



A
HUMAN FLOURISHING
SEVEN PILLARS
ESSAY

No Longer a Matter of Opinion

Flourishing Is a Science, and What That Changes

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A Note on This essay

This essay takes up the first of our seven pillars, and it is the ground the other six stand on. Every claim we make about governance, economic freedom, family, and the rest depends on a prior claim: that human flourishing is something that can be studied rather than only asserted. We make that case here at full strength. At the end, we name honestly where the evidence is thinner or contested, because a reader who learns that from us will trust what else we say.

The Question That Finally Had a Method

In 1938, a research team at Harvard began following 268 sophomores, tracking their health, their work, their marriages, and their disappointments. A second Harvard study, begun around the same time, followed 456 boys from Boston's poorest neighborhoods. The two were eventually merged into one project. The men were interviewed regularly and medically examined every five years, for nearly nine decades now, one of the longest continuous studies of human life ever conducted. A few of them are still alive. Their children are now enrolled.

What held, across four directors and every measure the study could devise, was the quality of a person's relationships. Not wealth. Not cholesterol at fifty. Not IQ. The men most satisfied in their relationships in midlife were the healthiest decades later. Robert Waldinger, the study's current director, has put the finding in one sentence: good relationships keep us happier and healthier.

Both original cohorts were men, and both were white. Spouses and a second generation have since been added, but the foundational data covers a narrower slice of humanity than the finding is usually made to carry. That problem runs through this entire field, and we return to it below.

For nearly all of human history, the question of what makes a life go well had no method attached to it.

A person inherited an answer, absorbed one, or arrived at one by intuition, and there was no way to check it. That changed within living memory. The question of how to live well acquired a method: longitudinal studies, controlled trials, physiological measurement, replication. There is now a body of evidence about the conditions that produce a good life, and it can be tested rather than only asserted. That change of status is what this essay is about.

What the Evidence Actually Says

An essay claiming that flourishing is measurable should measure something in front of the reader.

Social connection is the most robust finding in the field. In 2010, researchers pooled 148 studies covering more than 300,000 people and found that strong relationships predicted a fifty percent greater likelihood of survival, an effect the authors placed alongside well-established mortality risk factors. In 2023, the U.S. Surgeon General issued a formal advisory on loneliness, which is what a public health system does once a finding stops being interesting and starts being actionable. Sustained isolation even shows up in gene expression, raising inflammation and lowering the body's antiviral response.

*Loneliness is not only a feeling.
It is a physiological state.*

Movement works the same way. A study of 1.2 million American adults found that people who exercised reported significantly fewer days of poor mental health than those who did not, and that more was not always better; very long or frequent sessions did worse. Trial evidence points the same direction: a 2024 analysis of 218 randomized trials found exercise an effective treatment for major depression, performing comparably to established interventions. Sleep belongs in the same tier. A sleep-deprived brain does not access gratitude or perspective the way a rested one does, which is why biology belongs in this conversation as much as psychology does.

Purpose measures just as hard. Older adults with a stronger sense of purpose showed substantially reduced risk of Alzheimer's disease, and people reporting greater purpose lived longer over a fourteen-year follow-up, regardless of age or retirement status.

Autonomy, competence, and relatedness round out the list. Self-determination theory, built over four decades by Edward Deci and Richard Ryan, holds that wellbeing depends on three basic needs: that your actions are your own, that you are capable at something that matters, and that you are connected to others. It has been tested across dozens of countries, including ones its critics expected would falsify it, and the three keep appear-

ing. That is the strongest single answer to the charge that this is a Western framework wearing a lab coat.

Religious participation is the finding most likely to make readers on both sides of the tent uncomfortable, and it is well-established enough that we will not leave it out. Women who attended religious services more than once a week showed a third lower mortality than women who never attended, with a smaller but real benefit at weekly attendance, and the pattern holds across most countries surveyed worldwide, including secular ones. What is measured is attendance, not belief: the mechanisms are social support, lower depression, a more hopeful outlook. A secular reader can accept the finding without conceding anything about God. A religious reader may fairly object to the framing, since justifying faith by its mortality statistics treats it as instrumental, which is close to the opposite of what the traditions claim about it. We report the finding because it is true. It settles nothing about why anyone should worship, and it remains observational research; no one is going to randomize people into congregations.

