



GLOBAL WELLNESS
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Mental Wellness: Pathways, Evidence and Horizons; Many Roads to the Mountaintop

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Mental Wellness & The Brain

- A growing number of studies on wellness modalities – e.g. meditation, yoga, dance - are finding positive changes in the brains of regular practitioners.
- At the heart of this emerging body of research findings is the concept that the brain can continue to grow and develop new neural pathways and connections well into adulthood.
- This evidence stands in contrast to earlier views that held that brain development ceased in adolescence.

BRAIN PLASTICITY

- Neuroplasticity simply means change in the nervous system. It refers to our brain's intrinsic and dynamic ability to continuously alter its structure and function throughout our lifetime.
- Neuroplasticity is strongest during our first five years of life.
- The underlying mechanism of plasticity is aptly described in the neuroscience axiom - "*Neurons that fire together, wire together. Neurons that fire apart, wire apart.*"
- We need to engage in activities that are challenging and experiences that are stimulating to our senses, followed by a period of sufficient rest and nourishment necessary for recovery and growth.

We are More than We Think

Descartes:

- Cogito ergo Sum - I think, therefore I am.

Mental Wellness Paradigm:

- Sum, Cogito, Ego supergradiatur
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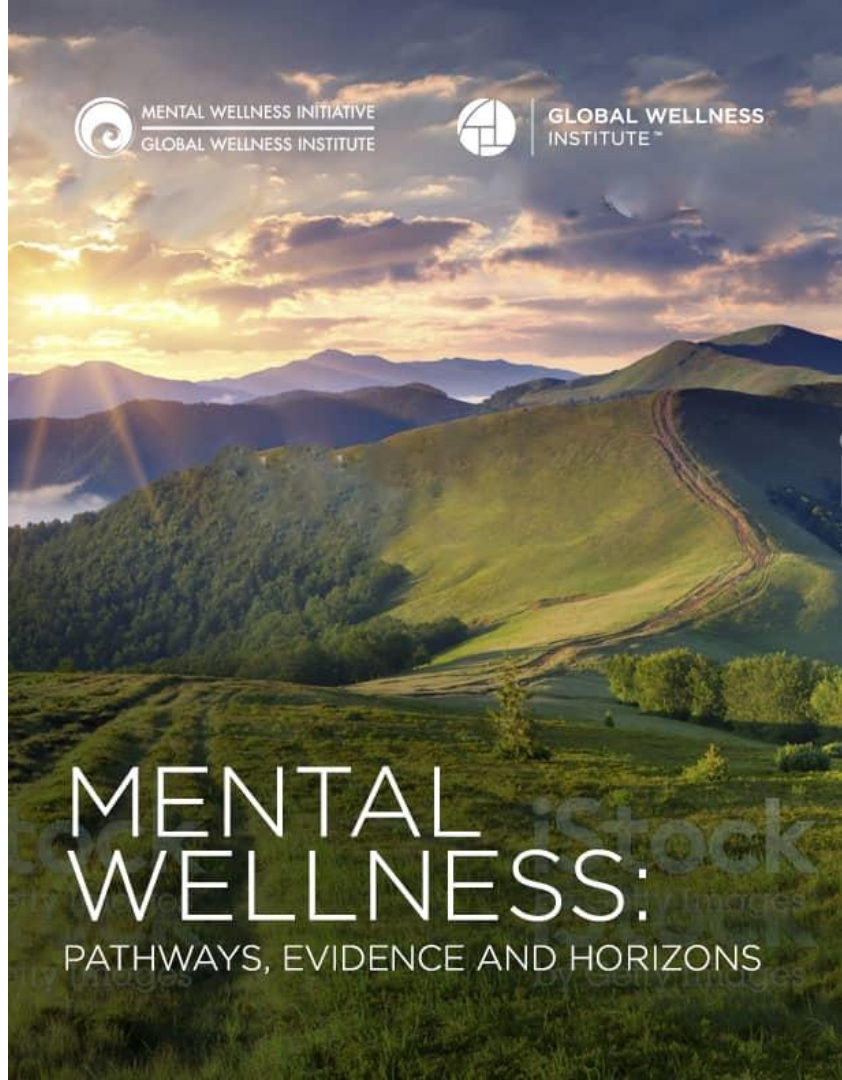
I Am: I think: I go beyond



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MENTAL WELLNESS:

PATHWAYS, EVIDENCE AND HORIZONS

Mental Wellness Initiative

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NUTRITION

- The human brain operates at a very high metabolic rate, and uses a substantial proportion of the body's total energy and nutrient intake.
- The brain is reliant on amino acids, fats, vitamins, and minerals or trace elements.
- Dietary habits modulate the functioning of the **immune system**, which also moderates the risk for depression.

