

Cognitive and emotional flexibility

People who are resilient tend to be flexible – flexible in the way they think about challenges and flexible in the way they react emotionally to stress. They are not wedded to a specific style of coping. Instead, they shift from one coping strategy to another depending on the circumstances. Many are able to accept what they cannot change; to learn from failure; to use emotions like grief and anger to fuel compassion and courage; and to search for opportunity and meaning in adversity.

As entrepreneur and motivational speaker Pete Koerner (2010) observes, “Life = change. If you’re changing anyway, why not change for the better? Better or worse are your only choices; you can’t stay where you are forever.”

When life blows up

As a young man, Jerry White attended Brown University, where he majored in Judaic Studies. Jerry was raised in the Catholic Church and was particularly interested in the teachings of Jesus Christ. He wanted to walk in the footsteps of the prophets, so during his junior year at Brown he chose to study in Israel.

When school closed for Passover, Jerry and his friends Fritz and David went camping and hiking in the Golan Heights.

We wanted to get away from people, off the beaten track. We found a primo camping spot, where we could see the valleys of Syria and Jordan. An old bunker from the Six Day War seemed like the perfect shelter. It was a beautiful sunny day, April 12, 1984. I was walking out ahead of my friends, with a song in my heart. I like being the leader, the one out in front. Then, BOOM! A huge explosion. The whole earth seemed to be exploding under me. I thought we were under terrorist attack. I thought someone was shooting at us.

The explosion knocked Jerry off his feet. Stunned and laying face down, he screamed for help. When he tried to crawl, he immediately collapsed. Within seconds David knew that Jerry had stepped on a landmine. David jumped to safety onto the nearest rock and commanded Fritz to do the same. But as Jerry lay immobile, pleading for help, his friends stepped off their rocks and came to his aid.

Blood poured from Jerry’s leg, the skin was shredded and charred, and splinters of bone were covered with dirt and blood. Small toe bones, as if shot from an arrow, impaled his calf.

“I have no foot! I have no foot!” Jerry screamed, again and again. Slipping in and out of consciousness, imagining the fluids draining out his body, Jerry yearned for a cool jug of water. And then, as David and Fritz flipped him onto his back, Jerry was touched by a profound presence.

I felt something touch me, like God’s hand, telling me to shut up. Later I asked my friends if they told me to shut up and they didn’t. It seemed like something forceful

saying, “Quiet, listen.” I stopped screaming ... And then I focused and felt a sense of peace and purpose. I knew I didn’t die. This is not how the story ends. I don’t die here. And there’s a purpose in the Middle East. This focused my brain, like someone gave me a pill that said, “Focus, and be calm.”

As Jerry lay in a state of surreal calm, David removed his own shirt, wrapped it over Jerry’s stump, and tied a makeshift tourniquet around the injured leg. Fritz searched for Jerry’s foot and found the boot but not the foot. (“They never did find my foot, but the boot was intact. It was in good shape. This is what I would call a very good advertisement for Timberland,” Jerry would later joke.)

Once the tourniquet began to slow the bleeding, David and Fritz took a cold, hard look at the situation. Their good friend Jerry was bleeding to death, they were many miles from a hospital, and they were standing in the middle of a minefield.

Jerry was 6’3” and weighed 200 pounds. As David and Fritz maneuvered their way through the minefield, Jerry’s body became entangled in the thick underbrush and briar patches. They dropped him three times, and each time Jerry hit the ground, he flashed back to the explosion, waited for another blast, and imagined he would die. It took them an hour to reach the edge of the minefield, which was enclosed by a fence with a sign reading “*Muqshim*” – mines. (They were Soviet mines laid by the Syrians in the 1960s.) An Israeli from a nearby Kibbutz had heard the explosion and was standing on the other side of the fence, waiting to see what had happened. As David and Fritz approached carrying Jerry, the Israeli began to cut through the wire fence to come to their aid.

This was Jerry’s first serious physical injury. Growing up he had never been forced to deal with substantial physical pain: he had been in good health; had never broken a bone; had never even gotten stitches. This was different. This was far beyond anything he had ever imagined. For seven days, he stayed in a small hospital in Safed, where an Arab surgeon saved as much of the leg as he could. The surgeon performed a relatively risky operation, called the Symes Procedure. Unfortunately, gangrene set in several weeks later, forcing Jerry to undergo a second surgical procedure in which more of the leg was amputated. For several months after the accident, Jerry was unable to walk because his good leg had also been blown open. Bones and shrapnel had to be plucked out, and skin from his back grafted to his legs.

Once stable, Jerry faced a critical decision: whether to return home for further surgery and rehabilitation or to remain in Israel for treatment. Jerry’s father was the president of a hospital in the Boston area. If Jerry returned home, he would be treated as a VIP in one of the world’s best hospitals by some of the world’s best doctors, and he would be surrounded by his loving family and friends. Jerry chose to stay in Israel. There, he thought, “the fellowship of suffering was normal,” and Israeli doctors were experts in treating traumatic amputations. If he stayed in Israel, he could spare his family from feeling his pain, sensing his anger, or seeing him cry. Israel was also the place where he felt he could best address the question “Where is God?”

