### Practical Optimism: The Art, Science and Practice of Exceptional Wellbeing, Sue Varma, MD References

#### **Introduction:**

#### According to the annual Stress in America Survey...

Bethune, Sophie. 2022. "Stress in America 2022." Apa.org. American Psychological Association. October 2022. <a href="https://www.apa.org/news/press/releases/stress/2022/concerned-future-inflation">https://www.apa.org/news/press/releases/stress/2022/concerned-future-inflation</a>.

### Gallup's 2019 Global Emotions Report included results of interviews of more than 150,000 individuals surveyed from 140 countries worldwide

Inc, Gallup. 2022. "Global Emotions Report." Gallup.com. 2022. https://www.gallup.com/analytics/349280/gallup-global-emotions-report.aspx.

"Share of People Who Experienced Stress, Worry and Anger U.S. 2006-2018." n.d. Statista. Accessed December 10, 2023. https://www.statista.com/statistics/1057034/share-of-americans-that-experienced-stress-worry-and-anger/#:~:text=In%202018%2C%20more%20than%20half%20of%20respondents%20in.

### According to the World Health Organization (WHO), one in four people in the world will be affected by a mental or neurological condition at some point in their life,

"The World Health Report 2001 - Mental Health: New Understanding, New Hope | ENMHP." 2013. Mentalhealthpromotion.net. 2013.

http://www.mentalhealthpromotion.net/?i=portal.en.policydocuments.929.

#### There was a 65% increase in antidepressant use between 1999 and 2014...

"Products - Data Briefs - Number 283 - August 2017." 2019. 2019. https://www.cdc.gov/nchs/products/databriefs/db283.htm.

# **Despite the availability of numerous treatment options, WHO cites depression as** Friedrich, M.J. 2017. "Depression Is the Leading Cause of Disability around the World." *JAMA* 317 (15): 1517. https://doi.org/10.1001/jama.2017.3826.

#### Depression has been found to raise our risk of early death.

Gilman, Stephen E., Ewa Sucha, Mila Kingsbury, Nicholas J. Horton, Jane M. Murphy, and Ian Colman. 2017. "Depression and Mortality in a Longitudinal Study: 1952–2011." *Canadian Medical Association Journal* 189 (42): E1304–10. https://doi.org/10.1503/cmaj.170125.

Cuijpers, Pim, Nicole Vogelzangs, Jos Twisk, Annet Kleiboer, Juan Li, and Brenda W. Penninx. 2014. "Comprehensive Meta-Analysis of Excess Mortality in Depression in the General Community versus Patients with Specific Illnesses." *American Journal of Psychiatry* 171 (4): 453–62. https://doi.org/10.1176/appi.ajp.2013.13030325.

#### Chapter 1:

In the September 2019 JAMA Network Open, one of the most highly respected peer-Rozanski, Alan, Chirag Bavishi, Laura D. Kubzansky, and Randy Cohen. 2019. "Association of Optimism with Cardiovascular Events and All-Cause Mortality." *JAMA Network Open* 2 (9): e1912200. https://doi.org/10.1001/jamanetworkopen.2019.12200.

A meta-analysis of 83 studies on optimism showed optimism to be associated with Rasmussen, Heather N., Michael F. Scheier, and Joel B. Greenhouse. 2009. "Optimism and Physical Health: A Meta-Analytic Review." *Annals of Behavioral Medicine* 37 (3): 239–56. https://doi.org/10.1007/s12160-009-9111-x.

In addition, optimists are more successful and report greater incomes and job satisfaction, Rogowska, Aleksandra M, Paweł F Nowak, and Aleksandra Kwaśnicka. 2021. "Healthy Behavior as a Mediator in the Relationship between Optimism and Life Satisfaction in Health Sciences Students: A Cross-Sectional Study." *Psychology Research and Behavior Management* Volume 14 (14): 1877–88. https://doi.org/10.2147/prbm.s335187.

**But here's a surprising fact: research shows that while optimism is to some**Plomin, Robert, Michael F. Scheier, C.S. Bergeman, N.L. Pedersen, J.R. Nesselroade, and G.E. McClearn. 1992. "Optimism, Pessimism and Mental Health: A Twin/Adoption Analysis." *Personality and Individual Differences* 13 (8): 921–30. https://doi.org/10.1016/0191-8869(92)90009-e.

Mosing, Miriam A., Brendan P. Zietsch, Sri N. Shekar, Margaret J. Wright, and Nicholas G. Martin. 2009. "Genetic and Environmental Influences on Optimism and Its Relationship to Mental and Self-Rated Health: A Study of Aging Twins." *Behavior Genetics* 39 (6): 597–604. https://doi.org/10.1007/s10519-009-9287-7.

Martin Seligman, Ph.D., pioneer in the field of positive psychology and the study of Maier, Steven F., and Martin E. Seligman. 1976. "Learned Helplessness: Theory and Evidence." *Journal of Experimental Psychology: General* 105 (1): 3–46. https://doi.org/10.1037/0096-3445.105.1.3.

In 2011, UCLA researchers found that optimism was associated with the oxytocin receptor Saphire-Bernstein, S., B. M. Way, H. S. Kim, D. K. Sherman, and S. E. Taylor. 2011. "Oxytocin Receptor Gene (OXTR) Is Related to Psychological Resources." *Proceedings of the National Academy of Sciences* 108 (37): 15118–22. https://doi.org/10.1073/pnas.1113137108.

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We're falling far short of this, and it has led to a culture of pessimism. In 2023 the U.S. "World Happiness Report 2023." World happiness.report. March 20, 2023. https://worldhappiness.report/ed/2023/.

The social determinants of illness include all of the consequences of poverty Alegría, Margarita, Amanda NeMoyer, Irene Falgàs Bagué, Ye Wang, and Kiara Alvarez. 2018. "Social Determinants of Mental Health: Where We Are and Where We Need to Go." *Current Psychiatry Reports* 20 (11). https://doi.org/10.1007/s11920-018-0969-9.

**Depression and mental health disorders are a leading cause of disability worldwide costs** Greenberg, Paul E., Andree-Anne Fournier, Tammy Sisitsky, Mark Simes, Richard Berman, Sarah H. Koenigsberg, and Ronald C. Kessler. 2021. "The Economic Burden of Adults with Major Depressive Disorder in the United States (2010 and 2018)." *PharmacoEconomics* 39 (6). https://doi.org/10.1007/s40273-021-01019-4.

In the U.S., over half (54.7%) of adults with a mental illness do not receive treatment, The State of Mental Health in America | Mental Health America (mhanational.org)

#### Too many of us are languishing

Keyes, Corey L. M. 2002. "The Mental Health Continuum: From Languishing to Flourishing in Life." *Journal of Health and Social Behavior* 43 (2): 207–22. https://doi.org/10.2307/3090197.

#### Chapter 2

Flow, described by Mihaly Csikszentmihalyi in 1975, is the experience of people engaging Csikszentmihalyi, Mihaly . 1975. *Beyo1nd Boredom and Anxiety*. San Francisco: Jossey-Bass.

