

Chapter 2: Psychology of Survival – Who Survives ¹

The psychology of survival stresses the mental aspects of who survives in disasters and time of crisis. In this chapter, several of the topic headings are the titles of the books reviewed in the section. Generally, these titles reflect who lives and who doesn't in a survival situation. There are a lot of books written on the subject of how to survive disasters, particularly after 9/11, the Twin Towers, and hurricane Katrina and Sandy. Who survives and who dies is actually an interesting topic. The chapter starts with the physiology of fear because the mind and body are intertwined closely in their reaction to fear and a crisis situation.

Physiology of Fear – In discussing the psychology of survival, this section begins with a discussion of the physiology of fear. It is an example where the human body acts as a whole rather than its parts. It is included here because it is integral to how people react to disasters and crisis situations.

The body's reaction to fear is primeval. It is based on years of evolution. The body's initial reaction to fear is to prepare the body for fight or flight. Literally, the body's chemistry changes. In preparing the body, the changes both give and take away normal body functions.

LeDoux (1999) considers the amygdala as the center of the brain's defense system (Figure 2.1 and Figure 2.2). It stimulates the sympathetic nervous system's reaction. These are unconscious reactions by the body. Typical reactions include the change of the blood chemistry so that it coagulates more quickly. Blood vessels constrict to reduce bleeding. The heart rate and blood pressure increase significantly. Vision narrows and is more focused. Gonzales (2005, p.64) notes that the field of sight narrows by 70 percent and periphery vision becomes virtually non-existent. The adrenal gland secretes cortisol and epinephrine. Adrenaline is the trade name for and used synonymously with epinephrine.

As part of the body's reaction to fear, the body takes away non-necessary functions such as digestion. Secreted by the adrenal gland, cortisol interferes with the part of the brain that handles complex thinking. It reduces the functions of the cortex and reasoning functions. This explains why training is very important. It makes it easier for the brain to react properly to crisis situations when reasoning functions are

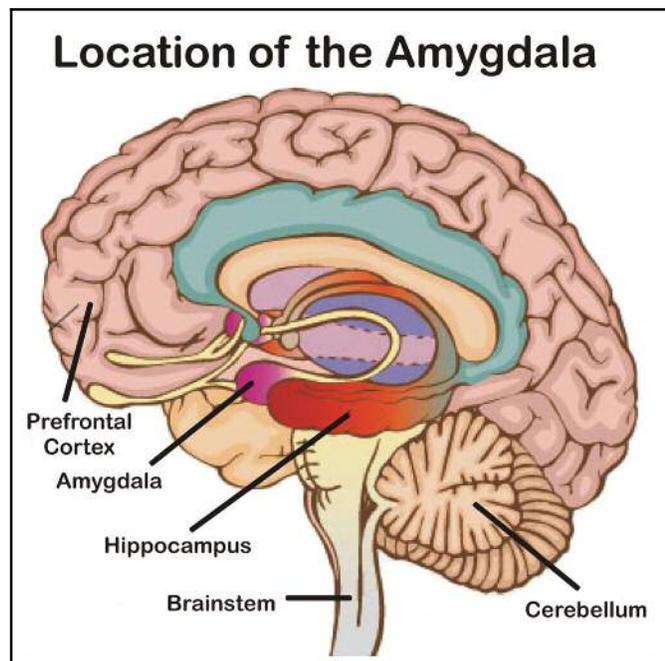


Figure 2.1: Location of the Amygdala – Source – author [file: \AT-Brain.cdr]

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hampered.

In summary, the mind and body go through a series of complex changes in reaction to fear. They are intertwined. The issue is whether high level mental functioning is needed in the crisis situation. If it is needed, it may not be there because the hormones produced affect thinking, perception, and memory retrieval. They dampen conscious memory. Again, this explains why training in all forms is valuable because it makes it easier to react without requiring high conscious thought processes.

