

Psychological Features of Seamen's Activity in Emergency Situations

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ABSTRACT: The rendered material will help to form a clear view of psychological features of human activity in situations concerning increased danger to a person's existence.

Emergency situation causes very high psychical overloads, special emotional conditions of psychical mental tension which can be determined in such terms as "stress", "affect", and "panic".

In an emergency situation the crew's activity becomes more complicated due to such psychological factor as "fear of making mistakes". Under the developing emergency conditions legal and moral responsibility for prompt and correct actions is increasing. Untrained senior officers and crew members might have the "fear of making mistakes". They might think that their wrong actions and decisions could cause material loss and casualties. The "fear of making mistakes" doesn't allow them to make right, informed decisions and efficient countermeasures in case of emergency.

Fear limits, obstructs, immobilizes. It is notable that Honoré de Balzac who was the master of the human soul wrote in one of his novels: "Under the influence of fear all human abilities either achieve extreme exertion or fall to decay."

What is fear? It is an emotion (feeling) arising in danger to biological and social human well-being. It doesn't matter how real the danger is. It could be an imaginary danger. The main point is that the person who is frightened would take it for real.

Passing through fear varies in wide range of gradations: diffidence, apprehension, fright, panic, terror. It depends on the situation and on the individual peculiarities of a personality. In cases when feeling the fear achieves its affect it imposes some stereotypes formed in the process of biological evolution of so-called "emergency" behavior upon a person. In other words the mind switches off at that moment and the person acts as "being beside him (her) self" in the exact meaning of the words. But unfortunate-

ly, the actions themselves nearly always turn out to be irrational, very often they lead to deplorable consequences.

The behavior and internal sensations of the frightened people are different. Fear makes people tremble, squeal, scream, cry, laugh... It butterflies in the stomach, hands and legs tremble, it dings in the ears, there is a lump in the throat, the face becomes pale, heart pounds, you have heavy breathing, your hair stands on end, pupils of the eyes enlarge, you feel tingles down the spine. Fear makes you run no one knows where at breakneck speed, stand motionless staring fixedly and blankly in front of yourself, or, excuse the naturalism, defecate... It is necessary to classify the gist of a person's reactions to understand them.

People feeling fear have the following mental states: agitation (expressive symbol is escape), stupor (expressive symbol is torpor), clouded (twilight) state (expressive symbol is uncontrollable aggression). Just escape, torpor or aggression are stereotypic ways of the "emergency exit" in such situations when a person cannot find the acceptable way out.

Agitation is the most commonly encountered. It is expressed in trying to escape, hide, not to see and hear of what is frightening. In motions agitation motivates people take some automatic defensive actions. For example, he closes his eyes, humps shoulders, covers his face and body with his hands, leans to the ground, springs back from the source of danger, runs away. Serious changes take place in the organism at that time. Under the influence of such hormone as adrenaline big volume of blood moves to the organs ensuring human movements, generally to the legs. Blood leaves the other organs at that time, especially the brain. That is why cerebration

becomes worse and a frightened person does not often know where to run.

Increasing of the adrenaline level in the blood of mentally unstable people has a feedback action: it paralyzes their muscles. It is also a natural reaction, developed evolutionary: pretend to be dead not to be hurt since no carnivore would eat carrion. And in the battle people usually don't hurt the fallen.

Stupor is expressed in freezing or in very slow and awkward human movements and even a person can fall unconscious. It happens since the muscles contracted convulsively and their blood supply shortly became worse, human physical coordination changed.

Clouded (twilight) state is expressed in lapses of memory (a person does not remember what he has just done), alonism of cogitation, emotional overexcitement. Externally, clouded state looks like a madness attack, inconsequent or insane aggressive actions towards the fear source.

But it should be mentioned that full-featured aggression as a fear expression is less common. On the other hand its attributes are well-known: malicious face expression, threatening gestures and pose, scream or squeal. They are based on an instinctive intention to frighten the rival; sometimes it is successive sometimes not.

So fear makes a person weaker, paralyzes or, figuratively speaking, makes a person get into hot water, but it is well-known to be useless. That is why there is no use to hope for the victory in the conflict with a stronger enemy unless you are not able to control your emotional state.

