Erasmus+

Psychological RESILIENCE for Emergency Responders

PRACTICAL GUIDE

for increasing of

Psychological Resilience for Emergency Responders

Erasmus+ Programme – Strategic Partnership
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Content

Introduction

Among the general population, the word emergency causes fear, dread and tension. What can it cause for those who have to manage and control emergency situations every day? For those who save us every day? It's true, it's the emergency professionals who save us. **BUT WHO RESCUES A RESCUER AT THE END OF HIS WORK SHIFT?** Who helps him not to fall into depression and professional demotivation? Who is the pivot who listens to them, advises them, collects their emotions, ideas, perspectives, including future ones? What prevention and training are needed to support a professional facing these difficulties, to be able to overcome the crisis caused by the emergency situation in which he/she has acted?

Workers working in emergency contexts are highly exposed if not psychologically supported. The job of rescuers, ambulance drivers, fire and police responders, emergency responders, cannot be considered 'just' a job, but a life choice. They are put in the position of operating from the beginning to the end of the intervention, in a way that is appropriate to the specifics and characteristics of the type of intervention, to avoid becoming a potential "victim to be rescued" in turn. Thus, due to the specificity of emergency situations, especially in contemporary society there is an increasing need to increase the resilience of personnel involved in front-line emergency response, who go to the scene of accidents, disasters, conflicts, etc. As a result, rescuers including doctors, paramedics, ambulance volunteers, firefighters, police officers, forensic scientists, organised crime officers, etc. need increased resilience (mental, emotional and physical resistance), which can be built with the help of emergency psychology through specific methods and techniques that we propose in this course material.

The reactions to traumatic events of professionals involved in emergency response that we identified from the responses to the questionnaires applied in the research study we conducted are varied and different from subject to subject, namely: terror, shock, sadness, despair, high irritability, anger, intense emotional experience, guilt sometimes caused by the death of a person and the feeling of helplessness, various forms of dissociation, bewilderment and disbelief, a considerable distortion of reality, confusion, self-strangulation, sudden reactions and flinching to noises, psychosomatic disorders, tachycardia, insomnia and various

sleep disorders, decreased appetite, general fatigue, motor hyperactivity, intrusive thoughts and memories, etc. These reactions may occur during or shortly after the rescue experience and may subsequently cause various forms of depression, existential and professional demotivation, anhedonia, flashbacks and panic attacks. In some cases there is an obsessive quest to forget the event; consequently, situations may arise in which the rescuer resorts to the abuse of drugs, alcohol, psychotropic medication. If these symptoms persist for more than a month and feelings of detachment and/or alienation from others increase, the result is a significant impairment in social, professional, emotional and existential functioning, with a general attenuation of reactivity.

It is certainly important to examine the different circumstances that have led to the development of occupational stress disorders in emergency response personnel. These disorders do not necessarily affect the most fragile or weakest people, but where **psychological resilience** is not sufficiently developed. Of course, it is important to take into account physiological predispositions linked to individual factors such as age, gender, ethnicity and physical condition; psychological predispositions, linked to subject-specific psychological factors such as psychopathological states or character traits; social predispositions intrinsic to the person's environment and role in society. Above all, since the perception of stress is subjective and therefore determined by bio-psychological and character components, especially when there is (severe and/or prolonged) hyperstimulation in terms of coping with the stressful situation, the possibility of restoring balance is enabled precisely by personal psychological resilience. In psychology, resilience is seen as a person's ability to cope with life's traumas, to overcome them and to emerge from them strengthened and even positively transformed, a concept called transformative coping.

Thus, trauma can have two aspects, one related to the event that produces a deficient internal balance, the other connected to the subjective representation of the event and the resulting suffering, with repercussions on personal and relational dynamics. Staff involved in emergency situations cannot change a state of suffering of the injured person, but they can change their attitude towards the situation and thus not be affected by what happens. This is precisely the purpose of this guide, to raise awareness of what consequences may arise from direct participation in saving

lives and how resilience can be developed to overcome these possible consequences.

Chapter 1
What is emergency?

Emergency is a situation, a risk condition, which indicates the need to take action, to make a decision. An emergency is defined as any pathological condition, usually with an abrupt onset and rapid evolution, which, without adequate treatment, threatens the survival or functioning of vital organs from minutes to hours. A major emergency, or disaster, is defined as a damaging event for the community involved, which disrupts the established order or creates a situation, which causes an imbalance between the needs of the victims and the resources available to respond to the needs for help.

