Positive Neuroplasticity: The Mindful Cultivation Of Resilient Well-Being

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The Value of Inner Resources
To have lasting well-being in a changing world, we’ve got to be resilient.

To be resilient, we’ve got to have inner resources.
Shaping the Course of a Life

Challenges

Vulnerabilities

Resources
Location of Resources

World

Body

Mind
Some Inner Resources

- Mindfulness
- Patience, Determination, Grit
- Emotional Intelligence
- Character Virtues
- Positive Emotions
- Interpersonal Skills
The harder a person’s life, the more challenges one has, the less the outer world is helping – the more important it is to develop inner resources.
Researchers have focused on identifying and using resources – such as workplace mindfulness – but what about developing them in the first place?
The majority of our inner resources are acquired, through emotional, somatic, social, and motivational learning – which is fundamentally hopeful.
And Which Means Changing the Brain For the Better
Enormous research on people that (1) mental states and traits have neural correlates and (2) mental practices change states and traits.

Enormous research on non-human animals that various stimuli (with related presumed mental states) change their brains.

Much research on people that mental training changes their brains.

Some unintegrated research on deliberate mental factors that increase gains from therapy and psycho-social programs.

Two studies on training the systematic use of such mental factors.
Mental resources are acquired in two stages:

- **Encoding**
- **Activation**
- **State**
- **Consolidation**
- **Installation**
- **Trait**
Neurons that fire together, wire together.
Key Mechanisms of Neuroplasticity

- (De)Sensitizing existing synapses
- Building new synapses between neurons
- Altered gene expression inside neurons
- Building and integrating new neurons
- Altered activity in a region
- Altered connectivity among regions
- Changes in neurochemical activity (e.g., dopamine)
- Changes in neurotrophic factors
- Modulation by stress hormones, cytokines
- Slow wave and REM sleep
- Information transfer from hippocampus to cortex
We become more **compassionate** by repeatedly installing experiences of compassion.

We become more **grateful** by repeatedly installing experiences of gratitude.

We become more **mindful** by repeatedly installing experiences of mindfulness.
What fraction of our beneficial mental states lead to lasting changes in neural structure or function?

**BUT**: Experiencing doesn’t equal learning.

Activation *without installation* may be pleasant, but no trait resources are acquired.
People focus more on activation than on **installation**.

This reduces the gains from mindfulness programs, human resources training, coaching, psychotherapy, and self-help activities.
Four Learning Curves

Mental Resources

Time

Decline
Four Learning Curves

- ① Decline
- ② No growth
Four Learning Curves

1. Decline
2. No growth
3. Linear growth
Four Learning Curves

- **1** Decline
- **2** No growth
- **3** Linear growth
- **4** Exponential growth; learning how to learn
What can you do to steepen your growth curve?
Learning is the strength of strengths, since it’s the one we use to grow the rest of them.

Knowing **how** to learn the things that are important to you could be the greatest strength of all.
The Negativity Bias
Velcro for Bad, Teflon for Good

The negativity bias
The Negativity Bias

As the nervous system evolved, avoiding “sticks” was usually more consequential than getting “carrots.”

1. So we scan for bad news,
2. Over-focus on it,
3. Over-react to it,
4. Turn it quickly into (implicit) memory,
5. Sensitize the brain to the negative, and
6. Get into vicious cycles with others.
The Negativity Bias
Lasting Gains from Passing Experiences
How can we increase the conversion rate of beneficial states to beneficial traits?
HEAL: Turning States into Traits

Activation
1. **Have** a beneficial experience

Installation
2. **Enrich** the experience
3. **Absorb** the experience
4. **Link** positive and negative material (Optional)
Have a Beneficial Experience
Enrich It
Absorb It
Link Positive & Negative Material
Have It, Enjoy It
Let’s Try It

**Notice**
Relaxing as you exhale

**Create**
Gratitude, gladness

**Create**
Warm feelings for someone

For each of these:
Have the experience. Enrich it. Absorb it.
It’s Good to Take in the Good

Develops psychological resources:
- General – resilience, positive mood, feeling loved, etc.
- Specific – matched to challenges, wounds, deficits

Has built-in, implicit benefits:
- Training attention and executive functions
- Treating oneself kindly, that one matters

May sensitize the brain to the positive

Fuels positive cycles with others
Keep a green bough in your heart, and a singing bird will come.

