

## Error Precursors In Survival Situations

By Jim Jones

As a Safety Manager, I am often involved in investigating accidents or “near miss incidents” where an otherwise safe and well-trained employee committed one or more errors that were not “normal” or logical. Often the person had been doing it right for years and deviated from safe behavior because of one or more “error precursors” effecting his or her actions. The employee may have been required to change shifts frequently, had a death in the family or some other “life event” that caused fatigue, distraction, and frustration. Under these conditions their mind was not on task and they were not mentally there. The answer to the question “what were you thinking?” is often “I don’t know”.

Error precursors are sources of stress that can lead to human factor errors. Human factor errors often lead to injury or damages that result in more stress. If these factors are present in the workplace, they are a much bigger factor under survival conditions. In other words, you are most likely to make mistakes when you can least afford them. In a survival situation you may already be injured or in serious danger. Others may be depending on you to act, but these are exactly the situations that one is most likely to make errors. Errors in life can lead to survival situations but errors in survival situations can be fatal.

Error precursors are mental states that arise from four factors. These factors are: Situational Demands, The Environment, Individual Capabilities, and Human Nature. Each of these factors can serious effect the individual’s capacity to respond effectively to challenging and dangerous situations. Lets look at each of these factors and consider how best to reduce or control them.

### Situational Demands

There is nothing more demanding than a life-or-death, survival situation. Some of the error precursors at work are:

**Time pressure** (hurry): In many cases such as CPR, bleeding, combat or a fire, action must be taken within seconds. Often the most important decision in your life must be made in a minute or two without help or further information. **Without training you are forced to guess what to do or do nothing.**

**High workload:** In survival situations you may need to work harder mentally and physically than you have ever done. **Staying in shape is a big help. Take care not to become exhausted or injured, making things worse for everyone.**

**Unclear task requirements:** What should I do? Should you run, help, get out of the way or something else? The “right” action is not always clear and the

“wrong” action could make things worse. **Planning and training will help you make the right choices here.**

**Simultaneous requirements:** What to do first? Call for help? Move the victim? Take cover? Put out the fire? **Planning and training will help you make the right choices here.**

## **Situation Environment**

The environment is often part of the survival problem. It may be cold, dark, wet, noisy, smoky, etc. Environmental error precursors include:

**Weather:** Excessive cold or heat can seriously affect your mental state, leading to mistakes in judgment and action. **Be aware of the dangers of hypothermia and dehydration. Stay dry. Stay hydrated.**

**Distractions:** Other people yelling, noise, light and gunfire all can take your focus off of doing the right thing right when you need to. **Only training and experience can help you tune out distractions and focus on what counts.**

**Personal conflicts:** Other people who are panicked or becoming combative under stress can cause individual and group errors. **Take charge. Be firm. Assign tasks to keep everyone busy.**

**Confusing information:** Survival situations are often confusing. What happened? Who is doing what? What are the hazards? How much time do we have? **Being aware of your situation and surroundings at all times can help. Thinking “what if?” before “it” happens can also help.**

**Location:** Location can lead to errors, especially if the location is unfamiliar or changing. A Midwesterner can make serious errors in mountains or deserts. What works in the country will kill you in the city and vice-versa. **If you are in an unfamiliar location, you may have to limit your actions or be extra cautious. When in any new place gather information (recon and intelligence) just in case. Know routes, exits, obstructions, equipment, etc.**

**Hostile action:** Being assaulted, shot at or even threatened will cause an adrenaline rush and the “fight-or-flight” reaction that may be an error in some cases. These survival reflexes kept our ancestors alive. Thinking takes too long when a saber-toothed tiger is stalking you. **You may not be able to fight the hazard and you may run into more trouble than you are escaping. Only training can combine the survival reaction with the correct choices.**

## Individual Capabilities

Mental, emotional and physical capabilities will effect actions under stress. Error precursors related to individual capabilities include:

**Illness:** Illness may be the survival situation or it may be caused by the situation. Unfortunately the illness may negatively effect decisions. **Just be aware of how your illness or pain may be effecting your decision. In some cases you may have to endure pain in the short-term to survive in the long-term.**

**Fatigue:** Fatigue is the inevitable result of a survival situation. In some cases staying awake and staying alive are linked. The stress of survival situations will affect the quality and quantity of sleep until thinking is affected. **Always be well rested, hydrated and nourished so you will be better able to cope with a survival situation. Under survival conditions try to rest and nap anytime you can. Do not waste energy.**

**Attitude:** This is a big one. A negative attitude or an “it’s not my problem” attitude will almost guarantee bad decisions and errors. **You can change your own attitude! In a survival situation you must have an “I can get through this”, “I can do this”, “it’s up to me” attitude. If you do not have that attitude “normally” you will not have it when you need it most. Then only luck will save you.**

**Experience:** Those who have experienced emergencies and hardships in the past usually make better and faster survival decisions and fewer errors. Kids who came up under tough conditions are usually (not always) better under survival conditions. **Hardcore survival training can compensate somewhat for lack of actual experience.**

**Training and knowledge:** When training and knowledge provide the right answer errors are less likely. Obviously you cannot do the right thing if you do not know what it is or how to do it. **Knowledge works if time is not a factor. Only hands-on training works under pressure.**

## Human Nature

**Habits:** “I do it this way all the time”. A habit like dressing too lightly, standing up or talking can get you killed under some situations. Even good habits can be dangerous under changing survival situations. **Under survival conditions, everything you do has to be measured against what needs to be done under the circumstances. What was a basic value ten minutes ago may have to be abandoned now.**

**Attention span:** Attention spans decrease under pressure. The mind tends to jump from one issue to another without acting to solve anything. Focusing on

one problem at a time may be essential. All that adrenalin makes the mind race. **You may even jump to thinking about the future or what is going on at other places. You must “be here now” and focus on doing one correct thing at a time.**

**Assumptions:** Assumptions are not knowledge. Help may not come. The water may not be safe. Those folks may not be friendly. What worked before may not work now. **While we have to make some assumptions, we must be sure that critical assumptions are correct and not just hopes. All of life’s critical issues must be covered by effective actions and back-up options.**

**Tunnel vision:** Under stress, people tend to focus on the most immediate and obvious problem. The guy bleeding, the guy with the gun, the fire. This can tune out other threats and other options for survival. It’s the adrenalin again! It actually reduces your peripheral vision and thinking. **There is no easy answer here. Again, training and experience reduce the reaction time and broaden vision. When possible, take a minute to think and take a look around before acting. There may or may not be other threats, other needs or other options.**

**Over confidence:** No matter how much training you have or how good you are at survival skills you can be wrong and you can fail. Know that and you are stronger. Special Forces people have been killed on tourist rafting trips because of over confidence. **Confidence is a necessity, but be aware of your limitations and be willing to ask for help.**

**Fear:** Fear can cause you to freeze when you need to act. Fear of heights, water or enclosures may stop you from escaping. Fear of your doing the wrong thing or looking foolish may prevent you from surviving or helping others. **Some fears can be overcome through training. Fear is normal and to some degree healthy. You must recognize it and control it to avoid panic reactions and errors.**

## **Conclusion**

Being aware of error precursors and their causes can prevent serious accidents and injuries in everyday life. The loss of a loved one, the death of a pet, something that made you angry, lack of sleep or other stress sources can set you up for more trouble. Being aware of your own mental state and how these may affect your choices in traffic, at your job or at home could save you life. Under a survival situation you are already pre-loaded to make errors when you can least afford them. Self-awareness and self-control will help prevent errors. Training and experience will reduce stress and direct reactions towards the correct action.