UCSF Osher Center for Integrative Medicine

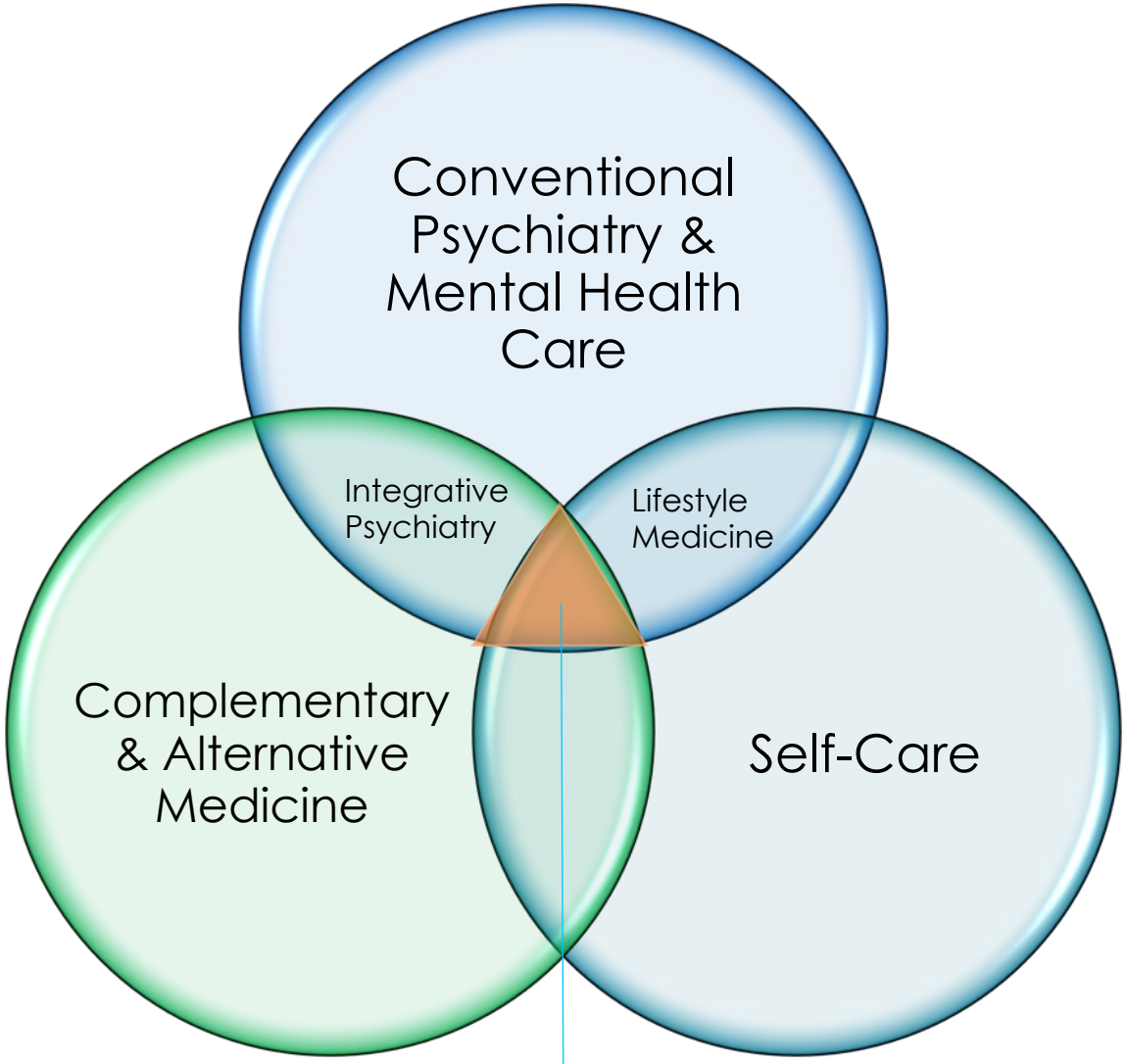
Exploring Physical and Emotional Dimensions of Pain and Loss: The Power of the Mind-Body Connection

Selena Chan, DO

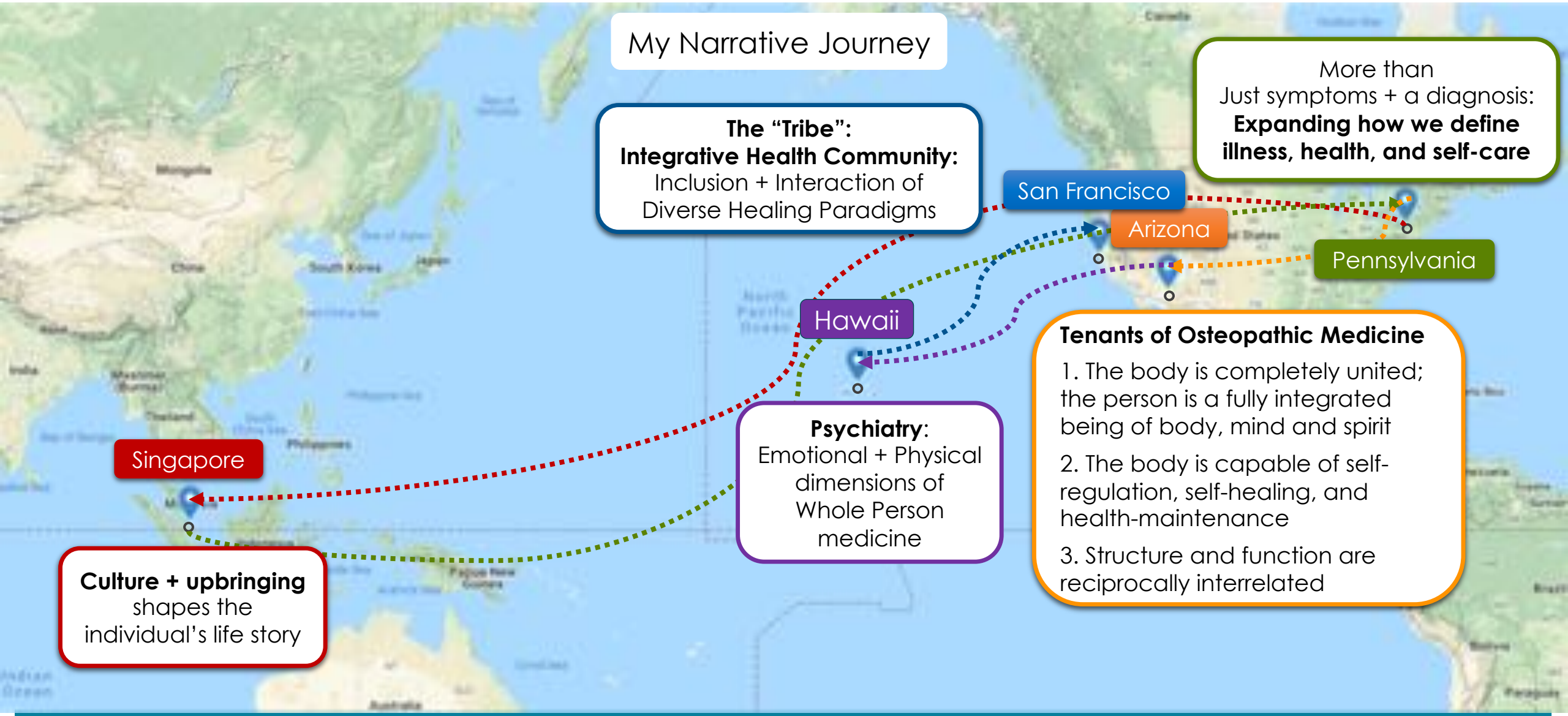
Integrative Psychiatrist

Clinical Fellow

Promoting Healing and Wellness

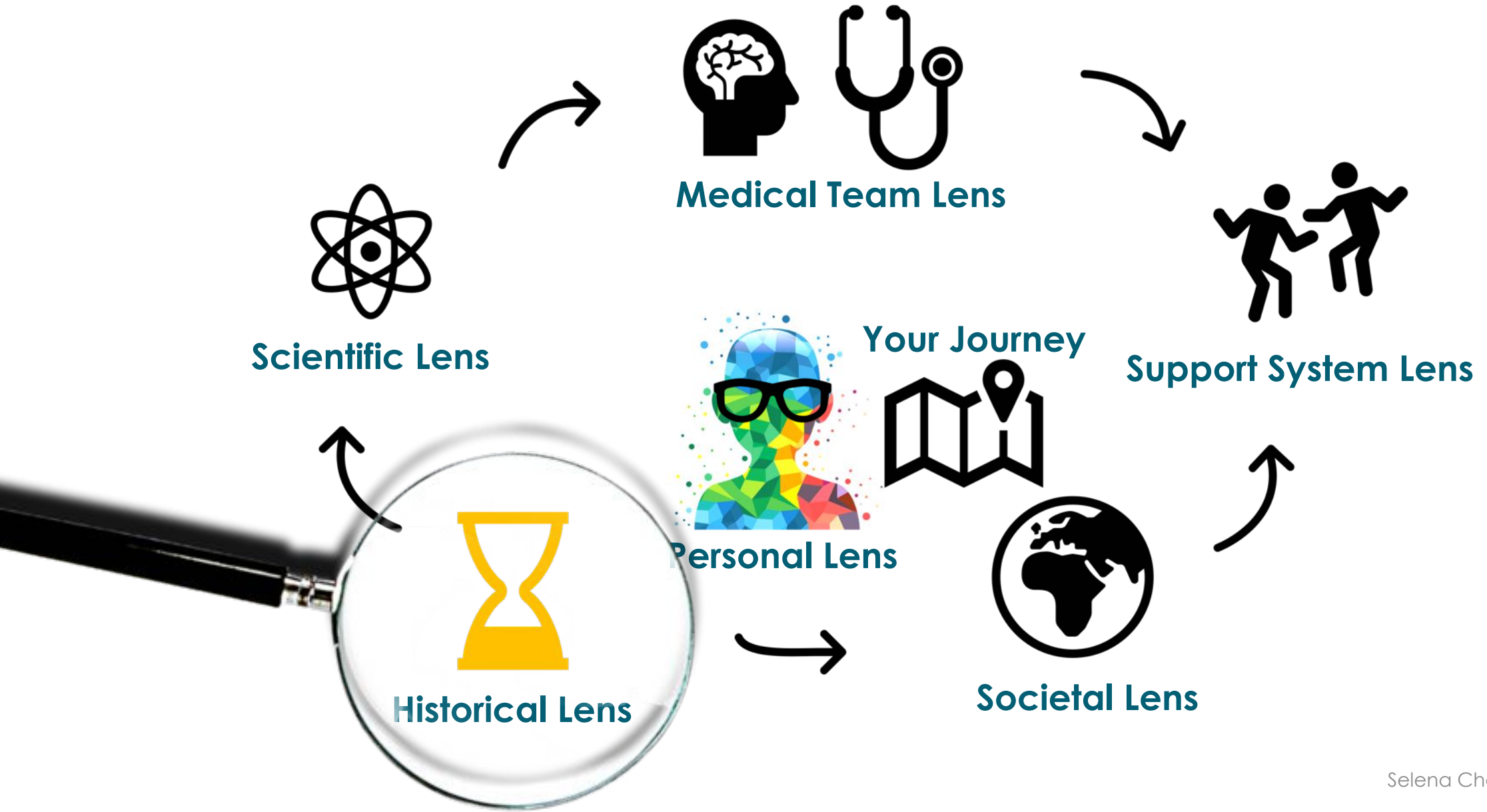


Humanistic Medicine + Mind-Body Relationship



A Narrative: not linear but a series of interconnected circles | both Unique + Shared

Perspectives & Point of View of Mind-Body



Stone Age
Skull Trepanation

Symptoms:
- **Behaviors deviating from norms** (psychiatric / neurologic)
- Headaches

Cause:
- **Evil Spirits**

Treatment:
- **Drill burr hole** into skull until brain tissue showed
- → "release evil spirits"

Now called **craniotomy**
- Subdural and Epidural hematomas

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https://www.ancient.eu/img/r/p/500x600/1166.jpg.webp?v=1485680401

Ancient Greece
Temperament of "four humors"

Blood Spring "Sanguine" **Enthusiastic + Social**	**Yellow Bile** Summer "Choleric" **Angry + Impulsive**
Phlegm Autumn "Phlegmatic" **Apathetic**	**Black Bile** Winter "Melancholic" **Sad + Depressed**

"Those maddened through bile are noisy, evil-doers and restless, always doing something inopportune" – from Hippocratic Corpus

- **Hippocrates**
  - "Father of Modern Medicine"
  - The Hippocratic Oath is still taken by all physicians today
- **Reductionistic**
  - **Reducing complex states into simpler, physical terms**
  - Simple humoral imbalance → complex emotional causes
- **Antidotes:** Treatments of opposites
  - Excess humors → Deplete humors
    - Bloodletting (leeches)
    - Purging
  - "Hot" diseases (fever) →treat with "Cold" medicines

Ancient Greece
Hippocrates: "Hysteria"

"Hysteria" felt by men to be reason why women were unable to make rational decisions → women had few rights

- ***Hystera is Greek for uterus***
- Symptoms:
  - **"Excessive emotion" conveying a sense of suffocation or distress**
  - e.g., high anxiety, respiratory/intestinal distress
- *Proposed Cause:*
  - *Dry uterus wanders in body in search for moisture and pushes on body parts communicating distress*
- Treatment:
  - Pleasant vs. repelling aromas to "put the uterus back in place"

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https://academic.mu.edu/meissnerd/hysteria5.gif

100's AD: **Galen**

Dissecting Illnesses of the Body
Compartmentalizing emotion

Galen – physician of Roman Empire

- *Loyalist of theory of humors*
- *Deeply respected for **skill of differentiating illnesses***
  - *Galen's reports of anatomical dissection*
- *Reductionist: **Separation of Illness***
  - *Organic vs. "Non-organic*
- *Galen's theories were mainstay of Western medical science for 1,500 years*

100's AD: **Galen**
The woman with insomnia

"... she was suffering from a melancholy dependent on black bile, ***or else trouble about something she was unwilling to confess****."*

As quoted in *Galen--On Mental Disorders*, Stanley W. Jackson

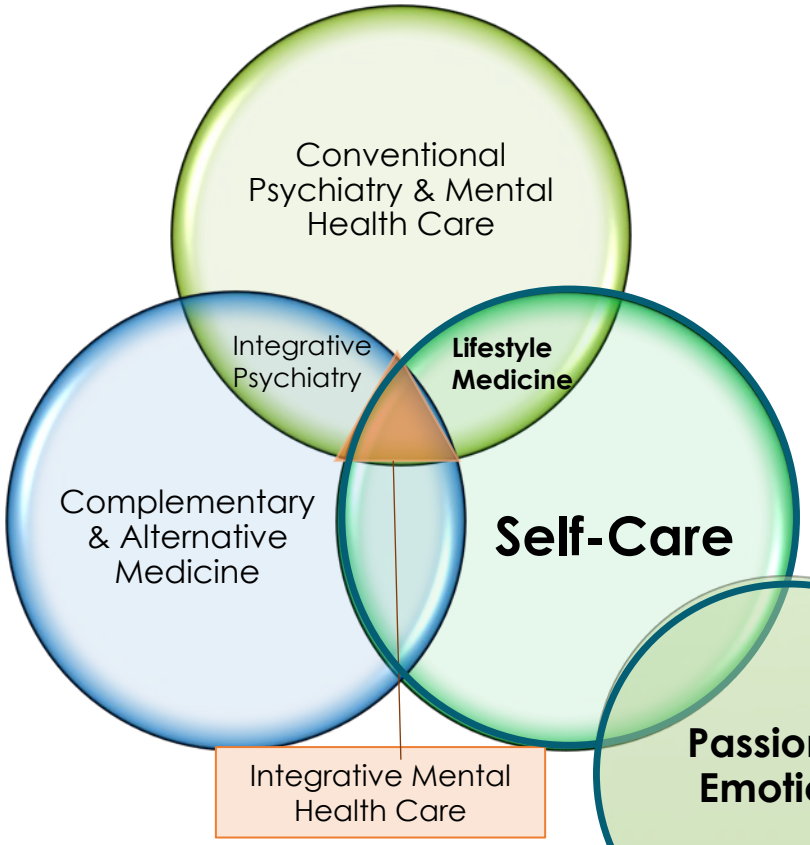
1. Galen rules out humoral causes
   - *Today: "Rule out physical illness"*
2. Physical exam / "test"
   - Saying famous dancer's name → sudden irregularity of pulse
   - clue to the "agitated mind"
3. Diagnosis:
   - **Emotional cause of "dis-ease"**
     - In love with the dancer

"On the Diagnosis and Cure of the Soul's Passion"

- Galen's Manual on treating psychological symptoms
- Suggested counseling patients to explore deepest self (early form of psychotherapy)

Opera ex Sexta Juntarum Editione, Venice, 1586

100's AD: **Galen**
Six "Non-Naturals"



impact of emotions on physical illness + health

- *"**Non-naturals**"*
  - *Outside of body = Not innate*
  - ***Environmental factors involved in the preservation of health***

In other words:

- *Illnesses Prevention*
- *Health Promotion*

Passions + Emotions | **Air** | **Motion + Rest (Exercise)** | **Sleep + Waking** | **Things taken in (food + drink)** | **Evacuation + Retention**

The Middle Ages

- **Mental Illness thought to be caused by curse, wrongdoing or sin**
- **Supernatural theories of mental illness**
  - Demonic Possession
  - Witchcraft / "Black magic"
  - "Evil eye" / Cursed
  - Religious punishment
- **Rituals to allow spirits to leave head**
  - Trephining (hole into skull) to release evil spirits
  - Exorcisms, magic spells
  - Religious practices

18th Century: The Asylum for "otherness"
Pinel: Humane treatment

- **Mental illness stigmatized – Asylums**
  - No windows
  - Chained to beds, beaten
  - Little contact with caregivers

- Focus was to ostracize those with psychological disorders from society

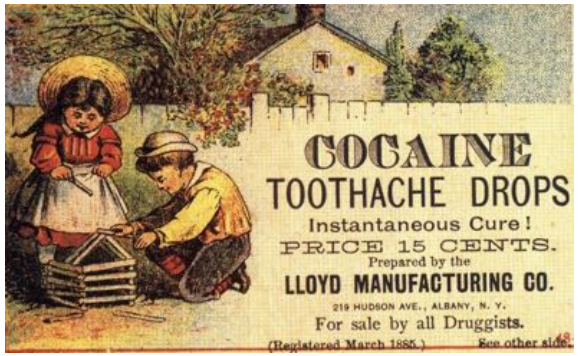
Late 1700's:
French physician, Phillippe Pinel

- **Advocated for humane, moral treatment**
  - Prison vs. Hospital
  - Unchained, ability to leave asylum
  - **Valued emotions + social interactions**

https://www.famousscientists.org/images1/philippe-pinel-unchaining.jpg

Effect of common 19th century treatments on mind-body
Mercury + Cocaine

- **Mercury (Calomel):**
  - Antiseptic/Diuretic/Laxative
  - Toxic effects: blindness, memory loss, numbness, seizures
- **Cocaine**:
  - Local anesthetic in lozenges + toothache drops
  - Coca-Cola in late-1800's:
    - Coca leaves + Kola nuts



Effect of common 19th century treatments on mind-body
Morphine + Heroin

Morphine:

- To **control cough/ diarrhea**
- To **soothe infants and children**
  - Mrs. Winslow's Soothing Syrup had 65 mg of pure morphine per fluid ounce

Heroin

- Cough suppressant
- Marketed as "non-addictive" substitute for morphine
  - Not banned until 1924

