The term "resilience" originally comes from physics, like other terms in psychiatry and psychology like stress and strain. In material science, resilience is the ability of a material to absorb energy when it is deformed elastically, and to release that energy upon unloading. It is defined as the maximum energy that can be absorbed within the elastic limit without creating a permanent distortion. So it is really about the capacity to bounce back after absorbing a significant stress.

Medicine first adapted the term in the field of infectious diseases. For example during serious epidemics such as polio, flu, Ebola or the HIV viruses, resilient individuals do not die or become seriously ill. Instead, they exhibit mild symptoms that are noticeable but not disabling, after which they return to full health having acquired protective immunity in the process.

Likewise, in psychiatry and psychology, resilient individuals are those who may exhibit temporary anxiety, sadness or grief after exposure to a threatening or devastating psychological trauma but who bounce
back, pick up the pieces and move forward in life without exhibiting any permanent disability or chronic psychological impairment as a result of the experience.

Speaking in broad strokes, there are a number of discreet domains in which resilience may be expressed. Indeed, there are quite a few genetic, psychobiological, personality, spiritual and social components of resilience.

Breaking this down further, one can think about a number of resilience-related psychosocial factors such as:

- positive emotions
- realistic optimism
- the ability to regulate emotions,
- an active as opposed to a passive coping style
- an attitude in which stress is viewed as a potential opportunity for growth
- regular exercise and good physical fitness
- strong social support networks,
- cognitive flexibility
- a tendency to accept what cannot be changed
- the ability to frame adversity in a more positive light
- adherence to a set of valued moral and ethical principles
- altruism
- an active spiritual-religious practice
- self efficacy
- good coping capacity
- commitment to a valued and meaningful cause or purpose.
Let me start with genetic factors a bridge to focusing on ethical and spiritual factors.

A major focus throughout all major medical disciplines these days is mapping individual genotypes in order to customize treatment. For example, two people with the same illness may respond either favorably or unfavorably to the same medication because of different genetically mediated metabolic capacities. Medicine is now beginning to use such genetic information to choose the best medications for different patients. Psychiatry is very much involved in this exciting area of research and they have already discovered important genetic differences related to vulnerability or resilience. So you may ask, have we now entered a brave new world of genetic determinism in which your genotype is your destiny and if you happened to chose the wrong parents you are really out of luck? The answer to this important question is a resounding "No!"

Let me give you an example. Joan Kauffman, one of our investigators came up with an ingenious approach to this question. First she identified children who had been removed from their biological homes by the Connecticut Child Protection Service because of parental maltreatment (such as physical abuse, sexual abuse, and/or neglect). Every child had been placed in a foster home. Next she genotyped all the children and identified those with a vulnerable genotype as well as those with a resilient genotype. Joan showed what
other researchers had found, that children with childhood trauma who also had a vulnerable genotype were much more likely to become depressed than traumatized children with a resilient genotype. But Joan went one step further than all of her predecessors. The third thing that she measured was social support. Children in foster homes who remained in close contact with biological parents (e.g. through weekend visits, birthday parties, etc.) were rated as having high social support in comparison with foster children who no longer remained in contact with their biological parents. And the astounding discovery that Joan made was that high social support could offset the considerable disadvantage of having a vulnerable genotype.

So genes are not destiny and genetic vulnerability can be overcome by other important factors that may contribute to resilience. To choose an autobiographical example, I wanted to be a basketball player despite the fact that my father was only 5'6" and my mother barely 5'1". So I had a distinct genetic disadvantage. But if I worked on my speed, outside shooting and play-making skills, I stood a chance of making the varsity team.

The same is true for resilience. Joan Kauffman showed that social support (or perhaps love) can offset genetic disadvantages. But I am convinced that other factors such as cognitive flexibility, a set of moral and ethical principles, commitment to meaningful cause, or any of the other factors mentioned previously might also do the same.
If you were a group of neuroscientists, we might talk about gene-environment interactions, neuropeptide Y, the adrenal cortical steroid, DHEA, or differential dopamine activation of the brain's reward circuitry in the Nucleus Accumbens. If you were mental health professionals, we might talk about effective coping styles, personality traits like optimism, a sense of humor, an internal locus of control or cognitive flexibility. But its Sunday morning and we are in the North Chapel so let's briefly look at some resilience factors that might be especially relevant to members of our spiritual community. I'll speak about three: having a moral compass, drawing on faith within a religious, and spiritual community, and finding a meaning and purpose in life. Much of what follows is the work of Steven Southwick and Dennis Charney. Steve now has an endowed chair in Resilience Studies in the Department of Psychiatry at Yale.