Surviving the Extremes – A Doctors Journey to the Limits of Human Extremes – In his book with the same title as this section, Kramler, K., (2004) explored who survived in extreme environmental situation such as the desert, ocean, wilderness, and outer space. In his conclusion, he offers several factors that led to survival in harsh situations. The first factor is **knowledge**. The tools of survival lie in people’s brains. (Kramler, p.275). Knowledge is power and in this case, it is one of the keys to surviving. Consider it one of the cornerstones of surviving. All the knowledge learned about how to survive the unexpected emergency is but one factor to surviving. Knowledge about the disasters and about all the planning items listed in the *Surviving the Unexpected Emergency Model* can aid a person in surviving.

The second factor Kramler (2004, p.275) suggests is **conditioning**. A healthy body in good condition is better able to handle the stress of a survival situation.

The third factor is **luck**. In the survival situations examined by Kramler (2004, p.275) there is usually an element of luck. However, he suggests not placing too much emphasis on this factor. There is an adage that “*people make their own luck.*” To simply rely on luck is a foolish notion for fools who will perish. To a degree, luck is tied to knowledge and the ability to adapt to changing situations. In a survival situation, where little is going one’s way, a little luck can be helpful. However, don’t think that it covers a whole host of other shortcomings.

Kramler (2004, p.276) notes that all survivors have some combination of the factors of knowledge, conditioning, and luck. However, without the fourth factor, **the will to survive**, the people would have perished. He notes that it is the spirit to go on. It is an attitude. In the face of all odds, it is the ability to continue. It is not giving up. This attitude is discussed again in the recreation section with POWs who have suffered torture and long term confinement. It is the brain that goes soft. It is the brain that gives up the fight for survival.

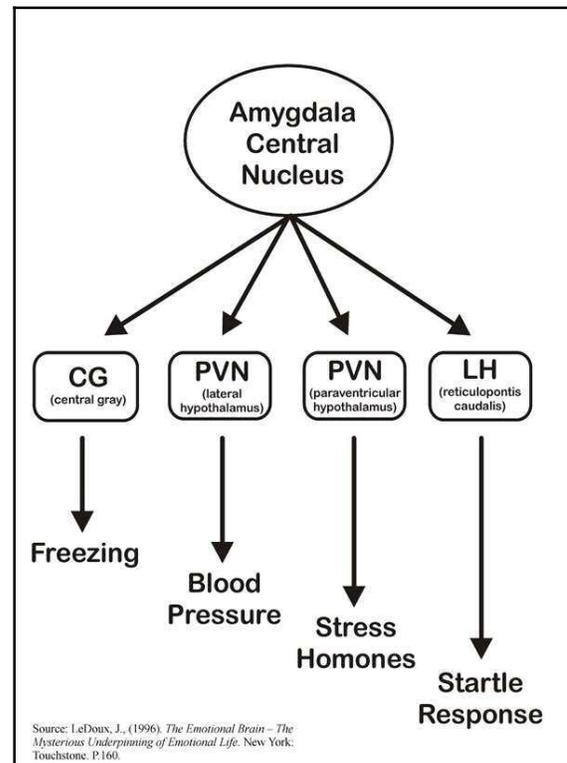


Figure 2.2: Amygdala – Different Outputs of the Amygdala Control Different Conditioned Fear Responses.

Deep Survival – Who Lives, Who Dies and Why – In his book with the same title, Laurence Gonzales (2005) studied accidents to determine why those who survived, survive and those who die, die.

Although there is some denial for survivors, they have acceptance of their reality. Denial is a defensive mechanism to protect the body from harm. However, it can lead to further harm. If the victim's leg is broken, they recognize that it is broken. If they are lost, they recognize that they are lost. Accepting their reality enables the victim to act.

