

# **Mindfulness and Health**

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# I. Mindfulness Description

- A. Present Focus on Inner and Outer Worlds (thoughts, images, breathing, sensations, actions, or surroundings)
- B. Flexible Focus
  - A. Openness to Experience
  - B. Non-Evaluative
- A. Examples to detach: “I am not my thoughts.”  
“Thoughts are not facts.” “Thoughts come and go.”  
“I do not have to believe my thoughts.”

## II. Mindfulness Practice

Thoughts Like Floating Leaves



# Mindfulness Exercises

Focus on Breathing  
Meditation  
Mantra  
Prayer  
Guided Imagery  
Body Scan  
Yoga  
Mindful Walking  
Mindful Eating  
Noticing Variability

# III. Overview of Aging

A. Sensory Perception

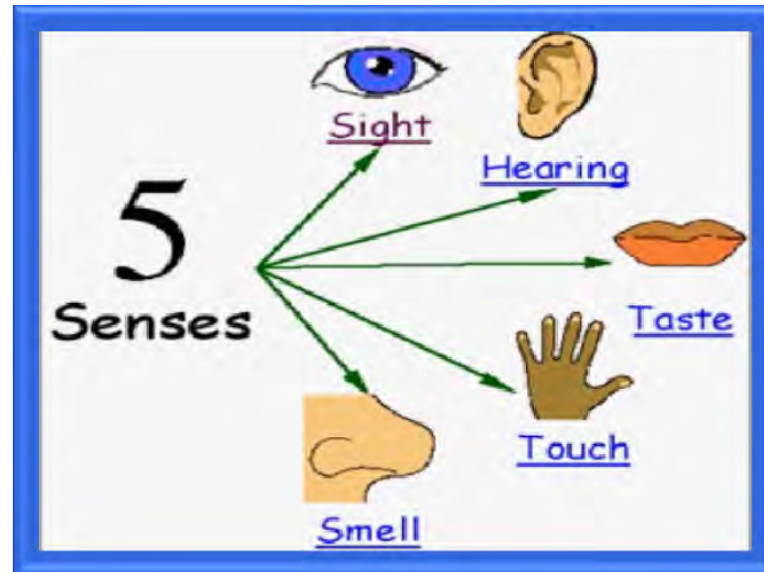
A. Attention

A. Memory

A. Psychological Problems

# A. Sensory Perceptions Decline

- A. Vision poorer under low and bright light (glare).
- B. Hear less high pitch sounds, more ringing (tinnitus).
- C. Smell less sensitive and less accurate.
- D. Taste buds less sensitive.
- E. Touch discrimination less, especially extremities.
- F. Poorer balance, muscular weakness, joint stiffness.



## **B. Attention Declines**

1. Difficult to sustain attention.
2. Difficult to divide attention (2 speakers).
3. Difficult to cope with distractions and interruptions.
4. Attend better when different stimuli are related.
5. Need comfortable environment with few interruptions.

## C. Memory Declines

- A. Poorer **working memory** (remember information while following a plan or solving a problem)
- B. Poorer **episodic memory** (recalling a word list)
- C. Poorer **historical memory** (if no personal involvement, okay with important past personal events)
- D. Poorer **prospective memory** for **when** to do something in the future, but not for **what** to do
- E. Okay with **semantic memory** (what words mean) and **procedural memory** (tying a shoe)



## **D. Psychological Problems**

- A. Alzheimer's Disease** – 5 million now and 13.4 million by 2050 according to Centers for Disease Control and Prevention; 5% age 65; 30% over age 85
- A. Anxiety** – 7% age 65 and older, less than young ages
- C. Depression** – 3% in community; 13.5% of those requiring home healthcare; 11.5% of hospitalized
- D. Pain** – 50% experience pain that limits functioning; Disabling back pain 6%, non-disabling back pain 23% among 75-year-olds