Cultivating a sense of meaning or purpose is vital to mental health and can be protective Alimujiang, Aliya, Ashley Wiensch, Jonathan Boss, Nancy L. Fleischer, Alison M. Mondul, Karen McLean, Bhramar Mukherjee, and Celeste Leigh Pearce. 2019. "Association between Life Purpose and Mortality among US Adults Older than 50 Years." *JAMA Network Open* 2 (5): e194270. https://doi.org/10.1001/jamanetworkopen.2019.4270.

A longitudinal study published in *Personality and Aging* looking at folks Harris, Mathew A., Caroline E. Brett, Wendy Johnson, and Ian J. Deary. 2016a. "Personality Stability from Age 14 to Age 77 Years." *Psychology and Aging* 31 (8): 862–74. https://doi.org/10.1037/pag0000133.

In a study published in *The Lancet*, study participants who'd expressed a sense of meaning Kim, Eric S., Koichiro Shiba, Julia K. Boehm, and Laura D. Kubzansky. 2020. "Sense of Purpose in Life and Five Health Behaviors in Older Adults." *Preventive Medicine* 139: 106172. https://doi.org/10.1016/j.ypmed.2020.106172.

**A 2013 study published in the** *Journal of Behavioral Health* **showed that for every one-point** Kim, Eric S., Jennifer K. Sun, Nansook Park, Laura D. Kubzansky, and Christopher Peterson. 2012. "Purpose in Life and Reduced Risk of Myocardial Infarction among Older U.S. Adults with Coronary Heart Disease: A Two-Year Follow-Up." *Journal of Behavioral Medicine* 36 (2): 124–33. https://doi.org/10.1007/s10865-012-9406-4.

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Wang, Yilu, Jianqiao Ge, Hanqi Zhang, Haixia Wang, and Xiaofei Xie. 2019. "Altruistic Behaviors Relieve Physical Pain." *Proceedings of the National Academy of Sciences* 117 (2): 950–58. https://doi.org/10.1073/pnas.1911861117.

A sense of purpose increases your lifespan! Did you know that volunteering at least two Kim, Eric S., Ashley V. Whillans, Matthew T. Lee, Ying Chen, and Tyler J. VanderWeele. 2020. "Volunteering and Subsequent Health and Well-Being in Older Adults: An Outcome-Wide Longitudinal Approach." *American Journal of Preventive Medicine* 59 (2): 176–86. https://doi.org/10.1016/j.amepre.2020.03.004.

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Schreier, Hannah M. C., Kimberly A. Schonert-Reichl, and Edith Chen. 2013. "Effect of Volunteering on Risk Factors for Cardiovascular Disease in Adolescents." *JAMA Pediatrics* 16(4): 327. https://doi.org/10.1001/jamapediatrics.2013.1100.

Connecting to a bigger vision and world view can help us manage life's inevitable ups Kim, Eric S., Shelley D. Hershner, and Victor J. Strecher. 2015. "Purpose in Life and Incidence of Sleep Disturbances." *Journal of Behavioral Medicine* 38 (3): 590–97. https://doi.org/10.1007/s10865-015-9635-4.

Lower dementia risk, and greater likelihood of engaging in preventive health measures like Kim, Eric S., Jennifer K. Sun, Nansook Park, and Christopher Peterson. 2013. "Purpose in Life and Reduced Incidence of Stroke in Older Adults: 'the Health and Retirement Study." *Journal of Psychosomatic Research* 74 (5): 427–32. https://doi.org/10.1016/j.jpsychores.2013.01.013.

**Stress causes changes on a cellular level, and sometimes excessive stress can cause damage** Epel, Elissa, Jennifer Daubenmier, Judith Tedlie Moskowitz, Susan Folkman, and Elizabeth Blackburn. 2009. "Can Meditation Slow Rate of Cellular Aging? Cognitive Stress, Mindfulness, and Telomeres." *Annals of the New York Academy of Sciences* 1172 (1): 34–53. https://doi.org/10.1111/j.1749-6632.2009.04414.x.

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Jacobs, Tonya L., Elissa S. Epel, Jue Lin, Elizabeth H. Blackburn, Owen M. Wolkowitz, David A. Bridwell, Anthony P. Zanesco, et al. 2011. "Intensive Meditation Training, Immune Cell Telomerase Activity, and Psychological Mediators." *Psychoneuroendocrinology* 36 (5): 664–81. <a href="https://doi.org/10.1016/j.psyneuen.2010.09.010">https://doi.org/10.1016/j.psyneuen.2010.09.010</a>.

#### Having a sense of purpose creates better educational and work habits.

Yuliawati, Livia, Stefani Virlia, Meilani Sandjaja, Tasia Puspa Sari, Bhaktiar Sihombing, Mopheta Audiola Dorkas, Jessica Noviana Onggono, and Sri Aryanti Kristianingsih. 2023

"Could Purpose in Life Help Unmotivated Students to Thrive? When Motivation and Purpose in Life Matter for Peer Mentoring." *Psychology Research and Behavior Management* 16 (August): 3139–49. https://doi.org/10.2147/PRBM.S425161.

#### Purpose is good for business

Harter, Jim. 2017. "The Right Culture: Not Just about Employee Satisfaction." Gallup.com. Gallup. April 12, 2017. https://www.gallup.com/workplace/236366/right-culture-not-employee-satisfaction.aspx.

Researchers found that hospital workers were 45 percent more inclined to use good Grant, Adam M., and David A. Hofmann. 2011. "It's Not All about Me." *Psychological Science* 22 (12): 1494–99. https://doi.org/10.1177/0956797611419172.

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Kim, Eric S., Jennifer K. Sun, Nansook Park, and Christopher Peterson. 2013. "Purpose in Life and Reduced Incidence of Stroke in Older Adults: 'the Health and Retirement Study." *Journal of Psychosomatic Research* 74 (5): 427–32. https://doi.org/10.1016/j.jpsychores.2013.01.013.

In his book, *Man's Search for Meaning*, renowned Austrian psychiatrist Viktor Frankl Frankl, Viktor E. (1946) 1946. *Man's Search for Meaning*. Boston: Beacon Press.

#### Chapter 3

The word "emotion" comes from French and means "a (social) moving, stirring or a Dixon, Thomas. 2012. "Emotion': The History of a Keyword in Crisis." *Emotion Review* 4 (4): 338–44. https://doi.org/10.1177/1754073912445814.

#### An astonishing 7,000...

Ekman, P. (1970). <u>Universal Facial Expressions of Emotions</u>. *California Mental Health Research Digest*, 8(4), 151-158.

In one classic experiment, researchers secretly observed Japanese and American Dailey, Matthew N., Carrie Joyce, Michael J. Lyons, Miyuki Kamachi, Hanae Ishi, Jiro Gyoba, and Garrison W. Cottrell. 2010. "Evidence and a Computational Explanation of Cultural Differences in Facial Expression Recognition." *Emotion* 10 (6): 874–93. https://doi.org/10.1037/a0020019.