In all cases, the timeliness and quality of the response to health emergencies and emergency healthcare situations determines the outcome, both in human terms and in terms of loss of life. Professionals working in emergency areas, in critical situations where patients are being treated, are at increased risk of developing stress due to the great responsibility they assume in saving as many lives as possible. This is due to the importance of the decisions they make, the complexity of the intervention and the conditions under which their work is carried out. All this leads to an inevitable emotional involvement and a high level of stress. Stress is conceived as the physiological, psychological and behavioural response of the body to any stimulus or stressful situation in which the individual tries to adapt to internal and external pressures in emergency situations that endanger the psychophysical balance. Risk factors that can cause stress are related to the degree of responsibility of health professionals, work overload and time pressure, contact with death, grief, conflict and role ambiguity, organisational climate, irregular hours, instability of the workplace, problems of interrelation with the multidisciplinary team and many others. All of these also affect the quality of the professional's personal life. Permanent stressful situations, if not identified and overcome in time, can lead to various medical and psychological disorders resulting from the interaction of the worker's personal characteristics with his/her work environment. The coping strategies, i.e. the defence mechanisms, that these workers use in their professional practice will be

decisive in understanding the dynamics that lead to a higher or lower risk of suffering negative consequences. It is therefore important to analyse and understand concepts such as stress, post-traumatic stress disorder, burnout, coping and resilience and the related factors involved.

1.1 Psychological impact for emergency workers

Even in the best emergency systems, rescuers, trained to save lives, are often unable to cope, especially when faced with serious injury or death of young people or children, or in catastrophic events. Rescuers, who come into emotional contact with patients, have a kind of paradoxical task, which is to function in a 'healthy' way in a scenario where others are allowed to function in a defensive, sometimes aggressive, chaotic, confused, etc. way, which they adopt in the face of an event such as an emergency or a catastrophe.

Working in constant contact with suffering and exposure to dangerous situations involves possible psychological risk. *Indirect traumatization* is a kind of process by which the rescuer's internal experience can be transformed into a negative experience because of the rescuer's empathic involvement with the traumatised person. One can speak of *psychic contagion*, that can lead to real structural changes in the rescuer's personal and professional identity. When the relationship with the victim or the situation encountered evokes unresolved personal situations in the rescuer, the rescuer will respond in a non-objective way. The

identification process that is linked to this experience can lead to a direct involvement of the rescuer, so that in the intervention he/she may lose the necessary characteristics of professionalism.

The rescuer, with the accumulation of mental fatigue, may end up altering his way of seeing things, his self-esteem and his perception of his professional competence and ability. This is because rescuers, in their work, are forced to confront strong emotional states, to cope with heavy emotional burdens, to manage manifestations of anxiety and aggression, to confront the prospects of death, grief and fear that animate the victims with whom they interact.

Strong emotional impact is a problem that occurs not only in dramatic out-of-hospital emergency situations, but is also a constant for those working in the critical area, such as in the emergency room, intensive care units, emergency dispatch, etc. *The most significant situations include:*

- the communication difficulty that may be encountered at the first contact with the patient and his/her family.

- the uncontrollable development of the most serious pathologies, which can lead to professional disappointment and possibly unjustified attribution of responsibility.

- communication to family members following an unexpected event or sad news, announcing serious consequences or death.

Also, according to Figley (2002) and Moreno (2004), generally in emergency rescue work, a distorted behavioral state can occur, which is called **compassion fatigue**. Symptoms of this state can be:

- Re-experiencing - reliving or remembering a highly emotional emergency.

- Avoidance (distancing attitudes, both physical and emotional, towards people, not just patients), or over-involvement (taking charge of all the patient's situations, the rescuer thinks only he can help).

- Hyperactivity (state of tension, constant vigilance and reactivity). Subsequently, in the literature created by Lynch and Lobo (2012) and Soberats (2014), the various consequences attributed to this phenomenon, including psychological, behavioural, relational and somatic aspects, were noted. In the psychological dimension we refer to the increasing depersonalization and hypercritical attitude towards patients, with inadequate development of judgments and cynical attitude towards others, including disqualification of others. The perspective of self-efficacy decreases, also states related to apathy, depression,

anxiety, isolation, responsibility and guilt, intolerance, as well as intrusive and recurrent thoughts and images about patients in general appear. And intense emotions, such as anger, sadness, anxiety, may also occur at work.

The rescuer may also experience an increase in personal vulnerability or lack of security, causing feelings of distrust towards others (family, patients, colleagues), believing they are not competent to manage the problem. In addition, dissatisfaction with work, negativity and irritability are also highlighted, as well as difficulty in maintaining a balance between empathy and objectivity. The behavioural dimension highlights compulsive or addictive behaviours with an increase in psychotropic substance abuse, alcohol consumption and tobacco use. Similarly, there are difficulties in maintaining concentration and organisation, sleep disturbances, avoidant attitudes towards self, family and the situation in general and even fear of going to work.

Within the somatic dimension the following are highlighted: fatigue, weight changes, muscle exhaustion, headache and stomach pain, tachycardia, decreased immune system and/or worsening of already existing disorders and susceptibility to accidents.

In terms of the relational dimension, there may be distancing and abandonment of personal relationships with family and friends because of the tendency to believe that others do not understand the work the rescuer does and the effort it involves. The apathy, irritability and distrust mentioned above also arise.