In modern psychology there is a conception according to which the endless variety of human emotional life is determined by some basic emotions. Each of them has its own valence. According to the valence index there are four pairs of basic emotions opposed to each other: pleasure- disgust, joy-grief, triumph- anger, assurance- fear. The scale of emotions is not linear but circular. Schematically it is as follows (fig. 1)

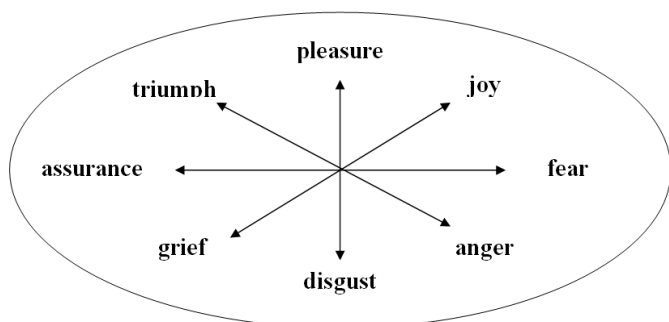


Figure 1. The scale of emotions

This scheme vividly confirms the rightfulness of the traditional emotions' distinguishing into positive (sthenic) and negative (asthenic). The former encourage inspiration, provide some energy for a person and increase his will activity. The latter weaken the will, decrease activity, predispose to passive defensive actions and worsen the organization of behavior. Therefore, a psychologically trained seaman's positive emotions should always dominate over the negative ones.

In accordance with the same conception emotional states could be distinguished into short-term and long-term. The former are direct reactions to certain situations. The latter (they are often called feelings) are determined not only by the exact moment but also by the past and future of the human's life. For example, envenoming somebody's life feeling of fear could be associated with a by-past danger or with the thoughts of the coming death. Situational emotions of fear and fear itself as an essential feature of a personality have one basis. It is very important for seamen's psychological training. This basis is a feeling of impendence of death, the end of existence. That is why everything which could directly or indirectly lead to death (even if it is only in the imagination of a person) is the cause of the fear emotion. It should be also noted that a person with dominating asthenic emotions stronger and more often feels fear than an individual with dominating positive states.

Any danger or aggression should stir up positive (sthenic) emotions but not the feeling of fear at a well-trained seaman. To put it into practice it is necessary to solve two main problems during the process of seaman's psychological training:

- Dispose of a death feeling.
- Learn to act unconsciously with your brain on autopilot in emergency situations.

Then in any situation even in the teeth of death a person will be able to act freely, without any tension, using the most effective way for his abilities. Even at the limit of his abilities.

To cut the long story short, the first problem can be solved by personality programming (including self-programming); the second- by visualization (meditation) and autohypnosis. Let us study both ways in greater detail.

To dispose of a death feeling forever it is necessary to change your own personal scale of values. If your life is considered to be the most valuable thing then whiplash of fear in emergency situations will be practically unavoidable. In other words, it is necessary to have an idea which could dominate over the animal self-preservation instinct. People understood it long time ago. It is no mere chance that Japanese samurais had an authentic death cult.

Eternal samurai's enemies (ninja) practiced the techniques of psychological training focused on the realization and experience of future death. The realization and experience of future death in particular are connected with ritual admissions in religious sects and organizations of different times and countries. To feel the death, fathom its mystery it is necessary to stop being afraid. Not to make some other people believe that you have no fear, but dispose this emotion out of your psyche.

Stopped depressing the human consciousness, the thought about death gives the possibility to feel strong zest for life, it enables to enjoy every moment delicately.

Being in chime with natural development and with him\herself, a person could get the ability to live tranquilly. "To live when it is rightfully to live and undauntedly die when the moment comes". Different ideas allow not fearing death. Such concepts as family's honor and personal duty at his lord played an important part for samurais. Modern Europeans have some other key concepts. For example, self-respect, family's duty, service to a political organization etc.

A person adopts different norms and values during his life (badly- well, beautifully-ugly, right-wrong, decently- humiliatingly etc.) That is programming giving common direction to human's ambitions and certain life perspectives. It is clear that environment: parents and neighbors, teachers and tutors, friends and acquaintances, colleagues and occasional fellow travelers play the main part in programming. And of course books and magazines, films and television, rumors and fashion. To make a long story short, we are spontaneously programmed by a giant information channel which passes through our psyche during our life especially in the childhood and adolescence.

