

Positive Psychology: Resilience, Meaning In Life And Well-being



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Educational Objectives

At the end of this session, physicians will be able to:

1. Identify the difference between traditional behavioral health and positive psychology.
2. Name the two physiological mechanisms that prolong stress responses.
3. Describe the evidence base for clinical interventions to improve well being, life meaning and resilience.
4. Name two evidence-based well-being interventions.



Mental Wellness

The World Health Organization defines mental wellness as **a state of well-being in which an individual realizes their abilities, can cope with the normal stresses of life and work productively, and is able to make contributions to society.**

<https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>



Positive Psychology

- **Positive psychology** is a popular movement that began in the late 1990's.
- The branch of psychology with a primary focus on the **strengths, virtues, and talents that contribute to successful functioning** and enable individuals and communities to flourish.
- Core topics include **happiness, resiliency, well-being, and states of flow and engagement**.
- Throughout most of its history, psychology was concerned with identifying and remedying human ills.
- Psychology has largely focused on **decreasing maladaptive emotions and behaviors**, while generally ignoring positive and optimal functioning.

<https://psychology.pressbooks.tru.ca/chapter/12-1-the-history-of-positive-psychology>



Positive Psychology (2)

- In contrast, the goal of positive psychology is to identify and enhance the human strengths and virtues that make life worth living.
- Unlike the positive thinking or New Thought movements that are associated with Norman Vincent Peale's 1952 bestseller *The Power of Positive Thinking* or Rhonda Byrne's 2006 self-help book *The Secret*,
- Positive psychology pursues scientifically informed perspectives on what makes life worth living.
- **Positive psychology is empirically based** and focuses on measuring aspects of the human condition that lead to happiness, fulfillment, and flourishing.



Well-being is Associated With Many Positive Outcomes

- Cross-sectional, experimental, and longitudinal research demonstrates that well-being is related to health, work, family, and economic status (Kobau, Seligman, Peterson et al., 2010).
- Well-being is positively associated with **longevity** (Diener & Chan, 2011; Jacob, Hersant, Mezi, Meningaud, 2016),
- **Better physical health** (Rasmussen, Scheier, Greenhouse, 2009),
- **Resilience to mental and physical disease** (Stewart & Yuen, 2011) and
- **Productivity** (Schulte, 2010).



Well-being

- **Well-being is not enhanced by wealth*, power, or fame, despite many people acting as if such accomplishments could bring lasting satisfaction. *Controversial, see Appendix**
- **Character development does bring about greater self-awareness and hence greater happiness.**
- **Fortunately, recent work on well-being has shown that it is possible to improve character, thereby increasing well-being and reducing disability in the general population, and in most, if not all, mental disorders.**
- **The most effective methods of intervention all focus on the development of positive emotions and the character traits that underlie well-being (Cloninger, 2006).**



Stages Of Self-awareness On The Path To Well-being

Stage	Description	Psychological Characteristics
0	Child-like, unaware	Immature, seeking immediate gratification
1	Average adult	Purposeful but egocentric; able to delay gratification, but has frequent negative emotions (anxiety, anger, disgust)
2	Mindful	Parental, mature, community focused adult, calm and patient, so able to supervise conflicts and relationships
3	Well-being	Effortless calm, impartial awareness; wise, creative, and loving



Adapted from Cloninger, 2006

Ten Key Population Findings From Positive Psychology: 2020, Pre-COVID

- Most people are happy. *Pre-COVID
- **Happiness is a cause of good things in life and not simply a result of success or good outcomes. Happy people make good things happen.**
- Political conservatives are happier than political liberals.
- Most people are resilient.* Pre-COVID They bounce back from adversity, both large and small.
- **Religious faith matters.** People for whom religion is important are happier and cope better with stress compared to non-believers.

<https://psychology.pressbooks.tru.ca/chapter/12-1-the-history-of-positive-psychology/>



Ten Key Population Findings From Positive Psychology: 2020, Pre-COVID (2)

- Happiness, resilience, and good social relationships are buffers against the damaging effects of disappointments and setbacks.
- **Money makes an ever-diminishing contribution to wellbeing, but money can buy happiness if it is spent on other people.*** *Appendix has further details on money and happiness.
- As a route to a satisfying life, a life of meaning trumps hedonism (i.e., a life of pleasure).
- Good days have common features: **feeling autonomous, competent, and connected to others.**
- **The good life can be taught.**