And so Jerry was transferred to the Tel Hashomer rehabilitation hospital outside Tel Aviv. Even though many friends visited him, Jerry felt afraid, isolated, and self-conscious. “I was alone in this hospital. Like, here’s your room, here are your roommates; Israelis my age who were doing physical therapy. And everybody is looking at you. Suddenly you’re like a freak. ‘Oh, here’s the American, the dumb tourist, who got blown up camping in Northern Israel.’”

One of his roommates, a soldier who had lost both legs and wanted to die, slept the day away and stashed pills, perhaps intending to kill himself.

It felt like *One Flew Over the Cuckoo's Nest*, and I suddenly felt sad and alone. I thought that I might be crazy. People were trying to introduce themselves, but they were all missing arms, legs, eyes, or they were burn victims. I felt sick and afraid, and all of these people were like ghosts. And I remember this older guy who was doing rehab and he had this new above-the-knee prosthesis and he said, 'You're gonna get one of these, too,' and he took it off and I saw his stump and his leg, and he was making light of it. And I remember feeling that I hated him, that I hated his stump, that I hated his prosthesis. I hated that he was talking to me, and I felt sick, and all I wanted to do was vomit the baba ganoush that I had just eaten.

When Jerry did go home to Boston, he worried about his friends. Would they feel uncomfortable around him? Would they treat him differently? Would they avoid him? Could they fully accept him as the same old Jerry?

Some of my closest friends drove up to see me, and I remember how afraid they were. I had been living with this for six months but no one else had; they had only heard the awful news. Was I changed? Was I the same Jerry? How should they act? Should they look really glum and sad? Should they just hug, you know, an extra beat too long? I probably overcompensated by trying to make people feel comfortable. Like asking them if they wanted to see my stump or making fun of it and treating my stump like a puppet and making it bark. I even had a pet name for it – Dino.

Jerry went back to college and completed his studies, then moved to Washington, DC, to look for a job in international affairs. While job hunting, he worked as a substitute teacher and, perhaps surprisingly for someone with an artificial leg, he also worked as a home builder. Jerry's career took a new turn when the Brookings Institution hired him as a research assistant in its Middle East Policy section. This experience led him to a position as Assistant Director of the Wisconsin Project on Nuclear Arms Control, an affiliate of the University of Wisconsin Law School. Jerry grew accustomed to his disability and learned to compensate for the inconvenience. He had married, reaffirmed his Catholic faith, and found a job serving society. He believed that he had fully accepted his disability. He had moved on.

Then in 1995, Jerry got a phone call from a stranger named Ken Rutherford. Ken had met one of Jerry's college friends at a social function, and the friend recommended that Ken call Jerry. Although Ken knew that Jerry was an amputee, he did not know how much the two of them had in common.

He thought that he was perhaps the only American civilian amputee who had lost a leg to a landmine. Actually, he lost both of his legs in Somalia. And he was like, 'I can't believe it, a landmine survivor, and with your work! Don't you know that landmines are called weapons of mass destruction in slow motion? They've killed more people than nuclear chemicals and biological weapons combined. So with your work experience in non-proliferation and weapons of mass destruction and your personal experience losing a leg to a landmine, you could really be effective. Do you know about the emerging campaign to ban landmines?'

Jerry had read several articles about landmines in arms control magazines but had never made the conscious connection between the two types of weapons. Once he did, he was hooked. Three months later, he and Ken attended a UN-sponsored First International Conference on Landmines in Vienna. There, they both told their story, for the first time, and bore witness before a UN panel, an opportunity that ignited Jerry's imagination.

I saw immediately how this could tap into my passion for a cause and also how powerful the voices of survivors were in this movement. They were living evidence – the lifeblood of the campaign to end landmines. Vienna was a turning point for me, a philosophical turning point that set me on fire for the advocacy issue.

By working for nuclear non-proliferation, Jerry had already prepared for similar activism. Yet it took years for him to find his way to this new mission.

At first, Jerry's boss allowed him to fundraise for landmine survivors by creating a sub-division of the Wisconsin Project on Nuclear Arms Control. But by 1996, Jerry had become consumed by his new passion, and his boss knew that he would eventually lose his valued colleague. Despite his considerable family responsibilities – by now he and his wife had four children under age six – Jerry left his job, cashed out his retirement plan, and set up an office in his basement. It was a risky move, to put it mildly. But he was committed to the cause. He spent day and night fundraising. Even once the group had achieved a great deal, Jerry was willing to acknowledge that he might fail.

All along I felt that, even if it doesn't work, even if I fail, it's not failure because, look, we will have helped change the world, drafted a treaty to ban landmines, saved millions of lives, helped thousands of survivors. So, if I fail as a director of a non-profit organization because I'm not a good enough fundraiser or I don't know how to build properly as an entrepreneur, then I still succeeded. The failure would still be glorious.

Twenty years after losing his foot in Israel, Jerry White, along with his good friend and colleague Ken Rutherford, accepted the Nobel Peace Prize, which honored the work of International Landmine Survivors Network (which has since been renamed Survivor Corps).

How did Jerry evolve from feeling sad, alone and sick about the loss of his leg to feeling joyous, passionate, and committed to the welfare of other landmine survivors? How did he progress from victim to survivor – then to what he calls “supersurvivor”? Jerry answers these questions in his book *I Will Not Be Broken*, which outlines five steps to overcoming a life crisis.