Therapeutic Seizures

- 1500's - **Camphor**
  - to induce seizures and treat mental illness

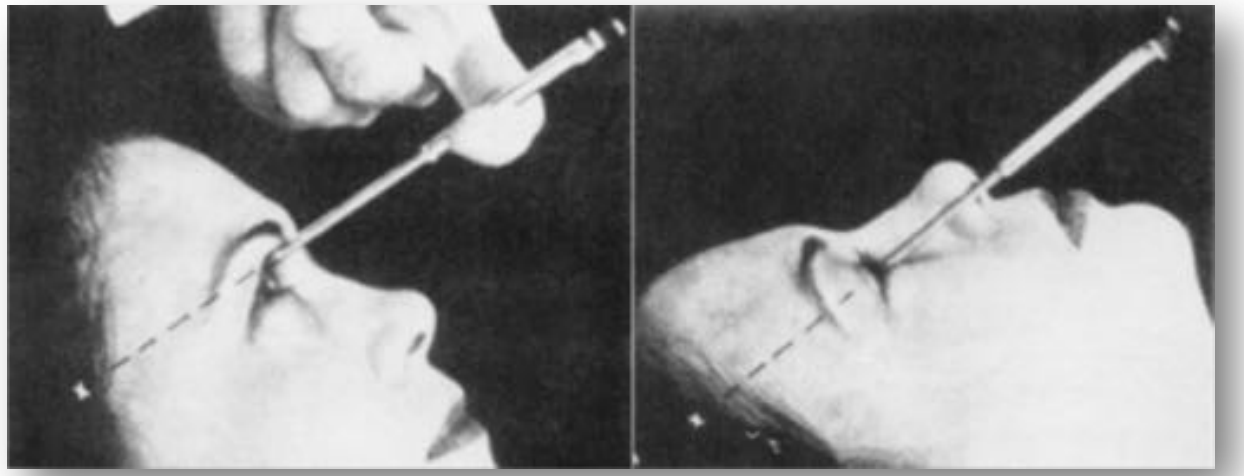
- 1920's - **Insulin Shock Therapy**
  - Purposeful insulin overdose → cause convulsions → treat schizophrenia

- 1938 - **Electroconvulsive Therapy (ECT)**
  - By Ugo Cerletti and Lucio Bini:
    - Use of electricity → induce a seizure → first successful treatment of a patient with schizophrenia

- Today - **ECT for "reboot" of brain chemistry … under more regulated conditions**
  - Unlike what is depicted in movies:
    - General anesthesia + muscle relaxer
    - Very brief, low-intensity electrical pulse

https://www.mcleanhospital.org/sites/default/files/resize/shared/M1019534-ECT-News-500x280.jpg
https://cdn.psychologytoday.com/sites/default/files/field_blog_entry_images/2018-11/ect.jpg

1930's – 1950's: "Ice Pick" Lobotomy



"Surgery for the Soul"

- To stabilize intense emotions
- (psychosis, depression, anxiety, pain

Procedure:

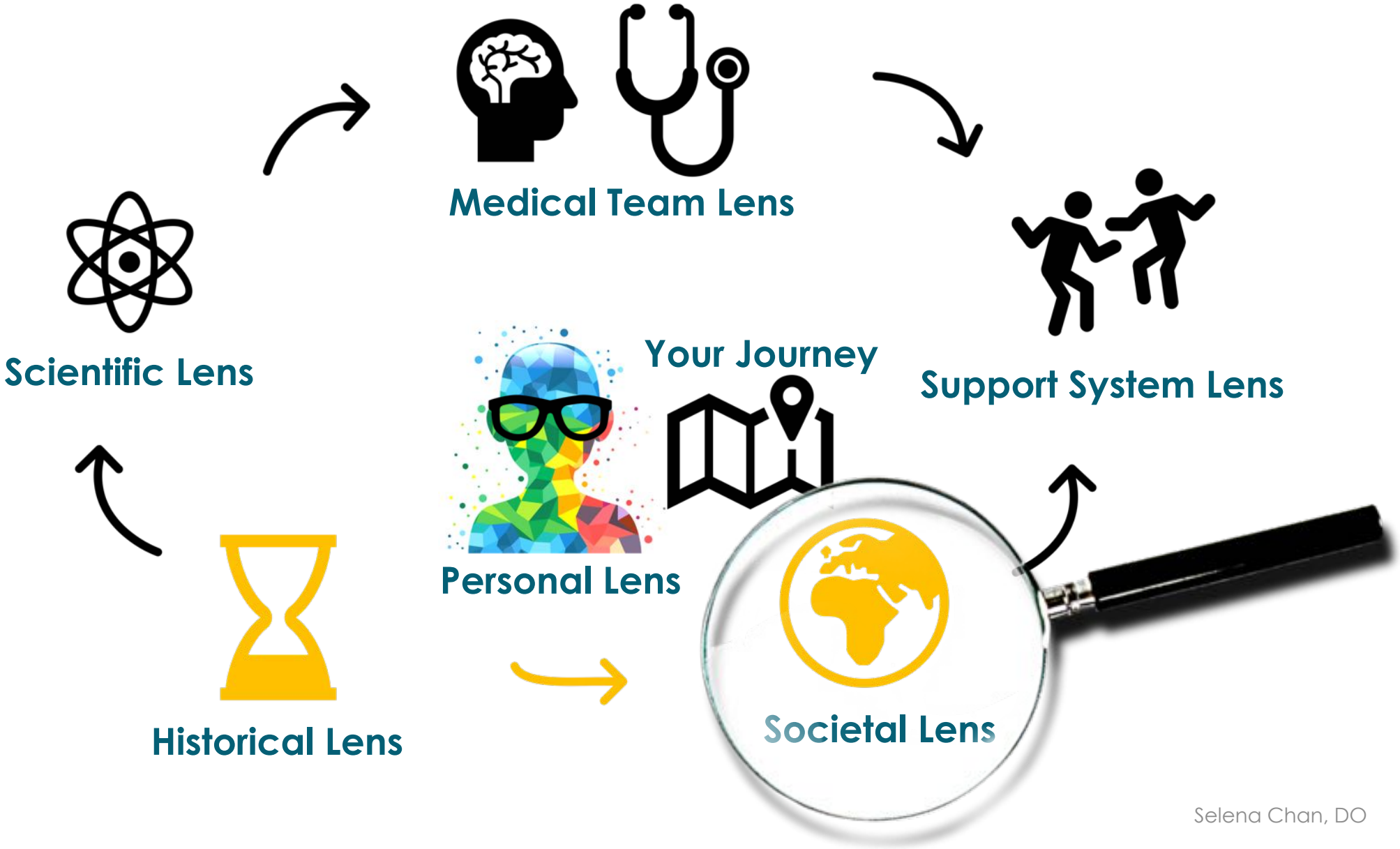
- ***Doctor drove slender instrument through the tear duct***
- ***… hammered until breaking part of skull protecting prefrontal cortex***

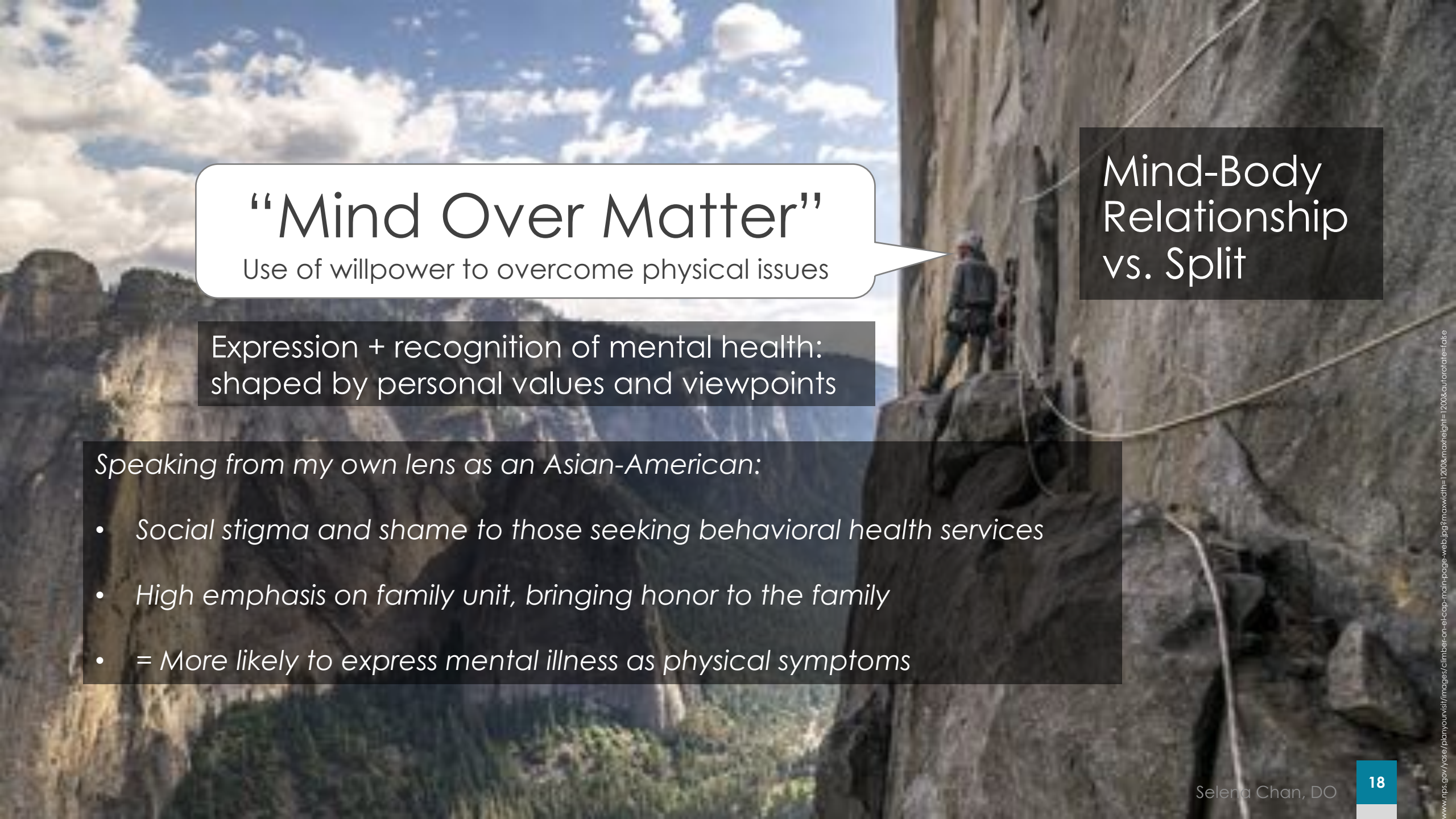
"Revolutionary treatment"

- Psychiatrist, Walter Freeman won Nobel Prize in 1949
- Procedure phased out with development of antipsychotic medications towards 1950s

http://www.cvltnation.com/wp-content/uploads/2014/10/tumblr_nazs4qewe71rwjpnyo2_500.jpg
https://www.cchrint.org/wp-content/uploads/2013/03/walter_freeman-lobotomy-1024x810.jpg

Perspectives & Point of View of Mind-Body





"Mind Over Matter"

Use of willpower to overcome physical issues

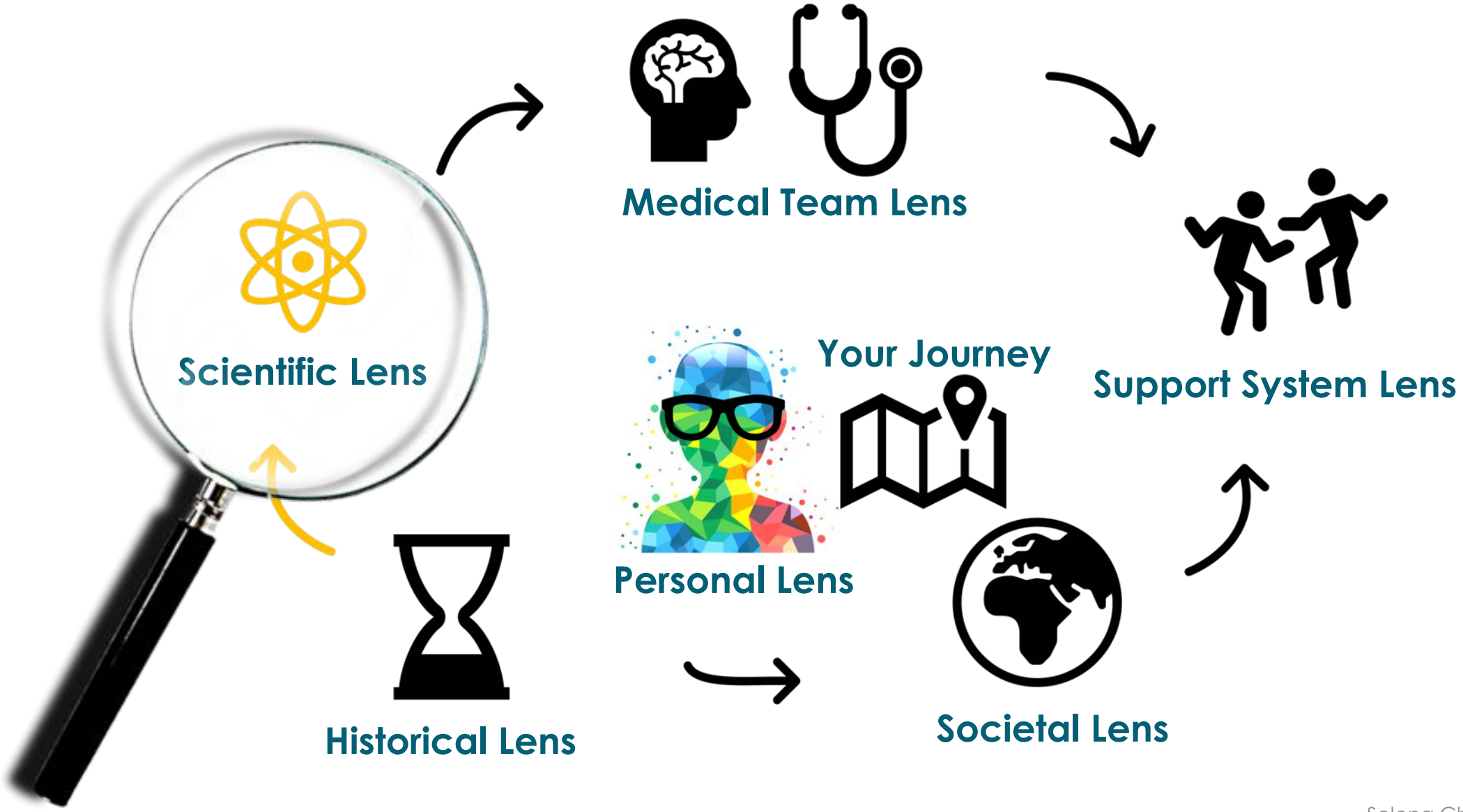
Mind-Body Relationship vs. Split

Expression + recognition of mental health: shaped by personal values and viewpoints

Speaking from my own lens as an Asian-American:

- *Social stigma and shame to those seeking behavioral health services*
- *High emphasis on family unit, bringing honor to the family*
- *= More likely to express mental illness as physical symptoms*

Perspectives & Point of View of Mind-Body

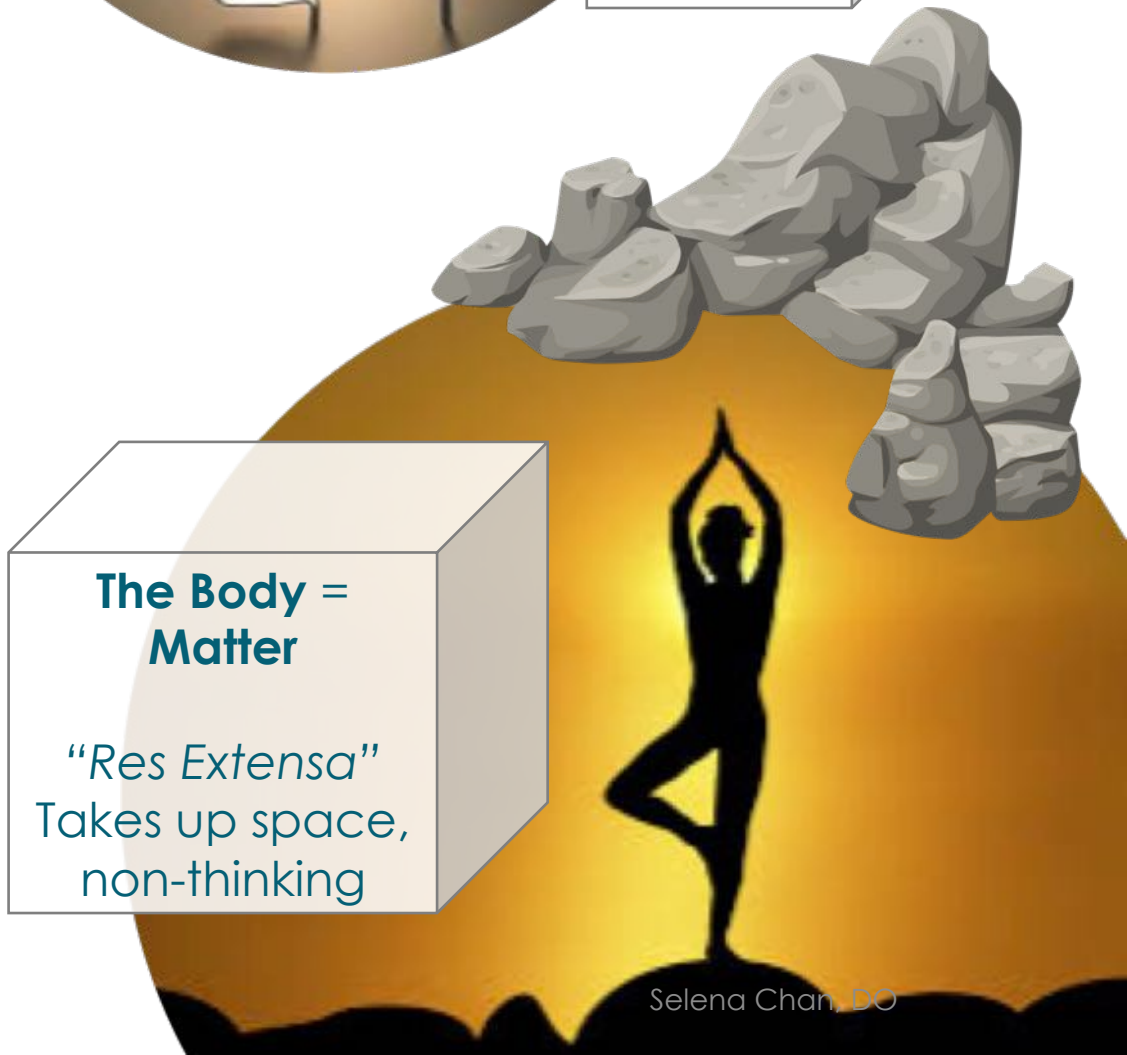


17th Century: Descartes Mind Body Dualism

The Mind
= Substance that **thinks**

"Res Cognita"
(non-material, conscious)
"**lever" controlling machine** (body)

The Brain
physical matter



The Body = Matter

"Res Extensa"
Takes up space, non-thinking

The unique, complex mind

Experience of emotion + suffering is unique to the individual

↓

Scientist's lens
"outside the box"
Not tangible
Difficult to pin down
concrete elements

↓

Not valid

↓

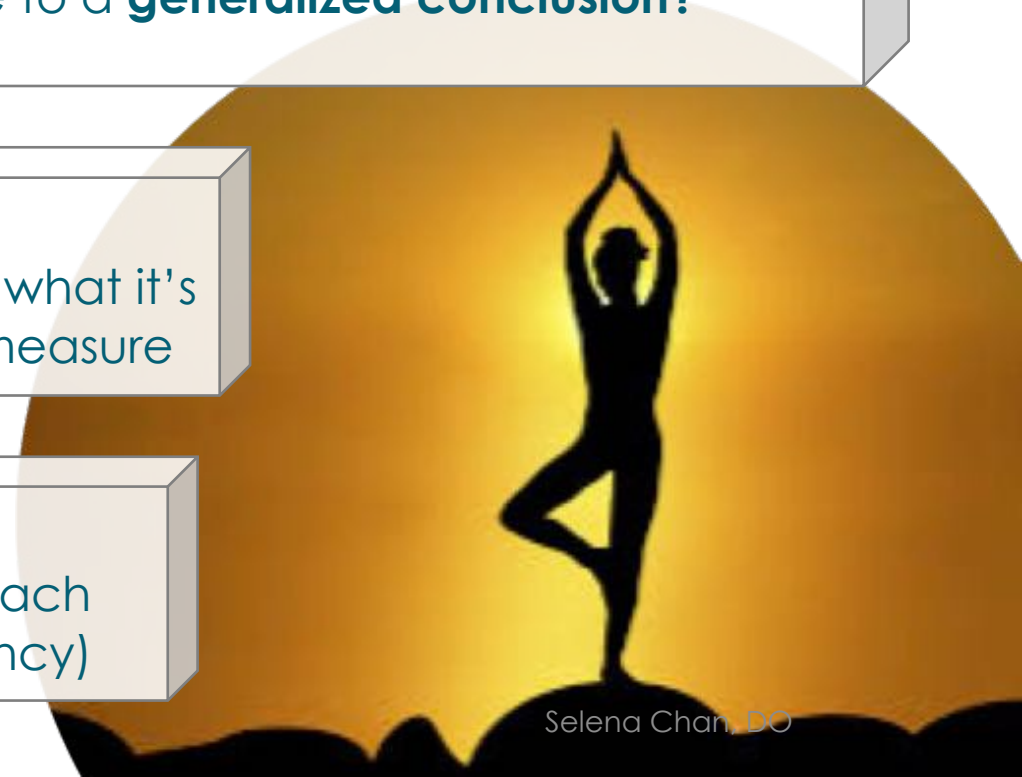
Risk of suggesting that a person suffering emotional illness *is feigning illness*

↓

May influence individuals/caregivers quest to seek extensive lab/imaging workup to find "biological root causes"

Scientist Lens

- ✓ **Evidence/Facts: Objective, concrete**
- ✓ What are the patterns and why do I see them?
- ✓ Can I come to a **generalized conclusion?**



- ✓ **Validity**
  Test measures what it's supposed to measure

- ✓ **Reliability**
  Same results each time (consistency)

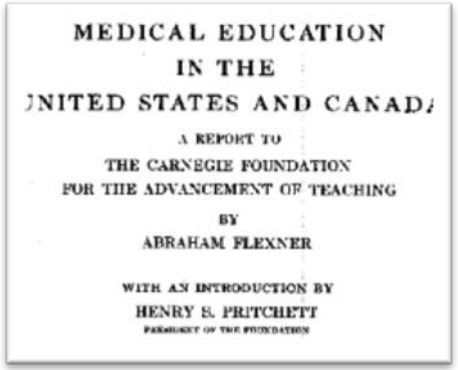
Perspectives & Point of View of Mind-Body

What is Conventional / Mainstream Medicine?