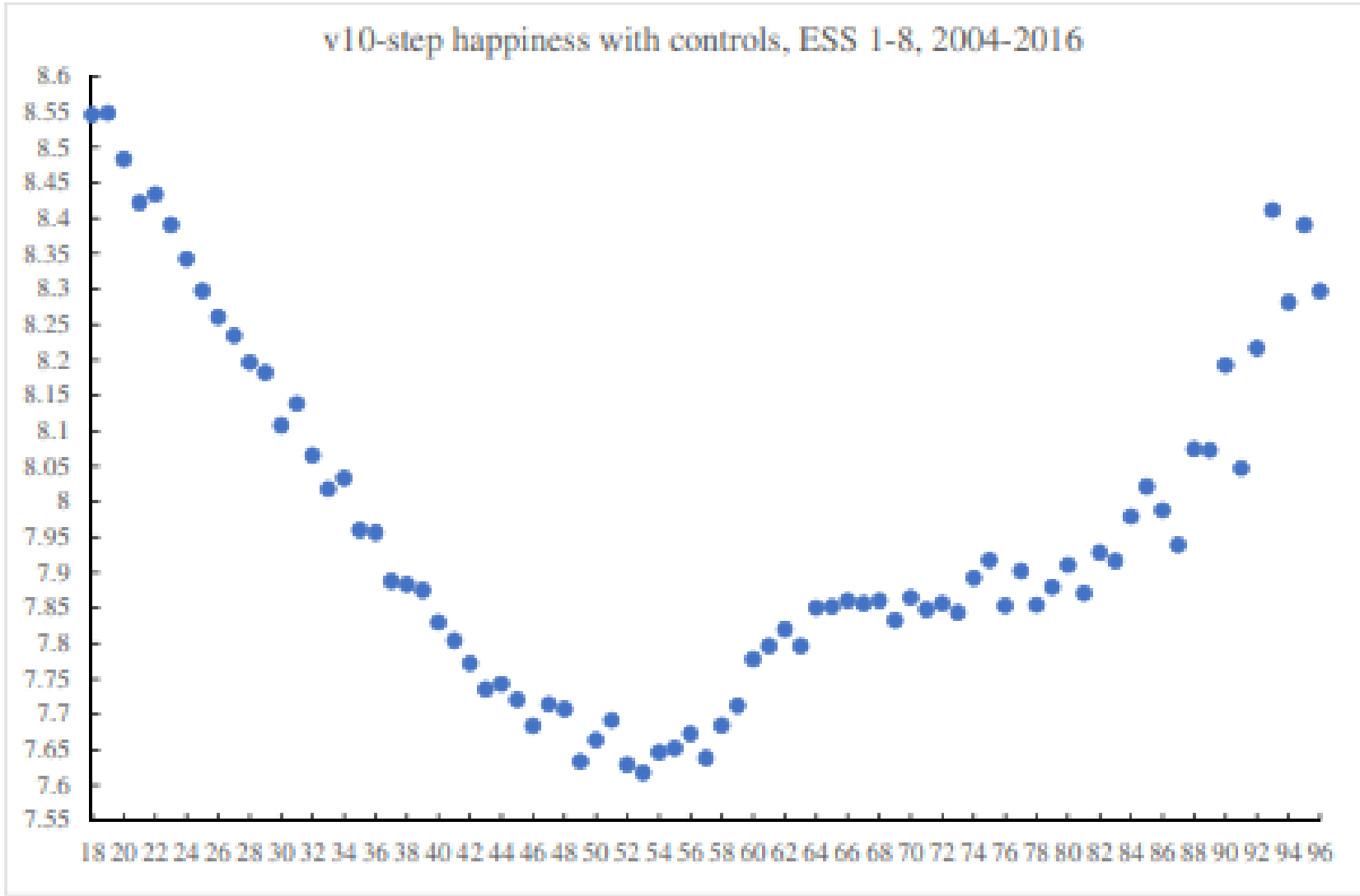
Population Finding From Positive Psychology (3)

- A large empirical literature has debated the existence of a U-shaped happiness-age curve.
- This paper re-examines the relationship between various measures of well-being and age in 145 countries, including 109 developing countries, controlling for education and marital and labor force status, among others, on samples of individuals under the age of 70.
- The U-shape of the curve is forcefully confirmed, with an age minimum, or nadir, in midlife around age 50 in separate analyses for developing and advanced countries as well as for the continent of Africa.
- The happiness curve seems to be everywhere.

Blanchflower, 2021



Population Finding From Positive Psychology (4)



For multiple populations world-wide, age has a statistical relationship with well-being demonstrating a prominent dip during late 40's or early 50's and a rebound during later ages.



Fig. 7 10-step happiness with controls, ESS 1-8, 2004-2016

Branchflower, 2020

The Mid-Life Dip In Well-being Is Comparable To The Effect Of A Major Life Event

- 409 studies mostly published in peer reviewed journals find U-shaped age and unhappiness curves.
- Data for Europe from the Eurobarometer Surveys (EB), 1980–2019; the Gallup World Poll (GWP), 2005–2019 and the UK's Annual Population Survey, 2016–2019 and the Census Bureau's Household Pulse Survey of August 2021 examines U-shapes in age in well-being.
- **The effects of the mid-life dip we find are comparable to major life events such as losing a spouse or becoming unemployed.**
- **This decline is comparable to half of the unprecedented fall in well-being observed in the UK in 2020 and 2021, during the COVID pandemic and lockdown.**