# Brain Structure and Function

**Two cerebral hemispheres**  
**4 Lobes of the cerebrum**  
**(Thinking brain):**

**Frontal (Reasoning, Problem Solving, Emotion Regulation)**

**Parietal (Sensory-Spatial)**

**Occipital (Vision)**

**Temporal (Sounds)**

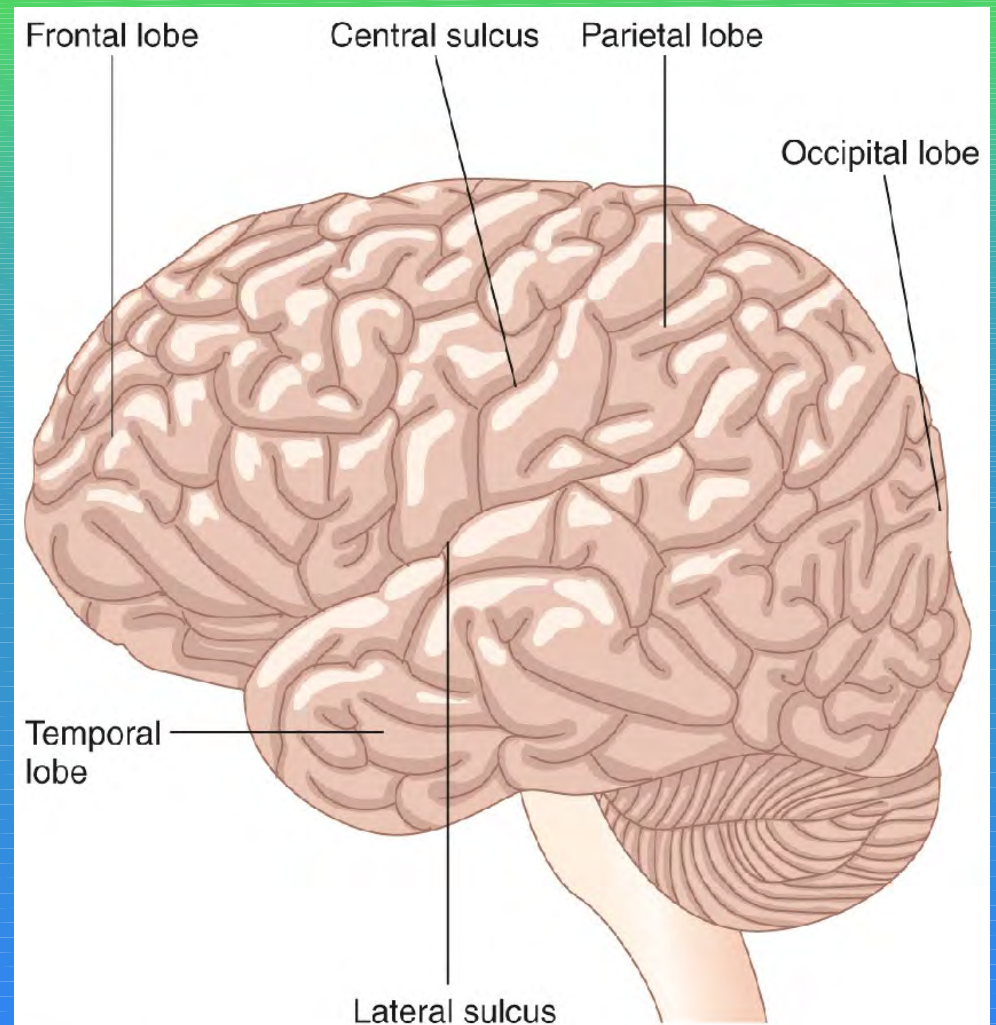


Figure 2.9  
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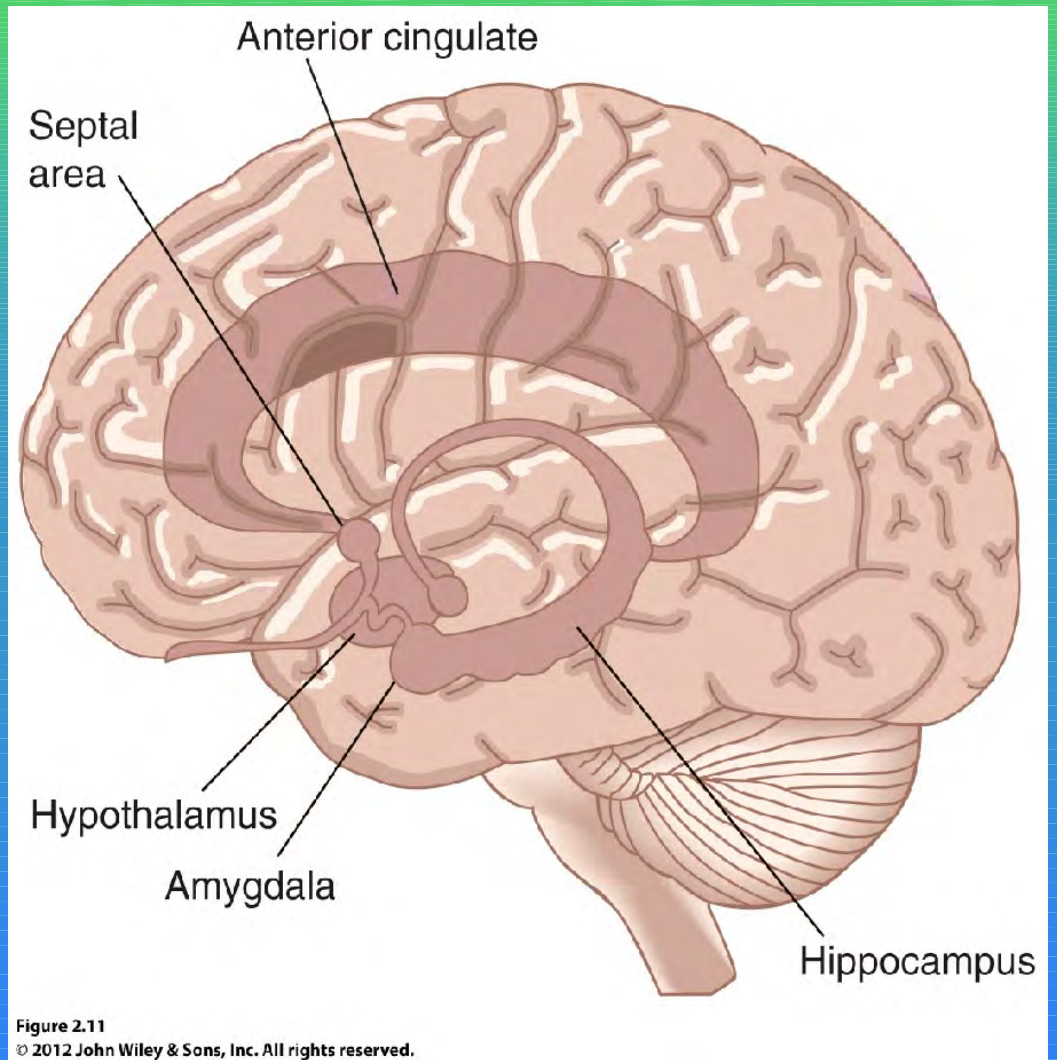
# Subcortical Structures of the Brain