Du, S., Y. Tao, and A. M. Martinez. 2014. "Compound Facial Expressions of Emotion." *Proceedings of the National Academy of Sciences* 111 (15): E1454–62. https://doi.org/10.1073/pnas.1322355111.

Pogosyan, Marianna, and Jan B. Engelmann. 2011. "Cultural Differences in Affect Intensity Perception in the Context of Advertising." *Frontiers in Psychology* 2. https://doi.org/10.3389/fpsyg.2011.00313.

### Sadness might persist considerably longer because it's often related to prolonged or changing life circumstances like loss or bereavement.

Verduyn, Philippe, and Saskia Lavrijsen. 2014. "Which Emotions Last Longest and Why: The Role of Event Importance and Rumination." *Motivation and Emotion* 39 (1): 119–27. https://doi.org/10.1007/s11031-014-9445-y.

# An interesting experiment with college students studying for an exam found Silaj, Katie M., Shawn T. Schwartz, Alexander L. M. Siegel, and Alan D. Castel. 2021. "Test Anxiety and Metacognitive Performance in the Classroom." *Educational Psychology Review* 33 (4). https://doi.org/10.1007/s10648-021-09598-6.

Small levels of epinephrine or adrenaline (think: a bit of excitement) lead to a cascade of Sadowski, Renee N., Gloria R. Jackson, Lindsay Wieczorek, and Paul E. Gold. 2009. "Effects of Stress, Corticosterone, and Epinephrine Administration on Learning in Place and Response Tasks." *Behavioural Brain Research* 205 (1): 19–25. https://doi.org/10.1016/j.bbr.2009.06.027.

### American psychologists, Martin Seligman, Ph.D. and J. Bruce first introduced this concept in 1967 after conducting a series of experiments with dogs.

Overmier, J. Bruce, and Martin E. Seligman. 1967. "Effects of Inescapable Shock upon Subsequent Escape and Avoidance Responding." *Journal of Comparative and Physiological Psychology* 63 (1): 28–33. https://doi.org/10.1037/h0024166.

Maier, Steven F., and Martin E. P. Seligman. 2016. "Learned Helplessness at Fifty: Insights from Neuroscience." *Psychological Review* 123 (4): 349–67. https://doi.org/10.1037/rev0000033.

#### In their book Engineering Happiness,

Manel Baucells, and Rakesh Sarin. 2012. *Engineering Happiness : A New Approach for Building a Joyful Life*. Berkeley Univ. Of California Press.

According to one study, this taxing effort is associated with increased disease, autonomic dysfunction (fight-or-flight response going haywire) and a decreased immune function.

Chapman, Benjamin P., Kevin Fiscella, Ichiro Kawachi, Paul Duberstein, and Peter Muennig. 2013. "Emotion Suppression and Mortality Risk over a 12-Year Follow-Up." *Journal of Psychosomatic Research* 75 (4): 381–85. https://doi.org/10.1016/j.jpsychores.2013.07.014.

#### When people enter therapy

Eells T. D. Can Therapy Affect Physical Health?. *The Journal of psychotherapy practice and research*, 9(2), 100–104.

#### Holding feelings back takes energy, requiring an active process of inhibition.

Chapman, Benjamin P., Kevin Fiscella, Ichiro Kawachi, Paul Duberstein, and Peter Muennig. 2013. "Emotion Suppression and Mortality Risk over a 12-Year Follow-Up." *Journal of Psychosomatic Research* 75 (4): 381–85. https://doi.org/10.1016/j.jpsychores.2013.07.014.

#### Meditation decreases anxiety, depression

Goyal, Madhav, Sonal Singh, Erica M. S. Sibinga, Neda F. Gould, Anastasia Rowland-Seymour, Ritu Sharma, Zackary Berger, et al. 2014. "Meditation Programs for Psychological Stress and Well-Being." *JAMA Internal Medicine* 174 (3): 357. https://doi.org/10.1001/jamainternmed.2013.13018.

Believe it or not, students who got all their worries out were found to do better on a math Ramirez, G., and S. L. Beilock. 2011. "Writing about Testing Worries Boosts Exam Performance in the Classroom." *Science* 331 (6014): 211–13. https://doi.org/10.1126/science.1199427.

**Journaling in general may have benefits: a 2013 study published in** *Psychosomatic Medicine* Koschwanez, Heidi E., Ngaire Kerse, Margot Darragh, Paul Jarrett, Roger J. Booth, and Elizabeth Broadbent. 2013. "Expressive Writing and Wound Healing in Older Adults." *Psychosomatic Medicine* 75 (6): 581–90. https://doi.org/10.1097/psy.0b013e31829b7b2e.

#### Chapter 4

#### Cognitive restructuring, a highly effective and popular

Crum, James. 2021. "Understanding Mental Health and Cognitive Restructuring with Ecological Neuroscience." *Frontiers in Psychiatry* 12 (June). https://doi.org/10.3389/fpsyt.2021.697095.

#### Cognitive distortions are unsupported negative thoughts, or biases,

Rnic, Katerina, David J. A. Dozois, and Rod A. Martin. 2016. "Cognitive Distortions, Humor Styles, and Depression." *Europe's Journal of Psychology* 12 (3): 348–62. https://doi.org/10.5964/ejop.v12i3.1118.

#### "Maximizer" and "satisficer" describe two predominant decision making styles.

Vargová, Lenka, Ľubica Zibrínová, and Gabriel Baník. 2020. "The Way of Making Choices: Maximizing and Satisficing and Its Relationship to Well-Being, Personality, and Self-Rumination." *Judgment and Decision Making* 15 (5): 798–806. https://doi.org/10.1017/s1930297500007932.

REM sleep helps us process emotions through down-regulating reactivity of the amygdala,

Purves, Dale, George J Augustine, David Fitzpatrick, Lawrence C Katz, Anthony-Samuel LaMantia, James O McNamara, and S Mark Williams. 2016. "The Possible Functions of REM Sleep and Dreaming." Nih.gov. Sinauer Associates. 2016. https://www.ncbi.nlm.nih.gov/books/NBK11121/.

#### Chapter 5

Periods of lower self-esteem are associated with numerous mental and physiological health Sander, Johanna, Markus Moessner, and Stephanie Bauer. 2021. "Depression, Anxiety and Eating Disorder-Related Impairment: Moderators in Female Adolescents and Young Adults." *International Journal of Environmental Research and Public Health* 18 (5): 2779. https://doi.org/10.3390/ijerph18052779.

Studies show that guilt is more likely than shame to generate altruistic behavior and a Scaffidi Abbate, Costanza, Raffaella Misuraca, Michele Roccella, Lucia Parisi, Luigi Vetri, and Silvana Miceli. 2022. "The Role of Guilt and Empathy on Prosocial Behavior." *Behavioral Sciences* 12 (3): 64. https://doi.org/10.3390/bs12030064.

**Thus shame can lead to helplessness, rumination, pessimism, depression, physiological** Kim, Sangmoon, Ryan Thibodeau, and Randall S. Jorgensen. 2011. "Shame, Guilt, and Depressive Symptoms: A Meta-Analytic Review." *Psychological Bulletin* 137 (1): 68–96. <a href="https://doi.org/10.1037/a0021466">https://doi.org/10.1037/a0021466</a>.