Blanchflower & Graham, 2021



Well-being Measures: Not Ready For Prime Time

- **Various approaches to defining and measuring well-being exist.**
- **Methods:** conducted a systematic literature search for empirical studies that investigated well-being using a measurement scale.
- **Results: identified 60 unique measurement scales.** Measurement scales were either multidimensional (n = 33) or unidimensional (n = 14) and assessed multiple domains.
- **The most frequently encountered domains were affects (39 scales), social relations (17 scales), life satisfaction (13 scales), physical health (13 scales), meaning/achievement (9 scales) and spirituality (6 scales).**
- **Conclusions:** Measures seldom reported testing for gender or cultural sensitivity. The content and format of scales varied considerably; **further work is required to refine definitions of well-being.**



The Genetics of Well-being

- A systematic literature search identified 30 twin-family studies on wellbeing or a related measure such as satisfaction with life or happiness.
- **Review of these studies showed considerable variation in heritability estimates.**
- For overall wellbeing twelve heritability estimates, from 10 independent studies, were meta-analyzed by computing a sample size weighted average heritability.
- The weighted average heritability of wellbeing, based on a sample size of 55,974 individuals, was 36% (34–38).
- Ten heritability estimates, derived from 9 independent samples, were used for the meta-analysis of satisfaction with life.
- The weighted average heritability for satisfaction with life based on a sample size of 47,750 individuals was 32% (29–35) (Bartels, 2015).
- **The heritability estimates mean that only a small part of the variability in well-being and satisfaction with life among the participants is due to genetics.**



A Mental Disorder During The Life Course Is The Norm

- Review epidemiological evidence indicating that **most people will develop a diagnosable mental disorder, suggesting that only a minority experience enduring mental health.**
- The population-representative Dunedin cohort, followed from birth to midlife (age 38), compared people never-diagnosed with mental disorder (N 171; 17% prevalence) to those diagnosed with a mental disorder (N 409).
- Never-diagnosed study members were **not born into unusually well-to-do families, nor did their enduring mental health follow markedly sound physical health, or unusually high intelligence.**
- Instead, they tended to have an advantageous temperament/personality style, and negligible family history of mental disorder.
- This study reviews evidence indicating that the experience of a diagnosable mental disorder at some point during the life course is the norm, not the exception (Schaefer, Caspi, Belsky et al., 2017).



The Genetics of Well-being (2)

- This study used a sample from the UK Biobank of 23,703 participants.
- The wellbeing score was lower in participants reporting various psychiatric disorders compared to the total sample.
- Childhood maltreatment exposure was also associated with reduced wellbeing, and a moderate genetic correlation suggests an overlap in heritability of maltreatment with wellbeing.
- Thus, wellbeing is negatively associated with both psychiatric disorders and childhood maltreatment.

Jamshidi, Schofield, Gatt et al., 2022

- **Bottom Line:** For improved well-being, acknowledge and treat psychiatric disorders and childhood trauma.

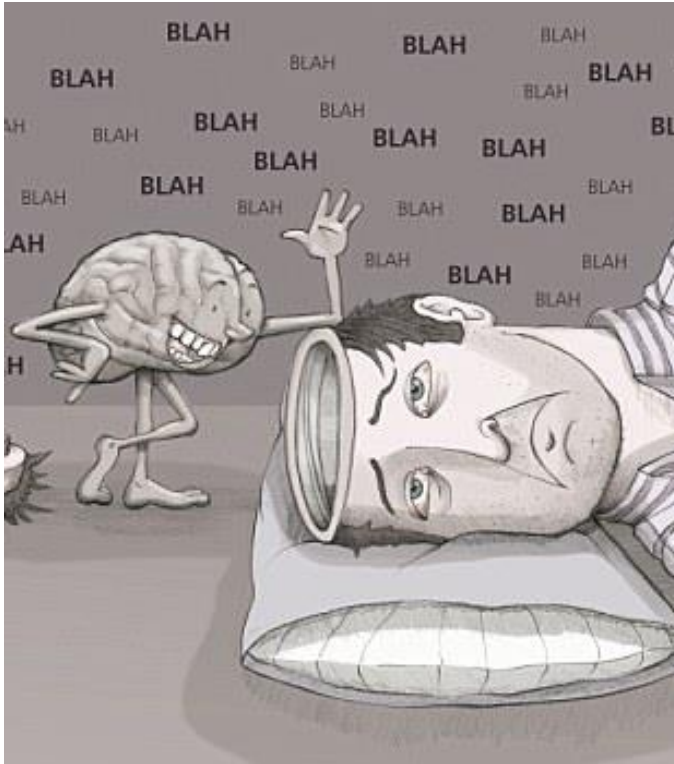


Feeling Stressed Is Effortless, Well-being Takes Consistent Effort

- Humans are hard wired for constant mental activity or overthinking: **default network.**
- Humans are hard wired to constantly look for and focus on perceived threats and dangers: **negativity bias.**
- Humans have an ancient **stress response system** adapted to brief situations of physical danger.



Humans Experience Constant Mental Activity



- Over a 24-hour period we can process up to 70,000 thoughts, even as we sleep.
- Each day contains 86,400 seconds, so that equates to a different thought every 1.2 seconds, your brain never stops!