Independent research programs, using different instruments and rarely speaking to each other, keep landing on the same short list: relationships, purpose, and some form of engaged competence. When methods that do not share a blind spot converge on the same answer, that convergence is itself evidence.

One distinction runs through all of it. The evidence for the conditions is far stronger than the evidence that any particular program reliably improves them. That relationships, sleep, movement, and purpose matter is about as well established as anything in the human sciences. That a given six-week exercise will move a given person's wellbeing score is a live research question with a mixed record, and anyone who borrows the authority of the first to sell the second is overselling.

Why This Can Be Trusted

Three methodologically independent lines of inquiry keep arriving at the same conditions: decades-long observation of real lives, physiological measurement that does not depend on anyone's self-report, and controlled trials that test whether changing a condition changes an outcome. Each can be wrong in ways the others cannot. When a finding survives all three, as social connection and physical activity both do, it has passed through filters that do not share a weakness.

There is a fourth line of evidence, older and different in kind. The wisdom traditions arrived at many of these same conditions thousands of years before instrumentation existed. We take that convergence seriously, seriously enough that it is the subject of this essay's companion piece. Science did not discover that community matters; every serious tradition knew. What science added was the ability to say how much, through what mechanism, and to be corrected when it gets the answer wrong.

There is a limit to all of this.

Measurement can establish that purpose predicts well-being. It cannot tell any person what is worth being devoted to.

That question belonged to philosophy and religion for millennia and it belongs to them still. Nothing here asks a reader to trade an inherited answer for a measured one, and a reader who found their purpose in a tradition older than this research will find nothing in competition with it.

What “Universal” Can and Cannot Mean

A serious objection has to be answered here. In 2010, researchers showed that most published psychology findings came from Western, educated, and relatively wealthy populations, and that these populations are frequent outliers on measures researchers had assumed were universal. The criticism landed hard, and it landed fairly.

The honest answer has layers. Where a claim rests on biology, sleep architecture or the physiology of exercise, universality is a reasonable inference; a body works the same way in Lagos and in Lisbon. Where it rests on cross-cultural replication, the picture has grown much stronger since 2010: the Global Flourishing Study, a panel of more than 200,000 people across twenty-two countries on six continents, has found the core pattern holding worldwide, while also overturning some assumptions along the way. Young adults are faring worse than expected. National wealth predicts meaning and relationships less well than researchers thought. That is what a maturing science looks like: it built the instrument that could prove it wrong, and opened the data to everyone.

The Recognition Gap

This field has already become infrastructure, and almost no one outside it has noticed. The UK has measured national wellbeing as official statistics since 2011. New Zealand structured a national budget around wellbeing outcomes in 2019. The World Happiness Report has appeared annually since 2012. Penn has granted a Master’s degree in this field since 2003. Meanwhile, ask a well-read person what positive psychology is, and the answer is likely to be a description of self-help with footnotes.

Part of that gap is a naming problem. Ask people what psychology studies and most will describe the treatment of what has gone wrong, an accurate description for most of the field’s history. Positive psychology studies something else: the move from a functioning

life to a flourishing one. The name signals none of that. This is where the plain phrase human flourishing earns its place. A public conversation about how to live well needs vocabulary ordinary people already have.

But naming is the smaller half of it. This field deserves standing equal to any other applied science. Medicine earned its standing by producing verifiable results and policing its own failures in public. This field has longitudinal cohorts running longer than most clinical trials, mortality findings the size of established risk factors, and a global measurement program most social sciences never attempt. It has also, as we describe below, corrected its own errors publicly, which is the behavior of a science, not a movement.