## **Limbic System** (Emotional brain):

**Amygdala** attends to emotionally relevant threats, narrows attention, increases cortisol and stress response

**Hypothalamus** regulates hunger, thirst, and sleep

**Hippocampus** moves short-term memories to long-term memories during deep sleep and dreams, aids spatial navigation, and grows neurons (neural plasticity)



## IV. Types of Mindfulness

- A. **Hindu Concentrative Meditation** – Focus with a Mantra (a spiritually meaningful phrase or word);  
Breathing (focus on each breath);  
Picture (stay with the image), or  
Physical experience (feel bodily sensations)
  
- B. **Buddhist Mindfulness** – Stay in the Present with a Receptive attention that is nonjudgmental;  
Observe or Count Breaths;  
Label current thoughts (“emotion”, “pain”, “judgment”)  
Return to mindfulness

## IV. Types of Mindfulness

- C. **Mindfulness-Based Stress Reduction** (Jon Kabat-Zinn) Mindfulness Meditation and Yoga; *Mindfulness for Beginners*; Daily practice of guided meditation for 1 hour for 8 weeks
- D. **Mindfulness** (Ellen Langer) – Noticing Variability; *Counterclockwise*; Examples: Reverse eye chart, Hotel maids, 1959. Importance of Mindset. No Mindlessness.



## IV. Types of Mindfulness

### E. **Centering Prayer** (Christian tradition of contemplation)

1. Choose a sacred word to show consent to God's presence within you (God, Jesus, Love, Faith)
2. Sit comfortably with eyes closed, introduce sacred word
3. When you are aware of thoughts, return to sacred word  
(4 Rs: Resist no thought, Retain no thought, React to no thought, Return to sacred word)
4. After about 20 minutes, remain in silence for 2 minutes)

## IV. Types of Mindfulness

### F. **Compassion Training** (Richard Davidson, *The Emotional Life of Your Brain*)

1. Contemplate and visualize the suffering and then wishing the freedom from that suffering for:  
A Loved One; Yourself; A Stranger;  
A Difficult Person; All Beings
2. Say “May you be free from suffering.  
May you experience joy and ease.”
3. Notice heart area sensations
4. Focus more on emotional warmth instead of thoughts  
(Similar to Fredrickson’s Loving Kindness Meditation)

## V. Mindfulness Health Benefits

- A. Less Stress, Anxiety, and Depression
- B. Less Pain, Skin inflammation, Blood pressure
- C. More Immunity and Happiness
- D. More Perspective-taking, Empathy, Communication, and Kind behaviors (PECK) to enhance relationships





# TIME Feb. 3, 2014



## Mindful “Revolution”

- 1,000+ MBSR instructors
- Google “Search Inside Yourself” 7 week course, offered 4 times per year
- Wisdom 2.0 2,000+ this year with Kabat-Zinn, execs from Twitter, Instagram, Facebook
- In 2007, Americans spent \$4 billion on mindfulness-related alternative medicine & MBSR
- Mindfulness apps

# Mindfulness Research

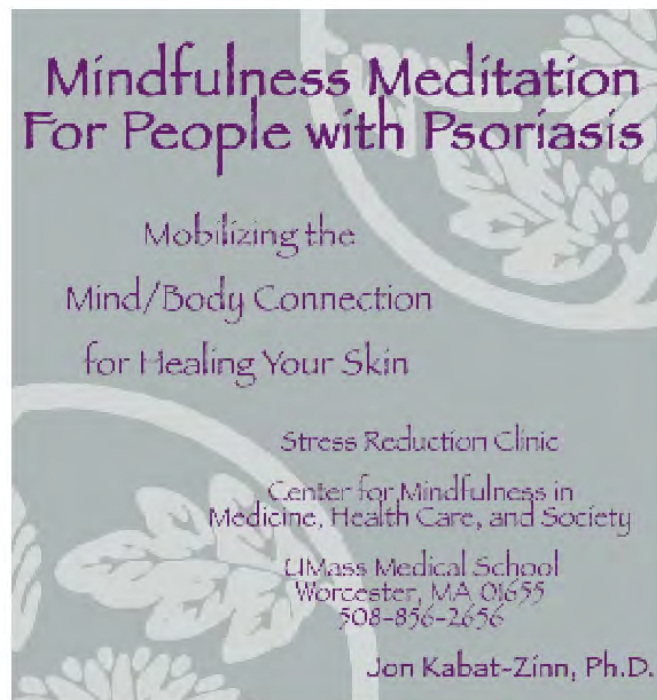
- Does mindfulness meditation work?
- Effects: physiological & psychological
- Compare approaches: mindful & concentrative
- How does mindfulness work?

# Mindfulness Research

- Many early studies privately-funded
- 2007 NIH – Need more rigorous research
- Since 2009 NIH funded 50+ studies
- Google Scholar – 1,000+ studies in 2013

# Mindfulness Research

Jon Kabat-Zinn (1998) Psoriasis healed 4 times faster with light therapy and meditation vs. light therapy alone.