International Society for Nutritional Psychiatry Research

“A traditional whole-food diet, consisting of higher intakes of foods such as:

- ❖ vegetables,
- ❖ fruits
- ❖ seafood
- ❖ whole grains
- ❖ lean meat
- ❖ nuts, and legumes
- ❖ with avoidance of processed foods

is more likely to provide the nutrients that afford resiliency against the pathogenesis of mental disorders.”

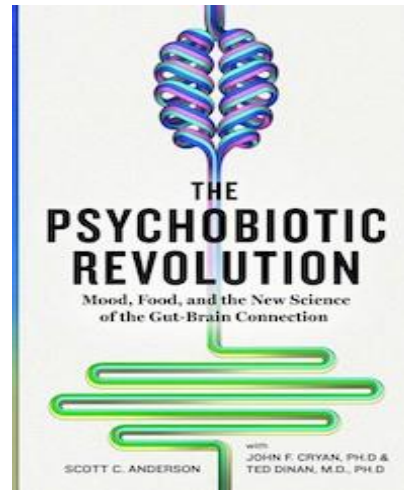
Sarris et al, Lancet Psychiatry (2012)

THE GUT-BRAIN AXIS

- The microbiome-gut-brain axis is emerging as a key pathway for modulating behavior.
- The routes of communication between the microbiota and the brain are slowly being identified.
- The immune system, altered barrier function, hormone secretion, production of metabolites, activation of enteric nervous system, and vagus nerve are among the pathways being investigated.

Psychobiotics

- Dysregulation of the gut microbiota composition has been identified in a number of psychiatric disorders, including depression.
- Psychobiotics, bacteria that have a beneficial effect upon behavior and mood, are being investigated for potential therapeutic interventions.



MENTAL APPROACHES

Cognitive Activities

Cognitive activities such as reading, playing board games, and playing musical instruments have been found to be associated with a **lower risk of dementia.**

(Verghese J, Lipton RB, M.D., Katz MJ, Hall CB, Derby CA, Kuslansky G, Ambrose AF, Sliwinski M, Buschke H. Leisure Activities and the Risk of Dementia in the Elderly. **N Engl J Med.** 348;25, 2508-2516.)





Meditation

- Meditation is like exercise for our brains: it's been shown to **assist in mental health maintenance, improve memory, empathy, and sense of self.**
- A study by Harvard researchers at Massachusetts General Hospital, found that meditating for only 8 weeks actually significantly changed the brain's grey matter — a major part of the central nervous system that is associated with processing information, as well as providing nutrients and energy to neurons.

Meditation: Reduced Stress, Enhanced Quality of Life

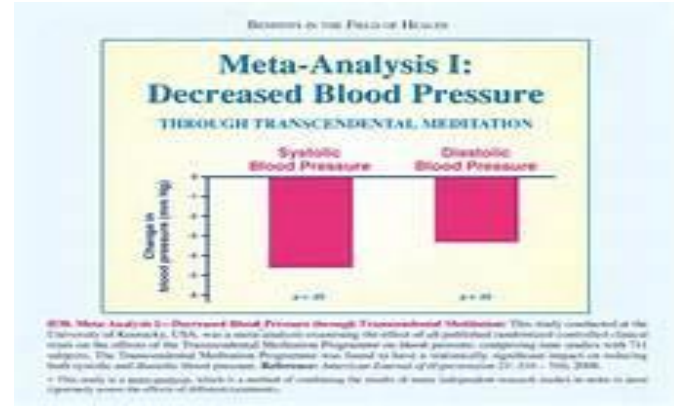
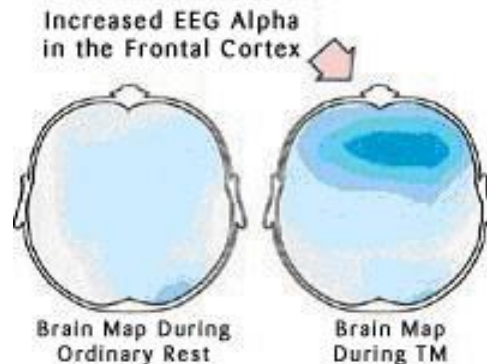
A meta-analysis in the Journal of the American Medical Association identified almost 19,000 studies on different forms of meditation.