Science Still Needs Builders

A science on its own does not change a life.

Physics never built a bridge; engineers did, using what physics established.

The research on sleep, purpose, connection, and mental fitness does not organize itself into a morning routine or a community. Someone has to build that, and that is the work Human Flourishing is in. We are not the science. We are builders working from it.

The pattern has good precedents. In 1979, Jon Kabat-Zinn took a contemplative practice with no clinical standing and built it into a structured eight-week protocol at the University of Massachusetts Medical Center, specifically so it could be tested. Four decades of trials followed, and the honest result is more modest than the popular coverage suggests. What matters is that the building and the testing happened together.

Positive Intelligence is a clear example. Its founder, Shirzad Chamine, built a framework around a real distinction in brain research, a threat-driven mode that narrows a person's thinking and a calmer mode that opens it back up, and turned it into a practice large numbers of people run daily without ever reading the research behind it. Jason Viyar, a member of our own board, did the same on the positive-psychology side: his capstone work at Penn became the framework he calls The Psychological Millionaire, built on three assets anyone can invest in, relationships, appreciation, and presence, turning academic findings into something a person without a psychology degree can use.

The frontier is moving into hardware, too. Cochlear implants already restore hearing by decoding how the auditory nerve encodes sound. The academic BrainGate consortium has enabled people with paralysis to control a cursor and produce text by decoding motor intention directly from the cortex, and several companies, including Neuralink, Synchron, and Precision Neuroscience, are now running human trials of implanted devices. None of this is fully proven medicine yet, but that people who cannot move are already doing it

is not in question at all. We name it because a curious sixteen-year-old should know this frontier is open, and that it is one of the most exciting places in science to spend a life.

Where This Belongs Next: The Classroom

Every high school teaches biology, a rigorous, evidence-based account of the body, sitting beside chemistry and physics. That is worth pausing on, because it means the case for teaching a science of human life has already been won once. Almost no student receives a comparably rigorous account of how their own mind and relationships work.

This is not hypothetical. Whole schools have already tried it: Geelong Grammar in Australia embedded positive psychology across its curriculum starting in 2008; Bhutan built wellbeing principles into national schooling. Results have been mixed and modest, which is what should be expected, and why the work needs to be done carefully rather than not at all.

Adolescence may be the right moment. Identity and habits are still forming, and a young person's sense of their own capacity for a good life is being set for decades. Decisions like this belong to parents, educators, and communities, but the question deserves to be put to them: if a science of human flourishing exists, tested the way other sciences are tested, does it belong in a classroom alongside the sciences we already teach? We think the answer is likely yes.

What Changes

Flourishing is a science, three of them, working the same territory from different directions. The strongest findings are strong. How to live well is no longer only a matter of inheritance, authority, or taste. It is partly a matter of evidence, and evidence is something people who agree on nothing else can examine together.

Two citizens who disagree about God, politics, and money can look at the same mortality data on isolation and reach the same conclusion.

That is not a small thing, in a country that has lost the habit of reaching conclusions together.

What Validates This

Three things give this body of work its standing.

The first is convergence. Long-term observation, physiological measurement, and controlled trials fail in different ways, and when a finding survives all three, as social connection and physical activity do, it has passed through filters that do not share a blind spot.

The second is that the cross-cultural picture strengthened rather than collapsed as the samples widened. The Global Flourishing Study was built to test claims the field had made on narrow evidence, and the core pattern held.

The third is what happens when this field gets something wrong. The specific failures are named below; what matters here is the response to them. Journals published the corrections. Researchers absorbed them. Flawed work was withdrawn rather than defended. That is the behavior of a science.

What Challenges This

Real problems remain, and some are serious. A widely taught 2005 claim that flourishing follows a precise emotional ratio rested on misapplied math and was formally withdrawn by its own journal. A 2015 project attempting to replicate a hundred psychology studies found that many earlier effects were smaller than reported or did not hold at all. Positive psychology was not exempt.