Taking this symptomatic picture into account, authors such as Dutton and Rubinstein (1995), Beaton and Murphy (1995) and Figley (1995) have developed explanatory models of the nature of compassion fatigue. They describe that the element that determines how and why some people develop compassion fatigue, while others do not, is empathy, seen as a key resource for those working with trauma or seizures, as it enables them to assess the problem in order to find appropriate solutions.

Thus, Figley (1995), in his model, outlines four factors related to the emergency professional that play an important role in the predisposition to experience compassion fatigue:

- capacity for empathy,
- behaviour towards the victim,
- ability to make a clear distinction between work and personal life.

- sense of satisfaction in providing help.

This model shows that empathy helps to understand the traumatic process the victim is experiencing, but during this process of understanding, the rescuer may become traumatised. Furthermore, an increased sense of satisfaction with the work done and a certain distance from the victim's pain may be protective variables of compassion fatigue.

Considering another proposed model, Dutton and Rubinstein (1995) state that compassion fatigue is explained by:

- The traumatic event to which the professional was exposed,
- the rescuer's reactions to this event,
- the coping strategies he or she uses,
- the personal and environmental context in which he/she finds him/herself.

On the other hand, identification with the trauma victim leads to the development of inappropriate coping strategies, such as overprotective behaviors or excessive attention to the victim, which can produce feelings of stress and nervousness (Valent, 1995).

Regarding the aspect of the personal and environmental context in which the professional is located, Beaton and Murphy (1995) developed a model with components similar to those established by Dutton and Rubinstein (1995), but highlighting the role of organizational factors (role conflict, cultural norms, type of organization, among others) and some personal characteristics (professional training, years of experience, social support, etc.) as mediating elements that may enhance the experience of compassion fatigue.

In this sense, the factors that predispose to the suffering of compassion fatigue, if manifested jointly, intensely and continuously over time, are:

Individual factors:

- Lack of communication skills,
- lack of self-control,
- accumulated stress,
- little experience of working in trauma or crisis situations,
- use of inadequate coping strategies.

Organisational factors:

- A corporate culture that neither appreciates nor acknowledges emotional variables,

- poor guidance by supervisors,
- uninterrupted 12- or 14-hour shifts.

It is important to note that compassion, fatigue and exhaustion are different concepts. They differ in that compassion fatigue is the natural consequence of caring for people in pain, rather than a response to the work environment, such as burnout. Burnout syndrome is a gradual process as a cumulative response to long-term chronic work stress, whereas compassion fatigue can occur as an acute, sudden process immediately following an emergency in which the rescuer has provided first aid.

The sociological and psychological aspects are therefore particularly important. The sociological perspective frames psychosocial in the context of working conditions, which include organisational forms and technical processes, which in turn could lead to dysfunctional psychological and behavioural consequences in rescuers. The psychological perspective, on the other hand, focuses on the cognitive, affective, emotional and behavioural aspects of the worker or the health aspects of their personality.

It follows that the emergency medical staff **needs specific training and support** to deal with the many situations of strong psychological and emotional impact, so as to combine professional nursing competence with relational and emotional competence.

1.2. Emotions in the emergency personnel

The genesis of emotions

Personnel acting in emergency situations are not exempt from experiencing deep emotions and feelings: confronting the emotions of victims can awaken personal experiences. If emergency responders (doctors, nurses, firefighters, volunteers, police officers) are not aware of their own feelings and emotional reactions, they are unlikely to be able to control their emotions when necessary. It is professionally useful for them to be emotionally competent both in relation to themselves and to the victims, because in the process of care it is not always possible to pursue stable goals or outcomes of change; sometimes the only possible help is to stay close to the victim and alleviate their suffering.

In this way, staff involved in emergency situations will be able to be close to the victim to the extent that they have acquired the ability to identify and manage

their feelings and emotions appropriately. In order for feelings and emotions not to be perceived as threatening or dangerous, they should be acknowledged and managed. Feelings and emotions are neither good nor bad, expressing them fosters the relationship, gives it clarity and congruence and also serves to fuel motivation.

The most tangible aspects of any emergency are related to the damage to life and property, which shape the scale of what happened and activate rescue strategies. However, in any such situation, the real elements are related to the experience of individual survivors, witnesses and rescuers, which can generate deep lacerations and which can be accentuated by a central emotion, namely fear. *But what is fear and what value does it hold for individuals*? What is the difference between fear, anxiety and anguish and how do these experiences relate to stress and post-traumatic pathologies? What role does the human brain, perception and thinking play in regulating emotions? What is an emotion and where is it generated?

Each emotion is a sensation that is generated through expressive-behavioral and physiological changes and is the result of a complex, multidimensional and procedural experience that organizes and mediates the relationship with the physical and social environment, allowing us to evaluate external and internal stimuli based on the importance we attribute to them. Emotions regulate the state of activation of our body, generating the physiological response appropriate to the situation we have to face and guiding our tendencies to act. According to a psychological perspective, the emotional state is the result of the combined action of different cognitive processes such as perception, attention, memory, imagination, thinking. Emotions are the result of our personal cultural inheritance from previous experience through memory and learning. They also result from the social context of reference, through rules, prohibitions and norms, which guide systems of perception and thought. Even the more creative aspects of our thinking functions and those described in the Common Dimension as aspects of personality play an important role in the neurophysiological genesis of emotions. Thus, the evaluation of reality is the result of a complex process in which psychological, social and neurophysiological factors direct and sustain behaviour and generate and give meaning to emotions. Thus, different wounds in each individual's psychological sphere and psychological lacerations can produce changes in psychophysical health.