Four decades of studies highlight the effects of meditation in

- enhancing immunity
 - reducing depression and anxiety
 - improving academic performance
 - reducing age-related cognitive decline
 - increasing happiness and quality of life
 - and managing and reducing trauma
-
- Madhav Goyal, et al. Meditation Programs for Psychological Stress and Well-being. A Systematic Review and Meta Analysis. JAMA Intern Med. 2014;174(3):357-368. doi:10.1001/jamainternmed.2013.13018

Effect on Brain & Behaviour

- Early research on the Transcendental Meditation technique showed distinct EEG changes during meditation, characteristic of a state of restful alertness,
- This is distinct from the EEG patterns for sleep or normal resting.
- Other studies have shown **reduction in anxiety, depression, and hostility** in subjects practicing this meditation technique.





SLEEP

- Chronic sleep problems affect 50% to 80% of patients in a typical psychiatric practice, compared with 10% to 18% of adults in the general U.S. population. Sleep problems are particularly common in patients with anxiety, depression, bipolar disorder, and attention deficit hyperactivity disorder (ADHD).
- Neuroimaging and neurochemistry studies suggest that **a good night's sleep helps foster both mental and emotional resilience**, while chronic sleep disruptions set the stage for negative thinking and emotional vulnerability.
- **Regular exercise** may also help us sleep. One study in older adults showed improved sleep quality with regular aerobic exercise, such as jogging or cycling. The timing of physical activity is important.
- **Exercise earlier in the day** is better for people who want to improve their chances of sleeping, since in the short term it increases the body's adrenaline production, making it difficult to sleep.
- Exercise can also help **to reduce the symptoms of obstructive sleep apnea**.



Social Connectedness: Laughter

- Social laughter seems to release endorphins associated with feelings of wellbeing and heightened mood.
- Oxford University researchers conducted a series of experiments and found that pain thresholds - an indicator for endorphin release - were significantly higher after laughter. The researchers suggest that “laughter, through an endorphin-mediated opiate effect, may play a crucial role in social bonding” .
- In subsequent research the Oxford team found that social laughter “increased pleasurable sensations and triggered endogenous opioid release in thalamus, caudate nucleus, and anterior insula”.
- Simulated laughter may be an ideal way for older adults with functional or cognitive impairment to achieve the health benefits of laughter. These include improved physiological and psychological functioning.
- There is no need to rely on cognitive skills to "get the joke" ... because there is no joke...



PHYSICAL APPROACHES



EXERCISE & MOOD



- Epidemiological data suggest that **active people are less depressed than inactive people.**
- And **people who were active and stopped tend to be more depressed** than those who maintain or initiate an exercise program.
- People who got at least an hour of moderate or vigorous activity cut their risk of dying in half, and those who got at least 100 minutes a day cut their death risk by 76%.
- Mini workouts can also add up to better health



DANCE: Preventing Dementia



- A study published in the New England Journal of Medicine examined a range of physical and cognitive activities associated with a reduced risk of developing Alzheimer' Disease (AD) (Verghese et al, 2003).
- **Cognitive activities** such as reading, playing board games, and playing musical instruments were found to be associated with a lower risk of dementia.
- However, of **eleven physical activities** (playing tennis or golf, swimming, bicycling, dancing, participating in group exercises, playing team games such as bowling, walking for exercise, climbing more than two flights of stairs, doing housework, and babysitting), ***“dancing was the only physical activity associated with a lower risk of dementia”*** (p. 2512).



Dance for Parkinson's Disease



- The Brooklyn-based organization *Dance for PD* has built a dance therapy program based on a growing body of research indicating that dance and DMT produce significant benefits for people with Parkinson's Disease (PD).
- In research conducted with Dance for PD, it was found that dancing may help people with Parkinson's Disease improve their ability to walk and may enhance their quality of life.
- After 8 weeks and 16 sessions:
 - A 10.4 percent improvement from baseline in **overall movement**(statistically significant);
 - A 26.7 percent improvement from baseline in **walking, or gait** (statistically significant)
 - An 18.5 percent improvement from baseline in **tremor**.
- Participants also reported improved quality of life, “feeling better,” experiencing a “sense of companionship,” finding that “general health has improved,” and feeling “less helpless.”