- **Dominant health system based on culture and historical period**
  - Medical interventions meeting accepted standards of care
  - Training taught at U.S. Medical schools and Residency programs

Today: Conventional medicine = **Biomedicine / Western Medicine**

- **1910: "Flexner Report"**
  - Called for strict adherence to **evidence-based, scientific studies**
  - Standardization of US and Canadian Medical School Education


MEDICAL EDUCATION
IN THE
UNITED STATES AND CANADA
A REPORT TO
THE CARNEGIE FOUNDATION
FOR THE ADVANCEMENT OF TEACHING
BY
ABRAHAM FLEXNER
WITH AN INTRODUCTION BY
HENRY S. PRITCHETT

Today:
Mind Body Dualism

Today:
Psychiatry & Psychology
= Study of **mind** (Psyche)

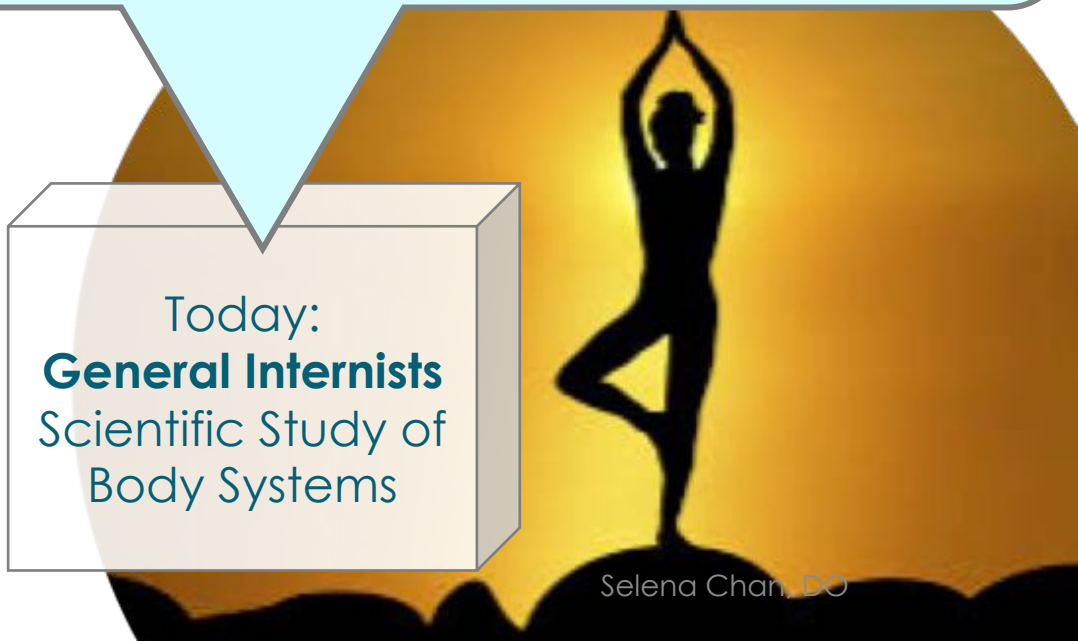
If Psychiatrist / therapist / patient / supports think presentation is **"organic"**

➔ **Psychiatric work up**
(e.g. review medications / check blood/urine for presence of drugs / substance / electrolyte / hormonal imbalance, infection, injury etc)

+/- ➔ **Internal Medicine / Hospitalist Consult!**
(less stigma going this way… why is this?)

Today:
Neurology
= Study of
brain

If Practitioner /patient / supports think presentation is "**Medical Mimic" or "diagnosis of exclusion" ➔ Psychiatry Team Consult (Consult-Liaison team):**
"Evaluate for "Psychosomatic" disorder"



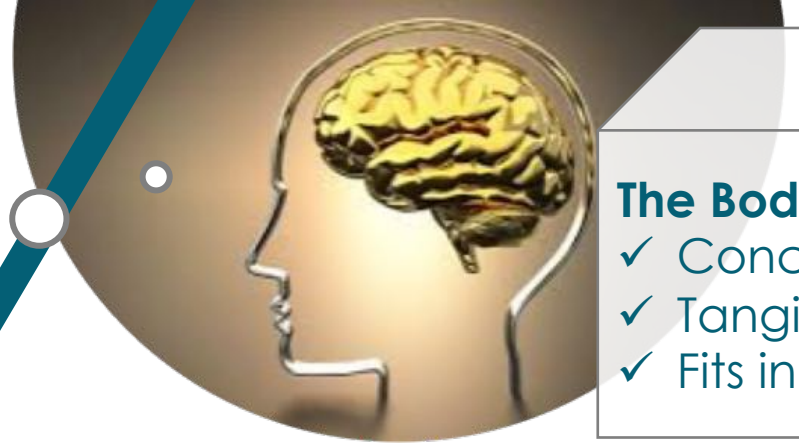
Today:
General Internists
Scientific Study of
Body Systems

Reductionism: Biomedicine

- **Any illness with poorly defined / abstract boundaries**
- **Complex, mind-body illnesses**

Risk for labeling illness as

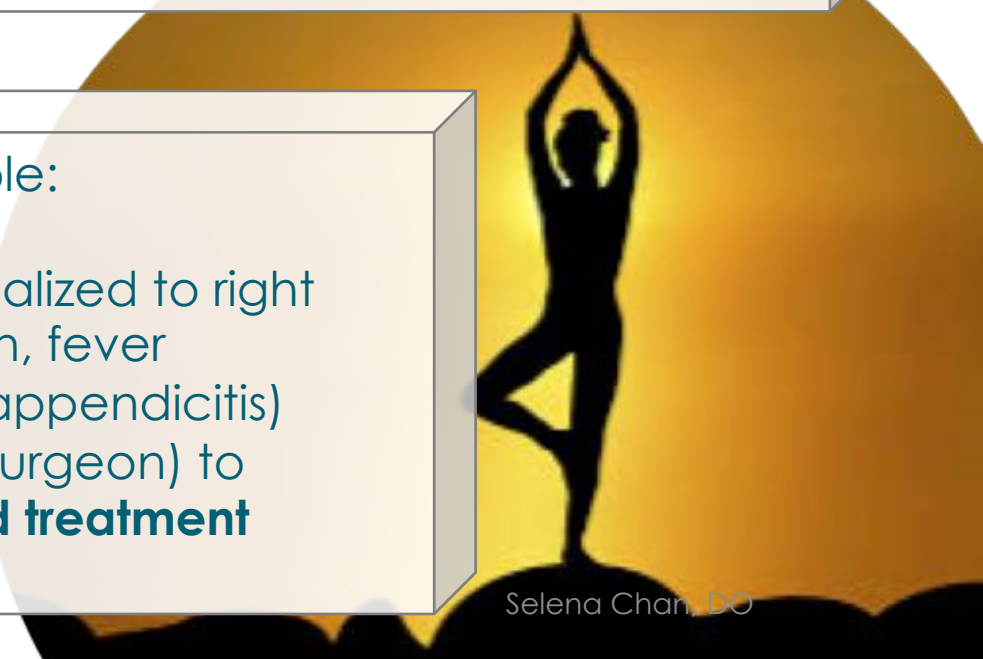
"Not Real"
"Feigned"



The Body:
- ✓ Concrete
- ✓ Tangible
- ✓ Fits in a box

Pros:
- Clear boundaries offer **certainty** ←
- Good for acute, life threatening diseases

Example:
- **Concrete signs**
  - acute, pain localized to right lower abdomen, fever
- ➔ help **diagnosis** (appendicitis)
- Want a **specialist** (surgeon) to preform **specialized treatment** (appendectomy)

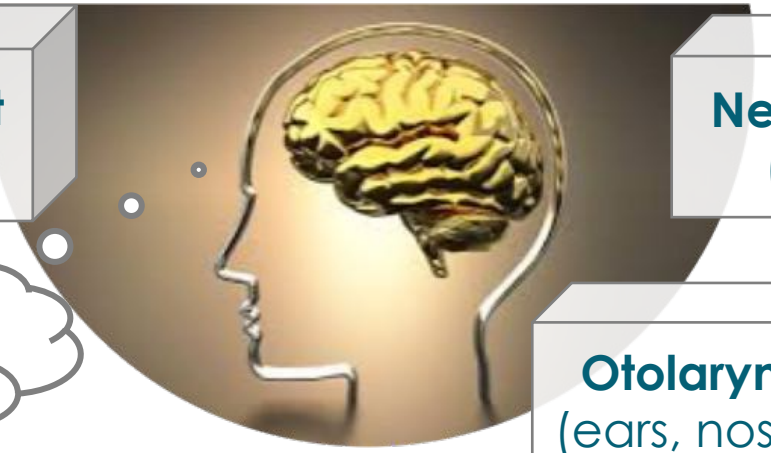


Scope of Practice

- by organ system
- by stage in life

Medical ***specialists***
Expert, *focused* lens

Ophthalmologist
(eyes)



Neurologist
(brain)

Psychiatrist
(mind)

Otolaryngologist
(ears, nose, throat)

Dermatologist
(skin)

Cardiologist
(heart)

Nephrologist
(kidneys)

Obstetrician
(pregnancy)

Hematologist
(blood)

Pulmonologist
(lungs)

Pediatrics
(Children)

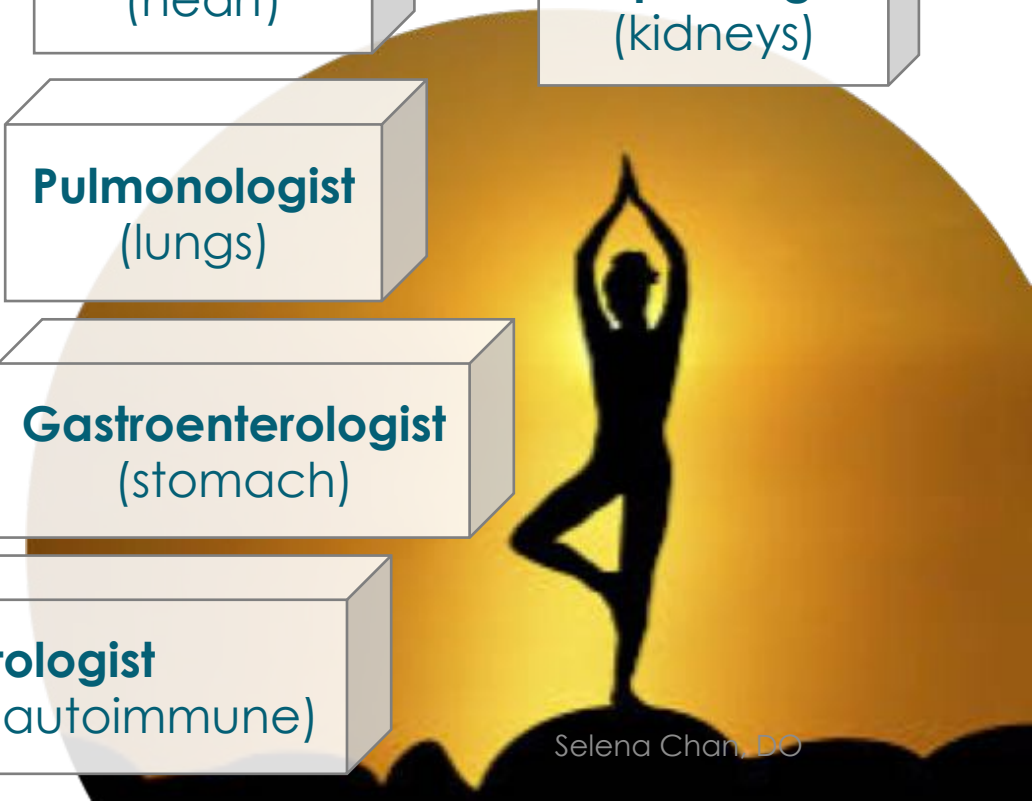
Geriatrician
(Older adults)

Gynecologist
(female reproductive)

Gastroenterologist
(stomach)

Urologist
(urinary tract, male reproductive)

Rheumatologist
(joints, muscles, autoimmune)



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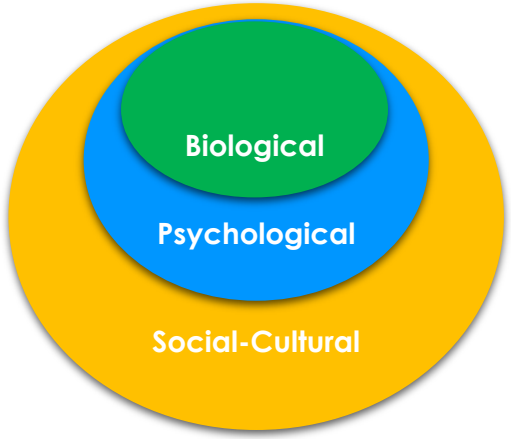
Conventional Psychiatry Today

- **Biopsychosocial formulation** of the unique individual
- **Differential Diagnosis:** "organic" illness versus psychiatric illness
  - **Labs**
  - **Imaging**
- Psychiatric Treatments:
  - **Medications/Procedures:**
    - Presumed dysfunction at the level of neurotransmitters or brain circuits
  - **Psychotherapy**
  - **Mind-body therapies** (Mindfulness)

Biopsychosocial Model + 4 P's

Standard in Conventional Psychiatry

Personal Viewpoint



Timing →

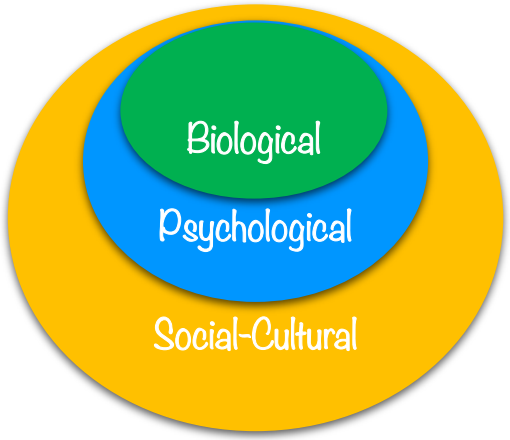
	Predisposing Vulnerabilities	*Precipitating Stressors	Perpetuating→ Maintains or exacerbates illness	←Protective Decreases likelihood of worsening illness or function
Bio	• Genetic history • Temperament • Intellectual disability • Perinatal toxin /infection exposure • Head Trauma	• Medical illness • Physical injury • Toxins / Infections • Neurological /Hormonal/Electrolyte imbalances, etc	• Lack of self-care (e.g lifestyle foundations like diet, exercise, sleep) • Substances/alcohol • Uncontrolled chronic illnesses	• Good general health • Regular self-care practices • No family history of medical/psychiatric illness
Psycho	• Adverse Childhood Experiences (ACE) • Childhood Trauma/Neglect	• Diagnosis of major or terminal illness • Death of loved one • Divorce • Providers move out of town • Stage of Life / Illness	• Psychological Defenses • E.g. isolation of affect or reaction formation (protective but prevents working through trauma) • Hostility towards others	• Good self-soothing and distress tolerance skills / problem solving skills • Good perseverance in the face of adversity • Intact reality testing
Social-Cultural	• Poor role models • Taught to solve problems through violence • Limited/inadequate schooling	• Moving to a new location/city • Loss of Job • Non-compliance with treatment (cost, practicality) • Ending of a treatment component (ex: insurance doesn't cover therapy)	• Poor access to healthcare • Limited financial resources • Poor social supports • Unsupportive family	• Good Access to health care • Strong/Stable financial resources • Supportive family • High educational attainment • Lives in long term home

George Engel: "Why does **this patient** have this disease **now**?"

3 Reasons Behavioral Medicine is Uniquely Situated to Bridge Biomedicine, inclusive of an array of healing modalities

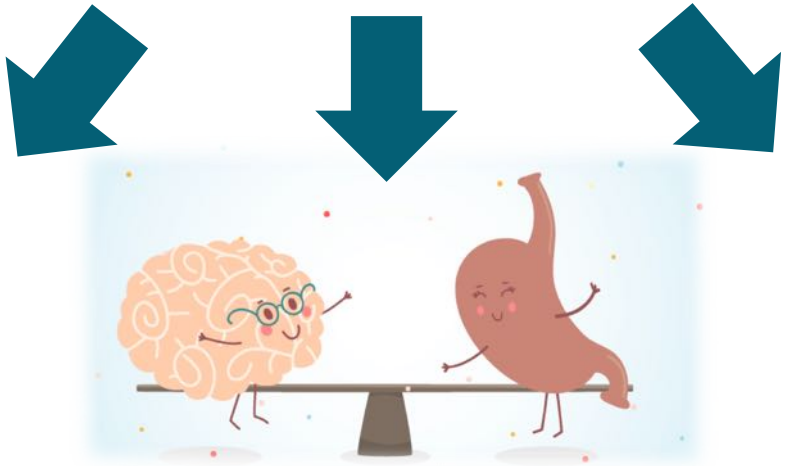
Integrative Medicine

An approach to healing that explores the whole person, including individual values and lifestyle, while making use of all appropriate and evidence-informed therapeutic modalities, healthcare professionals and disciplines to promote optimal well-being.



