THE BRAINWORK OF RESILIENCE

Patricia Faust, MGS
FROM THE BEGINNING

How did we get here?
The Status Quo

The Status Quo has been upended
A pandemic has completely changed our lives
Lost jobs, businesses closed
Education disrupted
Climate change
Social tensions
How do we recover from all of this?
Stress and Resilience

- Resilience is a Process of adapting to stress, adversity, trauma, tragedy, or threats
- The autonomic nervous system (ANS)
  - ANS is basic to resilience – it keeps us in the ‘window of tolerance’
- We are made to develop resilience
- We are hardwired to withstand the big blows of life
- Resilience is a Learned Trait
  - Our brain plays a big role in bouncing back/resilience by determining how we react to challenging circumstances and guides us in recovery
The Stress Response

Stress initially happens below our level of awareness

There is a Feedback Loop to stop acute stress

But our brain feels like it is in threat response mode 24/7

Hypothalamic-Pituitary-Adrenal axis

Cortisol kills brain cells
The Prefrontal Cortex

- The PFC is the executive function center of the brain
- It quells the fear response, regulates emotions, learns and exercises empathy, and exhibits response flexibility — the Process of Resilience
- Our brain learns from experience
- Our brain adapts to the environment — good or bad
- Resilience is not an automatic response to significant stress
- It is a learned response
Resilience Is a Process of Neuroplasticity

- Dr. Eric Nestler, professor and Chair of Neuroscience at the Icahn School of Medicine at Mt. Sinai – has made resilience a focus of his research.
- He has determined that resilience is not a passive process.
- Used mice in his research: Resilient mice show a whole set of changes that help the animal cope with stress.
The Mechanics of a Resilient Brain

- Resilience is marked by greater activation in the left prefrontal cortex.
- Signals from the prefrontal cortex to the amygdala and from the amygdala to the prefrontal cortex determine how quickly the brain will recover from an upsetting experience.
- More activity in the left prefrontal cortex shortens the amygdala activity.
- Less activation in certain zones of the prefrontal cortex resulted in longer-lasting amygdala activity after an experience evoking negative emotion.
- These people’s brains were less able to turn off negative emotion when it was turned on.
White Matter

- The greater the amount of white matter (axons connecting neurons) lying between the prefrontal cortex and the amygdala, the more resilient the brain had become.
- Less white matter -> less resilient.
- When the amygdala is turned down – the prefrontal cortex is better to quiet signals associated with negative emotions.
- The brain is better able to plan and act effectively without being stifled by negative emotion.
- And this is where the ability to learn how to be resilient lies.
- We are all able to make new connections between the brain regions through neuroplasticity.
COMMON RESILIENCE FACTORS

Realistic optimism, facing fear, moral compass, religion and spirituality, social support, resilient role models, physical fitness, brain fitness, cognitive and emotional flexibility, meaning and purpose
Positive Emotions and Optimism

- Optimism and positive emotions have a robust association with physical and mental health.
- Realistic optimists use relevant negative stimuli to inform their decisions, but not dwell on it.
Moral Compass

- Embrace a core set of moral and ethical principles
- These help build character and guide them through times of high stress
- Focus on self-control, discipline, perseverance, endurance, the moral courage to stand up for what one believes to be right
Social Support

- A strong social network is affiliated with resilience
- Close supportive relationships enhance resilience as well as mental and physical health by:
  - *Increasing self confidence*
  - *Fostering the use of more action-based coping strategies*
  - *Reducing high-risk behaviors*
Role Models

- Capitalize on role model connections by observing and then imitating how the role model reacts in time of high stress.

- If the role model takes an active approach – assessing the situation, solving problems, reaching out for social support - rather than a passive one – waiting for the dust to settle, procrastinating, blaming others, drinking alcohol.

Each person must live their life as a model for others.
Rosa Parks
Mirror Neurons

- When humans observe the behavior or emotion of another person, the same brain regions that are activated in the observed person are also activated in the observer.

- Mirror neurons play an important role in empathy and social competence.
Physical Fitness

- Improves physical health
- Can have strong effect on mental health and resilience
- Reduces symptoms of depression, stress, anxiety, to elevate mood, improve brain function and cognition
- Increased release of chemicals known to lessen depression (serotonin, dopamine), improve mood (endorphins), dampening the HPA response to stress
- Enhanced expression of genes associated with neurogenesis and neuroplasticity
PRACTICAL WAYS TO INCREASE YOUR RESILIENCE

Making connections;
Avoid seeing crises as insurmountable problems;
Accept that change is part of living;
Move toward your goals;
Take decisive action;
Look for opportunities for self-discovery;
Nurture a positive view of yourself;
Keep things in perspective;
Maintain a hopeful outlook;
Take care of yourself
Making Connections

- Good relationships with family, friends and others
- Accepting help and support from those who care – strengthen resilience
- Be active in groups – provides social support and help with reclaiming hope
- Assisting others in their time of need
Avoid Seeing Crises As Insurmountable Problems

- You can’t change highly stressful events, but you can change how you interpret and respond.
- Try looking beyond the present to how future circumstances may be a little easier.
- Note any subtle ways that you feel somewhat better as you deal with difficult situations.
Accept That Change IS Part of Living

- Certain goals may no longer be attainable as a result of adverse situations
- Accept that circumstances that cannot change can help you focus on circumstances that you can alter
Move Toward Your Goals

- Develop some realistic goals
- Do something regularly – even if it feels small
- Instead of focusing on tasks that seem unachievable, ask yourself “What’s one thing I know I can accomplish today that helps move me in the direction I want to go
Take Decisive Action

- Act on adverse situations as much as you can
- Take decisive actions rather than detaching completely from problems and stresses and wishing they would go away
Look for Opportunities for Self-Discovery

- People often learn from something about themselves and may find they have grown in some respect as a result of their struggle with loss.
- Many people who have experienced tragedies and hardship report better relationships, a greater sense of strength, increased sense of self-worth, more developed spirituality and heightened appreciation for life.
Nurture a Positive View of Yourself

Developing confidence in your ability to solve problems and trusting your instincts helps build resilience.
Keep Things in Perspective

- Even when facing very painful events, try to consider the stressful situation in a broader context and keep a long perspective.
- Avoid blowing the event out of proportion
Maintain a Hopeful Outlook

- An optimistic outlook enables you to expect that good things will happen in your life
- Try visualizing what you want, rather than worrying about what you fear
Take Care of Yourself

- Pay attention to your own needs and feelings
- Engage in activities that you enjoy and feel relaxing
- Exercise regularly
- Taking care of yourself helps to keep your mind and body primed to deal with situations that require resilience
Thank You
Stay well, Stay safe

Patricia Faust, MGS
Gerontologist/Brain Aging/Brain Health Specialist
513-382-3947
patricia@myboomerbrain.com
www.myboomerbrain.com