Yoga: Improved tolerance of pain & stress

- A 2008 University of Utah study examined varied participants' responses to pain. They noted that **people who have a poorly regulated response to stress are also more sensitive to pain.**
- **Yoga practitioners had the highest pain tolerance and the lowest pain-related brain activity during the MRI.**

Reviews of studies (i.e. meta analyses) suggest that yoga may:

- reduce many insulin-resistant syndrome related risk factors for CVD,
- improve clinical outcomes
- reduce age related deterioration in cardiovascular functions
- reduce anxiety and depression





TAI CHI

Meta analyses show:

Tai Chi is the most effective means of preventing falling in the elderly

American Geriatric Society (2011):

Recommended that Tai Chi lessons and reduced medication should be used to prevent falls in the elderly.

Japanese proverb:

Only staying active will make you want to live to a hundred years.





BEING IN NATURE

- Scientists have long known that **sunlight can ease depression**, especially Seasonal Affective Disorder (SAD).
- A 2007 study from the University of Essex in the U.K. found that a walk in the country reduces depression in 71% of participants.
- The researchers found that as little as five minutes in a natural setting, whether walking in a park or gardening in the backyard, improved mood, self-esteem, and motivation. (www.webmd.com/balance/features/nature-therapy-ecotherapy)
- In a 2010 Japanese study of *shinrin-yoku* (defined as “taking in the forest atmosphere, or forest bathing”), researchers found that elements of the environment, such as the odor of wood, the sound of running stream water, and the scenery of the forest can provide relaxation and reduce stress. Those taking part in the study experienced lower levels of cortisol, a lower pulse rate, and lower blood pressure.

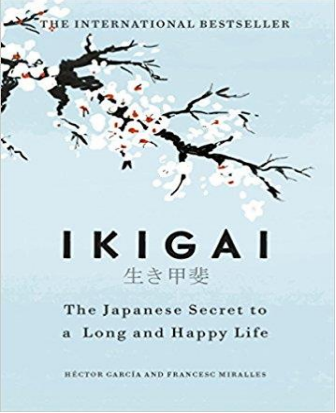
(Park et al, 2010. *The physiological effects of Shinrin-yoku (taking in the forest atmosphere or forest bathing): evidence from field experiments in 24 forests across Japan. Environmental Health and Preventive Medicine. 15:18.*)



MASSAGE



- A meta-analysis was conducted of studies that used random assignment to test the effectiveness of massage therapy (MT). Mean effect sizes were calculated from 37 studies for 9 dependent variables.
- *Single* applications of MT **reduced state anxiety, blood pressure, and heart rate** but not negative mood, immediate assessment of pain, and cortisol level.
- *Multiple* applications reduced delayed assessment of pain. Reductions of trait anxiety and depression were MT's largest effects, with a **course of MT treatment providing benefits similar in magnitude to those of psychotherapy.**



A Sense of Purpose

The Japanese Concept of Ikigai

- There is no direct English translation, but Ikigai is a Japanese term that embodies the idea of happiness in living.
- **Japan has more than 67,000 citizens aged 100 years or more.**
- **Japan's choice:** a healthy older population or a sick dependent older population.
- Ikigai is now being mainstreamed across every area of Government

CHINESE PROVERB:

**'That the birds of worry and care fly over your
head,
this you cannot change,**

**But, that they build nests in
your hair,
this you can prevent'**



...but .. how big are your birds ..?



Depression

WHO: Depression is the leading cause of disability worldwide

- **Mild to moderate depression** is responsive to many self-managed pathways
- Deep **clinical depression needs medical treatment.**
- New potential for breakthrough treatments with Ketamine.
- One theory is that ketamine prompts connections to regrow between brain cells that are involved in mood.
- Thomas Insel, MD, Director of the National Institute of Mental Health told WebMD: “Recent data suggest that ketamine, given intravenously, might be the most important breakthrough in antidepressant treatment in decades,” says.
- Yale researchers are trialing a Ketamine nasal spray

Wellness Industry & Mental Health

- As mental health and mental wellness become a focus throughout the wellness industry, the question is beginning to be asked:
- **“How to empower practitioners to better assess the mental wellness of consumers and clients, as companies are afraid to ask and customers are afraid to share information about their mental wellbeing?”**
- **ANSWER:** In answer to this, it is important to ask: **“Should wellness practitioners, untrained in mental health diagnosis, be put in this position?”**
-

ANSWER – ANOTHER QUESTION?