Unique, Whole-Person

- **Biopsychosocial Formulation**
- Emphasis on uncovering **context** in which symptoms arise



Mind-Body

- Bidirectional
- Appreciation of healing on multiple levels

Therapeutic Alliance

- Partnership between the individual and those that contribute to their care

Integrated Care (Medical Home model)

Patient-centered care / Collaborative treatment team

- Primary Care Physician + Behavioral Health Integration
- + **Central care coordinator**

Goals:

- Improved access to care
- Support continuity of care and adherence
- Early-detection, prevention and treatment
- Promote education amongst providers and patient's support network
  - Lessen stigma associated with mental illness

Integrative / Holistic / Complementary / Functional / Alternative Medicine

Evolving Terminology

Fluidity in terms reflected at
National Institute of Health (NIH)

ALTERNATIVE
Medicine
IN PLACE OF
conventional
medicine

Office of
Alternative
Medicine
1991

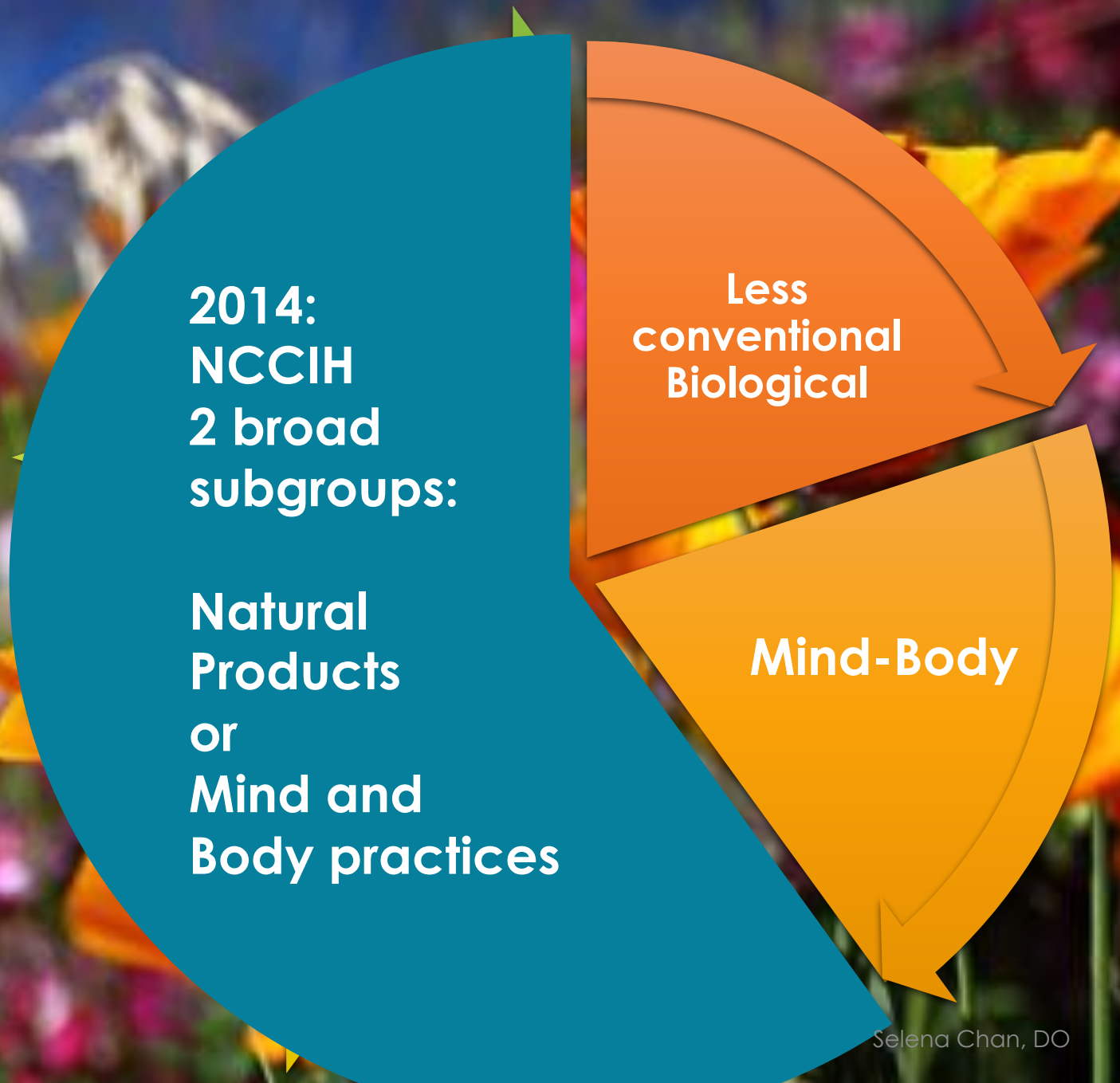
COMPLEMENTARY
Medicine
TOGETHER WITH
conventional
medicine

National Center for
Complementary
and Alternative
Medicine (NCCAM)
1998

INTEGRATIVE
Medicine
Together with
conventional
medicine ***WITH***
COORDINATION OF
PROVIDERS

National Center for
Complementary
and Integrative
Health (NCCIH)
2014

NCCAM: 5 domains of Complementary & Alternative Medicine (CAM)



Complementary Health Approaches

- National Health Interview Survey (NHIS)
  - NIH annual survey to 35,000+ households
  - Questions about complementary health approaches every 5 years
    - 90,000 adults surveyed in 2012
      - Results published in 2015
- ~1/3 used a complementary health approach annually
  - 32.3% in 2002
  - 35.5% in 2007
  - 33.2% in 2012

Trends in the Use of Complementary Health Approaches Among Adults: United States, 2002–2012 (Clarke et al, 2015)

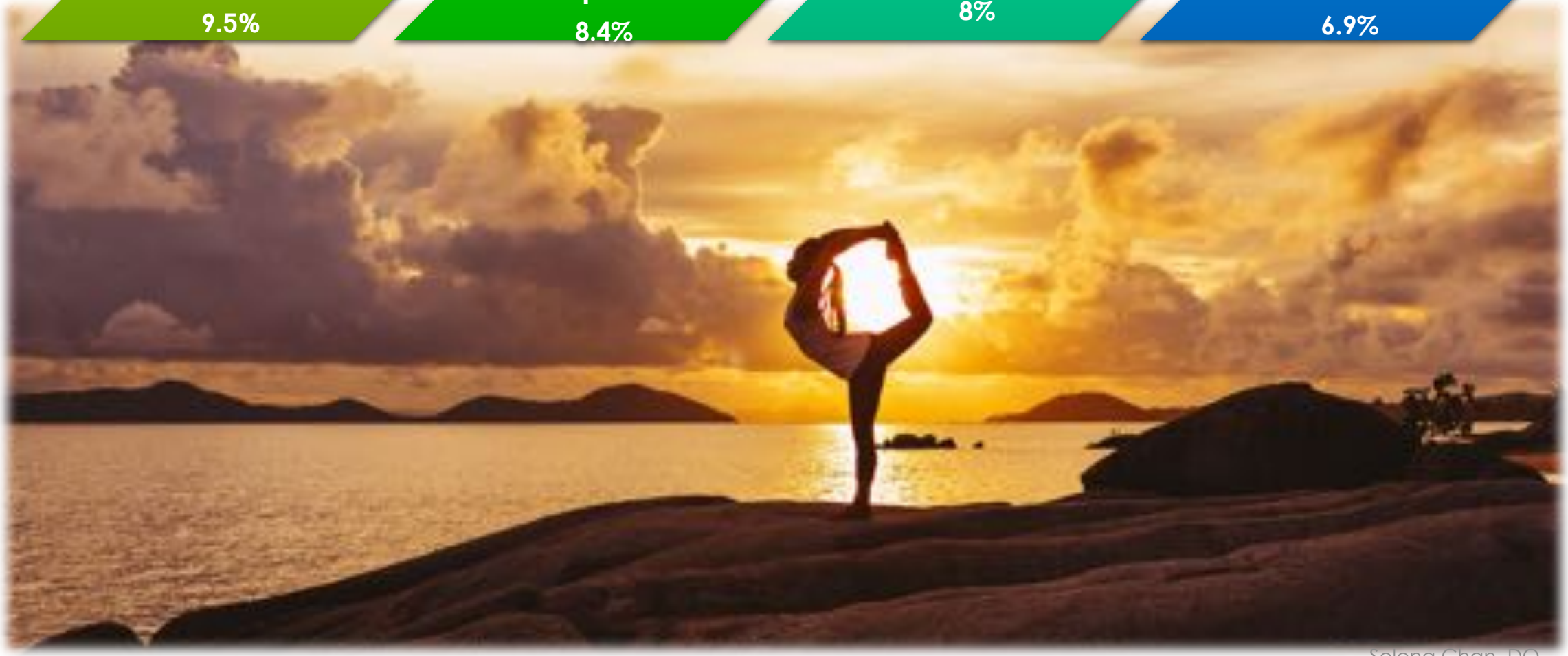
2012 National Health Interview Survey:
Mind Body Practices

#1 **Yoga** 9.5%

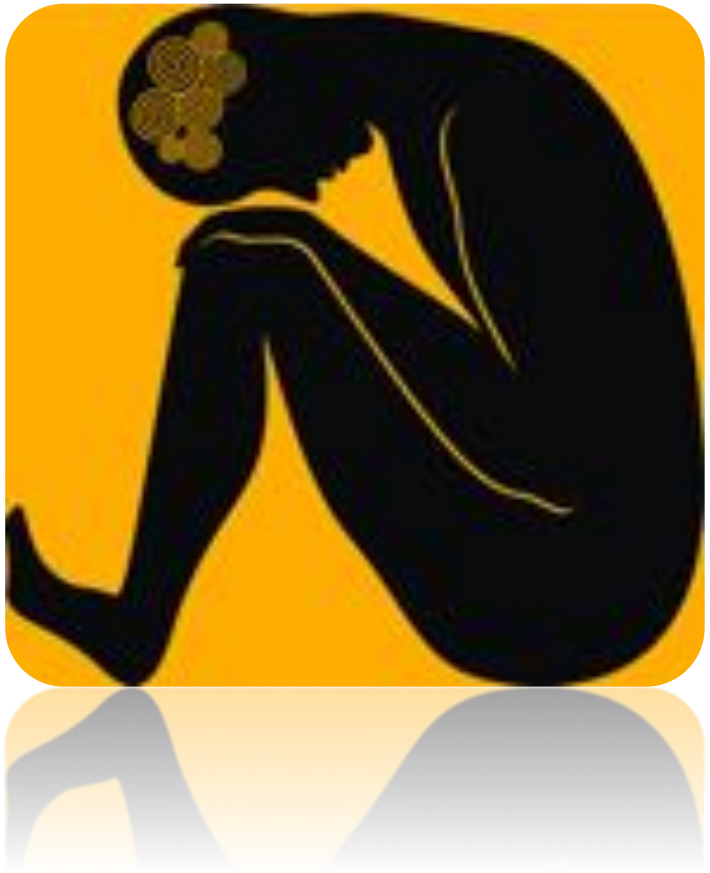
#2 **Chiropractic or Osteopathic manipulation** 8.4%

#3 **Meditation** 8%

#4 **Massage Therapy** 6.9%

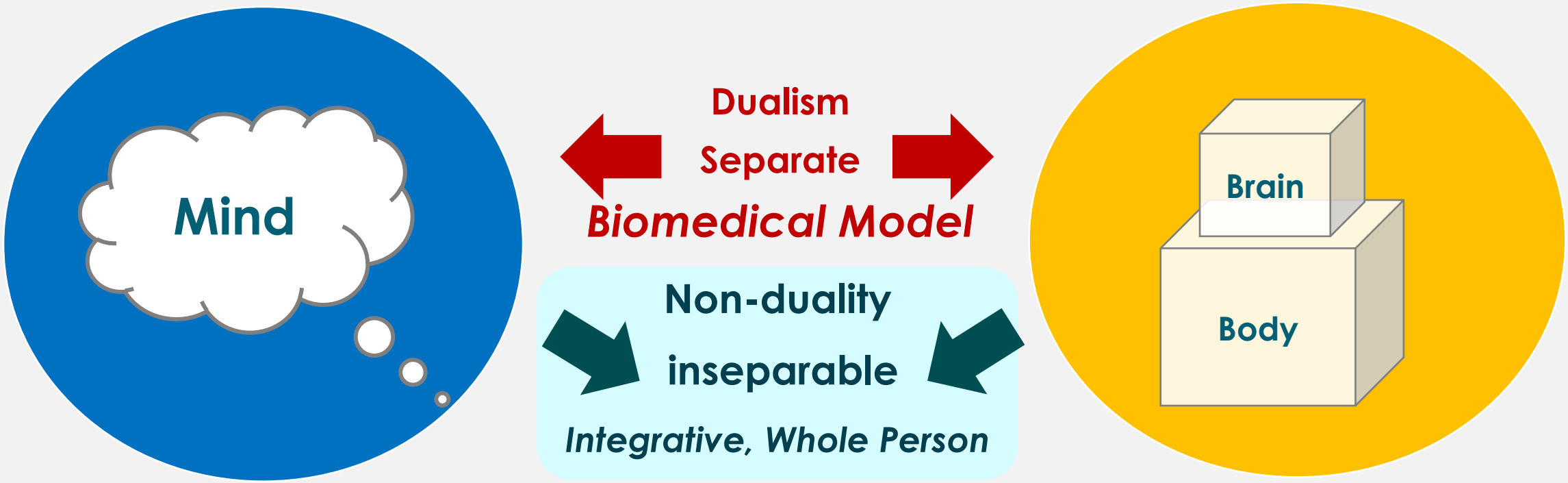


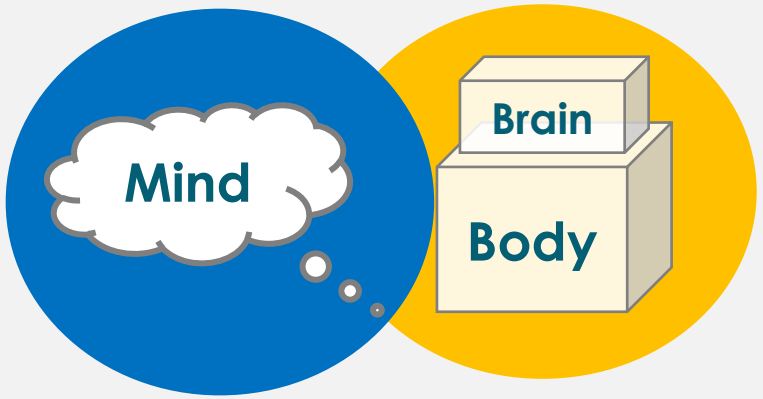
Utility of Complementary and Alternative Medicine (CAM) use in Presence of Neuropsychiatric symptoms* (Purohit et al, 2013)



- Analyzed 2007 NHIS results (over 23,000 U.S. adults)
  - *depression, anxiety, insomnia, attention deficits, headaches, excessive sleepiness, and memory loss
  - Adults with at least one **neuropsychiatric symptom** had a greater prevalence of CAM use
    - **43.8%** versus 29.7%
  - **More neuropsychiatric symptoms: more likely to use CAM**
    - **Particularly mind-body medicine**
  - 1/5 used CAM because standard treatments **too expensive or ineffective**
  - 1/4 used CAM as **recommended by a conventional provider**

The term, “Mind-Body”





Phrases to express anxiety, elation, surprise… clue into Mind-Gut-Brain connection

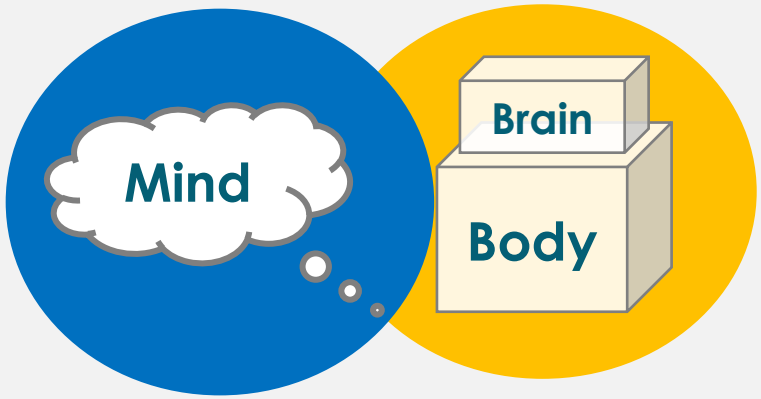
"gut wrenching experience"

"a pit in my stomach"

"butterflies in my stomach"

"I've got a gut feeling about it"

https://www.nature.com/articles/nm0716-697



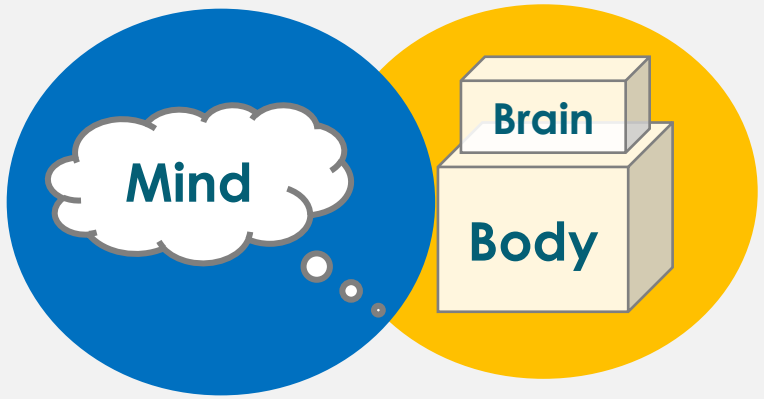
The Hydra

- Primitive Marine Animal
- Floating digestive tube surrounded by nerve net

Theories:

1. Algae in ocean settled inside digestive system of the Hydra
2. Microbes started living inside system: Used own communication signals developed over 4 billion years in oceans, producing neuroactive substances
3. Microbes started to communicate with → nerve cells of the hydra

https://www.sciencenews.org/sites/default/files/2016/07/main/articles/072316_aging-susan_feat_free.jpg



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REVIEW ARTICLE

Neurogastroenterology & Motility

The first brain: Species comparisons and evolutionary implications for the enteric and central nervous systems

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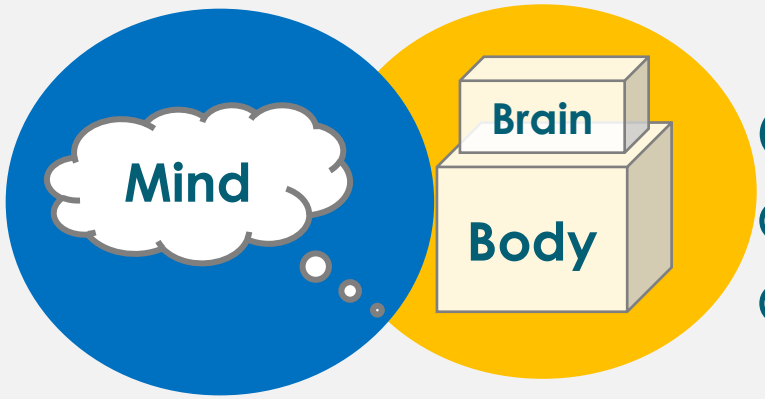
Abstract

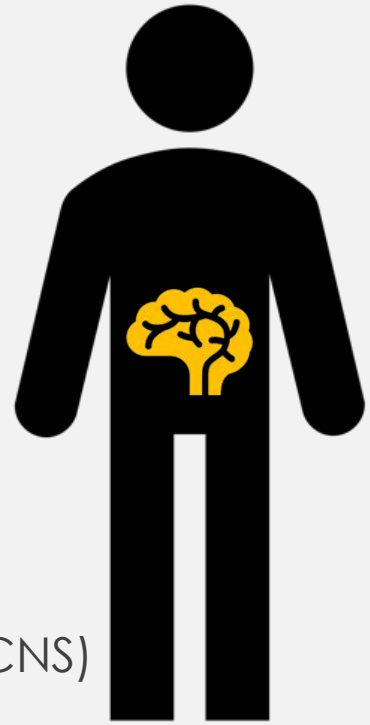
Background: The enteric nervous system (ENS) and the central nervous system (CNS) of mammals both contain integrative neural circuitry and similarities between them have led to the ENS being described as the brain in the gut.