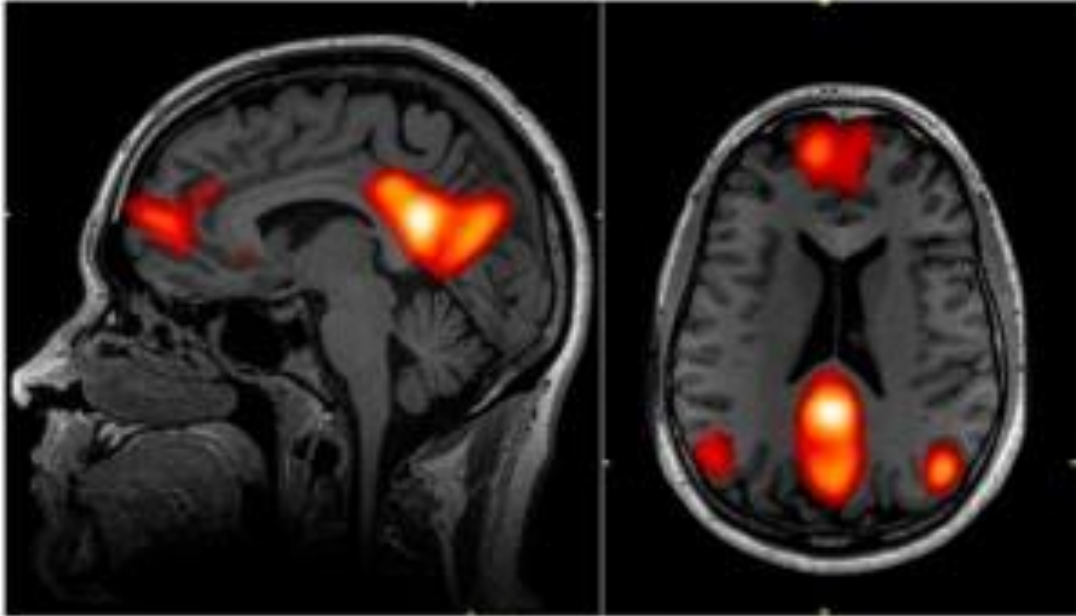
A Brain Network Associated With Constant Mental Activity

- During 2001, Dr. Marcus Raichle at Washington University revealed a **network of brain structures responsible for the inattentive wandering of our minds.**
- Dr. Raichle showed that these same structures were deactivated when we engage in attention-demanding tasks.
- He coined the term, “**default mode network,**” to describe the group of structures active during our “default,” or inattentive state (Williams, 2014).
- The network is identical among humans, and does not vary, by race, gender, culture, or belief system.
- More recent work found similar brain networks among mammals, including chimpanzees and rodents (Barks, Parr and Rilling, 2013).



An Overactive Default Mode Network is Associated With Rumination, Worry, Depression And Anxiety

- The resting state brain networks, particularly the Default Mode Network have been found to be altered in several disorders, such as **depression and anxiety** (Whitfield-Gabrieli & Ford, 2012; Coutinho, Fernandes, Soares et al., 2016).
- Longitudinal studies found the primary mechanism that promotes the development of depressive symptoms is the amount of **rumination thinking each individual practices.**



Watkins, 2008; Nolen-Hoeksema, Wisco, Lyubomirsky, 2008; Ehring, Watkins, 2008; Watkins, 2016; Michl, McLaughlin, Shepherd et al., 2013

Negativity Bias: Negative Information Has Stronger Effects Than Positive Information

- When all other factors are held constant, bad is stronger than good in its effects on us.
- Negative information has stronger effects on attention, perception, memory, physiology, affect, behavior, motivation, and decision-making than does equally extreme and arousing positive information.
- This effect has been termed the **negativity bias**,
- **Negativity bias provides an evolutionary advantage, as it is more critical for survival to avoid a harmful stimulus than to pursue a potentially helpful one.**
- Empirical evidence supporting the negativity bias has been accumulated from a wide variety of paradigms and research fields, and summarized in multiple review articles (Taylor, 1991; Rozin & Royzman, 2001; Baumeister, Bratslavsky, Finkenauer et al., 2001; Norris, 2019).
- Recent evidence demonstrates that scanning the environment for threats and responding to threats is a completely unconscious experience (Wang, Luo, Chen et al., 2023).



A Wandering Mind Is An Unhappy Mind

- Mind wandering and mindfulness are the opposite poles of the same concept (Mrazek, Smallwood, Schooler, 2012).
- Because of negativity bias, most of our constant mental activity are negative thoughts (Marchetti, Koster, De Raedt, 2012; Johnstone, 2012).
- The amount of mind wandering is directly correlated with unhappiness (Hobbiss, Fairnie, Jafari et al., 2019)
- A smartphone technology to sample people's ongoing thoughts, feelings, and actions and found
 - (1) that people are thinking about what is not happening almost as often as they are thinking about what is, accounting for 50% of our waking hours and
 - (2) found that doing so typically makes them unhappy and
 - (3) mind wandering precedes and causes unhappiness and
 - (4) conversely people reported more happiness when they were focused and
 - (5) what people were thinking, not doing had the greatest effect on happiness,