The question has been asked whether fear, anger, joy are mental or physical processes? Emotional experience is associated with changes in our body affecting

different levels: that of our subjective experience, i.e. what we feel, or the physiological level, through changes in the central nervous system, on the phenomenological level, the expressive-behavioural system, i.e. facial expressions and behavioural responses, which accompany subjective experience.

The seat of our emotions lies in the brain and mainly involves the phylogenetically ancient limbic system, which should not be considered an anatomical entity, but rather a neurophysiological system which, in addition to playing a key role in behavioural reactions, learning, memory and smell, performs various functions including those of regulating emotional processes, which is why it is also called the **emotional brain**. The limbic system is located below the cerebral cortex and is made up of various structures, including the hippocampus, amygdala and hypothalamus involved in emotional processes. The amygdala, a formation, belonging to the limbic system is involved in emotional, cognitive, autonomic and endocrine response to stress. This small gland plays a central role in processing emotions, especially fear, and is involved in the formation of memories associated with emotionally significant events: it processes information from the organs and immediately triggers the body's responses to emotionally charged stimuli.

This means that a stimulus, if associated with an experience of danger, can be perceived as dangerous and trigger a series of physical and logical fear reactions. The amygdala actually communicates with the hypothalamus which, by triggering the Autonomic Nervous System, is responsible for maintaining or losing our body's state of homeostasis (balance) by regulating body temperature, heart rate, blood pressure, feelings of hunger and thirst, and sleep-wake rhythm. It also performs an endocrine

function by secreting hormones important to our body. When danger is experienced, this little gland manages to put the brain into self-protection mode, reducing memory resources and diverting them to other areas to keep the senses in a state of alert, specifically aimed at survival. But what is the process that regulates hazard perception?

Risk perception

Perception is also a very complex cognitive function. In fact, we have to distinguish between what we receive through our sense registers (sight, touch, smell, taste, hearing) and what we interpret. Colour, for example, does not exist; the world around us is not coloured, because what we interpret as another colour is nothing more than 'energy packets', photons, travelling at different wavelengths. Based on wavelength, our brain receives signals in different directions and has to interpret them. So too can our emotional reactions turn external stimuli into chronic stress, for which we are not biologically programmed evolutionarily, but which we come to live with, due to complex cognitive processing, the result of experiential, cultural and social learning. But learning influences and cultural conditioning can also act as inhibitors in regulating emotions and perceiving the dangers we have been programmed to recognize. Emblematic in this regard is "*Lunch atop a Skyscraper*," the famous photograph that Charles C. Ebbets took in 1932 during the construction of the GE building at Rockefeller Center, showing eleven bricklayers sitting on a steel beam hundreds of feet above New York City, eating, as if there were nothing dangerous about the action. They didn't interpret the situation they found themselves in as dangerous, and consequently had minimal perception of the risk they were exposed to.

Therefore, learning, through information about the social interpretation of events, mediates levels of risk acceptability. Research on this topic has shown that in many cases there is a discrepancy between subjective perception and objective assessment of risk (Slovic, 2001). In short, it is the case that people sometimes fear activities that are not actually dangerous and are not afraid of activities that could have many dramatic consequences. These processes, called heuristics, play a fundamental mental role in how people assess the risk of an activity. In particular, they are thoughtful strategies that generally operate at an unconscious level. An important result scientists have achieved in risk perception has been to reveal that people perceive risk and the relationship between risk and reward in a way that is different from reality. In fact, from an objective point of view, many activities that involve possible risk also offer rewards (think X-rays in medical practice). However, in people's minds these two factors correlate negatively. If a person perceives such an activity as risky they will then associate a low benefit with it, whereas if they perceive an activity as safe then they will associate a high benefit with it. For example, if a person does not fly for fear of an accident, then they may perceive this activity as very risky and unhealthy, unlike those who find flying useful because it allows them to travel relatively quickly and who will underestimate the risk. This way of thinking depends crucially on how the human cognitive system works and is linked in particular to the use of the so-called intuitive thinking system which operates primarily at an unconscious level and affects our conscious judgements of the emotional reactions we associate with different stimuli. So, in fact, what we see is the result of unconscious interpretation. So much so that one of the leading exponents of contemporary cognitive neuroscience, Michael Gazzaniga, has written that the conscious mind is always the last to know things, because the one that knows first is the subconscious mind, which decodes information and returns to awareness after a filtering mechanism has taken place. People can experience a feeling of anxiety without knowing what is causing it. In general parlance we are used to using this term overlapping with fear, but there are differences between the two emotions. They are very similar, which is why they are encoded in the brain from the same areas and the information derived from them is transmitted through the same files.