Purpose: To explore relationships between the ENS and CNS across the animal kingdom. We found that an ENS occurs in all animals investigated, including hydra, echinoderms and hemichordates that do not have a CNS. The general form of the ENS, which consists of plexuses of neurons intrinsic to the gut wall and an innervation that controls muscle movements, is similar in species as varied and as far apart as hydra, sea cucumbers, annelid worms, octopus and humans. Moreover, neurochemical similarities across phyla imply a common origin of the ENS. Investigation of extant species suggests that the ENS developed in animals that preceded the division that led to cnidaria (exemplified by hydra) and bilateria, which includes the vertebrates. The CNS is deduced to be a bilaterian development, later than the divergence from cnidaria. Consistent with the ENS having developed independent of the CNS, reciprocal connections between ENS and CNS occur in mammals, and separate neurons of ENS and CNS origin converge on visceral organs and prevertebral ganglia. We conclude that an ENS arose before and independently of the CNS. Thus the ENS can be regarded as the first brain.

KEYWORDS
central nervous system, enteric nervous system, evolution, neurotransmitters, serotonin

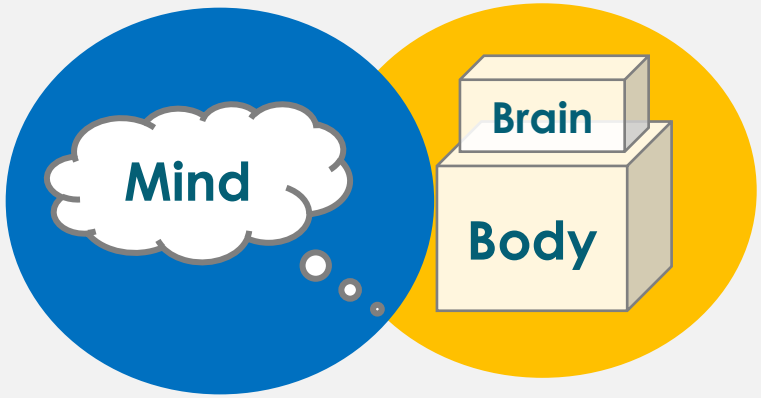


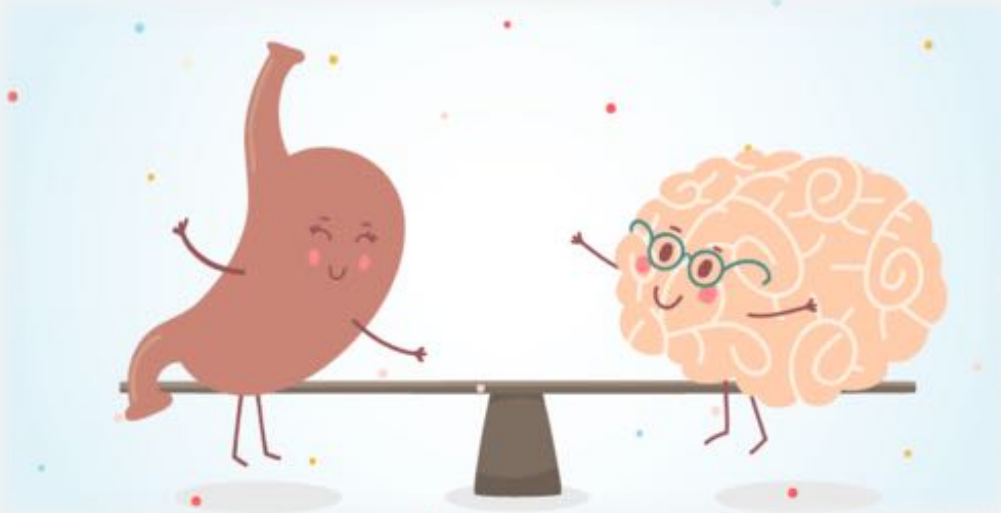
Gut has a "mind of it's own" but also communicates with brain and informs our state of mind



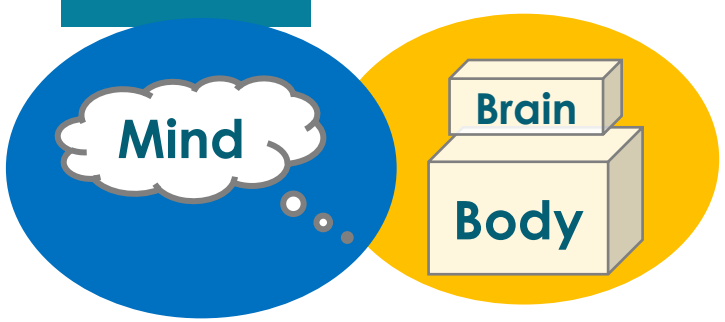
- **Enteric Nervous System (ENS)**
  - Neurons lining the gut → own reflexes and senses
  - Unique ability to function independently of the Central Nervous System (CNS)
- **Vagus nerve: "rest and digest"** - *intimately tied with the gut*
  - Vagus Nerve Stimulation – treatment for depression
- **Gut bacteria (probiotics) produce and respond to same neurotransmitters brain uses to regulate mood / cognition**
  - GABA, Serotonin, Norepinephrine, Dopamine, Acetylcholine, Melatonin

Selena Chan, DO





- **Gut makes 3/4 of neurotransmitters**
  - 95% of serotonin is found in gut
  - Side effects of antidepressants affecting serotonin – gastrointestinal distress
- **Bidirectional communication:**
  - Gastrointestinal distress → anxiety / depression
  - Stress / anxiety / depression → affect movement and contractions of gastrointestinal tract



Biomedical model:
Differential diagnosis of Psychiatric illness
The search for organic / "physical" root causes

Examples for Anxiety "differential"

- Stimulants
  - Cocaine/ Caffeine / Thyroid hormones/Steroids
- A withdrawal from a CNS depressant
  - Withdrawal from Alcohol / Benzodiazepines / Opiates
- Endocrine/ Hormone (stress response)
  - Hyperthyroidism, hypoglycemia, Pheochromocytoma
- Think of systems affected in anxiety attack (can't breathe, heart races)
  - Pulmonary embolism, hypoxia, hyperventilation
  - Cardiac Arrhythmias

Examples for Depression "differential"

- Anything affecting sleep / fatigue / drop in function
- Any kind of stimulant withdrawal
- Autoimmune / Cancer / Infections
- Endocrine/Hormones
  - Adrenal (Addison's disease / Cushing's)
  - Hypothyroidism / Hyperparathyroid
- Medications associated w/ depression
  - IFN-alpha
  - HIV meds
  - Accutane
  - Barbiturates

Back to "Hysteria"

Don't be a Fool—This Medicine will Help You

These Hysterical Women

CRYING . . . sobbing . . . laughing! She has no control of herself . . . the slightest thing drives her to distraction. Tired all the time . . . overwrought . . . nerves strung to the breaking point, she tries to do her work.

Constant headache, backache, and dizzy spells are robbing this woman of youth, beauty and health. How pitiful it is to see her suffering . . . and how unnecessary.

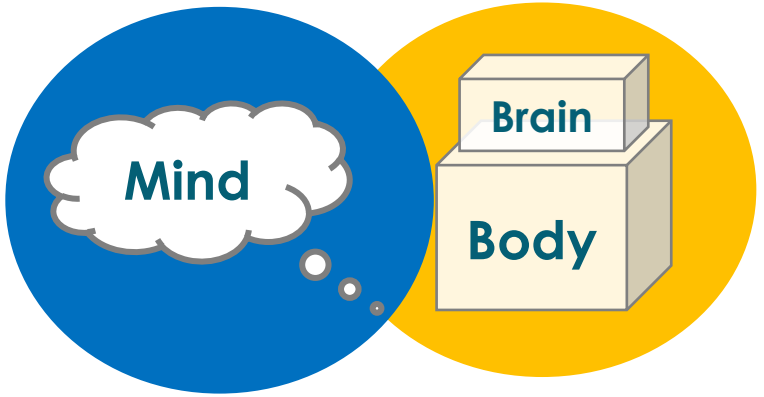
If she would only give Lydia E. Pinkham's Vegetable Compound a chance to help, how well and happy she might be.

This simple remedy has benefited 98 out of 100 women who have reported after using it. Don't think your troubles are any different. Try this medicine. Watch those headaches and backaches yield to its tonic action.

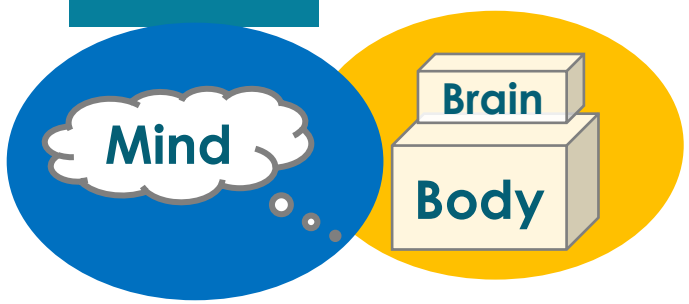
The tablet form is so easy to take. Send fifty cents to the Lydia E. Pinkham Medicine Company, 1111 Cleveland St., Lynn, Massachusetts for a full size bottle which retails for $1.50. Let us prove that this medicine can do for you what it has done for other suffering women.

Try Lydia E. Pinkham's Vegetable Compound Tablet Form

- **Questioned validity of hysteria as "real" disease**
  - Individual thought to be mimicking symptoms of other more definable diseases
- **Became an umbrella term for less definable illness**
  - Anxiety, shortness of breath, fainting, insomnia, irritability…



https://www.radcliffe.harvard.edu/sites/default/files/field_item_image/collection_exhibit_item/advertisement-titled-these-hysterical-women_1932_courtesy-of-schlesinger-library_750px.jpg



"Hysteria" Evolution of terms
Functional Neurological Symptom Disorder (DSM-5, 2013)

17th Century
Thomas Sydenham

- *British physician known for writing the standard textbook of medicine of the time*
- **Questioned if hysteria was actually a disorder of the brain and nervous system**

19th century
Sigmund Freud

- *Austrian neurologist and the father of psychoanalysis*
- Hypothesized that an unconscious, unresolved mental conflict ***converted*** into somatic symptoms, and classified this phenomenon as, "***Conversion disorder.***"

DSM-III-R in 1980

Diagnosis, "***Hysterical neurosis, Conversion type***"
➔ replaced with "***Conversion disorder***"

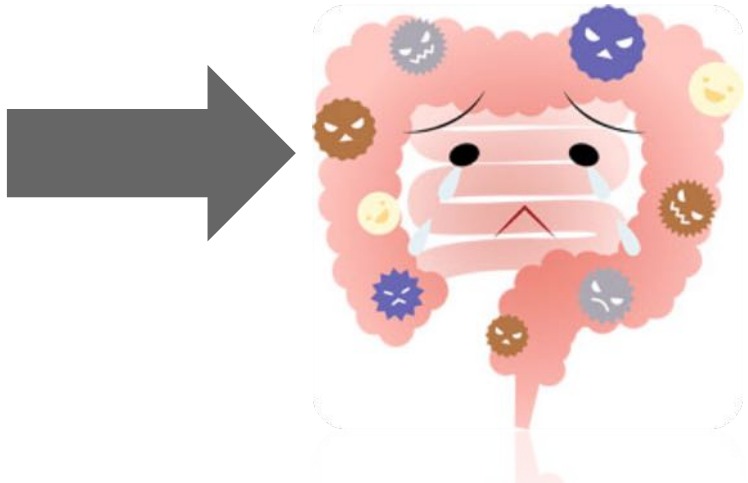
- Defined as a mental condition in which signs and symptoms affecting voluntary motor or sensory function "**could not be explained by a general medical condition.**"
- In a biomedicine framework, this diagnosis required **confirmation by a neurologist that the patient's presentation was "nonorganic."**

Functional Neurological Symptom disorder

- Previously termed **"Conversion disorder"**
- Sudden loss of sensory/motor function
- Typically when hospital psychiatry team is consulted when illness "can't be explained medically"

Risk Factors

- **Trauma may have a symbolic meaning**
  - E.g. Saw husband cheating → sudden blindness
  - Typically has seen someone with illness
- **Difficulty using words to describe how they are feeling… so body communicates for them**



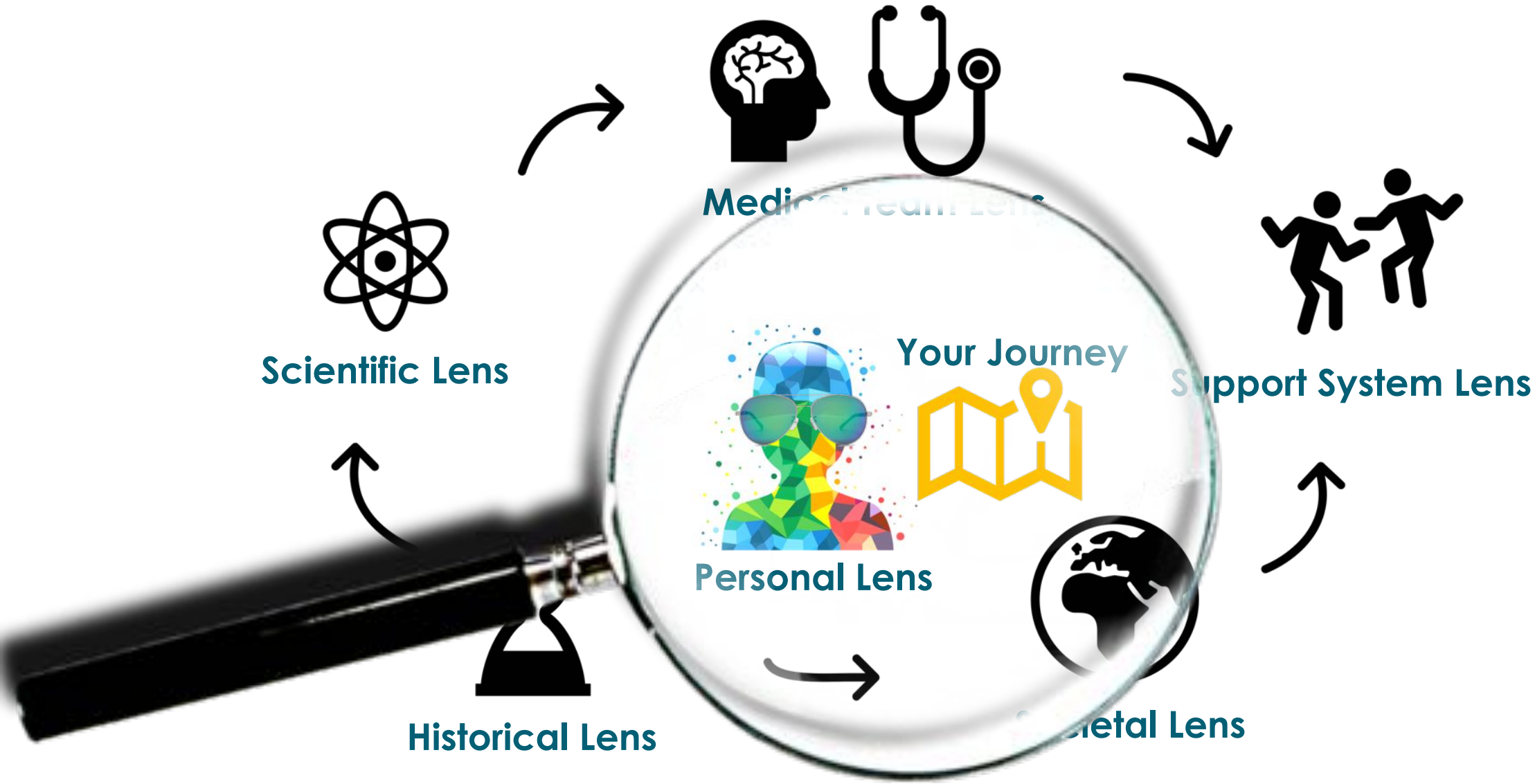
Emotional Constipation!

Treatment:
learning ways to express emotion (vs. rejection)

Biomedical Tests

- **Psychogenic Non-Epileptic Seizures (PNES) "Pseudoseizures"**
  - Absence of prolactin elevation / epileptiform activity (long-term video monitoring of brain activity)
- **Weakness**
  - Arm drop test: Doesn't hit face
- **Blindness**
  - Optical kinetic drum test
- **Deafness**
  - Can your hear me?
  - Patient says no…

Perspectives & Point of View of Mind-Body



Your personal lens

Your Assumptive world: Unique viewpoint of self experiences

Individual thoughts / ideas → Influences behavior / actions

Personal way of experiencing emotions + sensations

Unique Biological-Psychological-Social-Cultural-Spiritual framework

Assigns valence: (+) Positive vs. (-) Negative

Changes in view: "Cognitive Distortions"

Size of lens

Magnify (worst case scenario)
Catastrophizing

Minimize (positive details)
Discounting the positive

Polarized Filters/Colors

Mental Filter

Only one color
Overgeneralization

Only black and white
All-or-Nothing thinking

Labeling: "I'm a failure"

Special Power of Lens

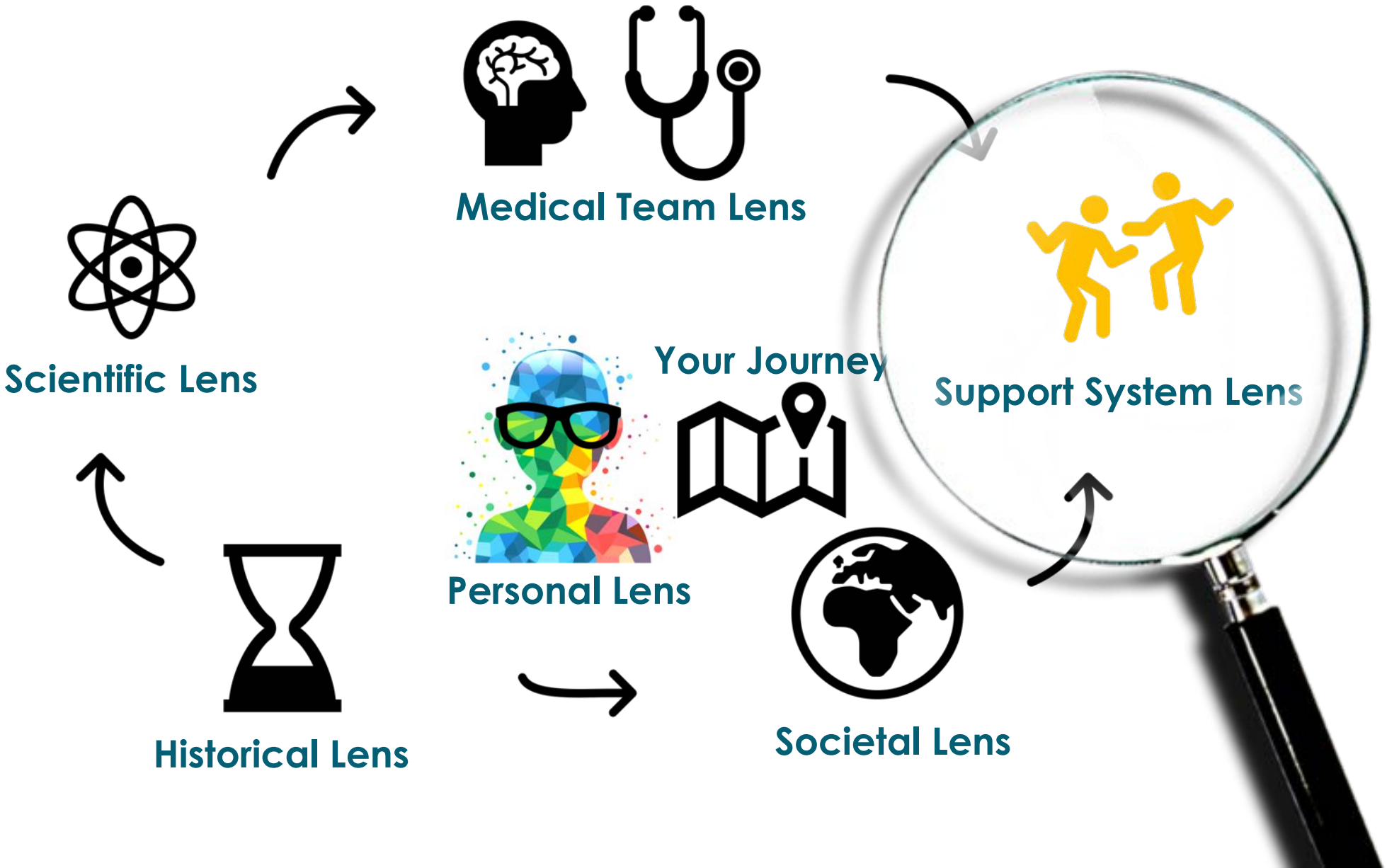
Far-sighted
Jumping to conclusions: Fortune telling

