

# Resilience, Dynamic Aging, and Regeneration

AgeWell Plan Seminar

May 5, 2018

# Our Personal “Frailty” and “Resilience” Index

- Do you have any frailty concerns (signs and symptoms)?
- What you can do to reduce or eliminate frailty concerns?
- What resilience qualities do you recall from your childhood?
- What resilience qualities can you recall from adversity and illness in adulthood?
- What resilience qualities have you learned in this seminar that you would consider adopting?

# What is Resilience?

“adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress”

American Psychological Association

“Resilient people bounce back or rebound”

Common talk

“elasticity, the ability to recover quickly and easily - to snap into shape again, like a rubber band stretched and released”

Dictionary

- Aging is associated with declines in physical capability, and often cognitive capability as well
- Resilience is how we respond to injury, disease, functional decline: the ability to achieve a positive outcome when we are in the face of adversity
- Some individuals demonstrate high well-being despite decline
- Those individuals are “resilient”

# *Resilience is:*

- An active resistance to adversity by coping mechanisms in which genetic, molecular, neural and environmental factors are involved
- Is usually studied in early childhood and little has been known about it during aging until recently
- Are the coping mechanisms in childhood similar to those used later in life leading to successful aging?

# Frailty

- A chronic progressive syndrome involving 4 or more factors:
  - Weakness
  - Low energy
  - Slowed walking speed
  - Decreased physical activity
  - Unintentional weight loss
  - Social, emotional, mental ill-health

# Frailty: The Opposite of Resilience?

- High prevalence at advanced age
- Associated with negative outcomes (falls, fractures, increased dependency in ADLs, hospitalizations, nursing home placement, and premature death)
- Relationship with chronic conditions: sarcopenia, cognitive impairment
- Cognitive impairment further promotes increased physiological dysfunction and sensitivity to other stressors/disorders

# Frailty associated with increase risk of:

- Falls
- Disability
- Hospitalizations and need for LTC/placement
- Increased mortality following surgery
- Higher medical costs
- Cognitive decline



# Frailty Prevention: Transitioning from Frailty to Resilience

- Adherence to a Mediterranean diet (? Due to protective effects against chronic diseases the diet has been known for, for example strokes and heart attacks, diabetes, hypertension)
- Physical activity
- Cardio and resistive exercise
- Increased activity engagement
- Occupational therapy
- Adaptive equipment
- “Dynamic Aging”

# “Dynamic Aging”

- Each generation comes with less movement
- General decline in body weakness over time
- We are “under-moved” and not “too old”
- The “Grandfather Clock” analogy - we need to turn it on by winding the clock; it is not “broken” (ill health), worn out (natural aging), just hasn’t been activated
- Improving movement habits thru simple postural adjustments and exercises (Alexander Technique, Postural Fitness)

# Components of Dynamic Aging

- Foot exercises for healthy feet
- Hip stretches to benefit the hips
- Balance exercises to improve balance
- Walking
- Reaching, carrying, lifting
- Fit to drive
- Movement: all-day alignment checks, moving more in daily life, whole-body mobility flow

“There’s only one thing that’s worse than  
having an unhappy childhood, and that’s  
having a too-happy childhood”

Poet Dylan Thomas

What about resilience from childhood adversities like bullying, neglect, physical or sexual abuse, early death of a parent or sibling, addiction or mental illness in the home, domestic violence?

Does childhood resilience in light of adversity predict or carry over to aging and late adulthood?

# Overcoming Difficult Childhoods

- Many young people draw strength from hardship, both physical and emotional: a key for their later success
- 1962 study of 400 famous 20<sup>th</sup> century men and women –
  - < 15% were raised in supportive, untroubled homes
  - 10% raised in a mixed setting
  - 75% grew up in a family burdened by a severe problem: poverty, abuse, absent parents, alcoholism, serious illness

# Resilient youth -

- An ongoing battle
- A way of approaching life
- Not a restorative bounce
- 1955 Kauai Longitudinal Study of 698 babies, 129 identified as being at high risk
  - 2/3 went on to have difficulties
  - 1/3 fared well at school, then at work, found supportive partners, and built loving families

- What can we learn from resilient youth that can be applied to resilience in later life?
  - Active problem solvers
  - Not necessarily gifted
  - Used whatever strengths they had - a particular talent, an engaging personality, a ready intelligence
  - Sought out friends, teachers, neighbors or relatives who cared
  - Set realistic goals for their future
  - **DETERMINATION** was their most important asset



- PTSD more common among those who do not “fight back”
- Enormous variability of how individuals respond to adversity
- Resilience is not a single quality one has or doesn't have
- Overcoming childhood adversity is a phenomenal struggle, often decades long
- Over time, can lead to both ordinary and extraordinary success