## Meta-Analyses

- Brown et al. (2007). Mental, *physical*, behavioral, & interpersonal domains
- Reduced blood pressure in children
- Improved immunity to flu vaccine

# Meta-Analyses

- Ludwig & Kabat-Zinn (2008)
- Mindfulness in *Medicine*
- Preliminary: psoriasis, Type 2 diabetes, sleep disturbance, ADHD. May be useful for obesity and eating disorders.
- NIH funded: pain, hypertension, myocardial ischemia, inflammatory bowel disease, HIV, substance abuse

## Meta-Analyses

- Chiesa & Serretti (2009)
- MBSR Stress Management in *Healthy* People
- 150 studies from 1979 to 2008
- Reviewed 10 studies that qualified
- MBSR Reduced stress (equal to relaxation)
- Reduced rumination and anxiety, increased empathy and compassion (better than relaxation)
- Enhanced spirituality values



## Review of Interventions

Chiesa & Malinowski (2011)

How does mindfulness produce change?

- Too soon to know
- Effects might be specific to approach
- Might be increasing attention
- Might be letting go of control
- Something else

# Review of Interventions

Chiesa & Malinowski (2011)

Weaknesses in research

- Differences between traditional and modern
- No consensus on definition of mindfulness
- Difficult to measure “mindfulness”
- Research lacks rigor
  - Few randomized control
  - Expectation of benefit
  - Exclude “active ingredient”

# Meta-Analyses

Sedlmeier et al. (2012) – *Psychological* Effects

- 1970 to 2011, 163 studies
- Effects not explained by relaxation or cognitive restructuring (medium)
- Emotions, relationships (medium to large)
- Attention (medium)
- Cognitive (small to medium)
- Effects varied with type of meditation
- Experience partially explained long-term effects
- Need more precise theory and measurement

## Meta-Analyses

Khoury (2013) Mindfulness-based *Therapy*

- 209 studies through May 2013
- Reduced anxiety, depression, stress
- Moderate effects compared to waitlist
- Moderate compared to other treatments
- Same as cognitive, behavioral

## Specific Components

Gallegos, et al. (2013) 100 older adults, 8 weeks MBSR

Component	Result
Yoga	Increased IGF-1 (longevity & cognition)
	Reduced IgG antibody (immunity)*
	Increased positive emotions
Sitting	Increased IGF-1
Body scan	Reduced IgM and IgG (immunity)*
Informal	No effects

## Telomeres Older Adults (2012)

Lavretsky, (2012) Meditation for stress reduction in 39 dementia caregivers with mild depression.  
Meditation vs. relaxation music (12 mins/day for 8 weeks)

Outcome	Meditation (% improved)	Music (% improved)
Depression	65	31
Mental health	52	19
Telomerase Activity	43	4

# Meta-Analyses

Telomeres keep chromosome ends from fraying, sticking. When cells divide, telomeres get shorter. When they become too short, the cell dies. Associated with aging, cancer, mortality.

[stone.chemistry.ucsc.edu](http://stone.chemistry.ucsc.edu)



# UCLA Mindfulness

## UCLA Free Guided Meditations

### Free Guided Meditations

For an introduction to mindfulness meditation that you can practice on your own, turn on your speakers and click on the "play" or "download" links. Podcasts are also available on iTunes U. [Download iTunes »](#)

If you are new to meditation, start with the 5-minute [Breathing Meditation»](#)

For a more in-depth class experience, take the 6-week [Online Classes»](#)

Title	Length		
Breathing Meditation	5 mins	<a href="#">Play</a>	<a href="#">iTunes</a>
Breath, Sound, Body Meditation	12 mins	<a href="#">Play</a>	<a href="#">iTunes</a>
Complete Meditation Instructions	19 mins	<a href="#">Play</a>	<a href="#">iTunes</a>
Meditation for Working with Difficulties	7 mins	<a href="#">Play</a>	<a href="#">iTunes</a>
Loving Kindness Meditation	9 mins	<a href="#">Play</a>	<a href="#">iTunes</a>
Body and Sound Meditation	3 mins	<a href="#">Play</a>	<a href="#">iTunes</a>
Body Scan Meditation	3 mins	<a href="#">Play</a>	<a href="#">iTunes</a>
Body Scan for Sleep	12 mins	<a href="#">Play</a>	<a href="#">iTunes</a>

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*All meditations by MARC's Director for Mindfulness Education, Diana Winston.*



#### More Resources

[Online Mindfulness Classes](#)

[Support our Work](#)

For more audio meditation podcasts, visit [Weekly Podcasts at the Hammer Museum](#)