1: Moral compass: Doing What is Right.

Resilient individuals possess a keen sense of right and wrong that strengthens them during periods of extreme stress and afterward. Also altruism—selflessness, concern for the welfare of others and giving to others with no expectation of personal benefit—often stands as a pillar of their value system, their moral compass. Many resilient individuals articulate a core set of moral principles and strive to adhere to them.
Rushworth Kidder, who directs the Institute of Global Ethics divides moral courage into three components:

1. Commitment to a core set of moral values and principles
2. Recognition that by standing up for those principles we are likely to face danger
3. A willingness to endure that danger and do what we know to be right, even if it means loss, disapproval or shame.

There are myriad examples: Gandhi and civil disobedience, civil rights workers in the South, POW's refusing favors or early release unless everyone gets them, Nelson Mandela refusing release from the Prison at Robben Island in exchange for endorsing the Afrikans government.

Altruism

Altruism is associated with resilience, positive mental health and well-being

- Positive mental health was most common among church members who either helped others or received help from others.
- Individuals with multiple sclerosis who delivered peer support by proving empathic support to fellow patients with MS experienced greater well-being.

2. Religion & Spirituality: Drawing on Faith

A consistent research finding is that practicing
Religion is associated with physical and emotional well-being among healthy individuals and with better coping among people who are suffering from medical illnesses. Both longer life span and better health are associated with active religious practice. Regular religious participation is also associated with lower levels of depression and suicidal behaviors across the life span from adolescence to old age. There is an important caveat. These benefits from religion do not apply to those who worship a punitive and judgmental God or who believe that they have sinned and deserve their troubles and see little that they can do about it.

It's not at all clear why religion is related to resilience, but there are a number of possible factors that might explain this association.

1. Many POW's report that belief in an afterlife sustained them during torture
2. Some POW's also report their belief that God was with them made them feel much less isolated and therefore much more able to resist their captors, especially during solitary confinement
3. Regular attendance of religious services may foster a number of other factors known to be related to resilience such as: optimism, altruism and a search for meaning and purpose
4. As a member of a religious congregation, parishioners routinely interact with positive and resilient role models who encourage them to adopt meaningful social roles where they can give to others through acts of generosity and altruism. That is certainly
true, here at the North Chapel.
5. Religious practice may protect against destructive habits such as drug and alcohol abuse. (For example, spirituality is a cornerstone of Alcoholics Anonymous.)
6. People who attend religious services may have access to a deeper and broader form of social support than is often available in a secular setting.
7. For some, a relationship with God may bolster their own feelings of inner strength and self efficacy
8. Having God on your side may engender the confidence to tackle challenges that otherwise would seem too daunting
9. Research indicates that survivors who used religious coping strategies at the time of traumatic experiences reported lower subsequent levels of distress than those who did not

**Prayer**

Three kinds of prayer are associated with positive outcomes. In all cases, such prayers were NOT requests for personal assistance during a personal challenge or adversity. Indeed, prayers associated with resilience were all of an “ego-less” nature:
1. Prayers of Thanksgiving -> subjective well-being, self-esteem and optimism
2. Prayers of reception (openness and surrender) -> Increased self esteem, optimism and meaning
3. Prayers of adoration -> increased optimism and meaning of life

**Meditation** -
• Some meditative practices are based on **Mindfulness** which teaches the practitioner to live in the moment, to be fully present for what is happening right now
• Many meditative traditions teach that such efforts can increase personal freedom which grows out of an enlarged capacity to modify thoughts and feelings as well as behaviors
• Learning to meditate, observe the mind and body, and direct attentions to the present allows us (in the words of Eknath Easwaran) "to face whatever comes to us calmly and courageously, knowing we have the flexibility to weather any storm gracefully."

3. Meaning, Purpose and Growth

This is the last spiritual component of resilience I want to address today. -- What Victor Frankl called the human innate drive for meaning, the "deep seated striving and struggling for a higher and ultimate meaning to existence."

Research has shown that having a clear and valued purpose and committing fully to a mission can dramatically strengthen one's resilience. The ability to see ones work as a calling or service to others may enhance resilience whether that calling is in art, science, medicine, humanitarian causes or in other capacities. Workers who feel a sense of purpose in their work also exhibit strength in the face of stress or adversity -- they do much better than people who see their work as a burden or just a job.
This is also true in my work with trauma survivors, with or without PTSD. Those who see their hardships or misfortunes as a wake-up call that helps them find a meaning or purpose for living, rise above their despair to become masters of their lives and champions for others.