Speaking about self-programming we mean the attempt to regulate this process, make it more or less goal-oriented, successive, and systematic. That is why we need a doctrine (political, religious, moral-it does not matter). It gives a person some support in his\her thoughts, enables to judge and choose, shows the way, and lights the way with the highest meaning. In the context of the discussed problem it is extremely important that such doctrine should admit and justify self-sacrifice in the name of the values and norms accepted by the person.

A person should not only "know" that he\she must not be afraid of death and there are some things which cost more than a life but he\she should make this idea a part of him\herself. It is essential to transfer this idea from the sphere of consciousness into the sphere of unconsciousness. For this purpose it is necessary to make up a list (a programme pack) of certain "orders" to our biocomputer. Such orders

must be short, clear, in the form of positive statements.

In other words the "programme pack" is a special "code of courage". (We could recollect "honor codes" of the traditional schools here.) It is necessary not just to learn it by heart but insert it into the unconscious sphere of our psyche. There is a very interesting phenomenon: this programme starts working independently of our consciousness if it was inserted correctly. That is, programmed behavior is implemented in an emergency situation by itself, without any vivid will interference and without any violence against a person.

Generally speaking, fear can be disposed using two ways. The first one, which was mentioned above is the depression of the animal self-preservation instinct by means of mind's logic. The second way of fear disposing is to switch off the consciousness and act with your brain on autopilot. In this case a properly trained unconscious sphere of our psyche completely ignores danger and it is not afraid of it for that reason. Theoretically, both ways should make a junction. Then a person even being in a desperate situation would act freely, easily, self-confidently. Moreover he\she would have such possibilities of which he\she could only dream in his\her real life. However, super possibilities enabling to "move mountains" do not just come at will. A long, persistent, very hard training is necessary. In connection with the above mentioned we will look upon a simple but very important scheme (figure 2). The meaning of the scheme is the following it shows how to learn to evolve from a human being into someone else: a beast, a robot, a superman, an "Angel of Death"- into anybody. Assimilating with an image, fitting into it you will act with your brain on autopilot, without any fear, using self-programming and meditation.

At first it will take much time, but achieving a higher training level the stage of fitting into an image will reduce from several hours to some seconds.

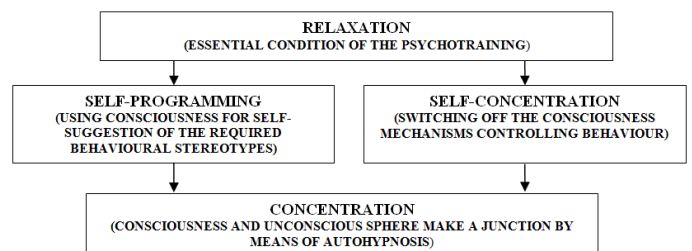


Figure 2. Psychotraining scheme

But why should we "switch off" the consciousness? Let us see the other side of the discussed problem in the mental sphere for better understanding. Illiterate people often confuse mind and

consciousness (they perceive themselves as creatures separated from the environment), they mix mind and intelligence (which is only a structure of mental abilities). Animals and morons have mind as distinct from consciousness. The point is- what kind of mind it is.

So mind is an operation of information processing, coming into the brain through the sensory organs (sense of sight, sense of hearing, kinesthetic sensation, sense of smell), and also from the inside of the organism. As a result of the processing our biocomputer (central nervous system) gives orders in the form of impulses, passing through the neural network and regulating all our motions, actions and conduct.

Three mind types are distinguished.

- Visually operative- based on the intensive and varied manipulation of your own body and surrounding objects.
- Visually creative- based on the emotional and sensual apperception of the objects and events "inside" and "outside" the organism.

Abstractedly logical, conceptual, sign-oriented mind based on the reflection of the cause-effect relations, associated with the recollection of the past, knowledge of the future and self-awareness.

