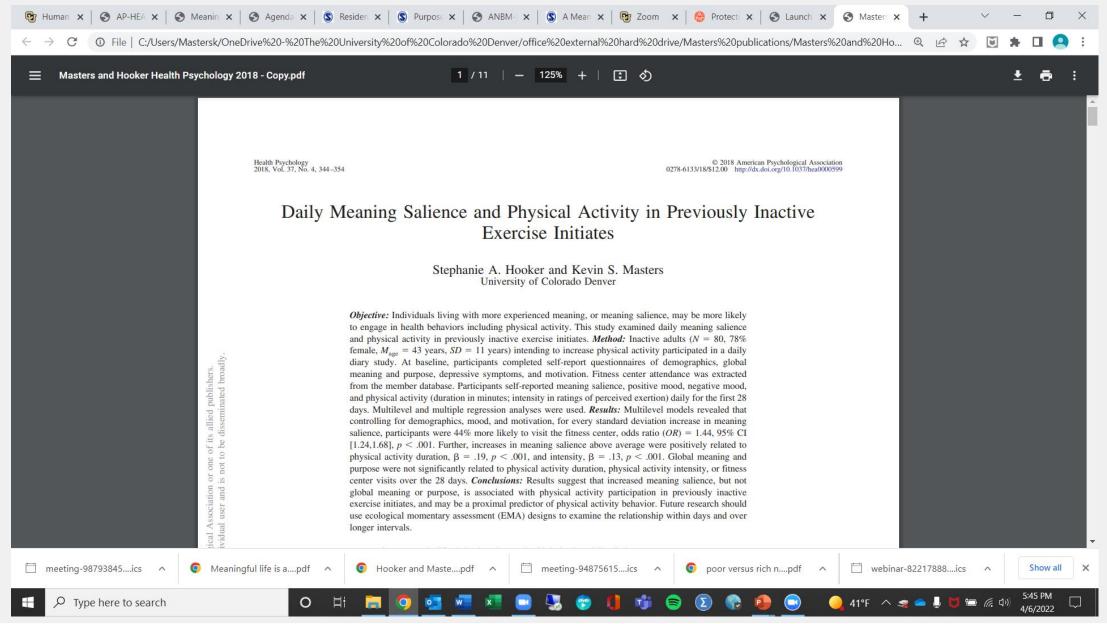
- During pandemic lockdown social isolation
 - (at beginning of study: 54.2% total self-quarantine; 36.9% staying home as much as possible;
 6.3% not going to work but everything else normal)
- Intervention vs. Control (N = 96) over one week
 - » Intervention focused on the meaning of their daily activities
 - » Control did nothing but complete measures

Results

- » Controls increased in anxiety, depression, and stress over the week
- » Intervention either decreased or non-significant change
- Intervention less anxiety, depression, and stress at post-test than the controls

Klussman, Nichols, & Langer, 2021





If People are More Aware of Meaning: Will they be More Active?

- We studied 80 physically inactive adults over 28 days.
- General measure of meaning in life
- Daily recordings of meaning salience, mood, PA
- Outcomes:
 - Self-report physical activity
 - Attendance at fitness center (assessed from center records)