#### Shame-proneness tends to lower our self-esteem, and vice versa.

Kim, Sangmoon, Ryan Thibodeau, and Randall S. Jorgensen. 2011. "Shame, Guilt, and Depressive Symptoms: A Meta-Analytic Review." *Psychological Bulletin* 137 (1): 68–96. https://doi.org/10.1037/a0021466.

Orth, Ulrich, Richard W. Robins, and Christopher J. Soto. 2010. "Tracking the Trajectory of Shame, Guilt, and Pride across the Life Span." *Journal of Personality and Social Psychology* 99 (6): 1061–71. https://doi.org/10.1037/a0021342.

#### Optimists, who have high self-compassion, have better habits

Neff, Kristin D. 2009a. "The Role of Self-Compassion in Development: A Healthier Way to Relate to Oneself." *Human Development* 52 (4): 211–14. https://doi.org/10.1159/000215071.

Kotera, Yasuhiro, and William Van Gordon. 2021. "Effects of Self-Compassion Training on Work-Related Well-Being: A Systematic Review." *Frontiers in Psychology* 12 (April). https://doi.org/10.3389/fpsyg.2021.630798.

Psychiatrist Eric Berne, who developed transactional analysis (TA) in the 1950s, used the term "transaction" or "strokes" to describe basic units of social intercourse.

Dr. Eric Berne. 1961. *Transactional Analysis in Psychotherapy;a Systematic Individual and Social Psychiatry*. Pickle Partners Publishin.

Indeed, there's increasing awareness that this damage can happen to groups as a result of Paradies, Yin, Jehonathan Ben, Nida Denson, Amanuel Elias, Naomi Priest, Alex Pieterse, Arpana Gupta, Margaret Kelaher, and Gilbert Gee. 2015. "Racism as a Determinant of Health: A Systematic Review and Meta-Analysis." Edited by Robert K Hills. *PLOS ONE* 10 (9): 1–48. https://doi.org/10.1371/journal.pone.0138511.

Parents who reliably provide nurturing, kind strokes foster healthy pride, the capacity for Benoit, Diane. 2004. "Infant-Parent Attachment: Definition, Types, Antecedents, Measurement and Outcome." *Paediatrics & Child Health* 9 (8): 541–45. https://doi.org/10.1093/pch/9.8.541.

#### At least 10% of our daily thoughts consist of comparisons.

Summerville, Amy, and Neal J. Roese. 2008. "Dare to Compare: Fact-Based versus Simulation-Based Comparison in Daily Life." *Journal of Experimental Social Psychology* 44 (3): 664–71. https://doi.org/10.1016/j.jesp.2007.04.002.

#### In a 2019 report in the Harvard Business Review, Ashley Whillans—

Whillans, Ashley V., Elizabeth W. Dunn, Paul Smeets, Rene Bekkers, and Michael I. Norton. 2017. "Buying Time Promotes Happiness." *Proceedings of the National Academy of Sciences* 114 (32): 8523–27. https://doi.org/10.1073/pnas.1706541114.

According to researcher Wendy Phillips, "Self-compassion may minimise . . . Phillips, Wendy J. 2018. "Past to Future: Self-Compassion Can Change Our Vision." *Rune.une.edu.au*, October. https://hdl.handle.net/1959.11/30529.

**Researcher, professor, and author Barbara Fredrickson, Ph.D.'s "broaden-and-build"** Fredrickson, Barbara L. 2004. "The Broaden–And–Build Theory of Positive Emotions." *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences* 359 (1449): 1367–77. https://doi.org/10.1098/rstb.2004.1512.

In one study, participants were randomly assigned to three groups and tasked with one of Emmons, Robert A., and Michael E. McCullough. 2003. "Counting Blessings versus Burdens: An Experimental Investigation of Gratitude and Subjective Well-Being in Daily Life." *Journal of Personality and Social Psychology* 84 (2): 377–89. <a href="https://doi.org/10.1037/0022-3514.84.2.377">https://doi.org/10.1037/0022-3514.84.2.377</a>.

In another study with a group of veterans, gratitude was even shown to reduce mental McGuire, Adam P., Joanna G. Fagan, Jack Tsai, Addie N. Merians, Brandon Nichter, Sonya B. Norman, Steven M. Southwick, and Robert H. Pietrzak. 2022. "Dispositional Gratitude Predicts the Development of Psychopathology and Suicidal Behaviors: Results from a 7-Year Population-Based Study of U.S. Military Veterans." *Journal of Psychiatric Research* 149 (May): 168–76. https://doi.org/10.1016/j.jpsychires.2022.02.028.

Leisure time, when balanced with productivity, promotes connections with others Li, Jintian, Baogen Zeng, and Peiyan Li. 2021. "The Influence of Leisure Activity Types and Involvement Levels on Leisure Benefits in Older Adults." *Frontiers in Public Health* 9 (9). https://doi.org/10.3389/fpubh.2021.659263.

**Self-compassion can prevent and help alleviate depression in response to negative life** Neff, Kristin D. 2009. "The Role of Self-Compassion in Development: A Healthier Way to Relate to Oneself." *Human Development* 52 (4): 211–14. https://doi.org/10.1159/000215071.

#### Shoulding, a term coined by famous psychologist Albert Ellis,

"Milestone Misery? Stop Shoulding on Yourself." 2013. Albert Ellis Institute. October 25, 2013. https://albertellis.org/2013/10/milestone-misery-stop-shoulding/.

**This benefits us, too: research on people who experienced increased self-compassion** Neff, Kristin D. 2009. "The Role of Self-Compassion in Development: A Healthier Way to Relate to Oneself." *Human Development* 52 (4): 211–14. https://doi.org/10.1159/000215071.

#### Chapter 6

According to social cognitive theory, self-efficacy is our perceived ability to navigate a task Bandura, Albert. "Self-efficacy: toward a unifying theory of behavioral change." *Psychological review* 84, no. 2 (1977): 191.

**Strong self-efficacy is related to better health, higher** work and academic achievement, and Halper, Leah R., and Jeffrey B. Vancouver. 2016. "Self-Efficacy's Influence on Persistence on a Physical Task: Moderating Effect of Performance Feedback Ambiguity." *Psychology of Sport and Exercise* 22 (January): 170–77. https://doi.org/10.1016/j.psychsport.2015.08.007.

Research shows that when people have been primed to think they're capable in a set of Reesor, Layton, Elizabeth M. Vaughan, Daphne C. Hernandez, and Craig A. Johnston. 2017. "Addressing Outcomes Expectancies in Behavior Change." *American Journal of Lifestyle Medicine* 11 (6): 430–32. https://doi.org/10.1177/1559827617722504.

### Indeed, researchers have found that confidence in our ability to succeed may predict desired outcomes better than actual health behaviors.