Fear is therefore a primary emotion, which is innate, governed mainly by instinct and is essential for the survival of the individual in a dangerous situation

which is recognised as such even without the mediation of thought, as there is neurological programming to respond to certain stimuli, such as darkness, for example. Fear is physically expressed through a series of changes in neurophysiological activity whenever a possible risk to one's own safety is perceived and is fundamental precisely because it signals an imminent danger that threatens psychophysical integrity. So, when an external danger is perceived, the sensory organs register a state of alert which results in a nervous input aimed at activating an area of the brain, from which a series of physiological and behavioural reactions arise.

Fear perception and consistent behavioural responses are crucial for environmental adaptation and species survival. The activation of the nervous system determines the perception of danger, a process of adaptation and various possible physiological reactions to stress (fight, flight, freeze). Thus, fear protects and saves our lives and has a positive function, as it activates a state of emergency and alarm, preparing the mind and body to react to a dangerous situation. In addition, our survival system is programmed to avoid the consequences of every possible source of unknown danger through a system of recognition by association or similarity. Therefore, even new stimuli that are similar to the danger will be able to trigger fear reactions that allow for effective defence. Finally, even in all animal species, the specific expression of fear plays an important communicative role.

Fear is therefore never useless and is related to the perception of a current danger. While fear is a primary emotion that is activated in response to a specific threat or to a truly dangerous object, **anxiety**, on the other hand, is a subjective emotion that arises when there is a perception of danger about something that is not

objectively dangerous but is an individual's own interpretation and attribution. Anxiety can also be physiological, if it arises from situations associated with negative events and allows the implementation of adaptive or pathological behaviours. Anxiety, in particular, is a function of a complex stimulus interpretation system of our brain that has developed some mechanisms capable of inferring the consequences of actions or events based on past experiences. For example, if in the past an event, in itself neutral, was associated with a real or symbolic danger, its reappearance will immediately lead to anxious responses. If, for example, a person, as a child, has experienced situations in which their parents did not take care of them, the feelings of abandonment experienced may be associated with all situations in which this person feels abandoned and as a result becomes anxious without understanding why. The brain's processing of a stimulus of the anxiety-fear circuit triggers an autonomic response, leading to the somatic symptoms of anxiety that we are all familiar with, such as: increased blood pressure and heart rate, sweating, piloerection, pupil dilation, frequent urination and gastrointestinal symptoms.

From fear to panic in emergency situations

As stated above, fear produces a strong emotion, worry and anxiety in the person experiencing it, it is a selective experience of significant intensity accompanied by physiological changes that are often significant and especially likely to modify voluntary or involuntary behaviour. Since Darwin, there has been debate about whether emotions are innate or not. Emotions can be positive or negative, but it is impossible for them to be neutral. To understand the meaning of things and people around us, it is often our instinct that guides us. The emotions that come to us from the outside, the emotions that come from within us, thus determine our lives and our world view. So joy, fear, surprise, aggression, hope, shame, anger, fear can all be expressed through the non-verbal language that humans (and animals too) express when experiencing emotions.

Aspects of fear

The physiology of fear characterises those who experience this emotion in a very precise way: paralysis, immobility, hair stands up on the head (sometimes even whitening), increased heartbeat, in some cases even release of sphincters due to sudden increase in cortisol, muscle tension, dilation of pupils (as if to see better what is happening), cold sweat, dry mouth (blockage of salivary glands), tongue sticks to the palatine veil, empty feeling in the stomach, sometimes attempts to control by

compulsive movements (clenching of hands) and then flight or attack. So, in an emergency, these behaviours are linked to emotional activation (arousal) which is the predominant part of emotion and which emergency medical personnel, especially emergency line dispatchers have learned to distinguish even by telephone, recognising the voice of a frightened person.

Fear manifests itself both as a product and as a cause of events and is linked in its manifestations to the personal experiences of the individual. The origin of fear has been debated many times. Freud pointed out how initial trauma can build up a sense of anxiety in the child and hypothesised that the foetus can feel fear and become charged with tension even before it is born. It should be borne in mind that any newness can generate anxiety, at least for a few seconds, then when the situation stabilises and begins to become familiar, the individual is reassured and incorporates it into their own world. *Fear of the unknown* has always invaded the human imagination, but it has also enriched and seduced it, stimulating defence mechanisms as well as exploratory behaviours and challenges to go beyond what he thought were his own limits. Fear of the abyss, a natural instinct for animals and humans (from the age of six months), can later turn into a fatal attraction, used by many to obey curiosity and desires, which has characterised human history. Fear of the dark, the most characteristic fear of the unknown (some ethologists consider it innate), is linked to the desire to be unable to control any danger, as orientation decreases, even perception is uncertain, at night people cannot see. In addition, there is the primordial hope that the sun may continue to shine tomorrow and/or the equally primordial fear that this may not happen. In the face of danger, humans, like animals, may decide to flee or attack, and this behaviour compensates for the fear of being attacked on their territory, in their usual environment. In the face of danger, we often automatically prepare for action, using all our individual possibilities for survival. In fact, in dangerous circumstances there is an alarm signal in us which, on the one hand, blocks fear and, on the other, increases our potential for attention and reaction. This mechanism occurs in frontline staff in emergency medicine. Thanks to the same mechanism, doctors, paramedics, firefighters, police officers, even though they have fear emotions, continue to fight to save lives.