- Face facts: accept what has happened.
- Choose life: live for the future, not in the past.
- Reach out: connect with other survivors.
- Get moving: set goals and take action.
- Give back: service and acts of kindness empower the survivor to be an asset rather than a victim. (White, 2008)

Jerry's story is an example of what numerous researchers have found: “Rather than seeing themselves as victims of a terrible and mindless fate, resilient people and groups devise ways to frame their misfortune in a more personally understandable way, and this serves to protect them from being overwhelmed by difficulties in the present” (Campbell *et al.*, 2008, p. 63). This concept appears over and over again in the literature on resilience (Coutu, 2002).

Acceptance

Accepting the reality of our situation, even if that situation is frightening or painful, is an important component of cognitive flexibility. To remain effectively engaged in problem-oriented and goal-directed coping, we must keep our eyes “wide open,” and acknowledge, rather than ignore, potential roadblocks. Avoidance and denial are generally counterproductive mechanisms which may help people cope for a while, but ultimately they stand in the way of growth, interfering with the ability to actively solve problems.

Sometimes acceptance involves not only acknowledging the reality of one's situation, but also assessing what can and cannot be changed, abandoning goals that no longer seem feasible, and intentionally re-directing efforts toward that which can be changed. Thus, acceptance is not the same as resignation and does not involve giving up or quitting. Instead, acceptance is based on realistic appraisal and active decision-making.

For Jerry White, as for many trauma survivors, fully accepting his loss took a very long time. It was not until many years after his accident, when Jerry was invited to a conference on landmine survivors in Cambodia, that he experienced what he calls an "emotional turning point." It was August, the temperature was well over 100 degrees with nearly 100% humidity, the streets smelled of putrefied food, and Jerry was drenched with sweat. As he stopped to change the dressing on his stump, a young, one-legged beggar, with a crutch under her arm, approached him saying, "You're one of us."

First, I was repulsed by her. I thought, "I'm not a Cambodian beggar. I'm not like you. You've lost a leg, but you're begging in the streets. That's not me." Then I was repulsed by myself. She was right. How dare I separate myself and turn my back on her? How could I turn my back and leave if there was something I could do? She showed me that I was a jerk. What I didn't know, at the time, was that I was part of a family, the family of landmine survivors.

By seeing himself as a part of that family, Jerry had taken another step toward acceptance, a step that allowed him to more fully embrace his own status as a survivor.

Many of the other resilient individuals we interviewed also cited acceptance as a critical factor in their ability to thrive under conditions of high stress and trauma. Somehow, they learned how to focus their attention and energies on problems or issues that they believed they could solve and rarely wasted time "banging their head against the wall," fighting battles that they could not win. In other words, they were realistic and pragmatic, choosing not to waste energy on hopeless causes.

Colonel William Spencer, another former Vietnam POW, recalls an experience from his survival school training that taught him an important lesson about acceptance.

One of the things that they did was put us in a little box. And the box was made to shrink. If you moved, the box would constrict. It was bad. I could hear other guys scream and then they [the instructors] would let them out ... When I went in, I tried to push against it, and that panicked me. I realized that's not the thing to do. So then I just relaxed and I tried to [mentally] play golf and occupy my mind with other things. ... Because when I fought it, I was losing. I stopped fighting it when I realized I couldn't change it and pushing made it worse. ... The same thing that protected me in that box, I think helped me in the environment [prison camp] that I was in later.

Perhaps our most graphic example of acceptance involved another Vietnam POW who, after 15 months in solitary confinement, sensed that he was about to "lose his mind." Each day he struggled to understand how and why his life had taken such a dramatic turn. Less than two years earlier, as a Navy aircraft carrier pilot, he had reached the top of his game. He was highly respected, had the "best job in the world," and was happily married with two children. Now, starved and emaciated, he lay shackled in a rat- and mosquito-infested windowless concrete prison cell, refusing to believe or accept that his life had been reduced to mere survival.

And then, one morning, he heard a loud and distinct voice that startled him.

"This is your life."

And it was true. This was his life, not a dream, not his imagination. There was no denying it, no wishing it away. This was real.

When I heard that voice, things changed. I don't know where it came from. It was pretty loud. I'm sure I heard it. I know it sounds weird but it wasn't my voice. It's almost like it lifted this weight off my shoulders, 'cause the voice was right. I was in this cell and I wasn't going anywhere. So I guess when I really admitted it to myself, I just kind of stopped fighting and things got a lot better. I mean, I always knew I was in prison, but after that voice it just changed. I just wasn't as miserable anymore, and I started to take care of business, you know, I started to exercise as much as I could and I tried to stay in touch with some of the guys. ... After that voice, I felt a lot better.

These experiences echo the essence of the well-known "Serenity Prayer": "God grant me the serenity to accept the things I cannot change, the courage to change the things I can, and the wisdom to know the difference."

The science of acceptance

In the scientific literature, acceptance has been cited as a key ingredient in the ability to tolerate highly stressful situations among survivors of extreme environmental hardship and threats to life (Siebert, 1996) and among highly successful learning-disabled adults (Gerber & Ginsberg, 1990). It has also been associated with better psychological and physical health in many different groups of people. In a nationwide survey of individuals shortly after the terrorist attacks of September 11, 2001, researchers found reduced levels of posttraumatic stress symptoms in those who accepted the situation (Silver *et al.*, 2002). In a study of mothers whose children had life-threatening cancer diagnoses and were undergoing bone transplants – a painful and highly invasive procedure – Sharon Manne and colleagues (2002) found that those who accepted their situation reported fewer depressive symptoms. Acceptance has also been recommended as a coping mechanism to be used by families dealing with pediatric cancer (Kazak *et al.*, 1999).

