



Resiliency, Resilience, Resilient: A Paradigm Shift?

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“The common resiliency of the mind from one extreme to another”

Samuel Johnson, 1751

Resiliency Resilience Resilient – Three little words that might be leading a revolution in how the field of Medicine views human function and understands the capacity to be healthy. In the lay press, these words have become ubiquitous and are used to denote a long list of things ranging from the financial stability of the stock market to the ability of individuals or organizations to recover from disasters. The number of hits for a “resiliency” Google search has almost doubled to over four million in about a year. Turning to Medicine, a PubMed literature search reveals that in the decade of 1997-2006 there was a huge increase in the number of articles with “resiliency” (384%) or “resilience” (527%) in their titles compared to 1987-1996. Research articles range from the biochemical – “Resilience of *Rhodobacter sphaeroides* Cytochrome bc1 to heme c1 ligation changes” (Zhang *et al*, 2006) – to the behavioral – “Continuity of individual adaptation from infancy to kindergarten: a predictive study of ego-resiliency and curiosity in preschoolers” (Arend, Gove, and Sroufe, 1979). Resiliency is the topic for an increasing number of continuing medical education (CME) activities including New Jersey Psychiatric Association’s 2007 Annual Spring Meeting – *Resiliency: Accentuating the Positive*. Does this growing emphasis on resiliency represent a paradigm shift? Is the field of Medicine, and thus, Psychiatry, moving away from pathology? Is Medicine changing its frame-of-reference from what is wrong with people to how they remain healthy? from sickness to health? from the negative to the positive?

There are three possible answers. The phenomena that we are witnessing is either a Monty Pythonesque “now, for something completely different,” “same old, same old,” or an evolution of a concept that is not new but is being more widely recognized and integrated into the existing medical paradigm. I think the third answer is correct. First, what is resiliency, etc.? Second, what is the evidence that the concept of resiliency has been around for a long time and the scientific community is progressively embracing it?

Resiliency, resilience, and resilient derive from the Latin verb – *resilire* – “to jump back.” These three words are also related to the verb *resile* – to draw back from something with aversion, from a course of action, or from an agreement. Ironically, the three 3 R words which have a positive connotation are related to a verb that has a negative connotation. Furthermore, one of the meanings of resilience first cited in 1882 is “repugnance” or “antagonism.”

Some people think that ‘resiliency’ is a recently coined, pretentious substitute for ‘resilience.’ However, in 1668, Henry More, in his *Divine Dialogues*, wrote about the “strong and peremptory Resiliency from this sordid Region of Misery and Sin.” In 1857, Robert Tomes, MD, writing about the human power of recovery from a natural disaster in his book *The Americans in Japan*, stated “Notwithstanding the calamities caused by the earthquake, there was shown a resiliency in the Japanese character which spoke well for their energy.” Hence, his observation introduced the idea that resiliency can be a human response to disaster and presently raises the question of whether there are different cultural manifestations of resiliency.

Another misunderstanding is that ‘resiliency’ and ‘resilience’ were terms borrowed from the field of physics and applied to a human quality. Although Francis Bacon mentioned the possible resilience of echoes in his study on sound in 1626, according to the *Oxford English Dictionary*, the earliest known usage for the recoil of material things or the elasticity of objects is 1676 for ‘resiliency’ (of quicksilver),

the early 1700s for 'resile' (particles and fibers) and 1824 for 'resilience' ("the power of a material to resist an impulsive force"). However, 'resilience' refers to a human action as early as 1656 (going back on one's word); 'resiliency' in 1668 (Henry More's usage). 'Resile' relates to human behavior even earlier in 1529.

You say resilience; I say resiliency. Unlike the title of the Cole Porter song, we are not about to "call the whole thing off." Instead, these words refer to an old concept that is gaining a new and greater acceptance and is here to stay. But why are there two nouns with apparently the same meaning? Both words refer to the human ability to rebound from adversity. Although there is a nuance of difference with 'resiliency' being the "capacity" or "tendency" to rebound and 'resilience' being the "act" of rebounding, these words can be used interchangeably. In modern usage, 'resilience' is more likely used to describe the property of objects to spring back to their original shape. Either noun is used to refer to the human ability to rebound. Hence, how does one choose which noun to use when speaking about the human element? I suggest choosing the one that sounds better in a particular context.