There is a hypothesis, in this sense, that indicates the existence of an evaluation (appraisal) system that activates or does not activate emotion. Of course, the assessment of danger varies greatly according to situation, culture and subject.

What may be an experience considered risky for one individual is a pleasurable experience for others (e.g. the idea of emptiness terrifies some and exhilarates others who even pay to throw themselves off a bridge attached to a rubber band). But it should be borne in mind that there are forms of fear. As stated above, a deep and abiding fear is anxiety. Then this anxiety can turn into anguish until it reaches panic and terror. This sequence of sensations is only theoretical, if we were to seek a correlation and rationalisation of these emotions, this would be impossible precisely because of the infinite variables linked to the individual, the moment, the context. Human beings, precisely because they are not born perfect in the sense of instinctive and locomotor autonomy (most animals are quite independent after birth), feel inadequate in a new environment. Often the excess of stimuli and perceptions, aided by the galaxy of superinformation that continually bombards the nervous system, creates chaotic redundancies that structure feelings of chaos, confusion, a sense of helplessness, anxiety, fear of the future. This future greatly increases the proliferation of fears and social anxiety. In reality, any fear can be faced by being aware of it and trying to manage it, bearing in mind that it is not something external (like the object that intimidates us), but attacks us from within and is our regulator. Of course, fear also has a certain advantage, as it activates alertness, signals a state of alarm and prepares the whole body for action and reaction (attack-flight). On the other hand, it also warns of possible dangers.

Nervous fears

They are phobias (from the Greek phobia: morbid aversion to someone or something, repulsion, instinctive fear) that bind the subject obsessively to a situation, which he feels threatening, even if he himself realises that this threat has no real basis. These syndromes have different names depending on the object the person feels threatened by. For example, **agoraphobia**, the fear of open spaces, is perhaps related to the age-old fear of being visible and therefore easily followed by predators, and in any case to the anxiety of being alone and powerless; it should also be taken into account that if an individual feels fear alone in the face of danger, it may also increase when he or she is close to several people who feel the same emotion. On the contrary, **claustrophobia** is the fear of closed spaces from which it is difficult for the individual to escape and which corresponds to a psychological prison of the self, which is unable to find exits. **Repulsion phobias,** on the other hand, concern objects and/or animals for which the individual initially felt disgusted and which later

turned into a real fear: of spiders, mice, insects, of being poisoned, of corpses, of being infected, etc**. Heterophobia** is a feeling of fear and sometimes hatred, or at least distrust, of others who are different, foreign, deviant, those who "invade our everyday normality" (which is found around the age of eight months, when the child begins to make perceptual discriminations between known and unknown people and normally disappears within a few months). It is precisely in the most advanced societies that serious episodes of racism and xenophobia sometimes occur, despite the fact that they grant equal status to different people and condemn heterophobia as a crime. In reality, therefore, the different person becomes an enemy and enemy, to be considered as such, he must terrify, not inspire confidence, he must be counted among the bad**.** We could go on and on with phobias mentioning **zoophobia** (fear of animals), **erythrophobia** (fear of getting red in the face), **hypochondriasis** (fear of having diseases), **sexophobia** (fear of sex and everything related to it), which is related to the anxiety of not being adequate in terms of a performance and not being able to adequately satisfy the partner for men and fear of penetration for women.

Also:

Fear of growing up, when the teenager has understood that the age of play is about to end and the period of individual responsibilities begins (in the most serious cases it is called **Peter Pan Syndrome**); here we can also insert the **fear of getting married and having children** which is more common in men even if it is very widespread lately in the female world too.

Fear of not looking normal (dysmorphobia), which is mainly related to pubertal changes.

Fear of empty nest, triggered in mothers when children move away from home to become independent.

For women, **the fear of menopause** can be triggered, with all its hormonal and physical implications, which definitively marks the end of the fertile age.