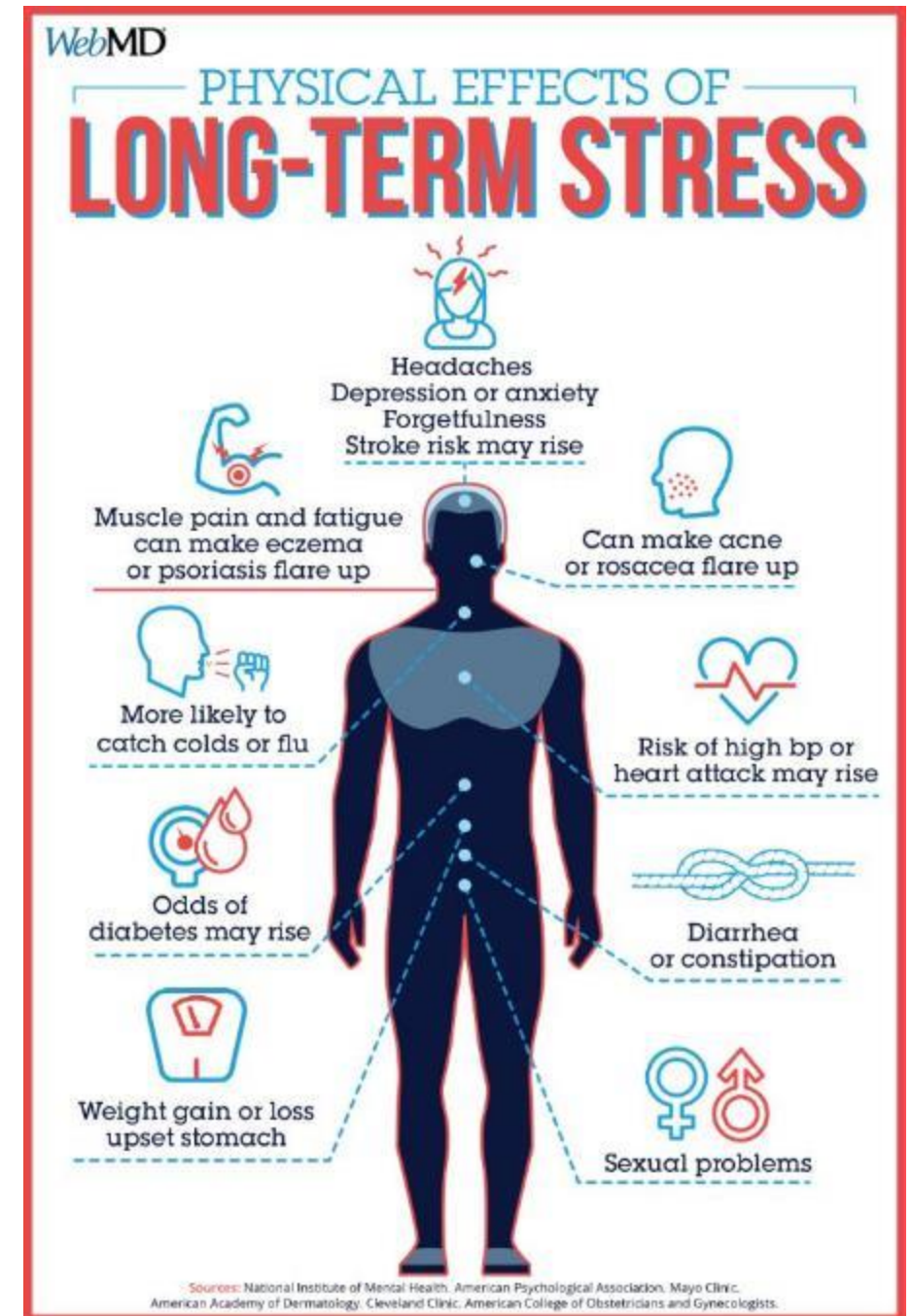
Human Stress Physiology Is Ancient, Not Adapted To Contemporary Stressors

- As fish, the first animals with backbones, evolved 530 million years ago, the autonomic nervous system developed.
- The autonomic nervous system is basically similar in all vertebrate animals: fish, reptiles, amphibians and mammals (Nilsson, 2011) which implies **high survival value**.
- Humans evolved approximately 315,000 years ago with an autonomic nervous system without significant change from the ancient fish.
- The autonomic nervous system has two complementary components: the **sympathetic nervous system which triggers the stress response or “fight or flight”** and the **parasympathetic system facilitates rest, repair and digestion**.



The Stress Response is Adaptive During a Brief Emergency (Seconds to Minutes).

The Stress Response is Maladaptive Over Longer Periods of Time (Hours to Days); Often Leading to Anxiety and Depressive Symptoms and Physical Disease.