When acting, survivors stay calm. Gonzales (2005, p.287) notes that survivors “think/analyze/plan.” Consider the acronym STOP. It stands for “Sit,” “Think,” Observe,” and “Plan” (Note: The acronym SSTOP is use elsewhere and is essentially the same concept.). By sitting, the survivor stays calm. Think is to analyze the situation. Observing takes in the environment for what it is, and planning is planning a course of action. The objective of planning is to create small tangible tasks that can be completed. “I will crawl twenty yards to the tree stump.” “I will dig a snow cave for the night.” “I will splint my broken arm.” Completing small manageable tasks is a critical point because it can lead to success, if ever so small. In *the Survivor's Club*, Sherwood (2009, p.327) summarizes this principle quite well with the question “How do you eat an elephant” The answer is “One bite at a time.”

Survivors take corrective and decisive action. This is where some knowledge is helpful because it helps in making the correct decisions. Although this may seem like a contradiction, survivors are both bold and cautious at the same time. It is taking care of the big picture by taking care of the small manageable tasks to move the agenda forward.

According to Gonzales (2005, p.288), survivors see the beauty, the humor in their situation, and count their blessings because they are still alive. This is the yin and yang of their situation. It provides perspective. Survival is as much about the mind and its attitude toward survival.

Last, survivors have a *will to survive*. They believe that they will succeed. They succeed by completing little task by little task. It is a series of “baby steps.” They have perseverance. They do what is necessary to survive, and they never give up. They are not discouraged by setbacks. They accept their situation and environment for what it is. They complete small manageable tasks which create successes that move them toward their goal of surviving.

The Survivor's Club – In *the Survivor's Club*, Sherwood (2009, p.313) lists 12 survival traits used in profiling an individual's survivor profile. He notes that survivors draw upon a common set of psychological strengths. The following attributes were used in developing a survivor profile and topology with five categories: the fighter, believer, connector, thinker, and realist.

Adaptability is the capacity to adjust quickly to different situations. It includes changing one's attitude and behavior to changing situations. He notes that adaptability is a critical survival tool.

Resilience is the ability of a material placed under stress to return to its original form. It is the elasticity of a material or its ability to change. Sherwood notes that for people it is the ability to pick oneself up, dust yourself off, and persevere. Essentially, he equates resilience with perseverance.

He suggests that “*faith* is the most powerful and universal survival tool” (Sherwood, 2009, p.317). He suggests that it is a person's trust in God, that God has a plan, and that he will look after people. Including in tough time, God will show the way.

Hope is a combination of optimism and realism. It is probably best to frame hope in terms of the Stockdale Paradox, the Vietnam War POW. It is the belief in surviving while accepting the reality of the situation. Untempered optimism can easily lead to disappointment and perseverance reduction.

Purpose gives a person the power and drive to persevere in periods of severe crisis. Sherwood (2009, p.319) quotes Viktor Frankl, an eminent psychiatrist and Holocaust survivor, that “everything can be taken from a man but one thing: the last of the human freedoms – to choose one’s attitude in any given set of circumstances, to choose one’s own way.” With a purpose, people live. Without a purpose, people die.

Tenacity is the ability to persist with determination. It is an attribute of perseverance.

Love is a variation of purpose. People will do anything for the people they love. The bonds with family and friends are unbreakable. When soldiers are asked who they fight for. Often, their response is for the soldier next to them in their foxhole.

As a survival tool, Sherwood (2009) suggests that **empathy** may be counterintuitive. However, in a crisis the ability to feel a deep connection for others and to care for others not only helps the recipient but the giver to survive.

Sherwood (2009, p.323) suggests that **intelligence** is the ability to acquire and use knowledge to solve problems, in this case survival. It is the ability to diagnose, analyze, and act. Elsewhere, he notes that over and over experts told him it’s not *what* a person knows in a survival situation, but how that knowledge is *applied* or *used*. “*Applied knowledge is the key to survival*” (Sherwood, 2009, p.314).