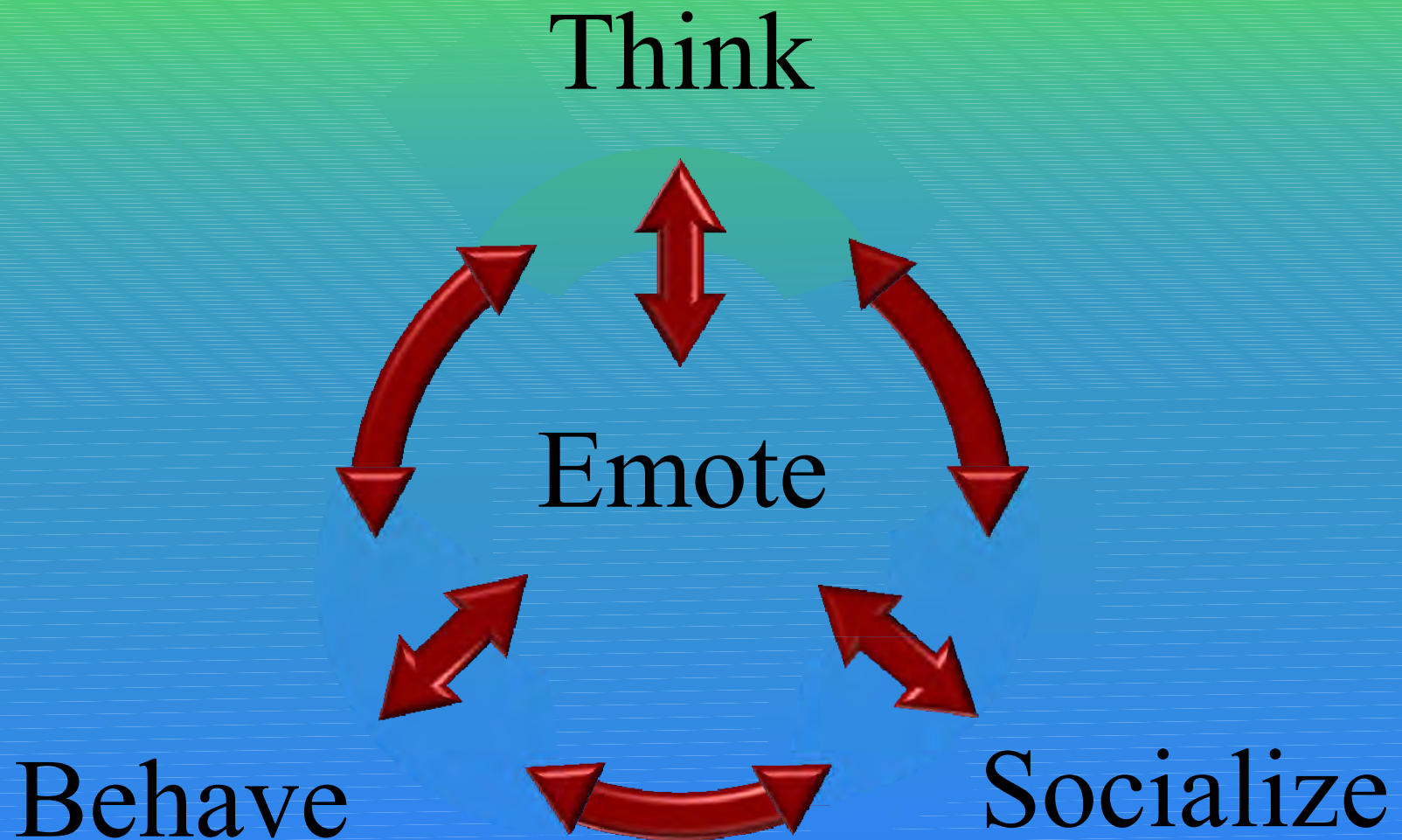
## Our Research

- Predictors of health and mortality
- 17,930 adults, age 50 -104
- Strongest predictor of health – depression
- Education, mild activities, BMI, memory, and smoking predicted health and mortality

# Our Research

- Effects of activity and memory on health and mortality:
  - Activity  $\rightarrow$  Memory  $\rightarrow$  Health
  - Activity  $\rightarrow$  Memory  $\rightarrow$  Mortality
- Effects of activity and depression on health:
  - Activity  $\rightarrow$  Depression  $\rightarrow$  Health
  - Depression  $\rightarrow$  Activity  $\rightarrow$  Health

# BEST Model



# Four Interacting Domains

## Four H's That Form a System

**Head** (Think) by using our brain.

**Heart** (Emote) by focusing on feelings.

**Hips** (Behave) by getting up and taking action.

**Hands** (Socialize) by reaching out to others.

Each area affects the others.

# Psychological Fitness Descriptors

Demonstrate strength, flexibility, balance, and teamwork.

Psychological Fitness Includes:

**B**ehavioral performance and consistency.

**E**mootional awareness and expression.

**S**ocial communication and teamwork.

**T**houghtful understanding and decision-making,  
enhanced with exercises.

# Cognitive Model



Think



Behave

Emote

Socialize

## VII. Thoughtful Challenges

A. Past: Gratitude vs. Regret (Rumination)

Reminiscence vs. Forgetting

B. Present: Mindfulness vs. Worry

Savoring vs. Dampening

C. Future: Optimism (Hope) vs. Pessimism

Planning vs. Ignoring

## VI. Thoughtful Content

Related to higher life satisfaction, refers to positive thoughts about the past, present, and future:

Gratitude

Curiosity

Zest

Hope

Love

Meaning/Faith



# Thoughtful Orienting Exercises

1. Orient to person, place, time, and event.
  2. Maintain an attitude of gratitude.
  3. Affirm your value with positive self-talk.
- 
1. Consider identity and goals for your roles.
  2. Plan activities to enjoy your 5 senses.
- 
1. Visualize your desired day.
  2. Reflect on goals, priorities, and meaning.