It is clear that visually operative and visually creative mind types comprise an animal stage of the human psycho development. But at the same time both mind types the most significant for close-handed fight. Abstractedly logical type is rather an obstacle. In connection with the said let us consider a question of encephalic asymmetry in detail.

It is identified that psychological functions are distributed between the right and the left cerebrums. The function of the left one is to operate the verbal and sign-oriented information and also reading and counting. The function of the right one is to operate images, space orientation, coordination of movements, identification of compound objects (for example, faces, figures, colors etc.) In view of the fact the difference between the cerebrums is not determined by the material they get from the sensory organs, but by the way they use (process) it. The left cerebrum is responsible for the abstractedly logical ways of processing; the right one is responsible for the visually creative and visually operative ways. The left cerebrum operates both discontinuously (discretely) and sequentially (gradually). The right cerebrum processes information synchronously (simultaneously) and synthetically, immediately grasping numerous features of phenomena taken as a whole, undifferentiated.

To understand the possibilities of the goal-oriented training (also psycho training) it is necessary to know that an encephalic asymmetry is put in

a person only as a precondition, it is finally formed and corrected by real living conditions, education, upbringing.

From the said above (about mind types and encephalic asymmetry) we can clearly conclude that for surviving in an emergency situation a person should activate (enhance) the functions of the right cerebrum and weaken (inhibit) the activity of the left. We will remind you one more time that the right cerebrum is responsible for the position of the body and space orientation, speed and coordination of movements. The experience of any situation with its space-temporal characteristics is also carried out by the right cerebrum the operation of which enables a person feel him(her)self "here" and "now", in a certain entity at the given moment.

That is why enhanced activity of the right cerebrum, its domination over the left, so to say, expands the inner sense limits, "prolongs the moment". Externally it is expressed in speeding-up body's response reactions. The thing is that on the abstractedly logical (verbal) level the mind manages to process not more than 100 bits a second but on the visually creative and sensomotor (operative) levels – up to ten million bits! By means of it the "body's mind" free from the "intelligence's chains" starts the motor response practically in seconds. Therefore a well-trained seaman really acts earlier than he manages to think about it.

However, our biocomputer is able to make a certain choice of those actions which are "encoded" in the psyche. Frequent repetition and training (i. e. exercise in similar but different in detail situations) are necessary to insert them there. In other words automatic behavior in emergency situations demands preliminary practice of some definite "clichés" (matrixes). A trained person can "give away" such clichés just right after the general identification of the situation nature.

It is known that it takes the right cerebrum only 60 milliseconds to recognize the situation; meanwhile, pixel-by-pixel analysis (the left cerebrum operation) takes 320 milliseconds. But if, for example, two events follow each other with an interval, which is less than this figure then a person is physically unable to react adequately to the second one. Therefore a delayed response is unavoidable every time he (she) tries to understand the situation in detail. And vice versa a seaman is able to give away a response action in the shortest time period recognizing the situation in general (without thinking) on the basis of the preliminary practiced and "coded" schemes (clichés, matrixes) inserted in the subconscious mind. That is a non-conceptual, automatic, intuitive cogitation of a professional.

And it is necessary to add that the dominance of the right cerebrum reduces sensitivity to pain, weak-

ens criticism in the analysis of the reality. Evident response to a real danger decreases accordingly, up to absolute defiance. If such a state overlaps the non-involvement to death, readiness to fight to the last (it should be guaranteed by self-programming), then extraordinary fearlessness comes up. At that time a person pays attention to nothing except the thing which is directly relevant to the developing situation. But everything coming from the danger even poor signals is conceived highly sharp.

REFERENCES

- Coon D. Essentials of psychology: Exploration and application. –SPb.: Prime-EVROZNAK, 2003. - 864 p.
- Freid Z. Introduction into psychoanalysis: Lectures.- SPb.: Pi-ter, 2006.- 384p.
- Korolenko Ts. Human psychophysiology in emergency situations. - L., 1978, p. 91-102, 109- 114.
- Lebedev V. Personality in emergency situations. – M., 1989, p. 41- 48, 296- 302.
- Seligman G. When stress does not cause grief. –M., 1992, p. 104-109, 116- 135.
- Taras A. Fighting machine: Self-defense instruction. Mn; 1997, p. 25- 31, 521- 569.