Short Term Stress Response Can Improve Performance, Chronic Stress Response Adversely Affects Both Health And Performance

- **Short-term stress can enhance mental and physical performance (Dhabhar, 2018).**
- However, chronic or long-term stress has been shown to have numerous adverse effects on health (McEwen, 1998; Ader, 2007).
- Cortisol increases appetite (Tataranni, Larson, Snitker et al., 1996).
- Many of these health effects are mediated through the immune system (Dhabhar, 2009; Dhabhar, Malarkey, Neri et al., 2012; Padro, Sanders, 2014).
- **Chronic stress responses weaken health, exacerbate disease, and inhibit mental and physical performance (Dhabhar, 2018).**
- Chronic stress causes atrophy of neuronal processes and decreases synapse number (Duman, Aghajanian, Sanacora et al., 2016).



The Well-being Tug Of War Is Tilted Toward Feeling Stressed By Our Hard-wired Biology

Well-Being



Daily Stress Plus

- Ancient Stress Biology
- Negativity Bias
- Overthinking



Can We Increase Well-Being?

- Multiple meta-analyses support that positive psychology interventions increase well-being (Sin & Lyubomirsky, 2009).
- This meta-analysis of 27 RCTs of behavioral interventions of behavioral interventions with well-being as primary or secondary outcome measure.
- Conclusion: ***It appears to be possible to improve well-being with behavioral interventions.***
- The results are promising for the further development and implementation of interventions to promote well-being (Weiss, Westerhof & Bohlmeijer, 2016).
- A third, more recent meta-analysis confirmed these findings (Carr, Cullen, Keeney et al., 2021)
- Meta-analytic support for individual techniques that improve well-being: ***mindfulness meditation apps*** (Gál, Ștefan, Cristea, 2021) and ***workplace mindfulness training*** (Bartlett, Martin, Neil et al., 2019).



Can We Increase Meaning In Life?

- **Meaning in life is defined as people's subjective judgments that their lives are coherent, purposeful and significant.** **Coherence** is cognitive capacity to make sense of our lives and perceive predictability and consistency. **Purpose** is our motivational capacity to strive for long-term aspirations that are personally important. **Significance** is evaluative capacity to see inherent value and worth in being alive and recognize that we matter.
- Meta-analytic evidence supports psychotherapy positively affecting meaning in life (Vos & Vitali, 2019).
- A meta-analytic study of 33 RCTs of meaning in life interventions found significant effects for psychotherapies, narrative methods (individuals reviewing and writing about their lives), mindfulness techniques, and psychoeducational approaches.
- Conclusion: **interventions increase meaning in life, including some that are relatively brief and do not require licensed professionals.**



Can We Increase Resilience?

- Objective: to synthesize the available evidence on interventions designed to improve individual resilience.
- 111 peer-reviewed articles were examined in full, seventeen studies met the inclusion criteria.
- **Conclusions: resilience interventions based on a combination of CBT and mindfulness techniques appear to have a positive impact on individual resilience.**

Joyce, Shand, Tighe et al., 2018

- My search found no meta analytic evidence for specific behavioral interventions to increase resilience.



Preliminary Findings On Neurobiology Of Resilience

- **Two studies found increased activation of frontal cortical brain regions involved in cognitive appraisal and emotion regulation is a common characteristic of resilient individuals (Fischer, Hagan, Gotlib, 2021; Fischer, Camacho, Ho et al., 2018).**
- **A met analysis of the physiology of slow breathing found a similar frontal activation with slow breathing techniques (Zaccaro, Piarulli, Laurino et al., 2018).**
- **Another study found that the amount of frontal cortical activity measured by fMRI could differentiate the severity of adverse effects of stress on individuals (Bak, Shinand, Jeong, 2022).**



Evidence Based Well-being Techniques: Practice Positive Emotions Daily And Anchor With An Activity

- **Negativity bias not only amplifies our response to dangers and negative events, it also reduces the intensity of positive emotional responses. Positive emotions can be prolonged by anchoring with an action or writing and practiced regularly like exercise.**
- There are multiple techniques that focus on fostering gratitude and positive feelings (Hanson, 2013; Nisker, 2016; Wright, 2017). A meta-analysis found gratitude interventions have a modest effect on depression and anxiety (Cregg & Cheavens, 2020).
- This approach is different than positive thinking or affirmations, saying a phrase or thinking is less effective than experiencing a positive emotion. **The goal is to experience a positive emotion regularly, such as, kindness, gratitude or love and anchoring it through writing or sharing until it becomes habitual.**



Evidence Based Well-being Techniques: Slow Breathing

- **Slow (6 or less breaths per minute) breathing shifts the autonomic nervous system to increased parasympathetic activity** (Jerath, Edry, Barnes et al., 2006) decreases stress (Hamasak, 2020), improves sleep (Jerath, Beveridge, Barnes, 2019) and anxiety (Doria, de Vuono, Sanlorenzo et al., 2015).
- **Slow breathing decreases the cardiovascular effects of stress**, “the existing evidence from RTCs demonstrates that short-term voluntary slow breathing exercises can reduce resting heart rate, systolic blood pressure, and diastolic blood pressure” (Zou, Zhao, Hou et al., 2017).
- A met analysis found slow breathing promotes autonomic changes increasing Heart Rate Variability (a sign of increased parasympathetic activity) and an increase in EEG alpha and a decrease in theta power.
- The only available fMRI study found increased activity in cortical (prefrontal, motor, and parietal cortices) and subcortical structures.
- Psychological effects are increased comfort, relaxation, pleasantness, vigor and alertness, and reduced symptoms of arousal, anxiety, depression, anger, and confusion (Zaccaro, Piarulli, Laurino et al., 2018).