## VIII. Memory Techniques

Repeat information, notes, recordings, acronyms, visualization, routines, and internet

Memory Improvement (ACROSS):

**A**ttend

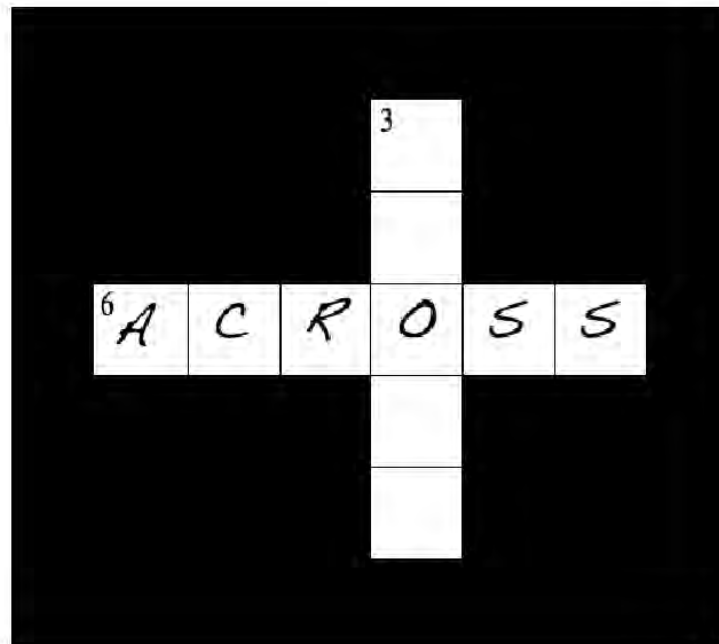
**C**onnect

**R**epeat

**O**rganize

**S**peak

**S**tudy



# Thought Stopping

To interrupt negative thinking, imagine a stop sign.

# Thought Stopping



# Thoughtful Coping Exercises

**D**eduction (theory and patterns)

**E**vidence (avoid jumping to conclusions)

**W**onderment (be curious)

**D**isputing (challenge negative thoughts)

**R**eframing (focus on positive aspects of negative situations)

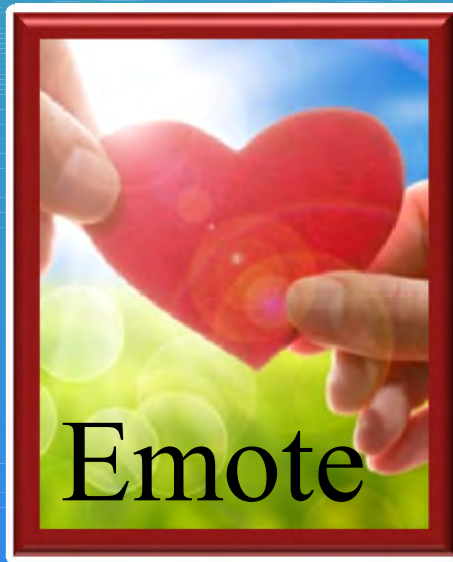
**O**ptimism (expect positive outcomes)