Hooker & Masters, 2018

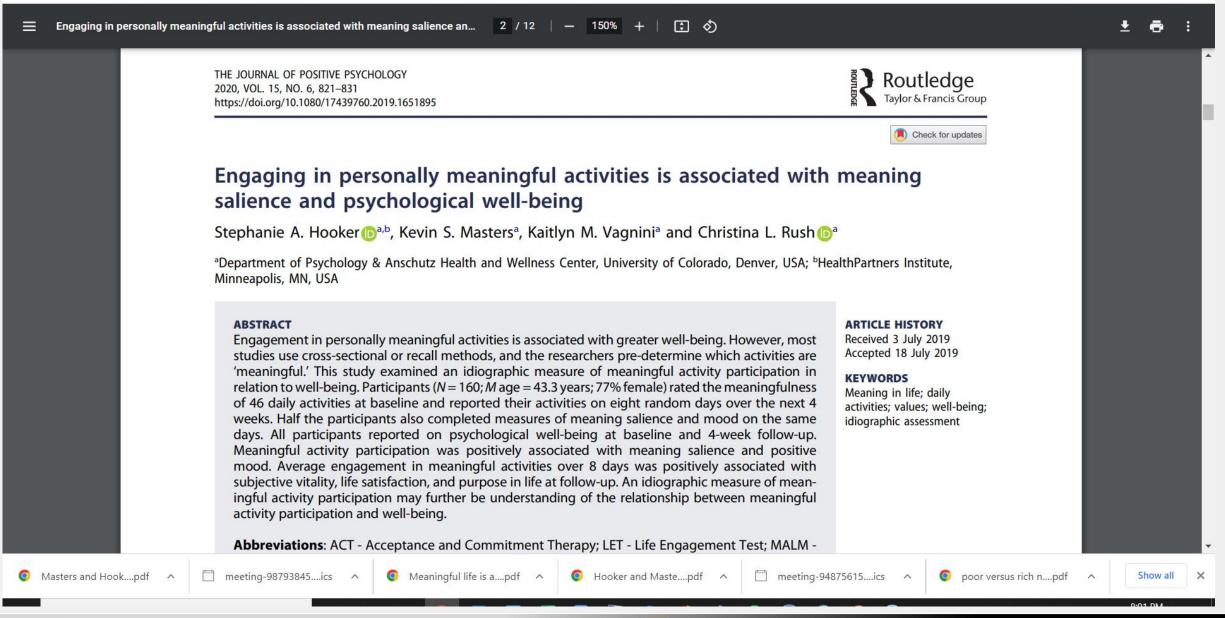
If People are More Aware of Meaning: Will they be More Active?

- Meaning salience (after controlling for demographics, mood, and motivation) predicted:
 - Fitness center visits
 - 1 SD increase in meaning salience = 44% more likely to visit center
 - Above average meaning salience predicted increased PA duration
 - Above average meaning salience predicted increased PA intensity
- Global meaning did not predict outcomes

Hooker & Masters, 2018

In progress experimental interventions of meaning salience with physical activity?

- Stephanie Hooker (PI) and I are currently funded to develop a smartphone intervention to pair meaning salience prompts with physical activity prompts with middle-aged adults. Will this result in greater physical activity?
- Jonathan Shaffer and I are proposing a similar intervention with individuals who are "peri-retirement"



Does engaging in meaningful activities predict well-being?

- 160 participants rated the meaningfulness of 46 daily activities (idiographic measure)
- On 8 randomly selected days over the next 4 weeks completed activity diary
- Meaningful activity calculated by assigning meaningfulness rating to each activity they reported engaging in for 24 hours
- Measured well-being (life satisfaction, purpose in life, subjective vitality) at baseline and at 4 weeks

Hooker, Masters, Vagnini, & Rush, 2020

10 Most Meaningful Activities (0 – 4) 10 Most frequently reported activities Spending time with loved ones 3.48 » Sleeping 2.86 Supporting family members' or friends' Working 2.66 goals and interests 3.34 » Radio/TV 1.65 Caring for children and other family 3.12 Driving 1.31 Helping others 3.08 » Eating 2.43 Education/Learning/School 3.48 3.03 Spending time with loved ones Persevered at a valued goal even in face Getting ready 1.86 of obstacles 2.57 2.98 Socializing Physical exercise Expressed my gratitude 2.93 2.41 Traveling 2.90 Caring for children and other family 3.12 Listened carefully to another's view 2.90 2.86 Sleeping

10 Most Meaningful Activities (0 - 4)

•	Spending time with loved ones	3.48
÷	Supporting family members' or friends'	
	goals and interests	3.34
•	Caring for children and other family	3.12
÷	Helping others	3.08
٠	Education/Learning/School	3.03
÷	Persevered at a valued goal even in face	
	of obstacles	2.98
٠	Expressed my gratitude	2.93
٠	Traveling	2.90
•	Listened carefully to another's view	2.90
٠	Sleeping	2.86

10 Most frequently reported activities

>>	Sleeping	2.86
>>>	Working	2.66
>>	Radio/TV	1.65
>>	Driving	1.31
>>>	Eating	2.43
>>	Spending time with loved ones	3.48
>>	Getting ready	1.86
>>	Socializing	2.57
>>>	Physical exercise	2.41
>>>	Caring for children and other family	3.12

Results

- Baseline well-being positively predicted engagement in meaningful activity
- Depressive symptoms were negatively related with meaningful activity
- Controlling for demographics, greater engagement in meaningful activities during the 4 weeks was positively associated with greater purpose in life, vitality and life satisfaction as measured at 4 weeks.
- A "virtuous cycle"



- Virtuous cycle is great, but what if I can't do much different than I do now?
- I have to go to work, drive, etc.