Effects from specific interventions are smaller than the early literature promised. Growth-mindset research is contested, with credible researchers on both sides. The popular Blue Zones longevity claims have been challenged by a demographer who argues missing records, not diet, explain the data; his work is not yet peer-reviewed.

Much of this literature rests on people rating their own internal states, a limit better measurement only partly addresses. Some of our strongest sources, including the religious-attendance and global cross-cultural studies, were funded in part by a foundation with a declared interest in faith and science, which is worth knowing though it does not make the findings wrong.

Critics on the left argue that focusing on individual flourishing lets structural problems off the hook. Critics on the right argue it displaces older languages of character and duty. We think both criticisms are partly right, and our other pillars exist partly because of them.

Open Questions

We hold these open rather than resolved: which specific interventions actually work, for whom, and for how long; whether flourishing is one thing or several, since the leading models overlap but do not fully agree; what exactly religious participation is doing, whether belonging, ritual, or belief itself; and what a society owes a person whose conditions make flourishing structurally unavailable. That last question is where this pillar hands off to the other six.

Where This Leaves Us

The men in that Harvard study were asked the same questions every few years for the better part of a century, long before anyone could say what the answers would show. Most of them are gone now. What they left is the beginning of an answer, and it turned out to be a plain one. The people in your life matter more to how that life goes than almost anything else you will spend it pursuing.

That finding is not a private consolation. It is a public fact, available to anyone, tested the way facts are tested, and it points toward conditions any person can build toward and any community can make easier to reach. The distance between what is known about human flourishing and what is actually used remains enormous. That gap is not a tragedy. It is an opportunity sitting unclaimed, and closing it is ordinary work that ordinary people can do.

Which is why this pillar comes first. Everything the other six take up, how we govern ourselves, how we make a living, how we raise children, how we speak to people who see the world differently, is a question about whether the conditions for a good life are within reach for the person next to us. That those conditions can be named and measured is what makes the rest of this a conversation rather than a contest of assertions. We intend to have it, in public, with evidence on the table.

Read the Human Flourishing Pledge at humanflourishing.us, and sign it if what it names is what you are trying to practice.

Share this essay with someone who sees the world differently than you do — and then, when they have read it, have the conversation about it.

The work is ongoing. The community is forming. The conversation is just beginning.

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Scott McIntosh is an engineer-turned-entrepreneur who built McIntosh Engineering to \$50 million in revenue before co-founding MAC⁶, a thriving entrepreneurial community in Tempe, Arizona. He co-founded Conscious Capitalism Arizona as the third chapter globally and has been among the earliest investors and advocates for Heroic Public Benefit Corporation. A certified Positive Intelligence coach, longtime student of Stoic philosophy and ancient wisdom, and grandfather of four, Scott writes and speaks at the intersection of human flourishing, free enterprise, and the urgent questions that define our moment.

Angela McIllece

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Angela McIllece is a creative strategist, coach, and designer, and the founder of Soul Force Strategies. Drawing on her background in creative design, personal development philosophy, and community building, Angela works at the intersection of vision and execution — helping individuals and organizations clarify their identity and build with intention. As a military spouse for thirty years, Angela has lived and worked across cultures — including living in New Delhi, India and Bogotá, Colombia — raising young children abroad and traveling widely throughout Asia and Latin America, and across the United States. These experiences have shaped her deeply held belief that human flourishing is both universal and beautifully particular — expressed differently across cultures, but rooted in the same enduring human needs.

Selected Sources and Further Reading

The works below represent some of the research and thinking that shaped this essay. They are offered not as comprehensive citation but as starting points for readers who want to go deeper, including into the places where this field has been wrong.

On the Harvard Study of Adult Development

Robert Waldinger and Marc Schulz, *The Good Life: Lessons from the World's Longest Scientific Study of Happiness* (Simon & Schuster, 2023). The current directors' account.

George E. Vaillant, *Triumphs of Experience: The Men of the Harvard Grant Study* (Belknap/Harvard, 2012). The prior director's synthesis, written closer to the raw case material.