Evidence Based Well-being Techniques: Slow Breathing (2)

- RTC of three different daily 5-min breathwork exercises compared with an equivalent period of mindfulness meditation over 1 month.
- The breathing conditions are (1) cyclic sighing, which emphasizes prolonged exhalations; (2) box breathing, which is equal duration of inhalations, breath retentions, and exhalations; and (3) cyclic hyperventilation with retention, with longer inhalations and shorter exhalations.
- The primary endpoints are improvement in mood and anxiety as well as reduced physiological arousal (respiratory rate, heart rate, and heart rate variability).
- We show that the exhale-focused cyclic sighing, produces greater improvement in mood ($p < 0.05$) and reduction in respiratory rate ($p < 0.05$) compared with mindfulness meditation.
- Daily 5-min cyclic sighing has promise as an effective stress management exercise (Balban, Neri, Kogon et al., 2022). Breathing resources are included in the resource handout.



Evidence Based Well-being Techniques: Aerobic Exercise

- **Aerobic exercise is associated with increased well-being (Kuoppala, Lamminpää, Husman, 2008).**
- **Aerobic exercise has beneficial effects on anxiety and depression (Chu, Koh, Moy, et al., 2008; Kvama, Kleppe, Nordhus et al., 2016; Béland, Lavoie, Briand et al., 2020).**
- **Aerobic exercise increases your brain's ability to inhibit negative emotional responses (Levin, Netz, & Ziv, 2021).**
- **A meta-analysis of 34 studies with 1,449 participants found that aerobically fit people had a reduced physiological response to stress (Crews & Landers, 1987).**



Preliminary Findings On Neurobiology Of Exercise

- Exercise training (ET) is well known as a non-pharmacological strategy to alleviate clinical depression.
- **The brain-derived neurotrophic factor (BDNF) is one of the biological factors whose expression and secretion are intensified in response to ET.**
- BDNF is also secreted by contracted skeletal muscle that likely exerts para-, auto- and endocrine effects, supporting the crosstalk between skeletal muscle and other distant organs/tissues, such as the nervous system.
- **This finding suggests that they communicate and work together to induce improvements on mood, cognition, and learning processes as BDNF is the main player in the neurogenesis, growth, and survival of neurons.**
- Therefore, BDNF has been recognized as a therapeutic factor in clinical depression, especially in response to exercise.

Murawska-Ciałowicz, Wiatr, Ciałowicz et al., 2021



37 The Recommended Level of Aerobic Exercise Has Both Physical And Mental Health Benefits

- **150 minutes per week of moderate-intensity aerobic activity or 75 minutes per week of vigorous aerobic activity, or a combination of both, preferably spread throughout the week.**
- Lower risk of heart disease, stroke, type 2 diabetes, high blood pressure, dementia and Alzheimer's, several types of cancer, and some complications of pregnancy,
- Better sleep, including improvements in insomnia and obstructive sleep apnea,
- Improved cognition, including memory, attention and processing speed,
- Less weight gain, obesity and related chronic health conditions,
- Better bone health and balance, with less risk of injury from falls,
- **Fewer symptoms of depression and anxiety, better quality of life and sense of overall well-being** (<https://www.heart.org/en/healthy-living/fitness/fitness-basics/aha-recs-for-physical-activity-in-adults>)



Lower Amounts of Aerobic Exercise Benefits Your Well-being

- Depression is the leading cause of mental health–related disease burden and may be reduced by physical activity, but the dose-response relationship between activity and depression is uncertain.
- Objective: meta-analyze the dose-response association between physical activity and incident depression from published prospective studies of adults.
- Fifteen studies comprising 191,130 participants and 2,110,588 person-years were included.
- This study suggests significant mental health benefits from being physically active, even at levels below the public health recommendations.
- Health practitioners should therefore encourage any increase in physical activity to improve mental health.

Pearce, Garcia, Abbas et al., 2022



Evidence Based Techniques For Behavioral Health Changes

- A review for family physicians found evidence based techniques useful across a variety of behavioral health changes.
- A pdf of this article is included with materials for this presentation.
- **Goal setting** is a key intervention for patients looking to make behavioral changes. Several brief well-being measures are in the appendix.
- A **plan** or visualizing what you need to do to reach your goals increases likelihood of success.
- **Self-monitoring**: defined as **regularly tracking some specific element of behavior** (Hooker, Punjabi, Justesen et al., 2018).