- Study of hospital cleaners
- Considered self "janitor" vs. "healthcare part of healing process"
- Latter group more job satisfaction, more time with patients, more time with doctors/nurses, more meaningful job
- Both groups did the same tasks

Dutton, Debebe, & Wrzesniewski, 2014

Now to You and Me and the elephant in the room



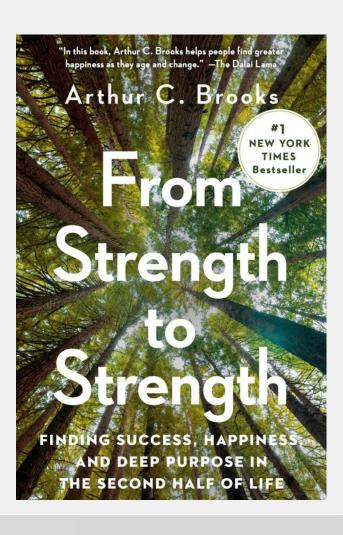
10 Most Meaningful Activities (0 - 4)

•	Spending time with loved ones	3.48
٠	Supporting family members' or friends'	
	goals and interests	3.34
٠	Caring for children and other family	3.12
-	Helping others	3.08
•	Education/Learning/School	3.03
•	Persevered at a valued goal even in face	
•	Persevered at a valued goal even in face of obstacles	2.98
	G	2.982.93
	of obstacles	
	of obstacles Expressed my gratitude	2.93

"...being human always points, and is directed, to something or someone, other than oneself...the more one forgets himself—by giving himself to a cause to serve or another person to love—the more human he is and the more he actualizes himself. ..Self actualization is possible only as a side-effect of self-transcendence" (Frankl, 1946; bold added, from Man's Search for Meaning)

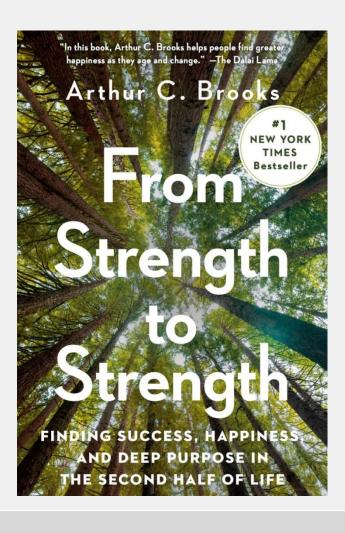
• "The answer, he believed, is that we all seek a cause beyond ourselves. This was, to him, an intrinsic human need. The cause could be large (family, country, principle) or small (a building project, the care of a pet). The important thing was that, in ascribing value to the cause and seeing it as worth making sacrifices for, we give our lives meaning" (Gawande, 2014; bold added, from *Being Mortal*)

- Two Characteristics of Meaningful Life both characterized by selftranscendence and both applicable to training:
 - » Relationships giving of yourself
 - » Something beyond yourself a greater good, higher power, bigger cause



Commencement speeches:

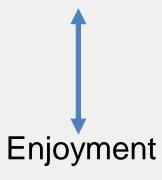
1. Find your meaning/purpose (eudaimonia)

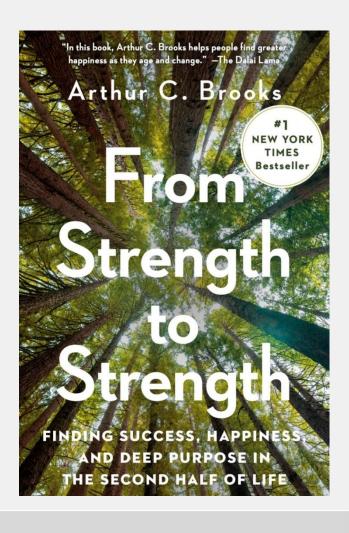


Commencement speeches:

- 1. Find your meaning/purpose (eudaimonia)
- 2. Do work you love and you'll never work a day (hedonia feel good, enjoyment)