**P**roblem **S**olving



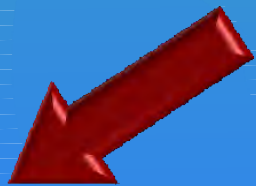
# Emotion-Focused Model

Think



Emote

Behave

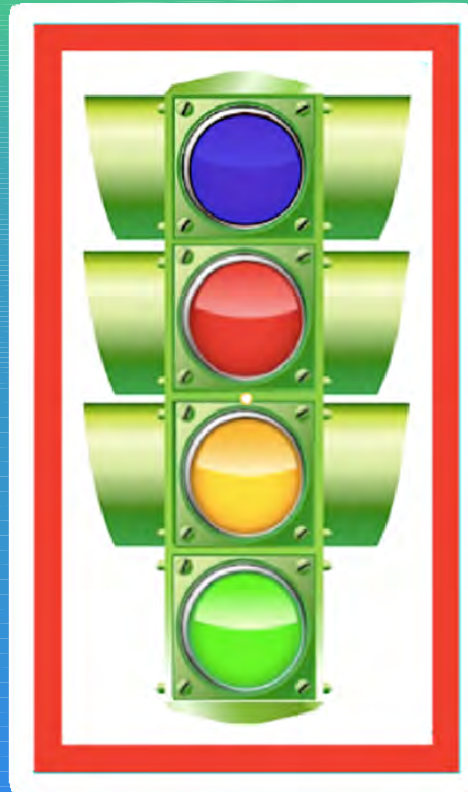


Socialize





# Emotional Exercises



**Sad**

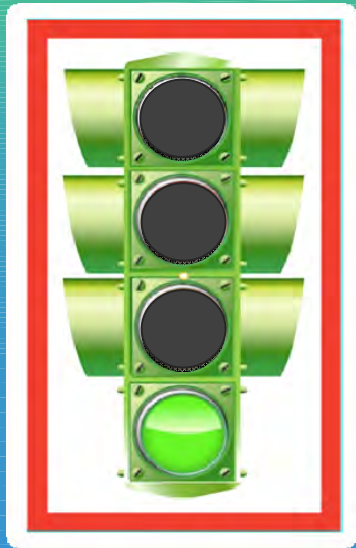
**Angry**

**Anxious**

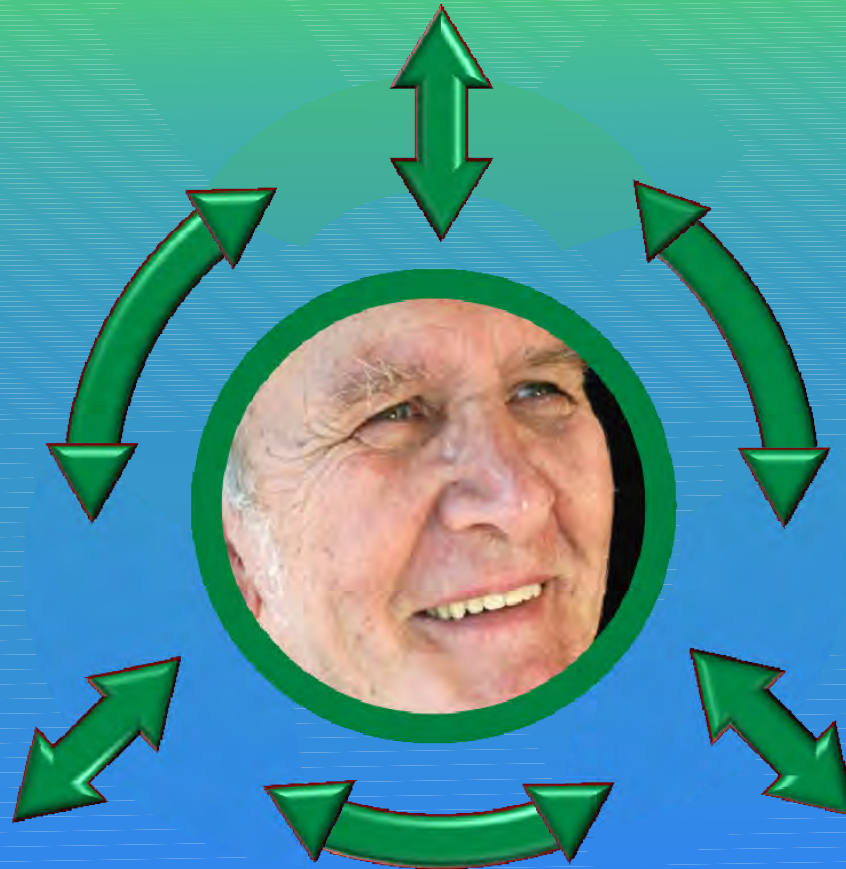
**Happy**

# Happiness Wheel

I am getting what I want.



Positive  
Approach  
Goal Pursuit

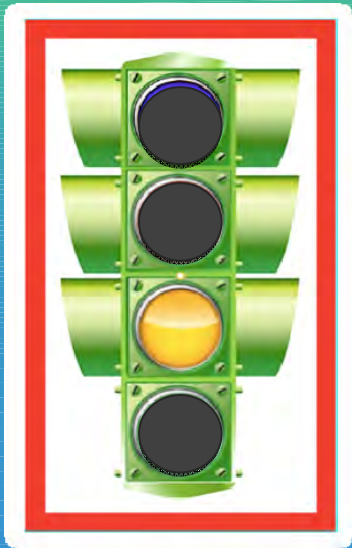


Intimacy  
Assertive  
Sharing Words



# Anxious Wheel

I may not get what I want or I may get what I do not want.

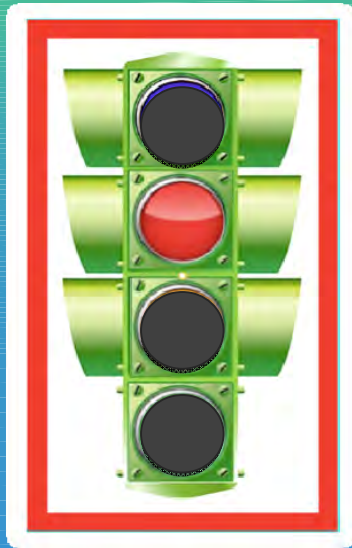


Moving Away  
Staying Away

Distance  
Avoid Issues  
Indirect Words

# Anger Wheel

I am not getting what I want... and I still want it!