On social connection and its physical consequences

Julianne Holt-Lunstad, Timothy B. Smith, and J. Bradley Layton, "Social Relationships and Mortality Risk: A Meta-analytic Review," *PLoS Medicine* 7, no. 7 (2010): e1000316. The foundational meta-analysis: 148 studies, 308,849 participants, odds ratio of 1.50.

Steven W. Cole, "Human Social Genomics," *PLoS Genetics* 10, no. 8 (2014). Review of the gene-expression work behind the claim that isolation has a physiological signature. Cole's related work extending this to eudaimonic wellbeing specifically has been contested and is not relied on here.

Shanshan Li, Meir J. Stampfer, David R. Williams, and Tyler J. VanderWeele, "Association of Religious Service Attendance With Mortality Among Women," *JAMA Internal Medicine* 176, no. 6 (2016): 777–785. The strongest single study on attendance and mortality. Observational; the cohort is predominantly white Christian American nurses, which the authors name as a limitation; supported in part by the John Templeton Foundation.

Office of the Surgeon General, *Our Epidemic of Loneliness and Isolation* (U.S. Department of Health and Human Services, 2023).

On the body: movement, sleep, and mental health

Sammi R. Chekroud et al., “Association Between Physical Exercise and Mental Health in 1.2 Million Individuals in the USA Between 2011 and 2015,” *Lancet Psychiatry* 5, no. 9 (2018): 739–746. Cross-sectional, drawn from CDC survey data; large and consistent, but not causal on its own.

Michael Noetel et al., “Effect of Exercise for Depression: Systematic Review and Network Meta-analysis of Randomised Controlled Trials,” *BMJ* 384 (2024): e075847. The trial evidence. A correction was issued in May 2024 revising the standard deviation used in effect-size calculations.

On purpose

Patricia A. Boyle, Aron S. Buchman, Lisa L. Barnes, and David A. Bennett, “Effect of a Purpose in Life on Risk of Incident Alzheimer Disease and Mild Cognitive Impairment in Community-Dwelling Older Persons,” *Archives of General Psychiatry* 67, no. 3 (2010): 304–310.

Patrick L. Hill and Nicholas A. Turiano, “Purpose in Life as a Predictor of Mortality Across Adulthood,” *Psychological Science* 25, no. 7 (2014): 1482–1486.

On the models of flourishing

Martin E. P. Seligman, *Flourish: A Visionary New Understanding of Happiness and Well-Being* (Free Press, 2011). The PERMA model and the fullest statement of the field’s founding argument.

Carol D. Ryff, “Happiness Is Everything, or Is It? Explorations on the Meaning of Psychological Well-Being,” *Journal of Personality and Social Psychology* 57, no. 6 (1989): 1069–1081.

Corey L. M. Keyes, “The Mental Health Continuum: From Languishing to Flourishing in Life,” *Journal of Health and Social Behavior* 43, no. 2 (2002). The argument that the absence of illness and the presence of flourishing are distinct conditions.

Tyler J. VanderWeele, “On the Promotion of Human Flourishing,” *Proceedings of the National Academy of Sciences* 114, no. 31 (2017): 8148–8156.

Richard M. Ryan and Edward L. Deci, *Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness* (Guilford, 2017).

On the cross-cultural question

Joseph Henrich, Steven J. Heine, and Ara Norenzayan, “The Weirdest People in the World?” *Behavioral and Brain Sciences* 33, nos. 2–3 (2010): 61–83. The paper that named the sampling problem and forced the field to take it seriously.

The Global Flourishing Study (gflourish.org). Longitudinal panel of more than 200,000 people across twenty-two countries, led by Tyler VanderWeele (Harvard) and Byron Johnson (Baylor), with Gallup and the Center for Open Science. Wave-one findings appeared in a thirty-five-article Nature Portfolio collection in 2025, including VanderWeele et al., “The Global Flourishing Study: Study Profile and Initial Results on Flourishing,” *Nature Mental Health* 3 (2025): 636–653. The dataset was opened to the public in 2026. Principal support from the John Templeton Foundation, among other funders. This is the study most likely to revise what is written in this essay, which is the reason to watch it.