Ingenuity involves being clever, inventive and resourceful. It is real life ability to be a MacGyver. It can be seen as a variation of adaptability or applied intelligence.

He notes that when water hits a rock in the river it flows over and around it. Like the river, he suggests that **flow** is the ability to move forward, effortlessly, steadily, relentlessly and with ease.

He refers to **instinct** as the ability to simply act. It is the power of intuition. It is what the gut tells the person to do. It feels right and is right.

In summary, the five survivor types deal with how people approach survival situations. The twelve strands used in the development of the topologies relate to the underlying factors in determining who survives and why. As noted by Kramler (2004) the will to survive is perhaps the most important factor in survival. Resilience, faith, hope, purpose, and tenacity are attributes related to the will to survive. Even love and empathy can be said to relate to this factor. Regarding the factor of knowledge, intelligence, instinct, and ingenuity can be considered as attributes of it. Most importantly is the concept of applied knowledge.

The Unthinkable – Who Survives When Disaster Strikes – and Why – In her book on who survives when a disaster strikes, Ripley (2008) advances the theory of the “*survival arch*.” She notes that in disasters and the subsequent survival situations there are three phases that the survivors pass through. These are *denial*, *deliberation*, and the *decisive moment*. She uses case studies as the primary method to illustrate the survival arch.

Denial is the overarching category she uses to cover a person's initial reaction to the disaster. She discusses denial in terms of delay and risk. The two are interrelated. After the initial event, delay or the decision to act is based on the calculation of risk. Risk is intuitively determined based on past experience. For example, older people tended to stay and ride out Katrina, a Level 3 hurricane. They had weathered stronger hurricanes in the past. What they didn't know was that the wetlands which offered protection had changed. They viewed the risk as low and delayed evacuation. It was as costly miscalculation on their part.

One reason for the delay is what psychologists call the "*normalcy bias*." It is that accidents, bad things, and disasters happen to other people. People tend to develop patterns of behavior. Older people built up a pattern of behavior based on past hurricanes that lead to delay. This author has an office in concrete building with two large hallways leading directly to different exits. It would be difficult for the building to burn. It is viewed as low perceived risk. There was a period where the fire alarm would periodically go off accidentally. People stayed in their offices. It was perceived low risk situation leading to delay and denial based on past patterns of behavior (i.e. false alarms). In the event of a real fire, we most likely would have delayed our exit until real symptoms of a fire such as smoke, flames or firemen appeared. In a different building, it could be fatal.

The second phase is **deliberation**. Once people get through the denial phase where they know something is terribly wrong, they deliberate before entering into action. She divides it into three sub-phases. The first is the fear reaction or what the pre-programmed primeval responses programmed into people prepares them to do to survive. The second is what she terms resilience or what the more rational portion of the brain does as it reenters the survival picture. The third factor is groupthink or how people are affected in group situations.

In the survival arch, the third phase is the **decisive moment** or what the person actually does in a disaster situation. Responses include panic, paralysis, or heroism. She notes that paralysis is an evolutionary response of playing dead. The attacking animal believes that the animal playing dead is sick or diseased and ceases its attack.

Perhaps the key component to surviving is training. Training creates muscle memory. It creates the patterns of behavior. It helps move people through the deliberation phase and into taking the correct action in the decisive moment phase. One interesting case study she uses is the story of Rick Rescorla a former Vietnam soldier and Morgan Stanley executive working in the Twin Towers on 9/11. She notes that based on his attitude and training, he correctly predicted the 1993 attempt on the World Trade Center where a truck full of explosives was placed in the parking garage underneath the towers. In response, he developed evacuation procedures and then actually executed the drills at considerable lost time and money to Morgan Stanley.

An example of his plan was when evacuating the Trade Center, the people on the top floors would go down the stairwells first because they have the furthest to go. People on the lower floors would then fill in after those on the top floors. If they went first, the people on the top floors who have the furthest to go, would get out last.