Elsewhere in this book we have mentioned cognitive-behavioral therapy as a means to develop a more positive explanatory style, and as a means to observe the world more realistically. A related therapy called Acceptance and Commitment Therapy (ACT) uses acceptance as a starting point for taking action to address problems. The American Psychological Association describes it this way:

The goal of acceptance and commitment therapy (ACT) is to increase psychological flexibility, or the ability to enter the present moment more fully and either change or persist in behavior when doing so serves valued ends. Therapists and clients work to establish psychological flexibility through six core ACT processes, including acceptance, the opposite of experiential avoidance; cognitive defusion, in which negative thoughts are observed mindfully instead of avoided or reasoned away; chosen values; and committed action. (American Psychological Association, 2008)

ACT has been used successfully to treat problems ranging from chronic pain to smoking cessation to eating disorders. Research also suggests that it may be useful in the treatment of stress and anxiety disorders (Orsillo *et al.*, 2005).

Cognitive reappraisal

Several years ago, while conducting a study on the psychological and neurobiological consequences of the Holocaust, a close colleague asked an elderly Holocaust survivor if she had ever dreamed about her experiences in the camps.

“Oh yes,” the woman replied. “I’ve never stopped dreaming about those times. I just had a dream the other night. Mostly it’s the same horrifying one. It wakes me up in the middle of the night. I’m in a panic. I’m sweating, and it’s hard to breathe. Yes, I still dream about the camps.”

At that point, our colleague replied, “My Goodness, it must be horrible to still have those nightmares after all these years.”

“Oh no,” the woman said. “It’s OK. It’s OK because when I awaken I know that I’m here and not there.”

Positive reappraisal requires us to find alternative positive meaning for neutral or negative events, situations and/or beliefs. While this remarkable woman suffered profoundly from her Holocaust experiences, she somehow found a way to reappraise her nightmares cognitively. Although she was unable to control her nightmares, she was able to view them as powerful reminders that she was lucky to have survived and now had the privilege of waking up each morning to a new day.

Like this Holocaust survivor, US Airways pilot Chesley Sullenberger narrowly escaped death, as described in Chapter 9, when his plane’s engines were disabled. Although he remained outwardly calm during the emergency, Sullenberger suffered from the experience afterwards. Like many (if not most) trauma victims, he struggled with insomnia, distracted thinking, loss of appetite, flashbacks, and “second-guessing and what-iffing.” Soon, however, he was able to reappraise his circumstances and see that his experience could give him power – in his case, to influence aviation policy. In his book *Highest Duty* (2009), Sullenberger explains how he decided to move forward: “I’ve been asked by colleagues to be a public advocate for the piloting profession and for airline safety. ... I know I now have the potential for greater influence in aviation issues, and I plan to be judicious in how I wield that influence” (p. 275).

Decades earlier, in his groundbreaking work on crisis intervention and prevention, Norman J. Finkel coined the term “strens” to describe life events that were health-promoting or growth-enhancing. Although most of these events were positive in nature, a substantial number were clearly traumatic. After years of crisis-oriented research, Finkel (1974) concluded that some people possess the capacity to convert trauma into growth and that they do so through “some cognitive restructuring mechanism.” That is, they tend to reframe the negative, search for opportunity in the midst of adversity, and extract positive meaning from trauma and tragedy. Although the term “strens” never gained widespread acceptance, the concept of cognitive reappraisal has been widely recognized.

In the decades since Finkel made his groundbreaking observations, numerous researchers have found that the capacity to positively reframe and extract meaning from adversity is an important component of stress resilience: resilient individuals often find that trauma has forced them to learn something new or to grow as a person (Park *et al.*, 1996). The reported potential “benefits” of trauma have been numerous and far-ranging: greater compassion for and acceptance of others; closer ties with family and friends; a greater sense of kinship with humanity; an enhanced sense of community; a heightened appreciation of nature; renewed religious faith; development of more effective coping skills; commitment to a healthier lifestyle; improved self-esteem and self-respect; increased emotional strength; enhanced wisdom and maturity; a shift in values, priorities, and perspective; intensified appreciation of life; and a new sense of meaning and purpose (Tedeschi *et al.*, 1998; Anderson & Anderson, 2003).

As human rights worker Sister Dianna Ortiz writes of torture survivors, “From a position of slowly increasing strength, many of us can then begin to redirect our energies to helping other survivors, raising public awareness about the practice of torture, confronting our perpetrators, or simply learning to live life anew with some sense of hope” (Ortiz, 2001, p. 29).

Gratitude as a form of reappraisal

Perhaps surprisingly, some resilient trauma survivors also express a measure of gratitude, feeling that the ordeal has enriched their lives in some way. “Well, first of all, it makes you very humble,” says former Air Force pilot Steve Long, describing some of the effects of having been a POW in Vietnam for over five years.

A lot of the old axioms that you hear – like, “You never really appreciate anything until you take it away,” those axioms exist because they’re true. And I think anybody that goes through an experience like this, and even like the World Trade Center, the families that were associated with it, they all come to understand this sooner or later: Life is precious. Appreciate it while you can, while you have it, because it can be taken away very easily.