Change Is Hard

- **Change is hard. Knowing what we should be doing differently is one important step, but changing behavior is another big hurdle for most people.**
- Coaching helps people to examine what needs changing in their personal and professional lives, and also plays an important role in facilitating the necessary behavior change (Rook, 2019).
- **Coaching works.** Multiple meta-analytic studies demonstrate coaching works for health behavior change (Theeboom, Beersma and van Vianen, 2013; Jones, Woods and Guillaume, 2015; Scarapicchia, Amireault, Faulkner and Sabiston, 2017).
- **Social support can also assist health behavior change** (Barrera, Toobert, Angell et al., 2006; Greaney, Puleo, Sprunck-Harrild et al., 2018).



Mental Health Apps (MHapps)

- To systematically review the available research on MHapps that promote emotion regulation, positive mental health, and well-being for adults without a formal mental health diagnosis.
- **MHapps, when compared to controls, showed a small effect for reducing mental health symptoms and improving well-being and a medium effect for emotion regulation.**
- **Conclusions: The emerging evidence for MHapps that promote positive mental health and well-being suggests promising outcomes (Eisenstadt, Liverpool, Infanti et al., 2021).**
- The resource handout contains information on several MHapps.



Main Points

1. Positive psychology has a primary focus on the strengths, virtues, and talents that contribute to successful functioning and enable individuals and communities to flourish, while traditional psychology focuses on disability and distress reduction.
2. Negativity bias and the constant mental activity from the default network are two physiological mechanisms that can prolong stress responses.
3. Meta-analysis supports the efficacy of clinical interventions to improve (1) well being (2) meaning in life and (3) resilience.
4. Evidence based well-being interventions supported by meta-analysis are aerobic exercise, slow breathing (less than six breaths per minute), gratitude interventions, mindfulness meditation apps and workplace mindfulness training.



Appendix



Money And Well-being

- Recent research has demonstrated that aspiring to the American Dream of financial success has negative consequences for various aspects of psychological well-being.
- The present longitudinal study examining the relation between the goal for financial success, attainment of that goal, and satisfaction with various life domains found that the negative impact of the goal for financial success on overall life satisfaction diminished as household income increased.
- The negative consequences of the goal for financial success seemed to be limited to those specific life domains that either concerned relationships with other people or involved income-producing activities, such as one's job;
- Satisfactions with two of those life domains, however, were among the strongest predictors of overall life satisfaction in this sample of well-educated respondents in their late 30s.
- **The negative consequences were particularly severe for the domain of family life; the stronger the goal for financial success, the lower the satisfaction with family life, regardless of household income.**



Money And Well-being (2)

- There are limited studies on money and well-being and no met analysis.
- The evidence is conflicting, depending on what aspect of well-being is assessed and the limited size of the study population.
- The belief that high income is associated with good mood is widespread but mostly illusory.
- People with above-average income are relatively satisfied with their lives but are barely happier than others in moment-to-moment experience, tend to be more tense, and do not spend more time in particularly enjoyable activities.
- Moreover, the effect of income on life satisfaction seems to be transient.
- We argue that people exaggerate the contribution of income to happiness because they focus, in part, on conventional achievements when evaluating their life or the lives of others.



Money And Well-being (3)

- Emotional well-being refers to the emotional quality of an individual's everyday experience-- the frequency and intensity of experiences of joy, stress, sadness, anger, and affection that make one's life pleasant or unpleasant.
- Life evaluation refers to the thoughts that people have about their life when they think about it.
- We raise the question of whether money buys happiness, separately for these two aspects of wellbeing.
- We report an analysis of more than 450,000 responses to the Gallup-Healthways Well-Being Index, a daily survey of 1,000 US residents conducted by the Gallup Organization.
- We find that emotional well-being (measured by questions about emotional experiences yesterday) and life evaluation (measured by Cantril's Self-Anchoring Scale) have different correlates.



Money And Well-being (4)

- Income and education are more closely related to life evaluation, but health, care giving, loneliness, and smoking are relatively stronger predictors of daily emotions.
- When plotted against log income, life evaluation rises steadily.
- Emotional well-being also rises with log income, but there is no further progress beyond an annual income of ~\$75,000.
- Low income exacerbates the emotional pain associated with such misfortunes as divorce, ill health, and being alone.
- **We conclude that high income buys life satisfaction but not happiness, and that low income is associated both with low life evaluation and low emotional well-being.**



Money And Well-being (5)

- What is the relationship between money and well-being?
- Research distinguishes between two forms of well-being: people's feelings during the moments of life (experienced well-being) and people's evaluation of their lives when they pause and reflect (evaluative well-being).
- Drawing on 1,725,994 experience-sampling reports from 33,391 employed US adults, the present results show that both experienced and evaluative well-being increased linearly with $\log(\text{income})$, with an equally steep slope for higher earners as for lower earners.
- There was no evidence for an experienced wellbeing plateau above \$75,000/year, contrary to some influential past research.
- There was also no evidence of an income threshold at which experienced and evaluative well-being diverged, suggesting that higher incomes are associated with both feeling better day to-day and being more satisfied with life overall (Killingsworth, 2021).
- A re-analysis of the data supports Killingsworth's view that well-being does not flatten as income rises in the majority of people (Killingsworth, Kahneman, Mellers, 2022).



Thank you!