Into the minds of others
Jumping to conclusions: Mind-reading

"I see it .:. it must be true"
Emotional Reasoning
(I feel it, therefore it must be true)

Custom-made lens
Personalization / Blame

Perspectives & Point of View of Mind-Body



Is Your Viewpoint: **Relatable?** Human nature to look for patterns/ ***relationships***

Your Lens: Personal, unique viewpoint on illness/health:

- Different lens color but **overlapping features / similar fit**
- Greater chance of **relating to your viewpoint**

Relation
Empathy
Connection

Communicating personal experiences of illness by finding shared features:

- *"Our glasses have gradients of color"*
- *"We have both gone through a grieving process*

Different shape, lens color, fit
Low chance of seeing your point of view

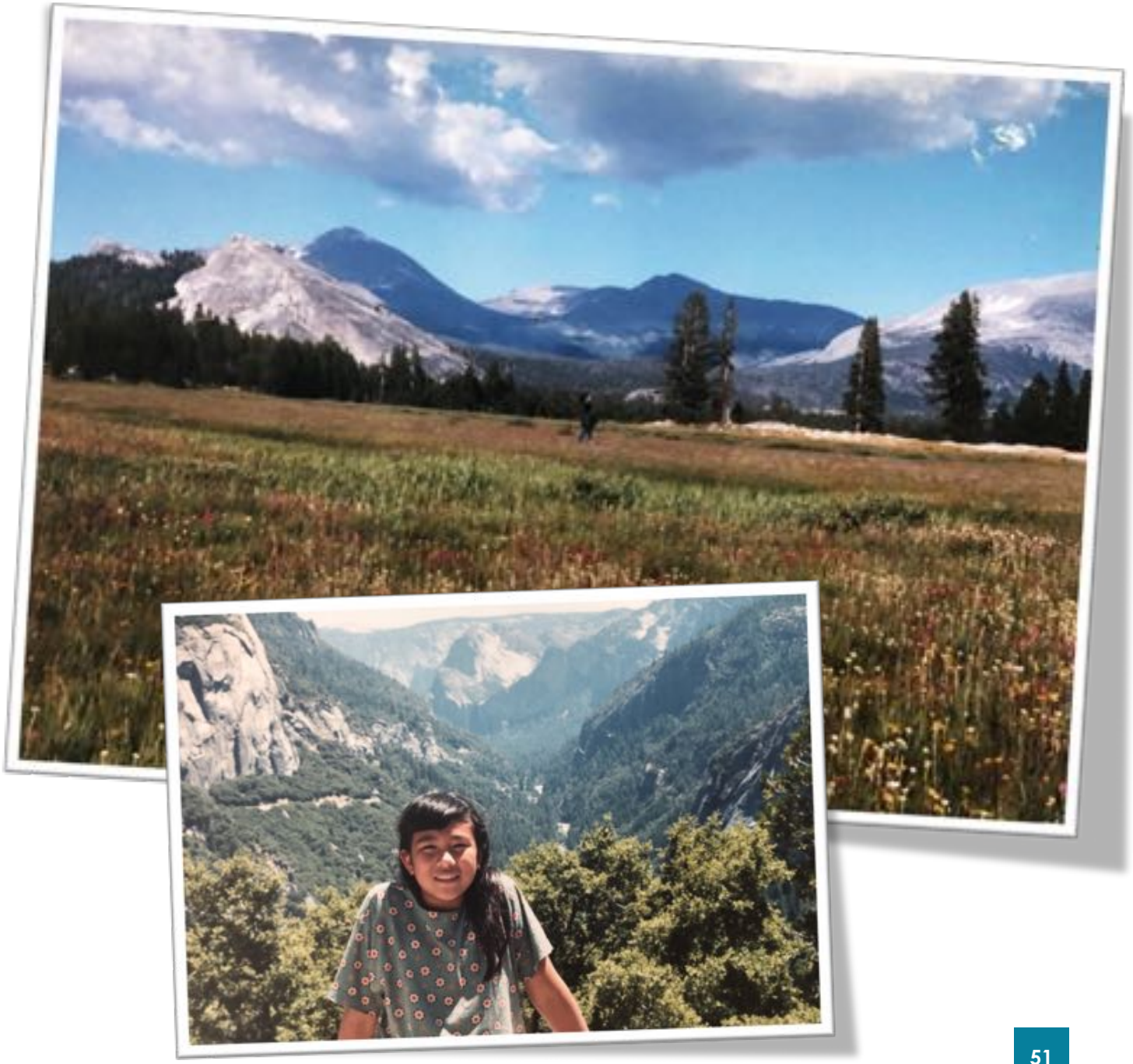
= risk for stigmatized / marginalized view:

Labeling you as "Other"

Growth & Evolution

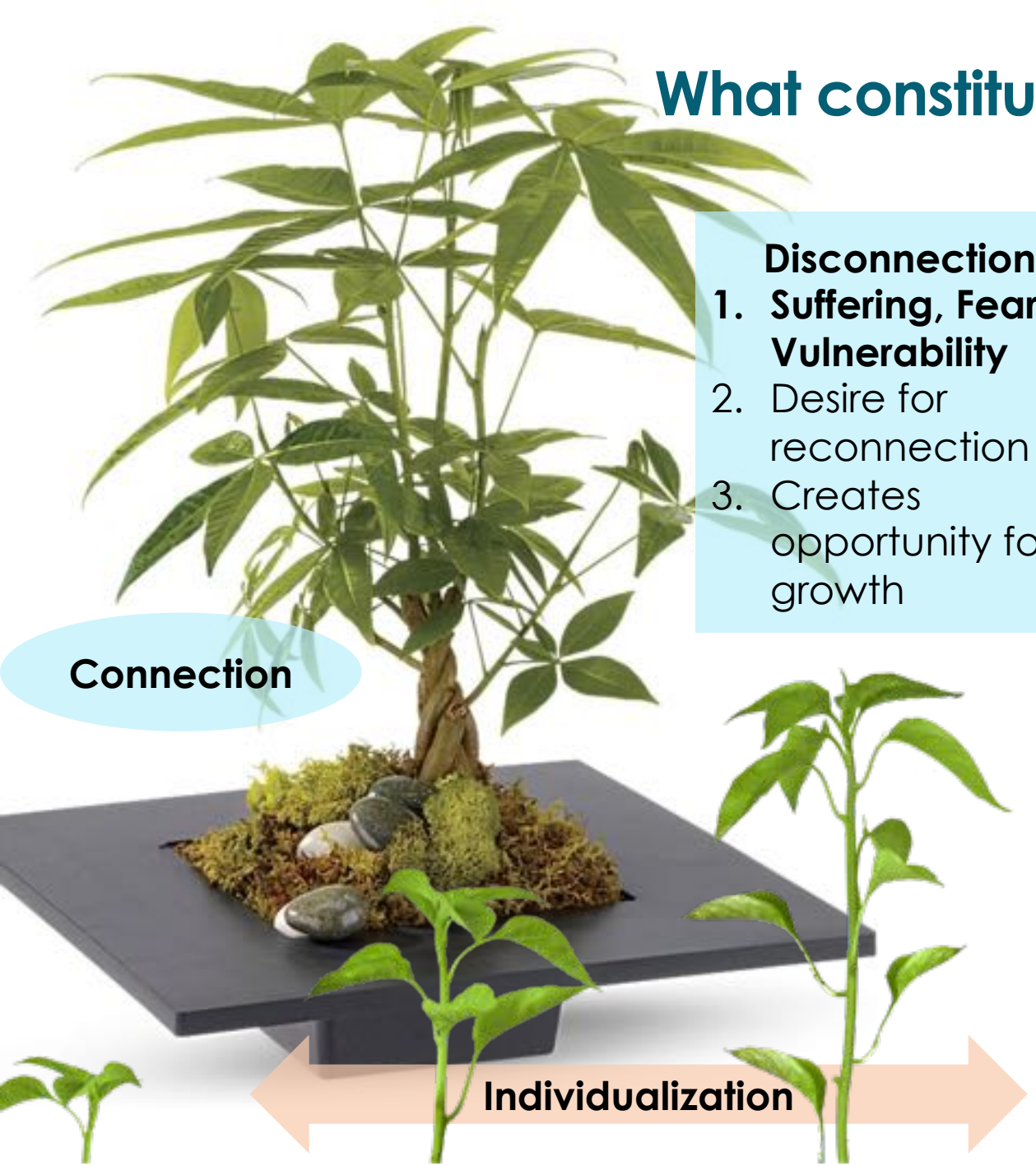
Yosemite National Park

The tree growing out of the rock



Growth together: the tree and family

What constitutes healthy growth in relationships?



Disconnection

1. **Suffering, Fear, Vulnerability**
2. Desire for reconnection
3. Creates opportunity for growth

Mutual development
To affect & be affected by relationships

Empathy
Sensitivity to impact of your actions on others

Authenticity in Relationships
Sharing inner experiences, thoughts, feelings (may promote authenticity in return)

Separation from early relationships

Promotes growth into an independent, self-reliant individual

Autonomy & Self-fulfillment

Mirror Neurons:
special empathy lens

"By helping us recognize the actions of other people, mirror neurons also help us to recognize and understand the deepest motives behind those actions, the intentions of other individuals."

- Iacoboni, Marco, Mirroring People

Suffering & Pain

e.g. facial expressions

Fictional Characters

(movies, books)

Watching movement

e.g. sports

Gradients of Trauma & Suffering

https://static.wixstatic.com/media/af5c64_405b2cc48bc840f8c422c057f944098.jpg/v1/fill/w_619,h_413,af5c64_405b2cc48bc840f8c422c057f944098.jpg

Stressor

Now!
(acute)

Long-term
(chronic)

Body's 3 automatic stress responses
Designed to *protect* us from danger

Life Challenges

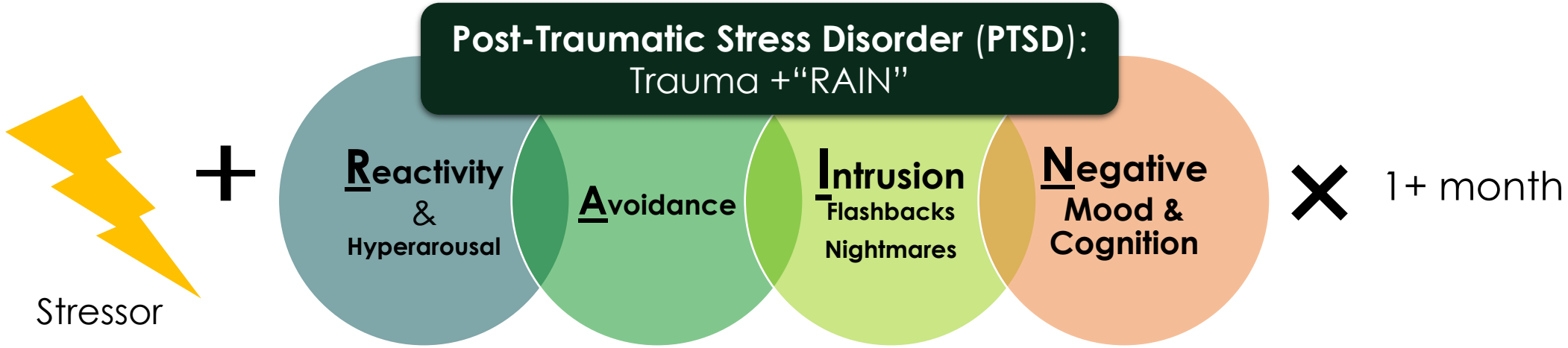
"Fight"

"Freeze"

"Flight"

Gradients of Trauma / Stressors: Specific to individual lens of suffering

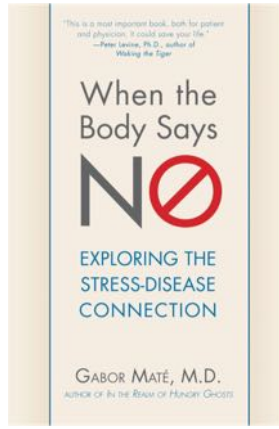
- Physical, sexual, emotional abuse, neglect, abandonment
- **Common stressors, life challenges, and transitions: injury or grief**
  - **Change in identity or role**
    - Diagnoses of an illness and fear of recurrence, loss of a job
  - **Loss of a loved one or relationship**
    - Includes changes in personality and cognition (e.g., dementia)



Gradients of Trauma:
Adverse Childhood Experiences

Proximate Separation + patterns of self-soothing

Gabor Mate, MD: When the Body Says No: Exploring the stress-disease connection



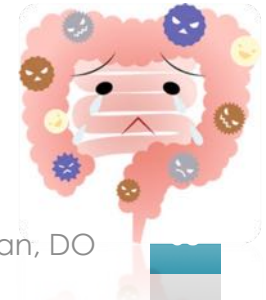
1. Parent is physically present …but emotionally absent
Not blaming parents - working though stressor themselves

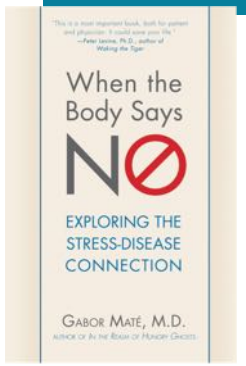
2. Child learns that own needs are not as important

Key: Child's *perception* of attachment to parent
- Even if child has a stereotypically "good childhood" by cultural/societal view

3. Child conjures up maladaptive thought:
- **" If I *show my emotions, it only adds to parent's load"***
- **Child learns to suppress own needs**/emotions in order to maintain attachment relationship with parent

4. **Emotional needs unfulfilled ➔ Emotional Constipation**!





Lifelong patterns: Emotional Constipation

Values of "push through" mentality, duty, and self-sacrifice

1. Individual learns to express high concern for emotional needs of others …while suppressing own needs
2. Stress-adrenaline patterns give you energy to push through
3. …until you rest …and neglected needs surface again
   - *e.g., Getting sick after a stressful project is complete*

Is illness one way body signals that emotional needs are neglected?

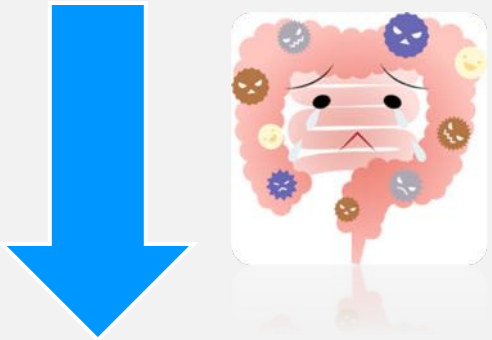
- "Wake up call"
- Stimulus for behavior change

May influence career choice:

- Drawn to professions where **helping & healing** are highly valued
- **Empathic** traits valued
- Addiction: "**Workaholism**"

Trauma and Addiction

Whether it is the workaholism of the healthcare provider or the ingestion of a substance …may be attempts to **soothe pain** + **escape from distress**



Pain

Motivate Action

Opiates

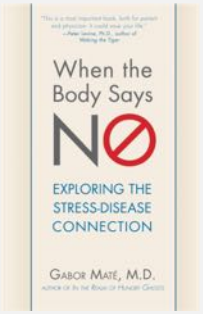
Soothes both emotional and physical pain

Cocaine / Alcohol

Local anesthetics

Emotional rejection

Same parts of brain light up as if you had stuck them with a knife



Stimulants

Cocaine / Amphetamines / Caffeine

(+) Dopamine

Infant monkey separated from mothers

(-) Dopamine in PFC

Maternal Depression

(+) Cortisol (placenta)

Potential attention issues

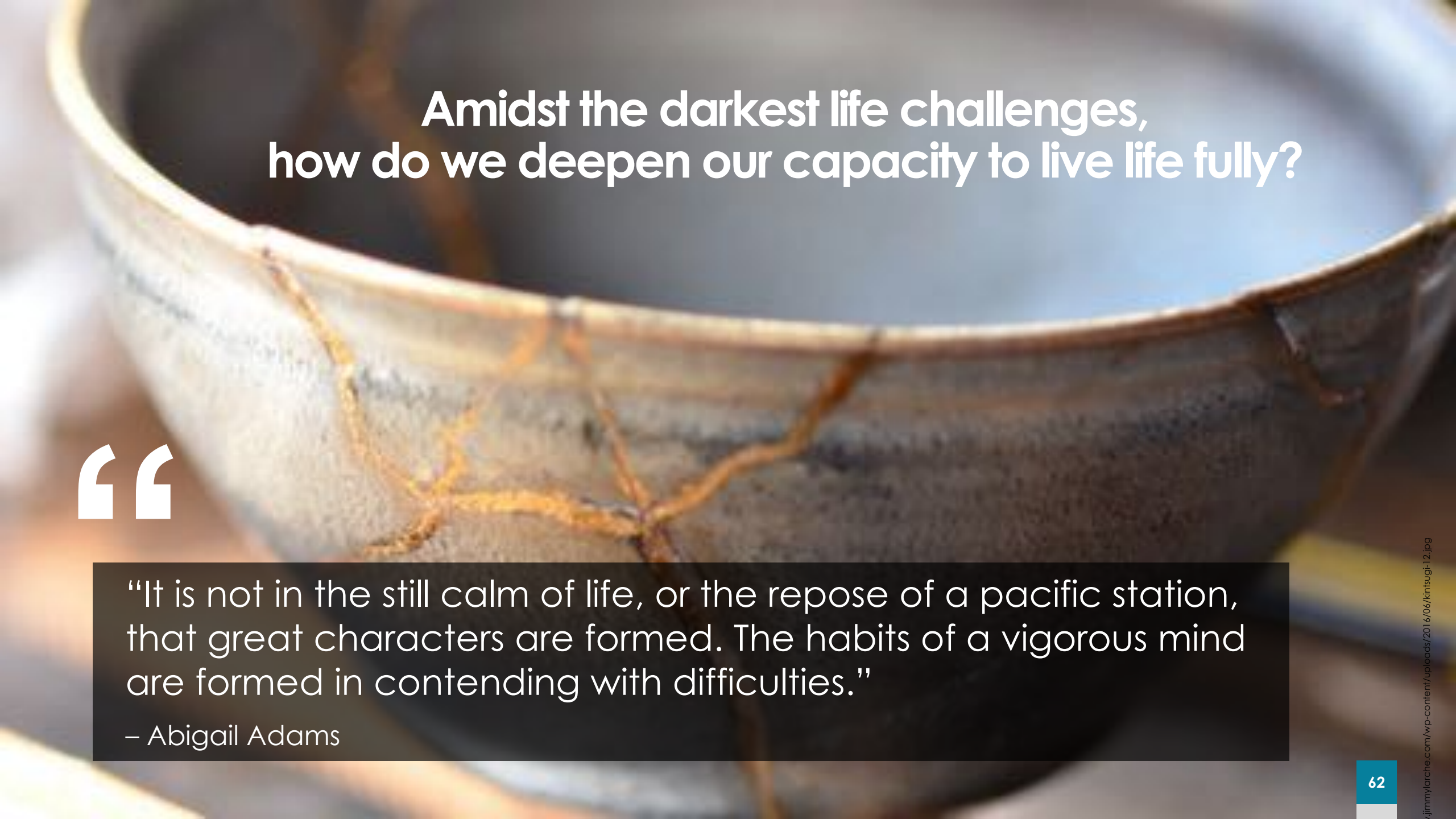
Healing Emotional Constipation

1. Learn to invite feelings
(versus reject)

- Akin to Mindfulness
  - Presence, attuned to body cues
  - Non-judgmental, Self-compassion
  - Open and self-aware