Reesor, Layton, Elizabeth M. Vaughan, Daphne C. Hernandez, and Craig A. Johnston. 2017. "Addressing Outcomes Expectancies in Behavior Change." *American Journal of Lifestyle Medicine* 11 (6): 430–32. https://doi.org/10.1177/1559827617722504.

A 1998 meta-analysis of over 100 studies pertaining to self-efficacy and job performance Stajkovic, Alexander D., and Fred Luthans. 1998. "Self-Efficacy and Work-Related Performance: A Meta-Analysis." *Psychological Bulletin* 124 (2): 240–61. https://doi.org/10.1037/0033-2909.124.2.240.

### Strong self-efficacy has been shown to boost positive surgical outcomes, prevent relapse in addiction,

Kadden, Ronald M., and Mark D. Litt. 2011. "The Role of Self-Efficacy in the Treatment of Substance Use Disorders." *Addictive Behaviors* 36 (12): 1120–26. https://doi.org/10.1016/j.addbeh.2011.07.032.

#### Research shows that maladaptive perfectionism

Johnson, Kay M, Stuart Slavin, and Traci A Takahashi. 2023. "Excellent vs Excessive: Helping Trainees Balance Performance and Perfectionism." *Journal of Graduate Medical Education* 15 (4): 424–27. https://doi.org/10.4300/jgme-d-23-00003.1.

### As one example, parents with low self-efficacy in parenting resort to more punitive parenting styles.

Zeb, Sadaf, Ahsan Akbar, Azeem Gul, Syed Arslan Haider, Petra Poulova, and Fakhra Yasmin. 2021. "Work–Family Conflict, Emotional Intelligence, and General Self-Efficacy among Medical Practitioners during the COVID-19 Pandemic." *Psychology Research and Behavior Management* Volume 14 (November): 1867–76. https://doi.org/10.2147/prbm.s333070.

# One study showed that students with self-compassion approached a mid-term exam failure with better, more flexible positive emotional coping strategies. In another, students with self-compassion were

Neff, Kristin D, Ya-Ping Hsieh, and Kullaya Dejitterat. 2005. "Self-Compassion, Achievement Goals, and Coping with Academic Failure." *Self and Identity* 4 (3): 263–87. https://doi.org/10.1080/13576500444000317.

**Holding a self-compassionate mindset relating to work, research shows, increased job** Neff, Kristin D, Ya-Ping Hsieh, and Kullaya Dejitterat. 2005. "Self-Compassion, Achievement Goals, and Coping with Academic Failure." *Self and Identity* 4 (3): 263–87. https://doi.org/10.1080/13576500444000317.

### Setbacks, even failure, offer opportunities to regroup and try again with self-compassion, and research shows this supports persistence

Neff, Kristin D, Ya-Ping Hsieh, and Kullaya Dejitterat. 2005. "Self-Compassion, Achievement Goals, and Coping with Academic Failure." *Self and Identity* 4 (3): 263–87. https://doi.org/10.1080/13576500444000317.

#### Studies suggest praise can be a disservice when it provides blanket reassurance.

Brummelman, Eddie, Sander Thomaes, Geertjan Overbeek, Bram Orobio de Castro, Marcel A. van den Hout, and Brad J. Bushman. 2014. "On Feeding Those Hungry for Praise: Person Praise Backfires in Children with Low Self-Esteem." *Journal of Experimental Psychology: General* 143 (1): 9–14. https://doi.org/10.1037/a0031917.

#### Chapter 7

Research shows that as of this writing, on average, we unlock our smartphones 80 times Wakefield, Jane. 2022. "People Devote Third of Waking Time to Mobile Apps." *BBC News*, January 12, 2022, sec. Technology. https://www.bbc.com/news/technology-59952557.

A study by Common Sense Media shows that teens spend on average nine hours per day Common Sense Media. 2015. "Landmark Report: U.S. Teens Use an Average of Nine Hours of Media per Day, Tweens Use Six Hours | Common Sense Media."

Www.commonsensemedia.org. November 3, 2015. https://www.commonsensemedia.org/press-releases/landmark-report-us-teens-use-an-average-of-nine-hours-of-media-per-day-tweens-use-six-hours.

A 2018 Pew Research study shows that approximately half of teens are online "almost Anderson, Monica, and Jingjing Jiang. 2018. "Teens, Social Media & Technology." Pew Research Center. May 31, 2018. https://www.pewresearch.org/internet/2018/05/31/teens-social-media-technology-2018/.

A 2011 research paper looking at 72 studies done over a 30-year span found a 40 percent decline in self-reported empathy in college students—with the most significant drop after 2000—in part thought due to technology.

Konrath, S. H., E. H. O'Brien, and C. Hsing. 2010. "Changes in Dispositional Empathy in American College Students over Time: A Meta-Analysis." *Personality and Social Psychology Review* 15 (2): 180–98. https://doi.org/10.1177/1088868310377395.

The increasing lack of depth in our encounters is known as the "shallowing hypothesis." Konrath, S. H., E. H. O'Brien, and C. Hsing. 2010. "Changes in Dispositional Empathy in American College Students over Time: A Meta-Analysis." *Personality and Social Psychology Review* 15 (2): 180–98. https://doi.org/10.1177/1088868310377395.

While the prevalence and usage of technology is associated with a decline in empathy, Konrath, S. H., E. H. O'Brien, and C. Hsing. 2010. "Changes in Dispositional Empathy in American College Students over Time: A Meta-Analysis." *Personality and Social Psychology Review* 15 (2): 180–98. https://doi.org/10.1177/1088868310377395.

Furthermore, teens (roughly 4 in 10 cite "too many obligations" as a reason they don't Anderson, Monica, and Jingjing Jiang. 2018. "Teens, Social Media & Technology." Pew Research Center. May 31, 2018. https://www.pewresearch.org/internet/2018/05/31/teens-social-media-technology-2018/.

#### An observational study published in The Lancet Child and Adolescent Health

Viner, Russell M, Aswathikutty Aswathikutty-Gireesh, Neza Stiglic, Lee D Hudson, Anne-Lise Goddings, Joseph L Ward, and Dasha E Nicholls. 2019. "Roles of Cyberbullying, Sleep, and Physical Activity in Mediating the Effects of Social Media Use on Mental Health and Wellbeing among Young People in England: A Secondary Analysis of Longitudinal Data." *The Lancet Child & Adolescent Health* 3 (10): 685–96. https://doi.org/10.1016/s2352-4642(19)30186-5.

#### **Kids spend less time with each other:**

Kannan, Viji Diane, and Peter J. Veazie. 2023. "US Trends in Social Isolation, Social Engagement, and Companionship – Nationally and by Age, Sex, Race/Ethnicity, Family Income, and Work Hours, 2003–2020." *SSM - Population Health* 21 (March): 101331. https://doi.org/10.1016/j.ssmph.2022.101331.

#### Young people are twice as lonely than folks over 65

The Cigna Group. 2023. "The Loneliness Epidemic Persists: A Post-Pandemic Look at the State of Loneliness among U.S. Adults." The Cigna Group Newsroom. 2023. https://newsroom.thecignagroup.com/loneliness-epidemic-persists-post-pandemic-look.