A component of training is to recognize the danger. Rick saw the flames from the first Twin Tower. Over the loudspeaker, the Port Authority stated that people should remain at their desks in their office. This was a response to help prevent panic. It facilitated delay and denial. Rick knew otherwise and initiated the stairwell drill. The prior training paid off as people exited orderly and as pre-planned. He saved

countless number of lives that day.

Another component in training relates to attitude and preplanning. It need not be complicated. When getting onto a plane, note where the emergency exits are and reading the pamphlet on exiting procedures. They are a form of training. In a hotel, it is mentally noting where the stairwells are in case of an emergency. In the chapter on bugging out, having determined the bug-out site and completing some simple preplanning becomes similar to performing the stairwell drill in time of an emergency. Also, it is a reinforcement of the rescue curve in chapter five which focuses on preparation and safety, self-rescue, and rescue by others in your group before rescue by others outside your group including the rescue squad and government officials.

The Five Factors on Who Survives – Synthesizing from the previous summaries, this author suggests five factors that determines who survives in a survival or crisis situation. Keeping it simple, a summary of the attributes needed in a survival situation in this author’s opinion are a variation of what Kramler (2004) concluded. They are summarized below.

First, and foremost, survivors have a ***will to survive***. Key to a will to survive is having the right attitude. It is one of accepting one’s reality while having the belief that things will eventually change. It is perseverance, tenacity, and resilience. It is having a purpose. As noted by the Stockdale Paradox, it is optimism wedded with the stark reality of the situation. It is confidence that one will be successful.

Second, Gonzales (2005), noted that perhaps the key component to survival is the ability of the survivor to ***break down tasks into smaller tasks***, no matter how small, that can be completed. This component could be merged into one of the other categories, but this author believes this approach is worthy of it own category. For example, “I will crawl twenty yards to the tree stump” and then doing it. Think about this for a moment. It is a very small task. Or as noted by Sherwood (2009), it is eating an elephant one bite at a time. Survivors take “baby-steps,” one small step at a time. From an attitude perspective, this approach is extremely important because by taking baby-steps, it helps a survivor from becoming overwhelmed by the enormity of their situation.

The third component is ***knowledge*** or better stated ***applied knowledge***. Knowledge is necessary, but being able to use it and apply it in a survival situation is what is important to survival. The material presented in this book increase the reader’s knowledge. However, it is the reader’s ability to apply it in a crisis situation that ultimately matters.

Fourth, survivors need some ***luck***. People make their own luck with applied knowledge and by breaking down tasks into smaller tasks. However, occasionally, some luck in the traditional sense is needed and a good thing. The author considered not including luck as a factor because it can easily become an excuse for ignoring the first three factors.

Fifth, we will throw in ***conditioning***. Depending on the survival situation, the body should be healthy and with some degree of physical fitness. Healthy people have a better propensity to survive. Numerous studies and common sense suggest this to be the case. This does not mean the person needs to be a fitness junkie, only that they are reasonably healthy.

Stockdale Paradox – The Stockdale Paradox is named after Admiral James Stockdale, a pilot who was shot down in Vietnam in 1965 (Greitens, 2015, p.30). Need-less-to-say, he withstood extreme torture, deprivation, and hardship as a POW. Yet, not only did he survive, he flourished as best as one could do

as a POW. It was mentioned under “*hope*” in the Survivor’s Club section and developed more in depth in this section.

The paradox is as follows. On the one hand, the person in the survival situation needs to be honest in assessing their situation. There needs to be a clear appraisal of the harsh reality surrounding their situation. There is no sugar coating. It is the cold reality of the situation. On the other hand, and at the same time the person in the survival situation needs to maintain hope. There must be the belief that a person will endure and eventually find a solution. There is always a choice and each person has some control over their destiny, no matter how limited it is. Having hope juxtaposed with accepting the harsh reality would seem to be incongruent with each other and hence the paradox. It is not blind hope but the belief that the person will eventually succeed.