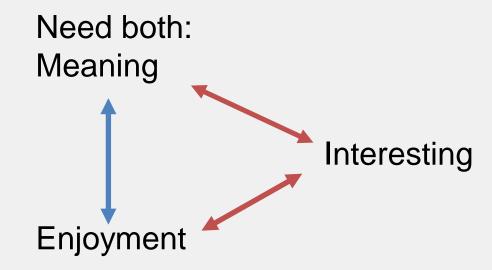
Need both: Meaning

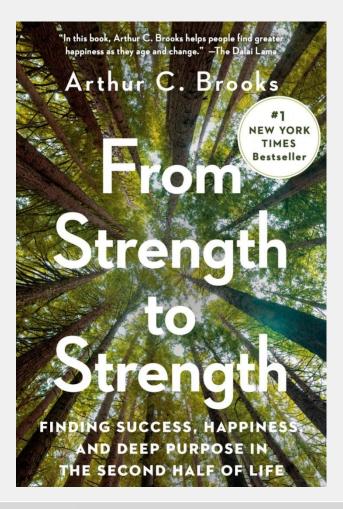




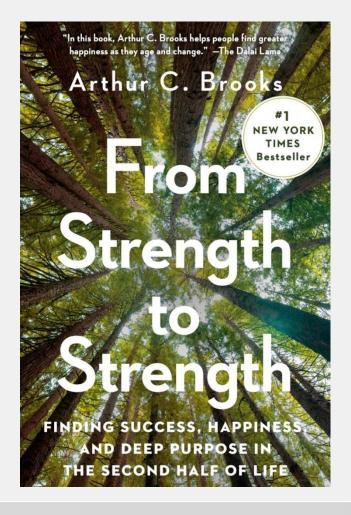
Commencement speeches:

- 1. Find your meaning/purpose (eudaimonia)
- 2. Do work you love and you'll never work a day (hedonia feel good, enjoyment)



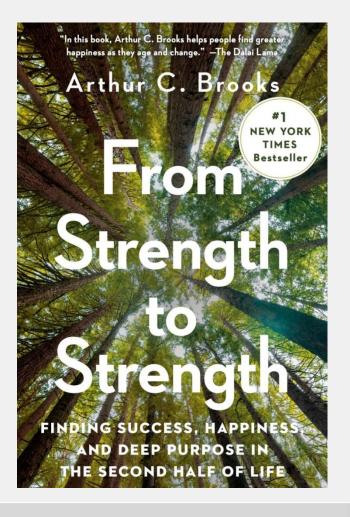


Is this work deeply interesting to me?



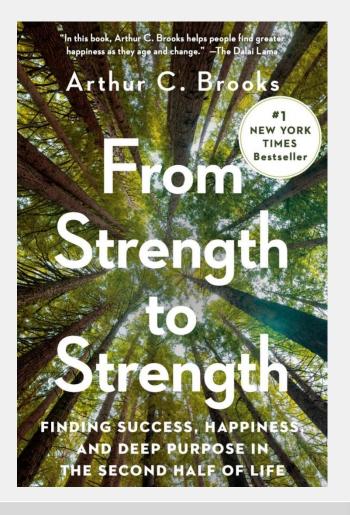
Is this work deeply interesting to me?

Work-life balance



Is this work deeply interesting to me?

Work-life balance



Is this work deeply interesting to me?

Work-life balance

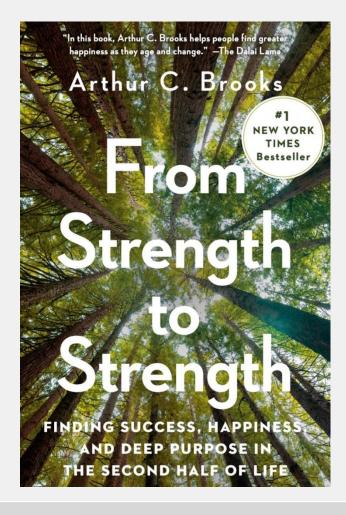
Work-life harmony

Work-life harmony

- » The combination of simultaneously sounded musical notes to produce chords and chord progressions; having a pleasing effect.
- » An arrangement of parallel narratives, which presents a single continuous narrative text
- » Agreement, accord; harmonious relations, a consistent, orderly, congruity. or pleasing arrangement of parts

Work-life harmony

» It will probably be found when engaged in what is deeply interesting, in the context of on-going relationships, in the service of some greater good.



Use things.
Love people.
Worship the divine.

Some possible (practical) resources:

- The Happiness Lab podcast with Dr. Laurie Santos
- Man's Search for Meaning and/or The Will to Meaning by Viktor E. Frankl
- Being Mortal by Atul Gawande
- The Road to Character and/or The Second Mountain by David Brooks
- Stumbling on Happiness by Daniel Gilbert
- Life Worth Living: A Guide to What Matters Most by Volf, Croasmun, & McAnnally-Linz
- From Strength to Strength by Arthur Brooks