2. Integrative Therapies for Trauma…

https://experiencelife.com/wp-content/uploads/2011/11/Nov10r_Ren1.jpg

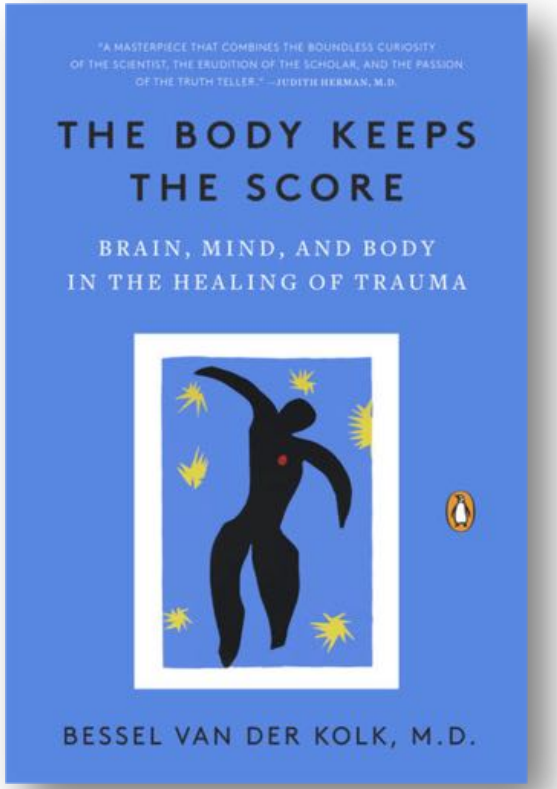


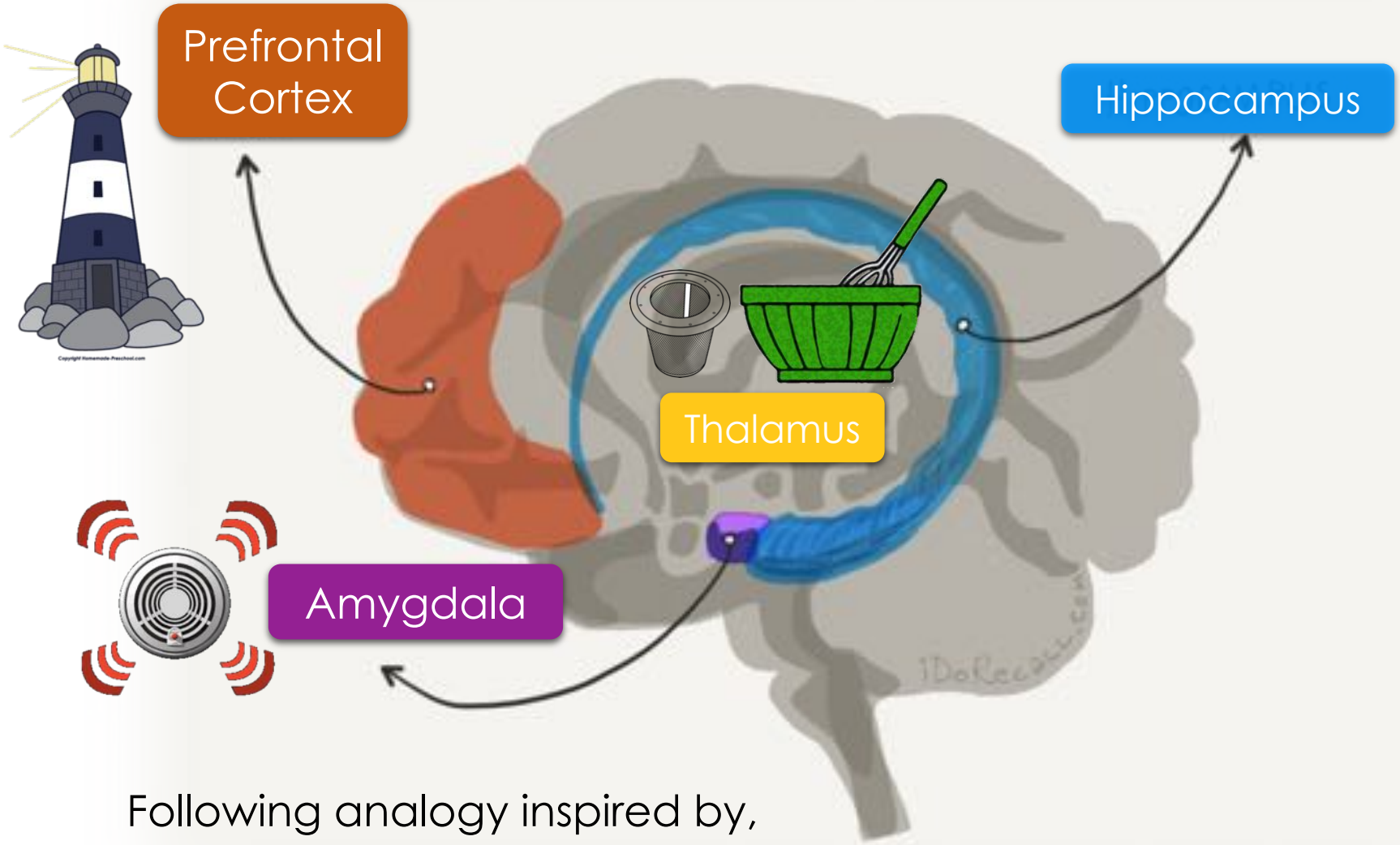
Amidst the darkest life challenges, how do we deepen our capacity to live life fully?

"It is not in the still calm of life, or the repose of a pacific station, that great characters are formed. The habits of a vigorous mind are formed in contending with difficulties."

– Abigail Adams

Neurobiology of Healing Trauma with Integrative Modalities





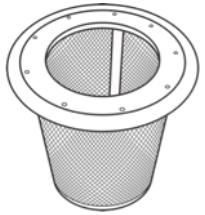
Following analogy inspired by,

"**The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma**"

By Bessel Van Der Kolk's M.D. (psychiatrist)

Thalamus

Filter



Filters out irrelevant input

Trauma: ***Constant sensory overload***

Can't shut down

Mixer

Stirs sensory input into integrated, coherent soup

Trauma: ***Isolated sensory fragments***

Then, the thalamus can take 2 pathways to emotional brain:

Amygdala

Primitive/emotional brain

First dibs on deciding if there is a threat (before one is fully conscious of danger)

--- or ---

Medial Prefrontal Cortex

Takes several milliseconds longer

Amygdala



Smoke Alarm

- Incoming input: **threat to survival?**

Elicits help of next door neighbors:

- **Hypothalamus**
  - Prepares for fight / flight / freeze
  - **(+) Autonomic Nervous System**
    - **Pushes out Cortisol and Adrenaline**
  - …Once danger has passed, body returns to normal state
- Hippocampus
  - Relates new input to **past experiences**

In Trauma…

Hypervigilant Amygdala→ *Hyperactive alarm system*

- ***Misinterprets*** whether situation is dangerous or safe
  - **→ prolonged startle or aggressive outbursts**
    - *May attempt to numb strong sensations through substances /self-injurious behaviors*

Watchtower

Medial Prefrontal Cortex (mPFC)

In Trauma, mPFC is hypoactive
Emergency response system dominates
→ may be more difficult to control emotions / impulses

Amygdala

mPFC = Rational / Conscious brain

- Directly above the eyes → **big-picture view**
- Refines interpretation of what's going on ***before reacting***

As long as you are not too upset

…mPFC helps you realize threat = *false alarm*

- *"Oh, actually my house is not on fire."*
- *"The smoke alarm went off because I'm cooking."*

Overview of top down and bottom up approaches to address trauma

Prefrontal Cortex

Hypoactive
watchtower

Amygdala

Hypervigilant
smoke alarm

Thalamus

Top down
Strengthen vmPFC

Watchtower hovers calmly, objectively over thoughts
e.g. ***Mindfulness***

Breathing

Bottom up
Tone down Amygdala

No longer falsely reactive
Smoke alarm knows you are cooking and house is not on fire

Accessing Autonomic Nervous System:
Integrate breath, movement, touch
e.g. *Yoga, dancing, playing music, bodywork*

Toning down Hyperactive Amygdala

Bottom up approach

- How?
  - **Recalibrate Autonomic Nervous System (ANS)**
    - Back to the basics: assess breath, movement, and touch
- Goal?
  - **Adjust smoke alarm so it's no longer falsely reactive**
  - Restores normal job of emotional brain: quiet background presence ☺
    - ***Appropriately*** defends against danger
      - Takes care of body housekeeping (ensuring you eat, sleep, etc)
      - Supports connection and protection of your loved ones

Toning down Hyperactive Amygdala

Bottom up approach

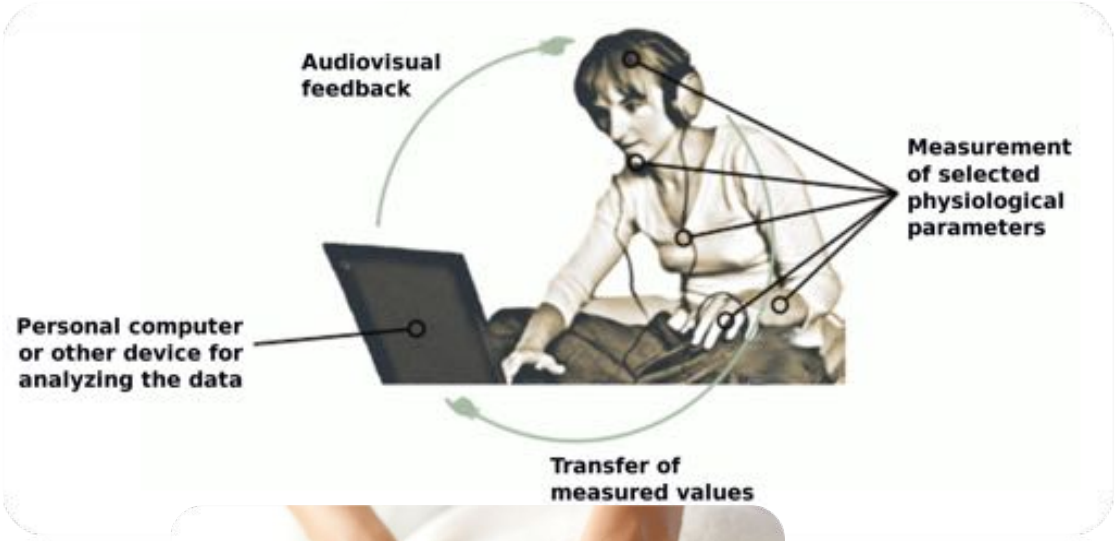
Breathing

- Meditation, Yoga
- Dancing & Expressive Movement Therapy
- Martial arts / Capoeira
- Tai Chi / Qi Gong
- Drumming
- Chanting & Choral singing
  - Yoga
  - Embedded in some religious practices

Toning down Hyperactive Amygdala

Bottom up approach

- **Biofeedback**
  - Monitors psychophysiological changes HR, breathing patterns, exhaled CO2 levels, skin temperature, sweat gland activity, and muscle tension
- **Touch**
  - Natural way for humans calm down distress and reduces excessive arousal
    - e.g., Hugging friend when distressed
  - **Bodywork**
    - ex: Massage, Craniosacral therapy
- **Sensory Integration clinics**
  - Diving into tubs filled with multicolored rubber balls, mats, swings!



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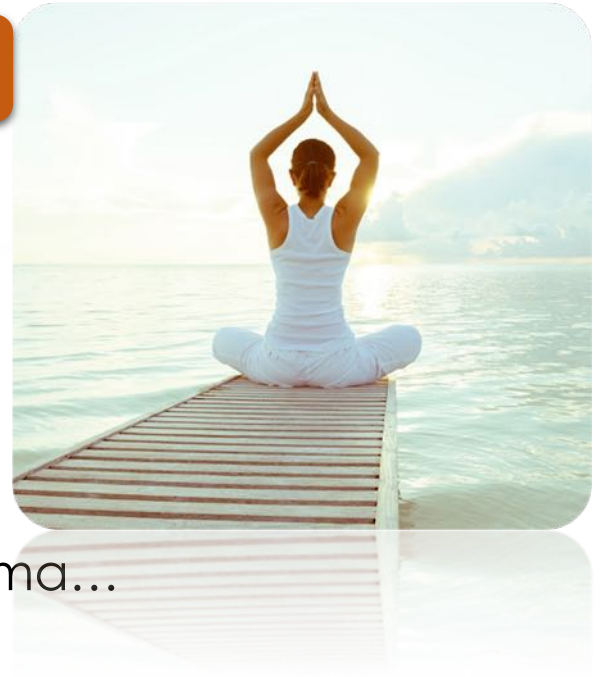
Strengthen Hypoactive Prefrontal Cortex
Top down approach

- Goal?
  - **Hover calmly and objectively over thoughts ☺**
  - Taking time to respond
    - **Allows executive brain to inhibit or modulate hardwired automatic reactions**
- Prerequisite for safely revisiting trauma?
  - Learning to observe and tolerate physical reactions
- How? **Strengthen watchtower's ability to monitor sensations**
  - Promotes sense of autonomy, Improves self-awareness and interoception
  - Tune attention towards thoughts, emotions, and physical sensations

Selena Chan, DO

Strengthen Hypoactive *Top down approach*

Prefrontal Cortex



E.g. Mindfulness / Meditation / Yoga

1. Allow mind to **focus on sensations**

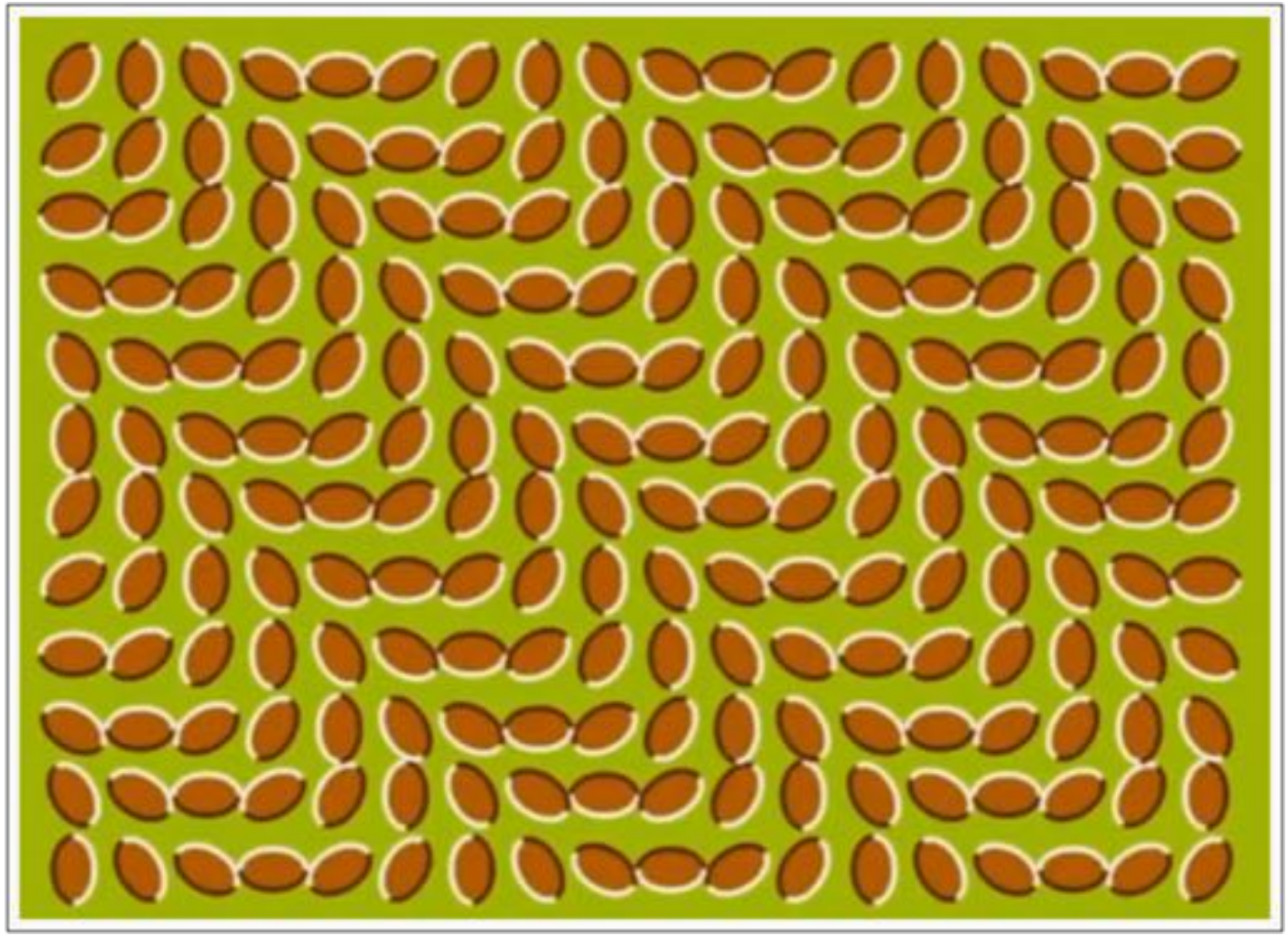
2. Notice that in contrast to ever-present experience of trauma…
   - **physical sensations** are transient
     - Slight shifts in **body position, breathing**
   - Can practice applying to shifts in ***thinking***

3. **Label** physical sensation
   *Ex: "When I feel **anxious**, I feel a **crushing sensation** in my chest."*

4. **Notice how sensation changes** when taking a deep breath out?

Breathing ← both conscious and autonomic control

Almonds and Presence



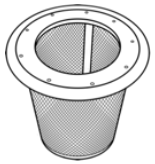
Video from University of Wisconsin Integrative Medicine Program

Trauma:

- The individual is engulfed by sensory/emotional elements of the past
- *Traumatic event has a life of it's own… ☹*

Repairing the Thalamus

Filter and Mixer appropriately process stimuli



Filter:

Avoids sensory overload

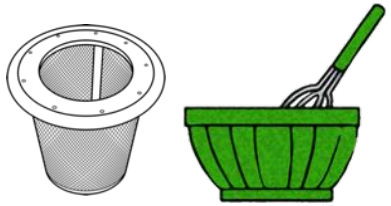
Mixer:

Integrates traumatic sensory fragments

- How?
  - Reprocess trauma in safe way
    - **Put trauma into proper place in the overall arc of one's life.**

Selena Chan, DO

Thalamus



Repair the Filter + Mixer to appropriately process stimuli

- **Eye Movement Desensitization & Reprocessing (EMDR)**
  - bilateral sensory input (side-to-side movements) during therapy
    - Theorized association with Rapid Eye Movement (REM) sleep
    - Dreaming - forging new relationships of unrelated memories
  - **Goal: put traumatic experience into a larger context or perspective**
    - Allows patient to access/reprocess traumatic memories in a controlled, safe environment
    - No need to verbalize trauma
      - Avoids re-traumatization

Overview of top down and bottom up approaches to address trauma

Prefrontal Cortex

Hypoactive
watchtower

Thalamus

Amygdala

Hypervigilant
smoke alarm

Top down
Strengthen vmPFC

Watchtower hovers calmly, objectively over thoughts
e.g. ***Mindfulness***

Breathing

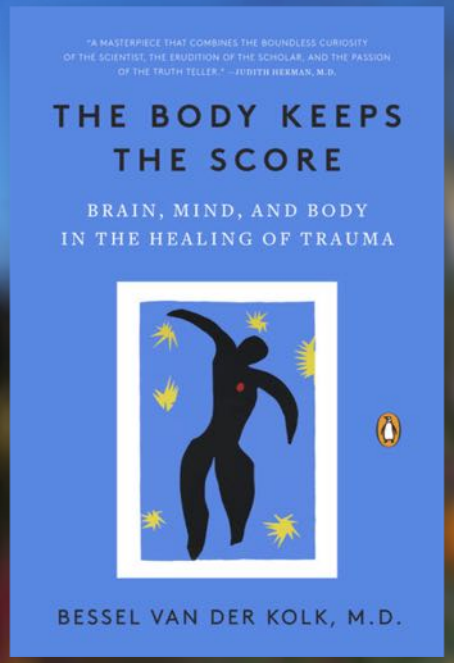
Bottom up
Tone down Amygdala

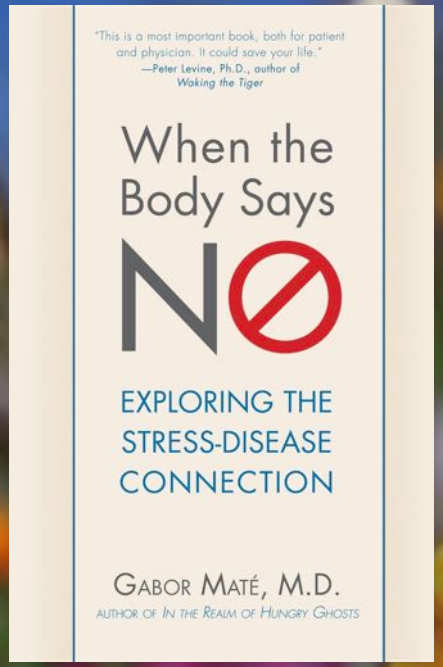
No longer falsely reactive
Smoke alarm knows you are cooking and house is not on fire