In terms of the five factors, Stockdale’s Paradox could be a combination of the first two factors, a will to survive breaking down tasks into smaller tasks that can be accomplished. Stockdale chose his destiny even though there didn’t seem to be much of a choice to be had. Stockdale always saw the potential opportunities even in the most desperate situations. He saw a path to where he wanted to go even when there was no obvious path. He was in control of his destiny even in the most oppressive of times. The Stockdale Paradox is revisited again in this chapter by Joe Simpson in *Touching the Void*.

Benefits of Training – Emphasizing the need for training, Ripley (2009) advances the *survival arch* paradigm based on the consecutive factors of denial, deliberation and decisive moment. It is a useful paradigm. Also, she advances the importance of training as preparation for disasters and crisis situations, a common theme throughout this book. Training and preparation cannot be over emphasized. The need for training originates with the physiology of fear. It is a common theme of the books reviewed as it is in the materials presented in this book. The theme is often summarized in the military axiom of the “Eight P’s”: “Proper prior planning and preparation prevents piss-poor performance.” Outward Bound is one program that seeks to prepare people for crisis situations.

Outward Bound – Teaching the attributes necessary to survive are teachable skills. Outward Bound is an example of a program that was originally designed to develop these attributes. The Outward Bound program was developed by Kurt Hahn. During WWII, ships were sunk in the North Sea. When the ship went down, the sailors clinging to the life rafts were exposed to immersion hypothermia and the elements. When looking at the data, there was an anomaly. The older sailors survived the ordeal, not the younger sailors. The younger sailors in the prime of their lives and who were the most likely to survive weren’t surviving. The older sailors had the will to live. They had perseverance. The younger sailors simply gave up and died. The older sailors believed that they could survive. They didn’t give up. The purpose of the Outward Bound program was to challenge people to accomplish what they mentally didn’t think they were originally capable of accomplishing.

The classic or traditional Outward Bound program featured an obstacle course which morphed into the challenge course (Figure 2.3). The semantics of the challenge course emphasizes the positive aspects of challenge



Figure 2.3: The Wall – The wall is the classic challenge course challenge. The group needs to work together to get all participant up and over the wall. [Source: nhlbruins.tumblr.com]

rather than an obstacle being placed in front of the individual. The program evolved into using the outdoor environment as the stimulus to challenge people beyond what they perceive to be their normal limits.

Survival in the Movies – There are numerous movies depicting survival situations. This author uses the movie *Touching the Void* to illustrate the principles. It is the story of Joe Simpson’s and Simon Yates’ climb of the 21,000 foot Siula Grande mountain in South America (Figure 2.4). The story and movie can be viewed from several different perspectives. From a risk management perspective, it is the story of two hot-shot climbers climbing alpine style to quickly reach the summit. I don’t use the term hot-shot with disrespect. They were 28 and 29 year olds at the peak of their physical fitness and mentally without having experienced failure. It is amazing that their approach to this challenge didn’t result in the death of one or both participants. Another issue is whether Simon should have cut the rope. The thread viewed here is Joe’s quest to survive after Simon cut the rope. Last, Joe’s ordeal exemplifies the Stockdale Paradox.

Even under ideal conditions, climbing Siula Grande is a daunting task. There is the potential of altitude sickness. There is frostbite and hypothermia. There are limited resources. They ran out of fuel to heat water and they could carry only limited supplies in their quest of the summit. Under ideal conditions and circumstances, this climb was on the edge. There was no “margin for error.”

Joe took a major fall and broke his leg (Figure 2.5). As he described it, the lower leg was driven up through the knee cap into the femur. Not only was he in extreme pain, but he was dangling over a cliff belayed by Simon over 100 feet away. He tried to ascend the rope, but the cold and difficulty of ascending he failed. Belayed, he was dangling at the end of the rope. With no choice but to save himself, Simon cut the rope.