Over the years, since his return from Vietnam, Captain Long has been invited to speak about his war experiences to many audiences, including, high school and college students. For some people, talking about past traumas can be painful, reactivating old feelings of fear and sadness. However, for Long, it provides a way to educate others about the importance of moral integrity, perseverance, learning from the example of role models, and facing fear with trusted colleagues and friends. It also reminds him what the experience taught him.

It keeps things fresh in my mind that I want to remember. I want to remember to appreciate the things that we have, the freedoms that were taken away from me. I want to remember to place my family first. I don’t want to fall back into taking things for granted. I swore that when I got home I’d never forget to be thankful for that piece of bacon, because that was one of the things that I thought about a lot. Just simple things in life.

In their 2003 book *Emotional Longevity*, Norman and Elizabeth Anderson point out that a surprisingly high percentage of people who survive a major crisis later describe the crisis as having affected their lives positively, at least in some important ways. In addition, they cite research showing that individuals who reframed a crisis positively were less likely to develop posttraumatic stress symptoms after being exposed to combat or natural disasters, and adjusted better after losing a family member. This was also true for survivors of incest. Even medically, patients who had suffered a heart attack were less likely to suffer a second one if they were able to view the crisis as a wake-up call or inspiration to re-evaluate their lives.

In some cases the cognitive reframing that accompanies trauma can actually be life-altering. In her innovative work with trauma survivors, Ronnie Janoff-Bulman (1992) proposed that trauma-related changes in personal psychology and personality result from questioning, shattering, and then rebuilding one’s basic assumptions about the world.

And indeed, many of the resilient Vietnam POWs whom we interviewed believed that their imprisonment, while it shattered their previous approach to life, eventually proved meaningful and in some cases even positive. Bill Spencer, for example, believes that life is a test and that our mission here on Earth is to learn lessons that lead to growth and maturity, and that many important lessons are the byproduct of adversity.

In my view, life is an experiment, a test. I think our Lord puts us here to learn things about ourselves. And we really grow and mature more during trials than during the good times. When things are really going well, we start getting real sloppy and we get gregarious and we waste our time. The job’s great, everything’s wonderful! But when things really go bad, if we concentrate, we can learn a lot. It’s not fun. It’s not what we ordered. The fun times are better. But really we mature more when we’re under an intense trial.

Quite apart from his POW experience, Spencer also lived through a far greater tragedy. One of his children was physically handicapped and died at a young age, an experience that profoundly affected the family.

I lost a son. And as he became more and more ill I realized how valuable he was and all he had taught me, all the lessons I learned from him. I learned more from him than from anyone or from any lesson. But his life was full of trial. He died when he was 24. And he was handicapped.

When I was a kid, I was very athletic and everything came easy to me. So I have a son who can't do anything. It's good for me. Bad for him. He was here, I think, to teach me those lessons, and the rest of our family. I learned a lot from him. . . . You don't necessarily learn that much from a normal child. It sounds funny. . . . I didn't volunteer for it. But after it's all over you realize I can write down 18 things that I learned from him, more than any other source. So did a lot of other people: my wife, his sisters, people who cared for him.

When we had his funeral, there were hundreds of people there we'd never seen. And they just came and told their stories about all the things that he had taught them, because he was handicapped. We learn a lot when we care for somebody, when they can't do it for themselves, that's when we really learn a lot.

One morning, he was about three or four and we always said prayers around a little chest that we had gotten in the Philippines. We always knelt. And I had two daughters and a son and wife. And the five of us would kneel and I would say prayers and I would usually lead or call on one of them and then I'd go to work. And on this morning I was in a hurry. I failed to get up in time and I was rushed for my schedule. Nobody else was rushed, just me. So I said, "Well, we're just going to say our prayers standing up. I'll give the prayer."

I started saying the prayer and I looked down and my three-year-old was on his knees. So without saying anything I knelt and without saying anything more, the rest of the family knelt. He led us. And that's just one example. He taught me how to pray. You don't say prayers hastily. If you're going to say prayers, do it right. He did a lot of things like that. It was just easy for him. He was never in a hurry. So he didn't take shortcuts on important things.

Despite the grief over losing his son, Bill Spencer continues to search for positive lessons embedded in tragedy. And by reframing the tragic, he finds meaning in suffering, thereby enriching his own life and the lives of those around him.

The science of cognitive reappraisal

Throughout this book we have described studies that have used fMRI and other neuroimaging techniques to measure activity in various brain regions when participants engage in specific behaviors or thought processes. Although neuroimaging studies of cognitive reframing are difficult to design, researchers at Columbia University have conducted several such studies.

In reviewing an extensive scientific literature on cognitive strategies to regulate emotions, researchers Allison Troy and Iris Mauss (2011) propose that positive cognitive reappraisal fosters resilience through its effect on negative emotions. More specifically, reappraising the meaning of a stressful event as less negative or more positive changes emotional reactions to the event and results in a more adaptive and resilient response. Studies have shown that individuals who frequently use positive cognitive reappraisal as a mechanism to change their emotional reactions to stress report greater psychological well-being and more positive

outcomes compared to individuals who do not use positive cognitive reappraisal as a coping mechanism (John & Gross, 2004).