Lao Tzu
Growing Key Resources
Resilience is required for challenges to our needs.

Understanding the need that is challenged helps us identify, grow, and use the specific mental resource(s) that are best matched to it.
What – if it were more present in the mind of a person – would really help?

How could a person have and install more experiences of these mental resources?
Meeting Our Three Fundamental Needs

Safety
Avoiding harms
(threat response)

Satisfaction
Approaching rewards
(goal pursuit)

Connection
Attaching to others
(social engagement)
The Evolving Brain

- Cortex ("primate/human")
- Subcortex ("mammalian")
- Brainstem ("reptilian")
- Cerebellum
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<th><strong>Safety</strong></th>
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<th><strong>Connection</strong></th>
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<td>See actual threats</td>
<td>Gratitude</td>
<td>Empathy</td>
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<td>See resources</td>
<td>Gladness</td>
<td>Compassion</td>
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<td>Grit, fortitude</td>
<td>Feel successful</td>
<td>Kindness</td>
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<td>Feel protected</td>
<td>Healthy pleasures</td>
<td>Wide circle of “us”</td>
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<td>Alright right now</td>
<td>Impulse control</td>
<td>Assertiveness</td>
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<td><strong>Matching Resources to Needs</strong></td>
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Wider Implications
As we grow inner resources, we become more able to cope with stress, recover from trauma, and pursue our aims.

At the individual level, this is the foundation of resilient well-being.
At the level of groups and countries, people become less vulnerable to the classic manipulations of fear and anger, greed and possessiveness, and “us” against “them” conflicts. Which has big implications for our world.
Think not lightly of good, saying, “It will not come to me.”

Drop by drop is the water pot filled.

Likewise, the wise one, gathering it little by little, fills oneself with good.

Dhammapada 9.122
References
Suggested Books

See RickHanson.net for other good books.

See www.RickHanson.net/key-papers/ for other suggested readings.


Suggested References - 2


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Supplemental Materials
Meditation experience is associated with increased cortical thickness.

In the Garden of the Mind

1. Be with what is there
2. Decrease the negative
3. Increase the positive


“Being with” is primary – but not enough. We also need “wise effort.”
The Two Ways To Have a Beneficial Experience

1. Notice one you are already having.
   - In the foreground of awareness
   - In the background

2. Create one.
Two Aspects of Installation

**Enriching**
- **Mind** – big, rich, protected experience
- **Brain** – intensifying and maintaining neural activity

**Absorbing**
- **Mind** – intending and sensing that the experience is received into oneself, with related rewards
- **Brain** – priming, sensitizing, and promoting more effective encoding and consolidation
Enriching an Experience

- **Duration** – 5+ seconds; protecting it; keeping it going
- **Intensity** – opening to it in the mind; helping it get big
- **Multimodality** – engaging multiple aspects of experience, especially perception and emotion
- **Novelty** – seeing what is fresh; “don’t know mind”
- **Salience** – seeing why this is personally relevant
Absorbing an Experience

• Intend to receive the experience into yourself.

• Sense the experience sinking into you.
  – Imagery – Water into a sponge; golden dust sifting down; a jewel into the treasure chest of the heart
  – Sensation – Warm soothing balm
  – Give over to it; let it change you.

• Be aware of ways the experience is rewarding.
Four Ways to Use HEAL with Others

- Doing it implicitly
- Teaching it and leaving it up to people
- Doing it explicitly with people
- Asking people to do it on their own
HEAL in Classes and Trainings

- Take a few minutes to explain it and teach it.
- In the flow, encourage Enriching and Absorbing, using natural language.
- Encourage people to use HEAL on their own.
- Do HEAL on regular occasions (e.g., at end of a therapy session, at end of mindfulness practice)