For example the multiple sclerosis patient who established peer counseling for other patients who also suffer from MS. Or rape victims who become rape crisis counselors. Or recovered substance abusers who become sponsors of others in Alcoholics or Narcotics Anonymous. There are many inspiring examples.

If resilience is bouncing back from adversity, post-traumatic growth is creating new meaning and purpose out of what may seem a cruel and meaningless world. Post-traumatic growth is a self-transcending, functional and constructive response to catastrophic experiences. It involves changes in the perception of self, changes in the experience of relationships and others and changes in one's philosophy of life.

• Changes in perception of self - "I've been through the worst. Now I can deal with anything."
• Changes in relationships - feeling stronger commitment to others and compassion for those who suffer
• Changes in philosophy: often grow out of existential questions about the meaning of life and one's purpose in a world replete with inexplicable suffering
It’s been inspiring in my own work to discover that PTSD and post-traumatic growth are not at opposite ends of the same continuum. Nor are they mutually exclusive. Indeed some people with the most severe PTSD also exhibit astounding degrees of post-traumatic growth. And when asked whether, if they had a choice, they'd undergo the same traumatic experiences, consistently state that they wouldn't trade their lives with anyone because their painful experiences made their lives meaningful and had a decisive influence on shaping their character.

Collective Community Resilience

Finally I want to talk about collective or community resilience. This is the work of Fran Norris, an epidemiologist who did landmark studies on the psychological impact of disasters in the USA, Mexico and Europe. After she joined us, at the National Center for PTSD, Fran did the definitive research on community responses to the Oklahoma City bombing, the 9/11 attacks on the World Trade Center and Pentagon, and Hurricane Katrina in New Orleans and The Gulf Coast. Fran made a major observation that different communities recovered differently from the same disaster, some doing very well and others doing not so well. So while the rest of us were identifying factors contributing to the resilience of individuals, she came up with the construct of collective/community resilience. Fran identified four primary sources of collective strength:
1. Resource Development - to acquire and utilize those human and material resources needed for recovery,
2. Social capital - to foster community bonds and reciprocal relationships, to boost and protect naturally occurring social supports, and to engage local people meaningfully in every step of the recovery process.
3. Information and Communication – to build mutual trust and accurate communication about what is happening and what is needed, and how to meet such needs effectively
4. Community Competence - collective action and the decision making, ability to collaborate effectively, to identify needs, to achieve working consensus on goals, and to achieve such goals.

Such Collective efficacy is based on mutual trust in the effectiveness of organized community actions which promote collective empowerment.

I’ll repeat this because I believe that we at the North Chapel are a work in progress exemplifying community resilience. But we can’t let our collective guard down or take anything for granted.

1. Resource development – that’s why so many of us have signed up to take charge of our community in the absence of a minister. I’m up here today doing the reflection, having taken my place in line with the rest of you who have or will be giving reflections of your own at some point.
2. Social Capital - community bonds, mutual respect
and support have made this possible.

3. Information and Communication – accurate communication and mutual trust are key factors

4. Community Competence – collective action, shared decision making and communal responsibility are enabling us to appreciate the vigor, creativity and effectiveness of our congregation.

So it's time for me to stop.

I've tried to tell you a little about what we are learning about ourselves as we begin to try to understand resilience. There are many roads to resilience, some genetic, some psychobiological, some social and some spiritual. You only need some, not all of such capacities to improve the quality of your own life and, at the same time, to enhance the lives of loved ones, neighbors and strangers. I've spent some special time talking about having a moral compass and altruism, practicing region and spirituality, and finding a meaning and purpose in life. I've told you a little about community resilience and how we have a chance to be a part of such an exuberant opportunity here at our own North Chapel.

Basically, resilience is the capacity to bounce back in the face of loss, catastrophe or despair and to remain ourselves, if not to have achieved some spiritual or psychological growth from the experience.

So I'll close with a few lines from one of my favorite poems from one of my favorite poets:
The Descent, by Williams Carlos Williams (which succinctly sums up what I’ve been trying to say this morning):

The descent
  made up of despairs
    and without accomplishment
realizes a new awakening
  which is a reversal
of despair
  For what we cannot accomplish, what
is denied to love
  what we have lost in the anticipation –
    a descent follows
endless and indestructible