More recently, the fields of psychology and education have been in the forefront of studying resilience in children and adolescents and applying what they have learned to enhancing resilience through education. In 1955, Werner and Smith began their longitudinal study that determined variables associated with resilient children. Descriptive studies have been done on various populations including children raised in poverty, war veterans, and Mercury 7 astronauts. There is much literature on comprehending how adolescents are resilient within a culture of substance use and addiction. Most recently, traumatic stress has become a model for studying resilience.

There is the pioneering work on resilience by Frederic Flach, MD for Psychiatry and Al Seibert, PhD for Psychology. In 1980, Dr. Flach authored an article "Psychobiologic Resilience, Psychotherapy, and the Creative Process." His 1997 book *Resilience: Discovering a New Strength at Times of Stress* has been revised. I mourn the recent death of Dr. Flach, a prophet for the crucial role of resilience in human adaptation and fellow alumnus of St. Peter's Preparatory School in Jersey City, New Jersey. Dr. Seibert has devoted his 30-year career to the study of resiliency. He has authored numerous articles and several books including *The Resiliency Advantage*, which won the 2006 Independent Publisher Self Help Book Award.

Building upon earlier studies, researchers are continuously learning about the qualities of resiliency and the characteristics of resilient individuals. Numerous studies, the results of many of which have been replicated, have demonstrated factors that comprise resiliency. Characteristics of resiliency include inquisitiveness, optimal optimism, active coping and problem-solving, effectiveness despite being fearful, emotional self-regulation, bonding for a common mission, positive self-concept, internal control, desire to improve oneself, altruism, social support, the ability to turn traumatic helplessness into learned helpfulness, humor, and meaning. The discipline of positive psychology is even going beyond the concept of resiliency and is studying happiness and coaching individuals in the pursuit of happiness.

The role of humor in resiliency is fascinating. Humor has been demonstrated to reduce stress. "Getting high on humor" helps us cope with adversity. We might even have a brain laughter center. During brain imaging while an individual reads a rib-tickling cartoon, the *nucleus accumbens* of the brain's reward/motivation system lights up just like when a person is using cocaine. According to a recent study, a hearty laugh has a positive effect on our cardiovascular "plumbing." But we still have to be mindful of *primum non nocere* because studies have shown that laughter can trigger asthma.

So what is new? First, resiliency is not the flip side of risk factors. For example, in regard to posttraumatic stress disorder (PTSD), having experienced a previous trauma places one at risk for

developing PTSD after being exposed to recent trauma. However, the lack of past trauma exposure does not protect an individual from developing PTSD if confronted by a traumatic event. To the contrary, experiencing some degree of adversity in childhood might help to build resiliency and prevent an individual from developing psychiatric symptoms as a young adult.

Second, psychiatrists and neuroscientists are beginning to research and learn about the psychobiology of resilience. For example, Dr. Morgan and his colleagues, including Steven Southwick, M.D., discovered that neuropeptide Y is elevated in Special Ops troops who endure survival training. Furthermore, neuropeptide Y levels are lower in individuals who have PTSD. Is neuropeptide Y a biological correlate of resilience? Is the lower level of this neuropeptide in a person with PTSD an effect of the traumatic exposure, a result of having PTSD, or a pre-existing vulnerability for developing PTSD? Could it be a biological marker that might predict who would be resilient in the face of trauma?

Third, I think a new meaning is evolving for resiliency and resilience. In some contexts the words are being used to mean the strength to resist being impacted by an adverse event rather than either the “capacity to rebound” or “act of rebouncing” from adversity. Therefore, resiliency and resilience appear to be assuming the meaning of fortitude, that is, “the strength or firmness of mind that enables a person to encounter danger with coolness and courage or to bear pain or adversity without despondency” as defined in the *Webster’s Third New International Dictionary*. If so, we are coming full circle with science accepting a religious moral virtue – fortitude – as written in the Bible’s Book of Wisdom.

Although I believe that the field of Medicine, and thus, Psychiatry, is not undergoing a paradigm shift, I think that there is a growing realization that resiliency is key to our survival. In the words of Henry I. Miller, MD, speaking about the potential for pandemic flu, “We need to be aggressive, innovative, and, above all, resilient. In society, as in biology, resilience means survival.”

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