Chapter 2
Emotional trauma in emergency rescuers

2.1. What can lead to emotional trauma for rescuers

Traumatic events cause changes in brain function, altering the body's physiological responses, even long after the traumatic event. We have highlighted how post-stress symptoms are a physiological response, which should be considered normal, to intense stress, as it predisposes emergency medicine personnel to cope with the emergency situation, ensuring survival and restoring adaptation. The body, through typical attack, flight and freeze reactions, activates to defend itself from danger or threat. At the brain level, the limbic system, in which the amygdala and hippocampus play a substantial role, manages the regulation of emotions. In some neurophysiological studies of emotion, it has been shown that in subjects with post-traumatic stress disorder, the amygdala shows high activation following the presentation of threatening figures, the more obvious the activation, the more severe the disorder. The amygdala is responsible for storing perceptual memory and attributing emotional meaning to the traumatic experience. Understanding more about its functioning can provide further insight into the genesis and processing of traumatic memory. Sights, sounds and smells that evoke trauma are transmitted via the senses to the amygdala and prefrontal cortex. Subsequently, the hippocampus, responsible for interpreting and storing sensory information, converts the data from the amygdala into long-term memory. In several studies it has become apparent how individuals who have suffered trauma respond to trauma-evoking stimuli with a significant increase in heart rate, blood pressure and tissue conductivity. Excessive stimulation of the central nervous system could cause neural changes capable of negatively influencing learning processes leading to an inability to correctly interpret noxious stimuli perceived as threatening.

Alternatively, Porges proposed a model as a response to the presence or perception of a threat, or in the absence of a dangerous situation. Based on this model, he formulated the Polyvagal Theory, which states that under normal conditions or when a threatening situation is perceived, the most recent and advanced level of the system is activated, capable of regulating processes designed

to restore the body's homeostasis and able to facilitate the request for help and support through social involvement. This is when the vagal complex comes into play, sending signals to the heart to slow the heartbeat and to the lungs to calm breathing. If the threatening situation persists or in the presence of imminent danger, or in the absence of perceived social support, the sympathetic system is triggered, producing a fight or flight response to protect the person from danger. In this phase the predominant emotion is fear and the ability to seek outside help is inhibited. The last phase occurs when the attempt to flee or fight fails and freezing or collapse occurs, by activating the most primitive level of functioning: the vagal complex is inhibited. Always taking a neurophysiological point of view, we know that the cerebral hemispheres are delegated to different and complementary psychological functions. Tulving, through his studies and research, theorized a model of brain asymmetry in the processes of recording, storing and recalling memories. One of the latest and most structured treatment methods used in psychotraumatology, EMDR (Eye Movement Desensitisation and Reprocessing), is based on alternative stimulation of the cerebral hemispheres and acts on the mechanisms inherent in memory storage, facilitating the processing of information related to the traumatic experience.

What is stress

A first definition of stress was offered by Hans Selye in the 1950s. The merit and importance of this psychologist is not so much that he defined stress as a response of the body to various exogenous and endogenous stimuli and provided a

systematic description of this response, but rather that he incorporated stress into a general theory of what constitutes illness.

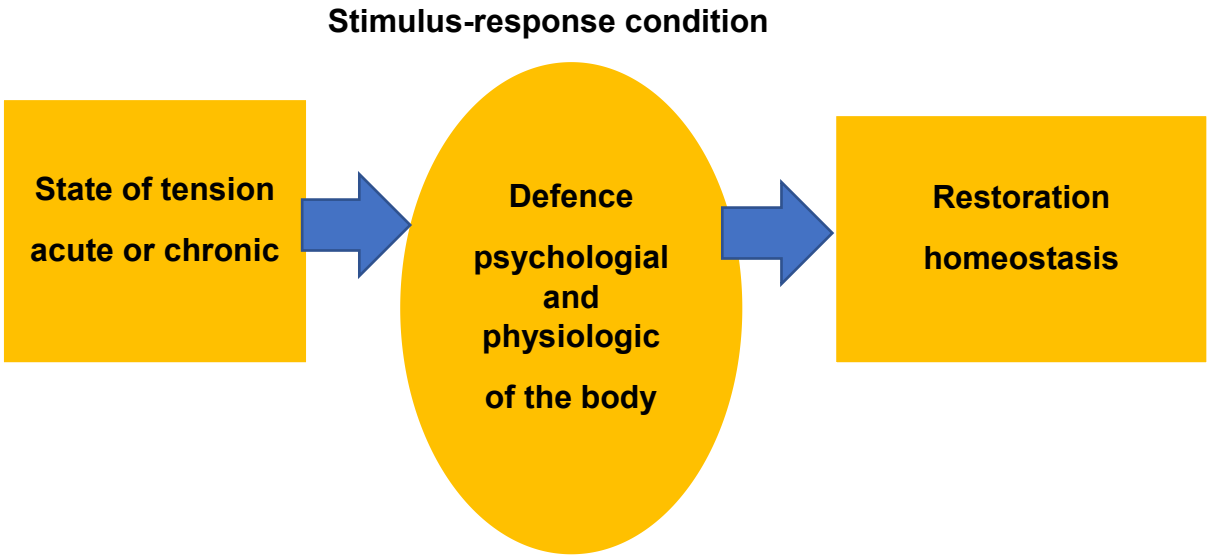
According to Selye, stress is the body's non-specific response to any demand on it, as such it can be produced by an extremely wide range of stimuli called stressors, such as exposure to heat, cold or extreme degrees of humidity, muscular exertion, anaphylactic shock or emotional stimulation. Stress is therefore the result of an adaptive process that involves the individual interacting with their environment, assessing the event they have to face (work commitments, family conflicts, difficulties in social relationships) and seeking a coping strategy. If the body is able to react to the pressures to which it is subjected in the short term, leading to a restoration of homeostasis, using strategies and resources, these pressures can be considered positive in the sense that they allow the development of the individual itself. This is **called eustress or positive stress.**