# Mayor Yorty's (LA) Youth Commission

- 1960s: youth from multi-racial and various socio-economic setting interacting to increase understanding of each other's background and to prepare future community leaders
- Studies confirm that those people that have known some adversity in their youth were both higher-functioning and more satisfied with their lives than those who had experienced extremely high levels of hardship - and compared with those who had experienced no adversity at all
- Importance of some stability in rearing by a parent, other relative, teacher, or friend - even if only one person

# Socioeconomic Inequalities and Resilience

- Persons in the highest social class had scores on the resilience to vulnerability continuum that were much higher than those in the lowest social class
- **Greater leisure time physical activity (LTPA)** and social support were also associated with greater resilience
- LTPA partially mediated participant social class and resilience
- Adult socioeconomic advantage was associated with greater resilience
- Initiatives to increase LTPA may contribute to reducing socioeconomic inequalities in this form of resilience in later life

# Resilience and “Extreme” Aging

- Resilience qualities are similar to those of centenarians when asked their “secrets” of living to age 100 or longer!
- Genetics also help (having at least one first degree relative living into their 90s)
- Perhaps these traits are inherited and a 1/3 of the time, are of stronger impact than early childhood adversity
- Perhaps the other 2/3 did not inherit the resilience genes?

# The Sardinian Blue Zone in Northern Italy

- Older adults from the Sardinian Blue Zone self-report low depressive symptoms and high psychological well-being
- Low socioeconomic status of this region, along with limited education and healthcare
- Role of protective influences in their successful aging
  - Tight-knit community provides high level of social support contributed to increased longevity
  - Satisfaction with friends and family relations contribute to mental health and well-being
  - Older Sardinians have increased engagement in socially-oriented leisure activities

# Religiosity and Spirituality and Resilience

- Small population of older adults in Brazil
- Reading the Bible, praying the rosary and prayers
- Serve as important resilience strategies toward achieving well-being and coping with health and social problems:
  - better cope with unfavorable situations
  - recover and/or maintain health
  - experience “satisfactory aging”

# Becoming More Resilient

- Reach out to family, friends, or professionals who care
- Seeking support is what resilient people do
- Engage in active coping
- Taking control where we can is empowering
- Make a realistic plan to improve your situation
- Remember the ways you have been courageous and strong in the past
- Focus on ways we have survived and thrived when faced with adversity, rather remembering what has gone wrong in the past

- Improve mobility
- Increase functional capacity
- Improve vision and hearing
- Safe driving, or no driving
- Exercise - aerobic, strength training, balance, flexibility
- Reverse unhealthy weight loss causing malnutrition
- Improve sleep - reduce incontinence and frequency, consider sleep study, overnight oxygen test



- Take on long-form projects that feel like challenges rather than threats (learning a new language or new musical instrument, taking tai chi or judo, adult education )
- Focus on hard things that aren't emotional or unexpected
- If and when life inevitably becomes difficult as we age and are faced with recurring losses, own the fighter within
- Resist defeat in our own mind

- Coping with stress is a lot like exercise: we become stronger with practice
- Studies show people become less overwhelmed by subsequent difficulties, and by our own fight-or-flight arousal
- When a stressor seems manageable, we perceive it as a challenge, boosting our energy, focus, and coping
- When a stressor seems unmanageable, it is perceived as a threat and cortisol levels rise, suppressing our immune system and making us more vulnerable to disease

- “De-prescribing”, “de-bridging” unnecessary medications and supplements
- Appropriate, safe, and effective treatments for chronic physical and mental pain
- Enhance and expand social support/social network
- Interventions to improve cognitive skills
- Transportation

# Cognitive Reserve

- Brain plasticity may underlie the resilience against the effects of aging or pathology on cognitive abilities
- Reminiscence leads to cognitive reserve
- Sharing stories promotes known markers of cognitive reserve (enriched environment, cognitively stimulating activities, education, physical activity, and social interaction)
- New research on use of neurotrophic/neuroprotective therapies that promote neuroplasticity and cellular resilience in mood disorders

# Happiness and Resilience

- Story of the Tibetan man born without arms and legs
- What does joy mean to you?
- Bringing happiness to others?
- What if the joy, peace and happiness we bring to others might bring countless regenerations in that it continues to be passed onward
- Practicing happiness as a spiritual practice

# Changing Our Minds

- EMDR
- Somatic Experience
- Clearing our “mind-fields” - meditation mantra
- Plant-based, including psychedelic, therapies - 2020s
- Restorative and regenerative medicine - 2030s

*Resilience and a healthy lifestyle won't guarantee a disease-free life but will likely provide you with a degree of insurance you will recover quicker from physical and emotional ill-health, with a better outcome*

# References

- 1. Meg Jay, Clinical Psychologist. “Supernormal: The Untold Story of Adversity and Resilience”
- 2. Katy Bowman, “Dynamic Aging: Simple Exercises for Whole-Body Mobility”
- 3. Michael Pollan. “How to Change Your Mind: What the New Science of Psychedelics Teaches Us About Consciousness, Dying, Addiction, Depression, and Transcendence” (May 15, 2018 release date)