“Should wellness practitioners, untrained in mental health diagnosis, be put in this position?”

In many respects this kind of outlook is getting into the same area as asking how do we assess if people have high blood pressure or diabetes?

Mental illness, like hypertension and diabetes is, in WHO's classification, a Non-Communicable Disease (NCD).

It should be handled by appropriately credentialed professionals: clinical psychologists, psychiatrists, licensed psychotherapists etc., as there are professional, ethical, liability and competency issues involved.

For a wellness destination to really take on the assessment/identification of mental health issues, they would need to be registered as a medical spa, offering clinical services with licensed health practitioners and all of the liability protection that comes with this.

Mental Wellness

- Offering pathways to Mental Wellness, on the other hand, needs no diagnosis, no therapeutic training
- The Mental Wellness strategy is **to focus on what everyone can do in a self-managed and self-empowering way to enhance their own mental wellbeing using evidence-based pathways that work for them.**

EVIDENCE

- Evidence is of central importance in that it offers wellness service providers a sound base from which to explain this approach of self-managed progress to inner wellbeing.
- Evidence offers clients confidence that these approaches have validity.
- Evidence for self-directed pathways to mental wellness avoids the clinical and liability issues that come with diagnosis and the 'psychologizing' of mental health issues.

Keys to a long & healthy life that is well lived

1. Healthy nutrition – within culture
2. Regular activity/movement
3. Managing stress & getting good rest
4. Meaningful friendships and family relationships
5. A sense of purpose

Results: Happiness, connectedness, purpose, resilience, longevity

Mental Wellness & Public Health: Areas for Expansion

- Refugees
- Inner city youth
- Veterans with PTSD
- Mental wellness in the workplace
- The older population – with or without cognitive decline

Where are we headed?

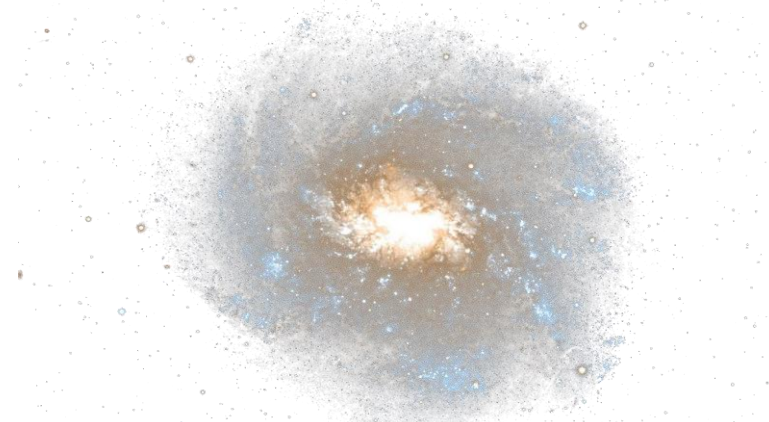
What is the scope of human potential?

- **In the West:** Self-Actualization and Self-Transcendence (Maslow)
- **In the East:** Moksha, Enlightenment.
Individual identity merged with universal identity.

The Big Picture

- Big picture for human potential - evidence for brain plasticity at all stages of life.
- Theorists in the West, theorists in the East. All saying the same thing: **We Are Much More Than We Think.**
- This must become an anchor, the foundational premise of any pathway to mental wellness.
- **We are more; we can live that.** Continued growth is essential in order to activate our greater potential.
- **This needs catalysts** – by and large, it is not spontaneous.
- So far we have not mapped even the modest outer limits of our human potential. Yet, **others have gone before us..**
- Sanskrit:
Yatha pinde tatha brahmande, yatha brahmande tatha pinde
“As is the microcosm, so is the macrocosm.
As is the macrocosm, so is the microcosm”.

Mental Wellness: A journey of wonder, learning and transformation.



Wonder is the beginning of wisdom.

Socrates