Figure 2.4: Joe Simpson – In the movie and book *Touching the Void*, Joe and Simon provide a narrative of their climb and ordeal with other climbers reenacting the events.



Figure 2.5: Joe at the End of His Rope – Joe is dangling unable to ascend. Eventually, to save himself, Simon cuts the rope. Source: Movie.



Figure 2.6: Crawling 20 Feet – Not knowing if there is a way out, Joe sets small tasks to complete and does them. Source: Movie.

Joe dropped into the crevasse below him. The movie doesn't say how far he dropped, but it was at least 50-70 feet. The movie notes he had some luck. He landed on a ledge. Had he been three feet to the right he would have fallen an unknown distance. He is lying there in excruciating pain not knowing if there is a way out of the crevasse. He set a goal of crawling 20 yards (Figure 2.6). He accepts his situation for what it is. He crawls over a snow bridge knowing that it could collapse under his weight and the fall would kill him. There was no guarantee that there was an exit from the crevasse. Eventually, he found a glimmer of hope and crawls to the light where he breaks through the snow to the surface.

His ordeal is not over. He has to trek down the snow and then the rocky terrain to base camp (Figure 2.7). Remember, he has a broken leg and is in major major pain. However, think of his situation for a moment. If Simon has left the base camp, Joe is alone and by himself three days travel to the nearest civilization. Imagine the impact on his physic and his will to live if he trekked back to their base camp only to find that the base camp was no longer there.



Figure 2.7: Base Camp – If Simon has left the base camp, Joe is a three day walk to any civilization. He lost 1/3 his body weight. Fortunately, the tent was lit and Simon was there. Source: Movie.

Consider Joe's experience in terms of the Stockdale Paradox. Joe had a clear appraisal of the harsh reality surrounding his situation.

He didn't sugar coat his situation. He understood the cold reality of his situation. On the other hand, and at the same time, Joe maintained hope. Hope may not be the right term. Joe did have the belief that he person would endure and eventually find a solution. There is always a choice and each person has some control over their destiny, no matter how limited it is. Even if it was crawling twenty yards to a rock.

In summary, assess Joe's survival in terms of the five criteria. There is no question that Joe had a will to survive. He had perseverance. His desire to survive cannot be overstated. Consider the Stockdale Paradox. Second, Joe knew the problems he faced and he had the knowledge to deal with some of his situations. Third, he broke his tasks down into small tasks that can be accomplished. He wasn't overwhelmed with the enormity of his situation (Note: He had every reason to be overwhelmed.). Fourth, he did have some luck. Joe found an exit where none were likely, and when he fell, he landed three feet from having a more severe fall. Last, regarding conditioning, Joe lost one-third of his body weight through the ordeal. His original health and conditioning helped him to survive.

Summary:

This chapter focuses on who survives in a survival or crisis situation. The reader needs to remember that not all prepper situations are extreme survival situations as the ones from which the observations were gleaned. The focus here was on disasters or crisis situations where the incident places the victim in a major survival situation. With this understanding, there were five suggested criteria necessary for survival.

The first criteria needed for survival is a will to survive. Following Joe's ordeal, he had a will to survive. This is first and foremost. A will to survive covers many but not all deficiencies. Second, the survivor

needs to have some knowledge. It needs to be applied knowledge. How much knowledge necessary to survive is debatable. But, some knowledge is needed. Third, the survivor needs to break down task into meaningful tasks the tasks to be accomplished. This goes to frame of mind and not becoming overwhelmed. Fourth, applied knowledge reduces the amount of luck needed. Regardless, there is usually some luck that usually occurs. However, to totally rely upon luck is to be foolish. Last, healthy people tend to survive better than those who aren't. This is simply fact of the matter. The first three criteria are perhaps the most important criteria for those who have survived a survival or crisis situation. The fourth and fifth components are important, but lesser so than the first three.

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