A study presented in the *Harvard Business Review* which followed people around a Iyengar, Sheena S., and Mark R. Lepper. 2000. "When Choice Is Demotivating: Can One Desire Too Much of a Good Thing?" *Journal of Personality and Social Psychology* 79 (6): 995–1006.

According to researchers, FOMO, or "fear of missing out," is "the uneasy and sometimes Przybylski, Andrew K., Kou Murayama, Cody R. DeHaan, and Valerie Gladwell. 2013. "Motivational, Emotional, and Behavioral Correlates of Fear of Missing Out." *Computers in Human Behavior* 29 (4): 1841–48. https://doi.org/10.1016/j.chb.2013.02.014.

Heightened self-focus and rumination can be seen on functional brain imaging as increased brain activity in pre-frontal cortex mid-line structures.

**A 2010 study published in** *Proceedings: Biological Sciences* that followed 61 pre-teenaged Seltzer, Leslie J., Toni E. Ziegler, and Seth D. Pollak. 2010. "Social Vocalizations Can Release Oxytocin in Humans." *Proceedings of the Royal Society B: Biological Sciences* 277 (1694): 2661–66. <a href="https://doi.org/10.1098/rspb.2010.0567">https://doi.org/10.1098/rspb.2010.0567</a>.

One study showed decreases in empathy, willingness to understand and listen, generosity, Choshen-Hillel, Shoham, Ido Sadras, Tom Gordon-Hecker, Shir Genzer, David Rekhtman, Eugene M. Caruso, Koby L. Clements, et al. 2022. "Physicians Prescribe Fewer Analgesics during Night Shifts than Day Shifts." *Proceedings of the National Academy of Sciences* 119 (27). https://doi.org/10.1073/pnas.2200047119.

#### Leisure time promotes connections with others

Li, Jintian, Baogen Zeng, and Peiyan Li. 2021. "The Influence of Leisure Activity Types and Involvement Levels on Leisure Benefits in Older Adults." *Frontiers in Public Health* 9 (9). https://doi.org/10.3389/fpubh.2021.659263.

Flow experiences plunge us into the present moment so deeply, we lose track of time Linden, Dimitri van der, Mattie Tops, and Arnold B. Bakker. 2021. "The Neuroscience of the Flow State: Involvement of the Locus Coeruleus Norepinephrine System." *Frontiers in Psychology* 12 (April). https://doi.org/10.3389/fpsyg.2021.645498.

Scientists are studying nature relatedness—how connected we feel to nature—on three Nisbet, Elizabeth K., and John M. Zelenski. 2014. "Nature Relatedness and Subjective Well-Being." *Encyclopedia of Quality of Life and Well-Being Research*, 4269–76. https://doi.org/10.1007/978-94-007-0753-5\_3909.

Since the UN predicts that 68% of the world's population will be living in urban "World Cities Report 2022." n.d. Unhabitat.org. Accessed December 17, 2023. https://unhabitat.org/wcr/#:~:text=Ant%C3%B3nio%20Guterres&text=%22Cities%20have%20b orne%20the%20brunt.

A meta-analysis of over 170,000 participants titled "Don't throw away your printed books" Delgado, Pablo, Cristina Vargas, Rakefet Ackerman, and Ladislao Salmerón. 2018. "Don't Throw Away Your Printed Books: A Meta-Analysis on the Effects of Reading Media on

Reading Comprehension." *Educational Research Review* 25 (25): 23–38. https://doi.org/10.1016/j.edurev.2018.09.003.

#### **Chapter 8**

#### Study of classmates' perceptions of their classroom social environment

Eronen, Sanna, and Jari-Erik Nurmi. 1999. "Social Reaction Styles, Interpersonal Behaviours and Person Perception: A Multi-Informant Approach." *Journal of Social and Personal Relationships* 16 (3): 315–33. https://doi.org/10.1177/0265407599163003.

A survey released in January 2020 by insurance provider Cigna of over 10,000 people ages "The Cigna Group Newsroom - Loneliness in America." n.d. The Cigna Group Newsroom. https://newsroom.thecignagroup.com/loneliness-in-america.

#### In 2021, an ongoing social survey by the Survey Center on American Life

Cox, Daniel. 2021. "The State of American Friendship: Change, Challenges, and Loss." The Survey Center on American Life. June 8, 2021.

https://www.americansurveycenter.org/research/the-state-of-american-friendship-change-challenges-and-loss/.

#### Loneliness alters gene expression and causes inflammation

Gao, Jianjun, Lea K. Davis, Amy B. Hart, Sandra Sanchez-Roige, Lide Han, John T. Cacioppo, and Abraham A. Palmer. 2017. "Genome-Wide Association Study of Loneliness Demonstrates a Role for Common Variation." *Neuropsychopharmacology* 42 (4): 811–21. https://doi.org/10.1038/npp.2016.197.

#### Social connection lowers risk of premature death by half.

Holt-Lunstad, Julianne, Timothy B. Smith, Mark Baker, Tyler Harris, and David Stephenson. 2015. "Loneliness and Social Isolation as Risk Factors for Mortality." *Perspectives on Psychological Science* 10 (2): 227–37. https://doi.org/10.1177/1745691614568352.

**Highly satisfying marriages and marital-type relationships had a lower risk for** Gallo, Linda C., Wendy M. Troxel, Karen A. Matthews, and Lewis H. Kuller. 2003. "Marital Status and Quality in Middle-Aged Women: Associations with Levels and Trajectories of Cardiovascular Risk Factors." *Health Psychology* 22 (5): 453–63. https://doi.org/10.1037/0278-6133.22.5.453.

#### Social support may help lower cholesterol, boost our immune system,

Reblin, Maija, and Bert N Uchino. 2008. "Social and Emotional Support and Its Implication for Health." *Current Opinion in Psychiatry* 21 (2): 201–5. https://doi.org/10.1097/yco.0b013e3282f3ad89.

Having close social ties in the workplace positively influences employee engagement Inc, Gallup. 2022. "The Increasing Importance of a Best Friend at Work." Gallup.com. August 17, 2022. https://www.gallup.com/workplace/397058/increasing-importance-best-friendwork.aspx.

Not having peer support in the workplace even impacts mortality rates. Shin, Sung Yae, and Sang Gyu Lee. 2016. "Effects of Hospital Workers' Friendship Networks on Job Stress." Edited by Koustuv Dalal. *PLOS ONE* 11 (2): e0149428. <a href="https://doi.org/10.1371/journal.pone.0149428">https://doi.org/10.1371/journal.pone.0149428</a>.

One intriguing line of research has found signs of reduced immunity in couples Kiecolt-Glaser, Janice K. 2018. "Marriage, Divorce, and the Immune System." *American Psychologist* 73 (9): 1098–1108. https://doi.org/10.1037/amp0000388.

#### Broken heart syndrome is a real thing.

Stanimirović, Ljiljana, and Snežana Kovačević. 2018. "Broken Heart Syndrome': Takotsubo Cardiomyopathy." *Sestrinska Rec* 21 (77): 34–36. https://doi.org/10.5937/sestrec1877034s.