Recently, neuroscientists have found that reappraising an event as being more negative or more positive changes activation in brain regions associated with emotions. Columbia University researcher Kevin Ochsner and colleagues (Ochsner *et al.*, 2009; McRae *et al.*, 2009) have conducted a series of fMRI studies where subjects were instructed to reinterpret visual stimuli (e.g. neutral or negative images) while being scanned. In some studies, subjects were asked to pay attention and respond naturally to a set of pictures that depicted different situations, some negative in content. Subjects were then instructed to reinterpret these situations so that they felt less negative about them. Overall, Ochsner's research found that reappraisal of negative situations successfully decreased negative emotions, increased activation in areas of the prefrontal cortex related to cognitive control, and decreased activation of the amygdala.

As we have described in Chapter 1 and elsewhere, the prefrontal cortex is the “executive” region of the brain which is involved in planning, directing, and inhibiting; and the amygdala is the “alarm center,” where the brain processes emotion and fear outside of conscious awareness. Ochsner's study suggests that conscious efforts to positively reframe or reappraise an aversive situation activates the brain's executive region and inhibits its emotion center.

Cognitive reappraisal of failure

Resilience demands the emotional stability to handle failure, what Admiral James Stockdale referred to as the “ability to meet personal defeat with neither the defect of emotional paralysis and withdrawal nor the excess lashing out at scapegoats or inventing escapist solutions.” In our experience, those who are resilient generally meet failure head-on and use it as an opportunity to learn and to self-correct. Stockdale used his knowledge of history to do that.

The only way I know how to handle failure is to gain historical perspective, to think about men who have successfully lived with failure in our religious and classical past. When we were in prison we remembered the Book of Ecclesiastes: “I returned and saw that the race is not always to the swift nor the battle to the strong ... but time and chance happeneth to them all.” ... Failure is not the end of everything, a man can always pick himself up off the canvas and fight one more round. To handle tragedy may, in fact, be the mark of an educated man, for one of the principal goals of education is to prepare us for failure. (Stockdale, 1984, pp. 56, 73)

There's truth to the cliché “It's not how many times you fall down, it's how many times you get up that counts.” Failure can teach us to adjust, to improve, and to find new ways to overcome difficulties. Thomas Edison provided a classic example of reframing: “If I find 10, 000 ways something won't work, I haven't failed.” he said, “I am not discouraged, because every wrong attempt discarded is another step forward.”

Another popular saying is worth remembering: “Learn from the mistakes of others. You can't possibly live long enough to make them all yourself.”

Humor: another form of cognitive reappraisal

In his classic book *Man's Search for Meaning*, Viktor Frankl referred to humor as “another of the soul's weapons in the fight for self-preservation. It is well-known that humor, more than anything else in the human makeup can afford an aloofness and an ability to rise above

any situation, even if for a few seconds” (1963, p. 63). For Frankl, humor provided a healthy means to gain perspective. And with perspective comes the capacity to reappraise and generate alternative approaches and solutions to problems.

Like other positive emotions, humor tends to broaden one’s focus of attention and thereby foster exploration, creativity and flexibility in thinking. In so doing, humor may incorporate a number of other resilience coping mechanisms such as cognitive reappraisal, active problem focused coping, and infusion of positive meaning into ordinary events. As noted by the philosopher André Comte-Sponville:

The best or most profound humor plays on meaning that touches important areas of our lives, drawing us into its wake and shaking up larger fields of significance, our beliefs, values, illusions in short our seriousness. Sometimes humor seems to bring about an implosion of thought ... Humor can zero in on the very meaning of our behavior and reactions, shaking their foundations and calling into question, scrambling our values, pretensions, and points of reference. (1996, p. 219)

Humor can also serve as a tool to help us face our fears. Humor provides distance and perspective, but does so without denying pain or fear. Humor manages to present the positive and negative wrapped into one package, and according to a noted Viktor Frankl scholar, Ann Graber, humor combines “optimism with a realistic look at the tragic.” Without Pollyanna-like optimism, humor can actively confront, proactively reframe and at times transform the tragic. Consider screenwriter and director Woody Allen musing on mortality. “I’m not afraid of dying,” says Allen. “I just don’t want to be there when it happens.” And, “I don’t want to achieve immortality through my work. I want to achieve it by not dying.”

Of course, we have all known people who use humor as a form of avoidance, making jokes even when seriousness is called for. This is not what we are recommending. However, the ability to see humor even in tragedy can be an important component in resilience. While it may sometimes appear incongruous, humor can be a creative way to confront and cope with what we fear or find painful.

In this sense, perhaps humor may be viewed as a user-friendly and creative form of exposure. As noted in Chapter 3 on Facing Fear, exposure therapy is a category of treatment for fears that involves facing the feared object or situation. It allows the patient to extinguish or lessen fear by encountering the fear in a safe environment. Humor tends to be safe because it incorporates the feared stimulus in a palatable form, sometimes even belittling it and thereby gaining some control over it.

Jerry White used humor when he endorsed Timberland boots and gave a nickname to his stump. In addition, he recalls,

We started to play tricks on other amputees in the hospital, like telling new amputees that part of their treatment would be sex therapy with a beautiful psychologist, but that no one really talked about it. [We said] it was the hospital’s way of helping you to feel like a man again.