On where the field has been wrong

Open Science Collaboration, “Estimating the Reproducibility of Psychological Science,” *Science* 349, no. 6251 (2015).

Nicholas J. L. Brown, Alan D. Sokal, and Harris L. Friedman, “The Complex Dynamics of Wishful Thinking: The Critical Positivity Ratio,” *American Psychologist* 68, no. 9 (2013): 801–813, and the subsequent correction to Fredrickson and Losada (2005) withdrawing the modeling.

Carmela A. White, Bob Uttl, and Mark D. Holder, “Meta-analyses of Positive Psychology Interventions: The Effects Are Much Smaller Than Previously Reported,” *PLoS ONE* 14, no. 5 (2019): e0216588.

Joep van Agteren et al., “A Systematic Review and Meta-analysis of Psychological Interventions to Improve Mental Wellbeing,” *Nature Human Behaviour* 5 (2021). 419 randomized trials; the fairest current summary of what these interventions do.

Brooke N. Macnamara and Alexander P. Burgoyne, “Do Growth Mindset Interventions Impact Students’ Academic Achievement?” *Psychological Bulletin* 149, nos. 3–4 (2023), read alongside Elizabeth Tipton et al.’s commentary in the same issue and David S. Yeager et al., “A National Experiment Reveals Where a Growth Mindset Improves Achievement,” *Nature* 573 (2019). An unresolved argument, presented as one.

Saul Justin Newman, “Supercentenarian and Remarkable Age Records Exhibit Patterns Indicative of Clerical Errors and Pension Fraud” (bioRxiv preprint, 2024). The demographic challenge to the Blue Zones claims. Awarded the 2024 Ig Nobel Prize in Demography; not yet peer-reviewed.

On the critiques of this field

Barbara Ehrenreich, *Bright-Sided: How Positive Thinking Is Undermining America* (Metropolitan, 2009). The most forceful version of the argument that a focus on individual outlook obscures structural conditions, written from an explicitly left perspective.

Philip Rieff, *The Triumph of the Therapeutic: Uses of Faith After Freud* (Harper & Row, 1966). The classic statement of the parallel concern from the other direction.

On translating research into practice

Jon Kabat-Zinn, *Full Catastrophe Living*, rev. ed. (Bantam, 2013). The clinical protocol that became a field.

Madhav Goyal et al., “Meditation Programs for Psychological Stress and Well-being: A Systematic Review and Meta-analysis,” *JAMA Internal Medicine* 174, no. 3 (2014): 357–368. Forty-seven trials; the meta-analysis that established the honest size of the effect.

Shirzad Chamine, *Positive Intelligence* (Greenleaf, 2012). An accessible translation of research on threat response and mental fitness into a daily practice.

Jason Viyar, *The Psychological Millionaire*. Relationships, appreciation, and presence treated as assets a person can invest in, developed from the author’s capstone work in the Master of Applied Positive Psychology program at the University of Pennsylvania. An introduction to the framework is published at humanflourishing.us.

On flourishing in schools

Jacolyn M. Norrish, *Positive Education: The Geelong Grammar School Journey* (Oxford University Press, 2015). The most thoroughly documented whole-school implementation.

On measuring wellbeing at national scale

World Happiness Report (annual since 2012); OECD, *Guidelines on Measuring Subjective Well-being* (2013); UK Office for National Statistics, *Measures of National Well-being* (since 2011).

Human Flourishing companion essays

Scott McIntosh and Angela McIllece, *Fear Is Not the Enemy. Love Is Not a Feeling*. (Human Flourishing, 2026).

Scott McIntosh and Angela McIllece, *Designed to Serve: Why Accountable Governance Matters for Human Flourishing* (Human Flourishing, 2026).

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