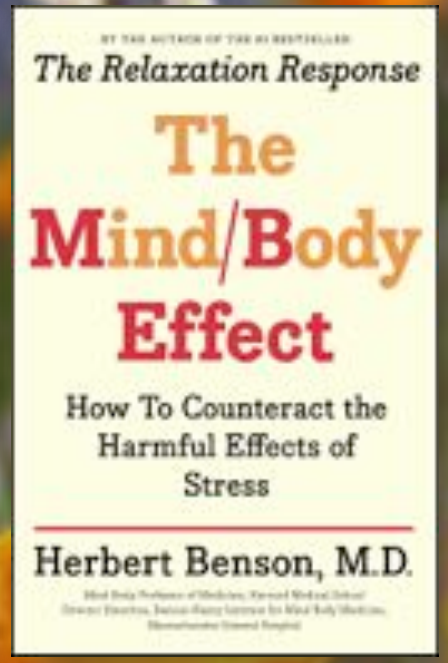
Accessing Autonomic Nervous System:
Integrate breath, movement, touch
e.g. *Yoga, dancing, playing music, bodywork*

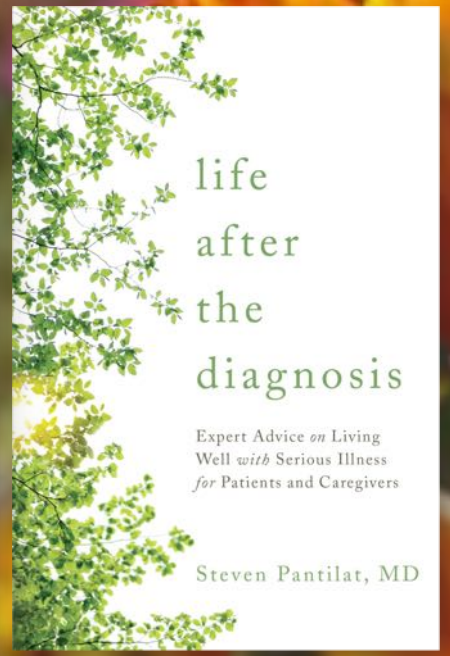

Tracy Peng, MD
Sandy Newmark, MD
Anand Dhruva, MD
Chelsea Walker Mao, MPH
Osher Mini Medical School for the Public team Nancy Mutnick, IT!
Jim Duffy, MD
Diane Sabin, DC
Sudha Prathikanti, MD
Shelley Adler, PhD
Sylver Quevedo, MD, MPH
David Lukoff, PhD
Geronima Cortese, RN, MPH, OCN
UCSF + the tribe of clinicians / educators / researchers / staff at the Osher Center for Integrative Medicine
My Family & Friends
Faculty / attendings co-residents / staff at University of Hawaii Psychiatry Residency Program
Faculty / preceptors / fellow medical students at the Arizona College of Osteopathic Medicine
My Dear Patients
My Life Challenges + Joys
The dynamic evolution of conventional medical care + Integrative Health
Colleagues at UPMC Center for Integrative Medicine
With Loving Kindness,
Thank you for sharing your lens with me!
Selena Chan, DO

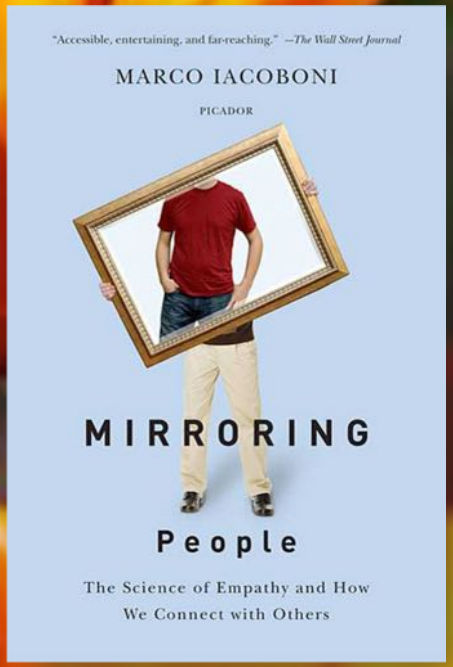
Resources


"A MASTERPIECE THAT COMBINES THE BOUNDLESS CURIOSITY OF THE SCIENTIST, THE ERUDITION OF THE SCHOLAR, AND THE PASSION OF THE TRUTH TELLER." —JUDITH HERMAN, M.D.
THE BODY KEEPS THE SCORE
BRAIN, MIND, AND BODY IN THE HEALING OF TRAUMA
BESSEL VAN DER KOLK, M.D.


"This is a most important book, both for patient and physician. It could save your life."
—Peter Levine, Ph.D., author of Waking the Tiger
When the Body Says NO
EXPLORING THE STRESS-DISEASE CONNECTION
GABOR MATÉ, M.D.
AUTHOR OF IN THE REALM OF HUNGRY GHOSTS


The Relaxation Response
The Mind/Body Effect
How To Counteract the Harmful Effects of Stress
Herbert Benson, M.D.


life after the diagnosis
Expert Advice on Living Well with Serious Illness for Patients and Caregivers
Steven Pantilat, MD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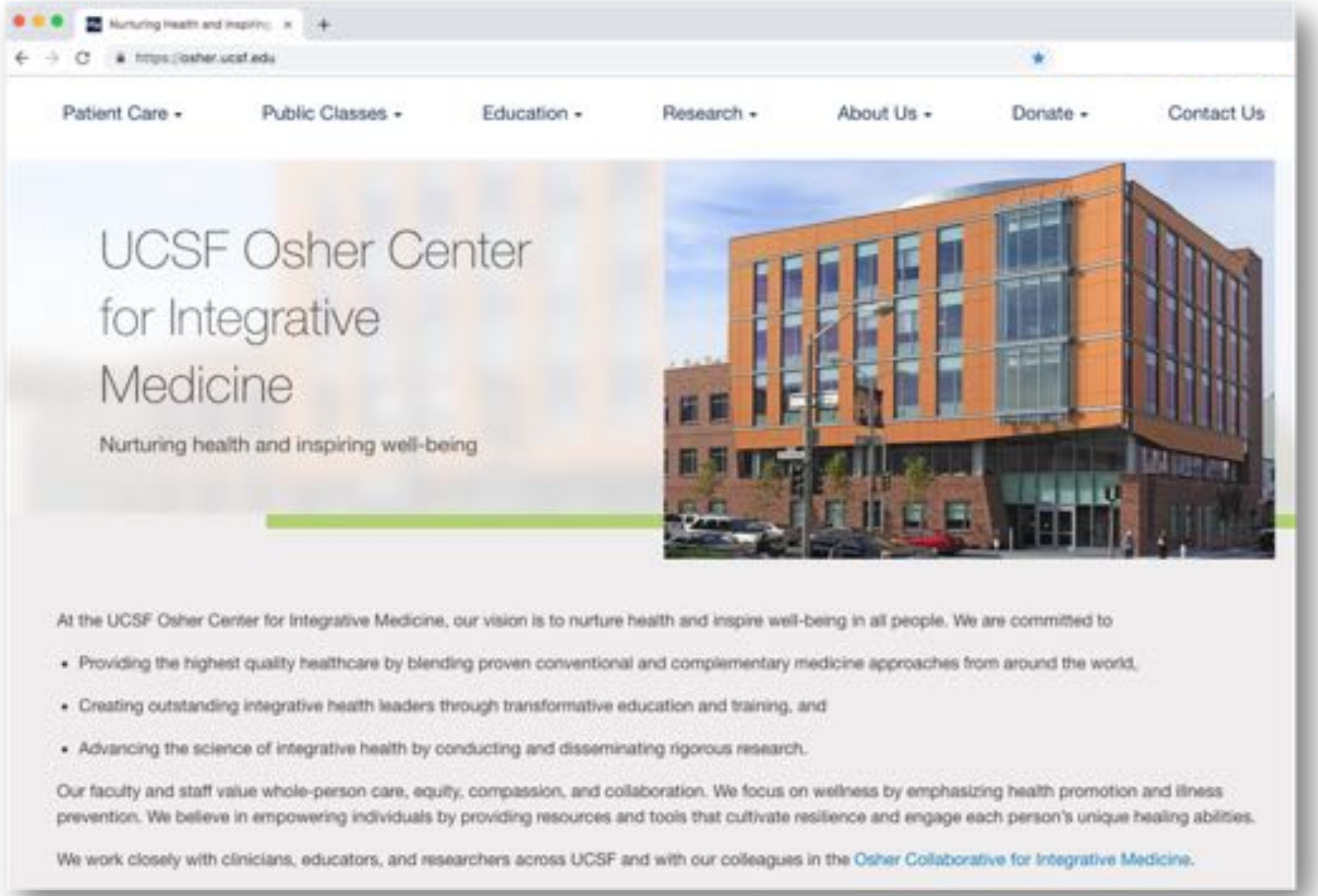


UCSF Osher Center for Integrative Medicine

Whole-person care

Our comprehensive, team-based approach acknowledges all aspects of each individual — body, mind, and spirit

Equity

We welcome and respect all people, value diversity, and strive for inclusivity. We are committed to improving integrative health care for members of medically underserved communities.

Compassion

We foster empathy and attend to the influence of social, cultural, and historical contexts on health, health behaviors, and access to health care.

Collaboration

We promote interprofessional teamwork among our clinicians, educators, and researchers, and build partnerships across UCSF and internationally.

Focus on wellness

We emphasize health promotion and illness prevention, as well as treatment of disease.

Empowerment

We provide resources and tools that cultivate resilience and engage each person's unique healing abilities.

Osher Center for Integrative Medicine: Patient Care

Integrative Medicine Consultation

Our practitioners assess each patient's individual needs and listen to their concerns and goals for well-being, then offer a professionally guided whole-person approach to their health care.

Learn More

Integrative Cancer Care

Our oncology professionals provide patients and families with holistic, personally oriented recommendations and an integrated treatment plan.

Learn More

Integrative Psychiatry and Psychotherapy

Address life challenges, such as chronic illness, physical injury, or interpersonal loss, and develop the capacity to experience emotional well-being.

Learn More

Integrative Pediatrics

Integrative Pediatrics offers a blend of conventional and complementary therapies to create a personalized plan that suits the needs of each child and family.

Learn More

Integrative Women's Health

Our integrative providers offer a range of options for managing women's unique health needs across the lifespan.

Learn More

Manual Medicine and Spinal Manipulation

Patients who are experiencing pain in their musculoskeletal system receive a thorough diagnosis and treatment of reversible functional problems of the muscles, joints, and spine.

Learn More

Biofeedback

Biofeedback enhances your awareness of personal mind-body connections and helps you maintain relaxed awareness amidst chronic or acute stress.

Learn More

Acupuncture and Integrative Chinese Medicine

Traditional Chinese medicine supports optimal health by promoting balance with the harmonious flow of blood and "qi" energy.

Learn More

Ayurveda

Reintroduce and nurture balance in your life through specific diet and lifestyle practices from one of the oldest healing systems in the world.

Learn More

Integrative Nutrition

Our integrative dietitian collaborates with patients and their healthcare providers to create a cohesive plan to meet the unique needs of each patient.

Learn More

Guided Imagery

Guided imagery involves the focused and intentional use of imagery to aid healing, enhance peace of mind, and improve physical, emotional, or spiritual health.

Learn More

Cognitive Behavioral Therapy for Insomnia

Cognitive behavioral therapy for insomnia is a treatment that has been proven effective in large studies of people with sleep problems.

Learn More

Massage Therapy

Massage therapy may reduce stress responses, promote healing and relaxation, and help patients achieve a sense of well-being.

Learn More

UCSF Osher Center for Integrative Medicine

Integrative Psychiatrists

- Board-certified psychiatric doctors
- Trained in both conventional and complementary medicine

Sudha Prathikanti, MD

Selena Chan, DO

Tracy Peng, MD

https://osher.ucsf.edu/patient-care/treatments/integrative-psychiatry-and-psychotherapy

For more information or to start the process of making an appointment and initial phone interview, call **415.353.7700.**

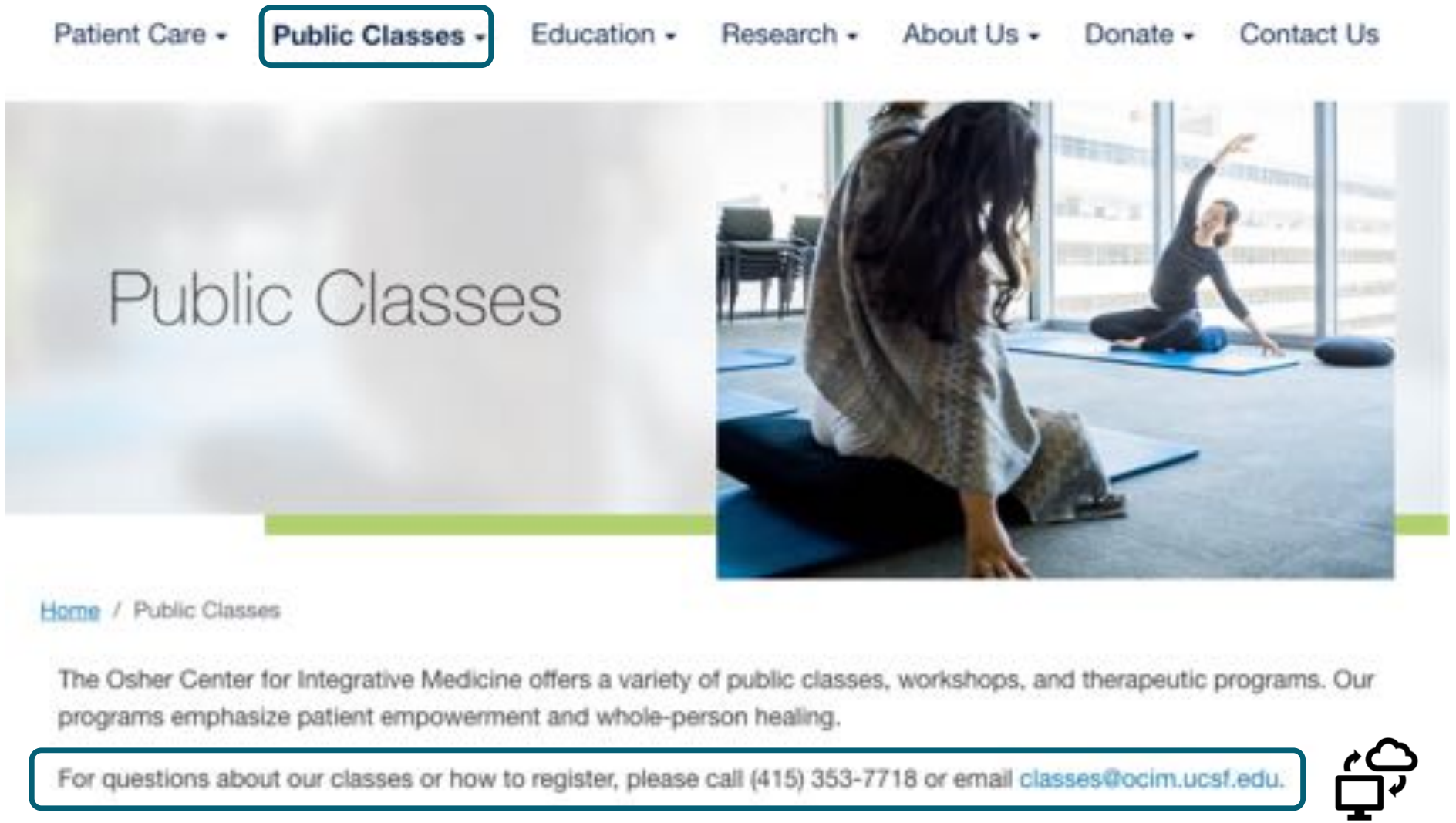
UCSF Osher Center for Integrative Medicine

Integrative Mental Health: Treatment

Treatment plans are specific and unique to each individual and may include any combination of the following:

- Exploration into the interaction of the body, mind, spirit, and environment as a whole, with emphasis on accessing your own intuitive capacities to guide your life
- Conventional psychotherapies such as, cognitive behavioral therapy, insight-oriented therapy, dreamwork, symbology, and motivational interviewing
- Conventional medications, supplements, botanical, or herbal remedies
- Expressive or creative arts therapy
- Meditation, mindfulness, guided imagery/visualization, and relaxation
- Pharmacogenomic testing (identifies key genes in your body's DNA that affect how it responds to medications, supplements, micronutrients, or foods)
- Ayurvedic massage, nutritional counseling, yoga and movement exercises, and mandala drawing
- Discussion of the range of available therapies that align with your values in collaboration with your health providers to create an integrated plan

https://osher.ucsf.edu/public-classes



Osher Center for Integrative Medicine: Public Classes

Communitas: Mind-Body and Resilience Group for Youth with Chronic Illness

Communitas is a group medical visit for youth living with chronic illness and their parents.

Learn More

Cultivating Emotional Balance

Cultivating Emotional Balance (CEB) is an 8-week training that helps participants learn to build healthy emotional boundaries.

Learn More

Laughter Yoga

This class involves deep breathing, stretching, clapping, and laughter exercises that offer powerful and immediate effects on mind, body and spirit.

Learn More

Laughter Yoga and Meditation

These classes begin with laughter exercises that warm up the mind-body and help generate mind-quieting, then shift to silent meditation, which helps to facilitate a gentle deepening of mindful awareness.

Learn More

Living with Cancer Classes and Support Groups

People living with cancer and their caregivers are invited to attend any of our free mind-body wellness classes and support groups.

Learn More

Meditation and Guided Imagery for People with Cancer and Caregivers

People with cancer and their caregivers are invited to join our free weekly meditation and guided imagery class.

Learn More

Mindfulness-Based Stress Reduction (MBSR)

MBSR is an eight-week program that introduces participants to mindful practices to manage physical or mental distress, and maintain health and well-being.

Learn More

Mindfulness MBSR Alumni Program

These weekly drop-in sitting meditation sessions are free and open to anyone who has ever completed a mindfulness-based stress reduction (MBSR) course at the Osher Center or elsewhere.

Learn More

Mindfulness for Teens

This class offers teens powerful mindfulness-based tools to reduce stress, increase health and well-being, and follow through on personal goals.

Learn More

Osher Mini Medical School for the Public

Members of the community can learn the information that is being taught in UCSF's classrooms and research labs.

Learn More

The Osher Collaborative for Integrative Medicine comprises an international group of seven academic Centers funded by The Bernard Osher Foundation to study, teach, and practice integrative medicine.

1998

UCSF
University of California San Francisco

2001

VE RI TAS
BWH
HARVARD MEDICAL SCHOOL AND BRIGHAM AND WOMEN'S HOSPITAL

2005

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Karolinska Institutet

2014

VANDERBILT UNIVERSITY

Northwestern University

2017

UNIVERSITY OF MIAMI

2018

UNIVERSITY of WASHINGTON

www.oshercollaborative.org

References for Evaluating Efficacy & Safety of Complementary Therapies		
Resource	Website	Comments
Natural Medicines	https://naturalmedicines.therapeuticresearch.com/	Dietary supplement database with interaction checker
NIH National Center for Complementary and Integrative Health (NCCIH)	https://nccih.nih.gov/	Evidence-based information on many complementary therapies
NIH Office of Dietary Supplements (ODS)	https://ods.od.nih.gov/	Fact sheets and information on many dietary supplements

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