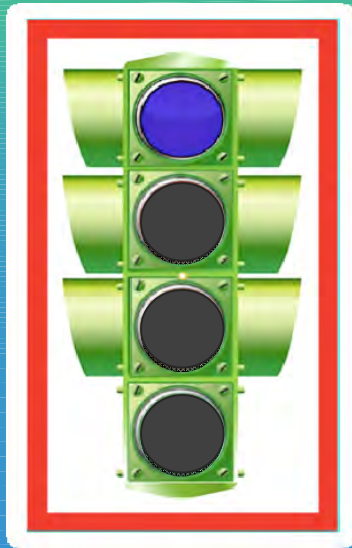
Negative  
Approach  
Aggression



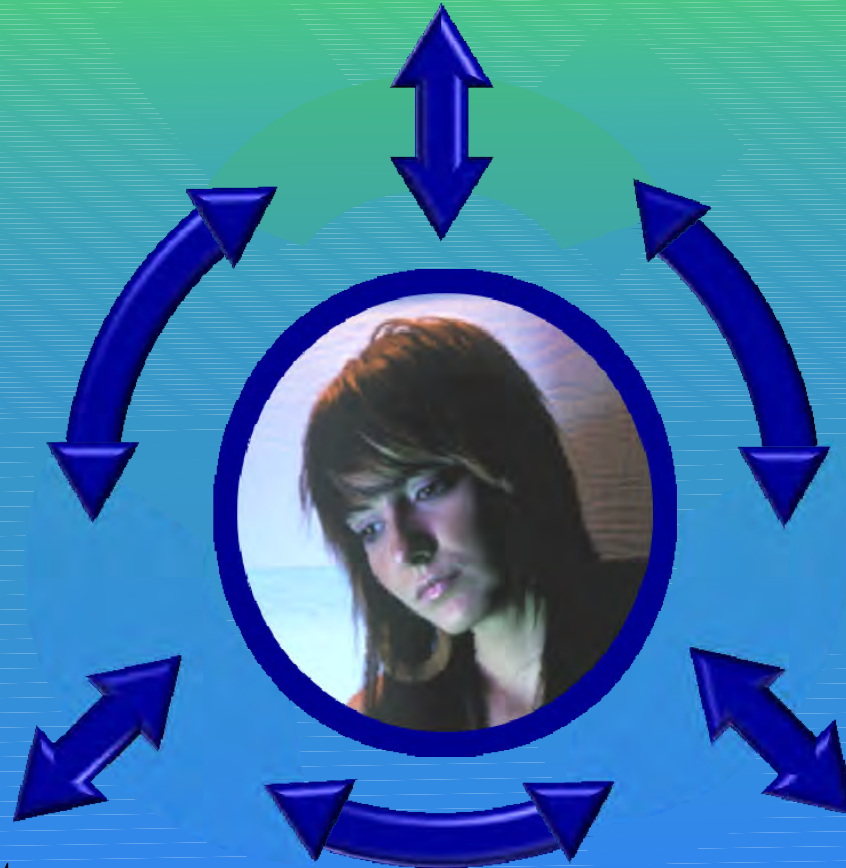
Criticism  
Harm  
Hostile Words

# Depression Wheel

I am not getting what I want... and I give up.



Passivity  
No Movement



Minimal  
Interaction  
Few words

# Behavioral Model

Think

Emote

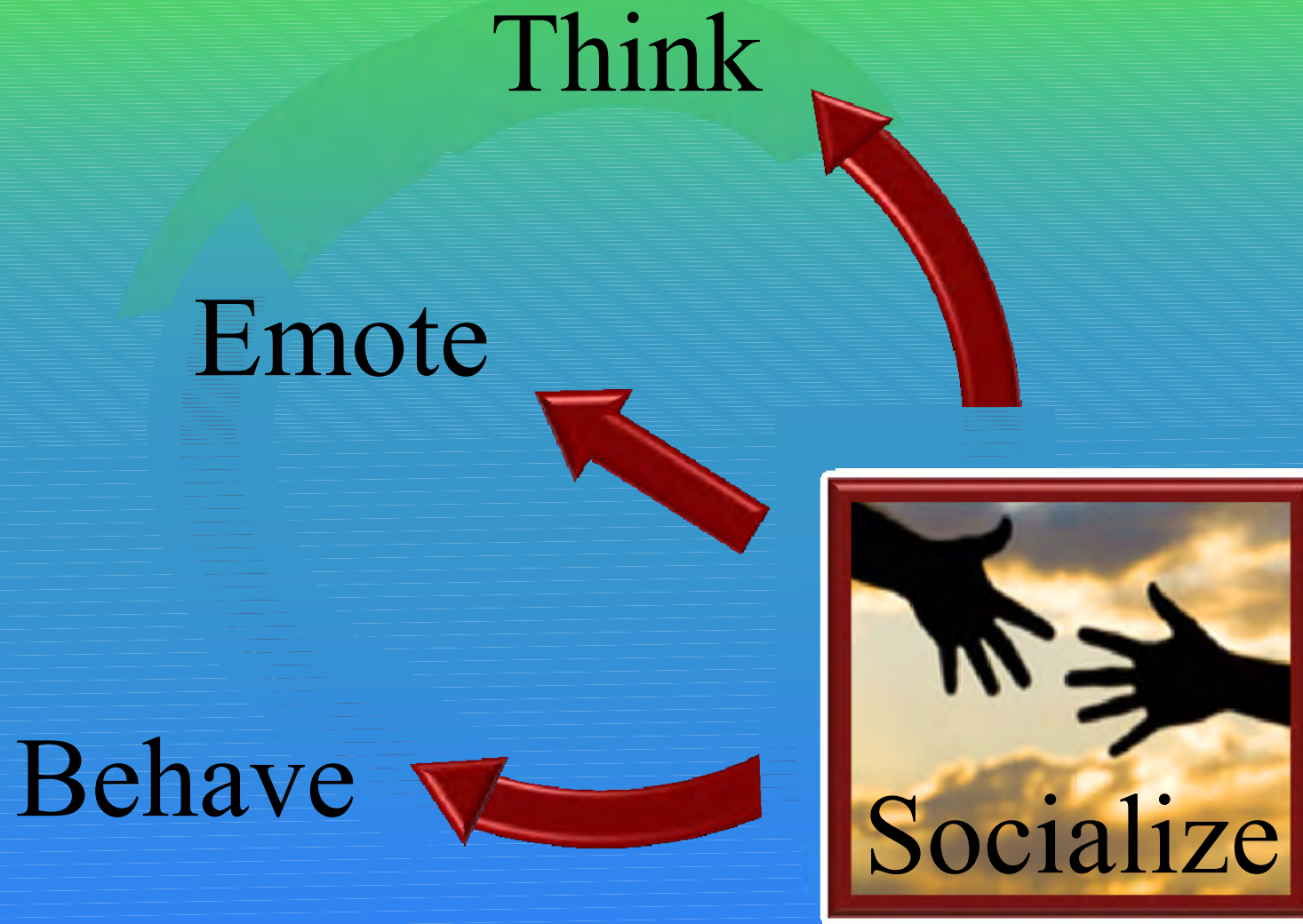
Socialize



Behave



# Interpersonal Model



# TIMBERS Dimensions



Healthy **T**hinking

Healthy **I**ntity

**M**oral Health

Healthy **B**ehaviors

**E**motional Health

Healthy **R**elationships

**S**exual Health

# Book

**Psychological Fitness**



**Jerome Short, Ph.D.**