I have always said that humor is everything in recovery, so I’ll gravitate to whoever laughs the most. No matter what it’s about, even if it is dark humor, it just sort of helps. Once, when lights were going out and I was making some kind of joke, one guy said, “But look at us. Don’t you realize what has happened?” And the room went quiet. I thought to myself, stay away from this man, he’s toxic to me. I can’t not laugh. So, if he’s trying to say why are we laughing and trying to take away one of the biggest survival tools I have in life, which is humor, and trying to de-legitimize it as denial, I felt irritated and wanted to say “Shut up, of course we know, but if laughter and joking

is one of the ways to muscle your way through, then why would you want to take that away?" And if you do take it away, look at what you become, as sad and depressed as this guy who is really sinking down and not dealing well with his limb loss.

Most of the POWs we interviewed also cited humor as an essential tool in their ability to survive and resist. For example, when Rod Knutson could no longer withstand another day of brutal torture, he "succumbed" to the demands of the North Vietnamese to provide them with information about his personal life. "I told them my dad had a chicken farm and he raised three chickens. I told them that I went to school at Farm District Number One and the only job I ever had was selling peanuts to basketball players." Another POW, Ken Coskey, remembers the nicknames, "Big Ug, Zero, and Rudolf," that he and his fellow prisoners used when referring to their guards. Rudolf was the guard with the large red nose.

Staff Sergeant Bobby Henline was never a POW, but his experience ranks among the most severe traumas survived by military veterans (Ledford, 2008). Henline, now married and a father of three, had enlisted in Operation Desert Storm when he was only 17, then returned to civilian life. After the terrorist attacks of September 11, 2001, he re-enlisted and was deployed to Iraq. By 2007, he was serving his third deployment in Iraq when his luck ran out. Traveling in a convoy, Henline's vehicle struck a roadside bomb; the four other soldiers in his Humvee were killed. Burned over 50% of his body, he lost his left hand and part of the arm. His face and scalp were permanently disfigured; most of his hair, ears, and eyelids are gone.

During the months he spent recovering and undergoing multiple surgeries in Brooke Army Medical Center's burn unit, Henline had such a habit of joking with the staff that he recalls that they told him, "You've got to go do standup." And he thought, "I can't do that." But a year later, he had a new hobby: performing on open mic night at a comedy club in his Texas home town of San Antonio. In a 2009 interview with National Public Radio, Henline provided a glimpse of his routine:

In case you didn't notice, I'm a burn survivor. I've been extinguished for years now. It's actually a rare birth defect. It's a sad story. My mother had to work in the circus as a fire eater while she was pregnant and she thinks she has the right to complain about her acid reflux. Mom, come on! (Gildea, 2009)

Humor and the brain

Substantial evidence exists for the effectiveness of humor as a coping mechanism. Studies involving combat veterans (Hendin & Haas, 1984), cancer patients (Carver, 1993), and surgical patients (Culver *et al.*, 2002) have found that when humor is used to reduce the threatening nature of stressful situations, it is associated with resilience and the capacity to tolerate stress (Martin, 2003). In patients with depression, humor can sometimes diminish depressive symptoms by reducing tension and psychological discomfort, attracting support from others, and creating a positive perspective on difficult circumstances.

Like positive emotions and optimism, humor has been shown to activate a network of subcortical brain regions that constitute core elements of the dopaminergic reward system. In an event-related fMRI brain imaging study of healthy volunteers, Dean Mobbs and colleagues at Stanford University (2003) found that funny cartoons, in comparison to non-funny cartoons, caused activation of the amygdala and nucleus accumbens. A time series

analysis showed that activity in the nucleus accumbens increased as the intensity of humor increased. The nucleus accumbens has repeatedly been linked to psychologically and pharmacologically mediated rewards and the amygdala has been associated with processing positive emotions, laughter and reward magnitude, in addition to its well-known role in fear and fear-related behaviors (Mobbs *et al.*, 2003; Moran *et al.*, 2004).

Our response to humor can be divided into a cognitive component (understanding the joke – or “getting it”) and an affective component (enjoying the joke – finding it funny). In a study of jokes, Vinod Goel and Raymond J. Dolan (2001) reported that the two components activated different regions of the brain: the cognitive component of humor was associated with activation of the posterior middle temporal gyrus while the affective component with activation of the ventromedial prefrontal cortex. Like the nucleus accumbens and the amygdala, the ventromedial prefrontal cortex has been implicated in representation and control of reward-related behaviors. Thus, humor is associated with areas of the brain that are involved in cognitive appraisal as well as reward and motivation, capacities that appear to be associated with resilience.

Applying cognitive flexibility in your own life

Recent research on coping has shown that successful adaptation depends less on which specific strategies are used, than on whether coping strategies are applied flexibly depending on the nature of the stressor (Cheng *et al.*, 1999; Bonnano *et al.*, 2001; Whealin *et al.*, 2008). Sometimes it is wise to accept and tolerate a situation, while at other times it is best to change it. Similarly, emotion theorists argue that expression of emotion is not necessarily better than suppression. What helps people cope is having the flexibility to express or suppress emotions in accordance with the demands of a given situation (Barrett & Gross, 2001).

In her *Harvard Business Review* article on resilience, Diane Coutu evokes the concept of *bricolage*, or tinkering, as proposed by the French anthropologist Claude Lévi-Strauss.