Research suggests that four to five close relationships, in a mix of family and friends, may Fuller-Iglesias, Heather R., Noah J. Webster, and Toni C. Antonucci. 2015. "The Complex Nature of Family Support across the Life Span: Implications for Psychological Well-Being." *Developmental Psychology* 51 (3): 277–88. https://doi.org/10.1037/a0038665.

One of the first genome-wide association studies of loneliness, of more than 10,000 people, Gao, Jianjun, Lea K. Davis, Amy B. Hart, Sandra Sanchez-Roige, Lide Han, John T. Cacioppo, and Abraham A. Palmer. 2017. "Genome-Wide Association Study of Loneliness Demonstrates a Role for Common Variation." *Neuropsychopharmacology* 42 (4): 811–21. <a href="https://doi.org/10.1038/npp.2016.197">https://doi.org/10.1038/npp.2016.197</a>.

**Psychiatrist and psychoanalyst John Bowlby** described attachment as the lasting psychological Bretherton, Inge. 1992. "The Origins of Attachment Theory: John Bowlby and Mary Ainsworth." *Developmental Psychology* 28 (5): 759–75. https://doi.org/10.1037/0012-1649.28.5.759.

The science of epigenetics now reveals that the chronic stress of extremely punitive Magalhães-Barbosa, Maria Clara de, Arnaldo Prata-Barbosa, and Antonio José Ledo Alves da Cunha. 2021. "Toxic Stress, Epigenetics and Child Development." *Jornal de Pediatria* 98 (1). https://doi.org/10.1016/j.jped.2021.09.007.

**In general, clinicians believe suicide rates have risen due to a societal expectation in the** Labouliere, Christa, Marjorie Kleinman, and Madelyn Gould. 2015. "When Self-Reliance Is Not Safe: Associations between Reduced Help-Seeking and Subsequent Mental Health Symptoms in Suicidal Adolescents." *International Journal of Environmental Research and Public Health* 12 (4): 3741–55. https://doi.org/10.3390/ijerph120403741.

The numerous health benefits associated with secure attachments include

Darban, Fatemeh, Enayatollah Safarzai, Edris Koohsari, and Mehri Kordi. 2020. "Does Attachment Style Predict Quality of Life in Youth? A Cross-Sectional Study in Iran." *Health Psychology Research* 8 (2). https://doi.org/10.4081/hpr.2020.8796.

A 2021 study published in the Journal of the American Medical Association, Association of Salinas, Joel, Adrienne O'Donnell, Daniel J. Kojis, Matthew P. Pase, Charles DeCarli, Dorene M. Rentz, Lisa F. Berkman, Alexa Beiser, and Sudha Seshadri. 2021. "Association of Social Support with Brain Volume and Cognition." *JAMA Network Open* 4 (8): e2121122. https://doi.org/10.1001/jamanetworkopen.2021.21122.

**Adapted from The Prevention and Relationship Enhancement Program (PREP),** Allen, Elizabeth S., Galena K. Rhoades, Howard J. Markman, and Scott M. Stanley. 2015. "PREP for Strong Bonds: A Review of Outcomes from a Randomized Clinical Trial." *Contemporary Family Therapy* 37 (3): 232–46. https://doi.org/10.1007/s10591-014-9325-3.

**A 2014 study published in** *The Journal of Experimental Psychology* **found that subway** Epley, Nicholas, and Juliana Schroeder. 2014. "Mistakenly Seeking Solitude." *Journal of Experimental Psychology: General* 143 (5): 1980–99. https://doi.org/10.1037/a0037323.

Patients who feel supported or understood by their doctors will have a better rapport with Ha, J. F., & Longnecker, N. (2010). Doctor-patient communication: a review. *Ochsner journal*, 10(1), 38–43.

### 2022 survey by research firm OnePoll revealed that almost half of respondents don't ask for help until they feel overwhelmed

Flynn, Francis J., and Vanessa K. B. Lake. 2008. "If You Need Help, Just Ask: Underestimating Compliance with Direct Requests for Help." *Journal of Personality and Social Psychology* 95 (1): 128–43. https://doi.org/10.1037/0022-3514.95.1.128.

### One study found some people would rather give themselves an electric shock than be alone with nothing to do.

Wilson, Timothy D., David A. Reinhard, Erin C. Westgate, Daniel T. Gilbert, Nicole Ellerbeck, Cheryl Hahn, Casey L. Brown, and Adi Shaked. 2014. "Just Think: The Challenges of the Disengaged Mind." *Science* 345 (6192): 75–77. https://doi.org/10.1126/science.1250830. **Chapter 9** 

#### We make thousands of decisions daily, and 200 of those are about food!

Wansink, Brian and Jeffrey Sobal (2007), "Mindless Eating: The 200 Daily Food Decisions We Overlook," Environment and Behavior 39:1, 106-123.

From dental health to mental health, optimists practice healthy habits as if their life Kelloniemi, Heini, Ellen Ek, and Jaana Laitinen. 2005. "Optimism, Dietary Habits, Body Mass Index and Smoking among Young Finnish Adults." *Appetite* 45 (2): 169–76. https://doi.org/10.1016/j.appet.2005.05.001.

Because, well, it does. A 2019, 70,000-person study published in PNAS found optimism Lee, Lewina O., Peter James, Emily S. Zevon, Eric S. Kim, Claudia Trudel-Fitzgerald, Avron Spiro, Francine Grodstein, and Laura D. Kubzansky. 2019a. "Optimism Is Associated with Exceptional Longevity in 2 Epidemiologic Cohorts of Men and Women." *Proceedings of the National Academy of Sciences* 116 (37): 18357–62. https://doi.org/10.1073/pnas.1900712116.

Americans are living, on average, 30 years longer than a century ago. But our health span "Americans Living Longer, Not Necessarily Healthier, Lives." n.d. PRB. Accessed December 17, 2023. https://www.prb.org/resources/americans-living-longer-not-necessarily-healthier-lives/#:~:text=As%20people%20live%20longer%20with.

#### In fact, more than half of adults age 65 and up are on 4 medications)

Charlesworth, Christina J., Ellen Smit, David S. H. Lee, Fatimah Alramadhan, and Michelle C. Odden. 2015. "Polypharmacy among Adults Aged 65 Years and Older in the United States: 1988–2010." *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences* 70 (8): 989–95. https://doi.org/10.1093/gerona/glv013.

A study of Danish twins determined that how long the average person lives is only about Herskind, Anne Maria, Matthew McGue, Niels V. Holm, Thorkild I. A. Sørensen, Bent Harvald, and James W. Vaupel. 1996. "The Heritability of Human Longevity: A Population-Based Study of 2872 Danish Twin Pairs Born 1870–1900." *Human Genetics* 97 (3): 319–23. https://doi.org/10.1007/bf02185763.

Studies in a National Research Council and Institute of Medicine review Mather, Mark, and Paola Scommegna. 2015. "Up to Half of U.S. Premature Deaths Are Preventable; Behavioral Factors Key." PRB. September 14, 2015. https://www.prb.org/resources/up-to-half-of-u-s-premature-deaths-are-preventable-behavioral-factors-key/.

There's a social experiment where participants were asked to gauge an incline's steepness. Sawka, Keri, Gavin R McCormack, Alberto Nettel-Aguirre, Penelope Hawe, and Patricia K Doyle-Baker. 2013. "Friendship Networks and Physical Activity and Sedentary Behavior among Youth: A Systematized Review." *International Journal of Behavioral Nutrition and Physical Activity* 10 (1): 130. https://doi.org/10.1186/1479-5868-10-130.

We see that people can become accustomed to reduction of dietary salt or sugar intake Ponzo, Valentina, Marianna Pellegrini, Paola Costelli, Laura Vázquez-Araújo, Lucía Gayoso, Chiara D'Eusebio, Ezio Ghigo, and Simona Bo. 2021. "Strategies for Reducing Salt and Sugar Intakes in Individuals at Increased Cardiometabolic Risk." *Nutrients* 13 (1): 279. https://doi.org/10.3390/nu13010279.

For example, one study found that one way to increase recycling was to put recycling bins next to trash cans—which people were already using—versus just 12 feet away.

Weiden Apollo versus day Jersen Benjaming Merlan Cillebeart, Jon Folkle Vhame, and Denise.

Weiden, Anouk van der, Jeroen Benjamins, Marleen Gillebaart, Jan Fekke Ybema, and Denise de Ridder. 2020. "How to Form Good Habits? A Longitudinal Field Study on the Role of Self-Control in Habit Formation." *Frontiers in Psychology* 11 (March). https://doi.org/10.3389/fpsyg.2020.00560.

Research shows that self-compassion exercises can lead to a more optimistic mindset Neff, Kristin D. 2009a. "The Role of Self-Compassion in Development: A Healthier Way to Relate to Oneself." *Human Development* 52 (4): 211–14. https://doi.org/10.1159/000215071.

One study found that reading books provided a 23-month survival advantage (and 20 % Bavishi, Avni, Martin D. Slade, and Becca R. Levy. 2016. "A Chapter a Day: Association of Book Reading with Longevity." *Social Science & Medicine* 164 (September): 44–48. https://doi.org/10.1016/j.socscimed.2016.07.014.

**For older adults, proactive technology use** (computer games, communicating on group chats) Andrade-Gómez, Elena, David Martínez-Gómez, Fernando Rodríguez-Artalejo, and Esther García-Esquinas. 2018. "Sedentary Behaviors, Physical Activity, and Changes in Depression and Psychological Distress Symptoms in Older Adults." *Depression and Anxiety* 35 (9): 884–97. https://doi.org/10.1002/da.22804.

### Research shows that for older adults, one hour of computer activity and fewer than 2 hours of TV per day, plus engaging in physical activity can reduce risk of dementia.

García-Esquinas, Esther, Elena Andrade, David Martínez-Gómez, Francisco Félix Caballero, Esther López-García, and Fernando Rodríguez-Artalejo. 2017. "Television Viewing Time as a Risk Factor for Frailty and Functional Limitations in Older Adults: Results from 2 European Prospective Cohorts." *International Journal of Behavioral Nutrition and Physical Activity* 14 (1). https://doi.org/10.1186/s12966-017-0511-1.

#### Learning changes the brain, causing new neuronal activity.

Zhan, Lexia, Dingrong Guo, Gang Chen, and Jiongjiong Yang. 2018. "Effects of Repetition Learning on Associative Recognition over Time: Role of the Hippocampus and Prefrontal Cortex." *Frontiers in Human Neuroscience* 12 (1). https://doi.org/10.3389/fnhum.2018.00277.

Our bodies weren't made for sitting all day. The body rewards us for moving. Ruegsegger, Gregory N., and Frank W. Booth. 2018. "Health Benefits of Exercise." *Cold Spring Harbor Perspectives in Medicine* 8 (7). https://doi.org/10.1101/cshperspect.a029694.

According to a 2018 Lancet Psychiatry cross-sectional study of 1.2 million people, Chekroud, Sammi R, Ralitza Gueorguieva, Amanda B Zheutlin, Martin Paulus, Harlan M Krumholz, John H Krystal, and Adam M Chekroud. 2018. "Association between Physical Exercise and Mental Health in 1·2 Million Individuals in the USA between 2011 and 2015: A Cross-Sectional Study." *The Lancet Psychiatry* 5 (9): 739–46. https://doi.org/10.1016/s2215-0366(18)30227-x.

But even a single exercise episode can positively impact cognitive-emotional processes such Brand, S., Colledge, F., Ludyga, S., Emmenegger, R., Kalak, N., Sadeghi Bahmani, D., Holsboer-Trachsler, E., Pühse, U., & Gerber, M. (2018). Acute Bouts of Exercising Improved Mood, Rumination and Social Interaction in Inpatients With Mental Disorders. *Frontiers in psychology*, *9*, 249. https://doi.org/10.3389/fpsyg.2018.00249

#### While the Lancet study found that team sports,

Chekroud, Sammi R, Ralitza Gueorguieva, Amanda B Zheutlin, Martin Paulus, Harlan M Krumholz, John H Krystal, and Adam M Chekroud. 2018. "Association between Physical Exercise and Mental Health in 1·2 Million Individuals in the USA between 2011 and 2015: A

Cross-Sectional Study." The Lancet Psychiatry 5 (9): 739–46. https://doi.org/10.1016/s2215-0366(18)30227-x.

And according to a 2014 Stanford study, walking boosted creative output by 60% by Oppezzo, Marily, and Daniel L. Schwartz. 2014. "Give Your Ideas Some Legs: The Positive Effect of Walking on Creative Thinking." *Journal of Experimental Psychology: Learning, Memory, and Cognition* 40 (4): 1142–52. https://doi.org/10.1037/a0036577.

Ever wondered why we sometimes pace when we're thinking hard, or find that taking a Zhu, Zhenjun, Hongsheng Chen, Jianxiao Ma, Yudong He, Junlan Chen, and Jingrui Sun. 2020. "Exploring the Relationship between Walking and Emotional Health in China." *International Journal of Environmental Research and Public Health* 17 (23): 8804. https://doi.org/10.3390/ijerph17238804.

#### A recent study showed living alone increases the risk of depression by 42%.

Wu, Daolin, Fuwei Liu, and Shan Huang. 2022. "Assessment of the Relationship between Living Alone and the Risk of Depression Based on Longitudinal Studies: A Systematic Review and Meta-Analysis." *Frontiers in Psychiatry* 13 (August). https://doi.org/10.3389/fpsyt.2022.954857.

#### Regular family dinners are associated with lower rates of depression

Wu, D., Liu, F., & Huang, S. (2022). Assessment of the relationship between living alone and the risk of depression based on longitudinal studies: A systematic review and meta-analysis. *Frontiers in psychiatry*, *13*, 954857. https://doi.org/10.3389/fpsyt.2022.954857

The End.