Bricolage in the modern sense can be defined as a kind of inventiveness, an ability to improvise a solution to a problem without proper or obvious tools or materials. ... When situations unravel, bricoleurs muddle through, imagining possibilities where others are confounded. ... Consider UPS, which empowers its drivers to do whatever it takes to deliver packages on time. Says CEO [Mike] Eskew: “We tell our employees to get the job done. If that means they need to improvise, they improvise. Otherwise we just couldn’t do what we do every day. Just think what can go wrong: a busted traffic light, a flat tire, a bridge washed out. If a snowstorm hits Louisville tonight, a group of people will sit together and discuss how to handle the problem. Nobody tells them to do that. They come together because it’s our tradition to do so.” (Coutu, 2002, pp. 54–55)

This practice has served UPS well even through major disruptions such as hurricanes. Moreover, concludes Coutu, the company’s ability to continue making deliveries “gave others a sense of purpose of meaning amid the chaos” (p. 55).

We can summarize the strategies in this chapter as: acceptance, reappraisal, dealing with failure, and generating humor. These are all associated with cognitive and emotional flexibility. Here are some suggestions that may be useful if you wish to further develop your cognitive flexibility.

Acceptance

The well-known Serenity Prayer, which we mentioned earlier in this chapter, captures the essence of the kind of acceptance that contributes to resilience: an acceptance of those things that we cannot change. This type of acceptance is not passive “giving up,” but rather a well-considered decision not to waste effort and energy on a fruitless attempt to change the unchangeable. Mindfulness meditation and Acceptance and Commitment Therapy are two modalities readers may explore as part of an effort to increase acceptance and cognitive flexibility.

The Serenity Prayer is, in fact, a key element of 12-step programs such as Alcoholics Anonymous. “The Big Book” of Alcoholics Anonymous says this about acceptance:

... acceptance is the answer to *all* my problems. Today. When I am disturbed, it is because I find some person, place, thing or situation – some fact of my life – unacceptable to me, and I can find no serenity until I accept that person, place, thing or situation as being exactly the way it is supposed to be at this moment. (Alcoholics Anonymous, 1976, pp. 449–451)

Once we have accepted that which we cannot change, we can focus our attention on what we can change.

Reappraisal

The technique of reappraisal is at the heart of Cognitive Behavior Therapies, which we have described in various chapters in this book. Whether working with a therapist or practicing self-help, one can always ask, “How else can I think about this? How would someone else think about this? What was it like for the other people involved?” Questions like this help to get us out of our own narrow view of a situation and open up new possibilities for coping and problem solving. In their book *Resilience at Work: How to Succeed No Matter What Life Throws at You*, Salvatore R. Maddi and Deborah M. Khoshaba (2005) outline seven steps for a type of reappraisal they call transformational coping:

- Fully describe the stressful situation.
- How could this situation be worse?
- How could the situation be better?
- Create a story about a worse version.
- Create a story about a better version.
- What can you do to create the better version and decrease likelihood of the worse version?
- Place the situation into perspective.

Learn from failure

Regardless of how resourceful we are, there will be times when we simply cannot attain a cherished goal. In such situations, when an endeavor, big or small, doesn’t work out, flexibility can be critical. In their book *Mental Toughness: A Champion’s State of Mind* (2005), Karl Kuehl and his co-authors point out, “The ability to make adjustments begins with attitude, and the first attitude is accepting that failure is an education, then learning from the experience rather than becoming engulfed in frustration ...” (p. 198). In her book *Stoic Warriors: The Ancient Philosophy Behind the Military Mind*, Nancy Sherman (2007) writes, “If we fail we can always get up again and try again. To be defeated need not mean we are out of the race. Life gives us new contests and new opportunities in which happiness can prevail” (p. 35).

Humor

Of all the aspects of resilience, obviously humor is the most fun. Humor's value has been recognized for millennia: Proverbs 17:22 tells us, "a merry heart doeth good like a medicine." In his classic book *Anatomy of an Illness as Perceived by the Patient*, first published in 1979, Norman Cousins described his recovery from an arthritis-like illness that involved chronic pain. After pain-relieving medications failed to help him, Cousins decided to surround himself with funny movies, books, and other sources of humor. He reported that "I made the joyous discovery that ten minutes of genuine belly laughter had an anesthetic effect and would give me at least two hours of pain-free sleep" (2nd ed., 2001, p. 43). Cousins's work inspired a new form of therapy known as humor therapy or laughter therapy. There are even "laugh workshops," which some people find helpful. Any of us can imitate these strategies and go out of our way to watch funny movies, read funny books, and choose to hang around with people who have a good sense of humor. In *Toughness Training for Life*, Jim Loehr recommends: "Think nutty, goofy, silly, funny, off-the-wall thoughts. ... In almost every situation, being able to laugh puts you in emotional control" (1993, p. 190).

In sum, people who are resilient tend to be flexible: knowing when to accept that which cannot be changed; knowing how to positively reframe life's challenges and failures; using humor to reframe the tragic and that which is frightening; regulating emotions by sometimes suppressing feelings and at other times expressing them. In many respects, resilience requires creativity and flexibility: creativity to explore multiple viewpoints and flexibility to embrace a positive but realistic assessment, or reassessment, of a challenging situation.

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