If, on the contrary, unfavourable conditions lead to a person's capacities and resources to adapt being exceeded or are prolonged over time, the individual becomes unable to respond and provides maladaptive responses **called distress or negative stress.**

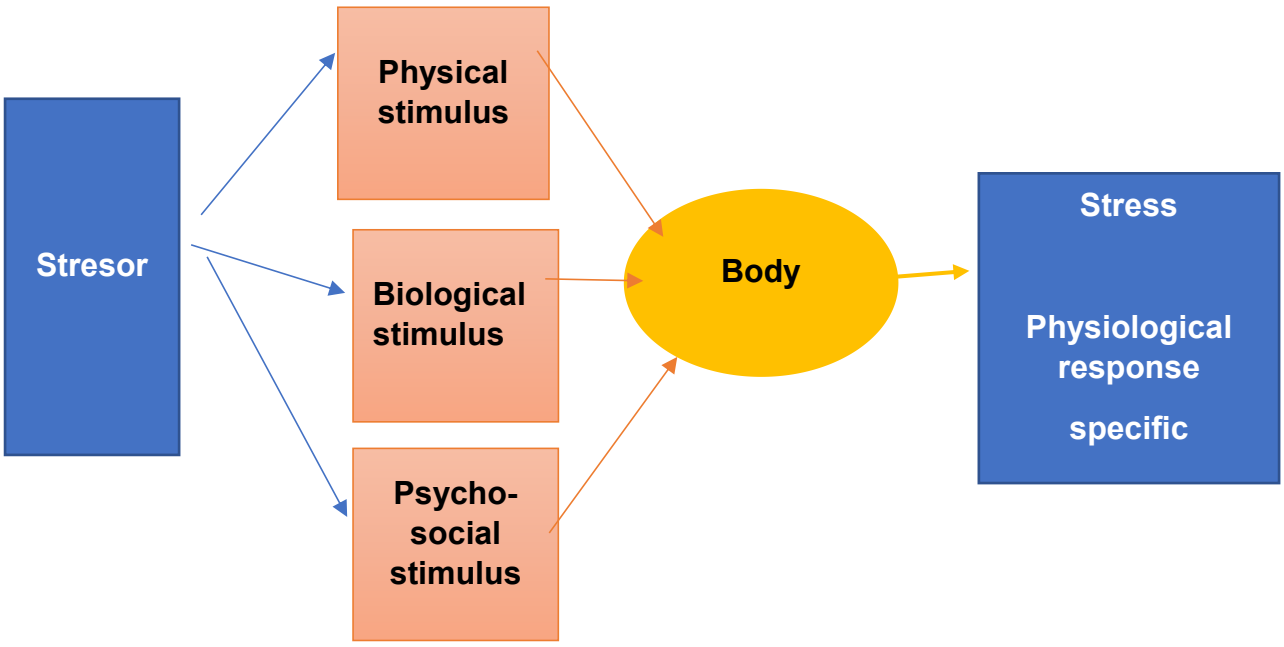
Here are some clarifications:

- Stressors: these are events, stimuli that a person has to deal with;
- stress-related tension: physical, psychological and behavioural reaction to stressors.
- effects (outcomes): are the consequences of stress at both individual and collective levels
- coping: strategies and cognitive processes implemented by the individual to deal with stressors.
- **resilience - the ability to adapt and resist stressors**

Any stressor that disrupts the body's homeostasis immediately triggers neuropsychological, emotional, locomotor, hormonal and immunological regulatory responses. Despite this, coping is a complex activity involving the implementation of actions designed to manage or solve problems depending on the emotional response provoked by such events.



The ability to direct adaptive actions implies both the possibility of actions aimed at modifying the environment according to the subject's needs and the possibility of modifying subjective characteristics in order to achieve a better adaptation to the environment. When the body is subjected to the prolonged effects of different types of stressors, such as physical (e.g. fatigue), mental (e.g. work involvement), social or environmental stimuli (e.g. obligations or demands of the social environment), it triggers a non-specific biological response defined by Selye as general adaptation syndrome.



The issue of stress was often considered taboo and a sign of weakness in the past, nowadays the phenomenon is studied and analysed very seriously.

Professionals working in emergency situations can suffer the negative effects of stress resulting from frequent and repeated exposure to psychologically difficult events, which in some cases can lead to post-traumatic stress disorder or psychopathology, acute or chronic. The scientific field points out that there are psycho-damaging effects resulting from critical events that can affect emergency professionals and for this reason we want to reveal what factors cause stress and identify some possible strategies to cope with this stress and reduce the risk of post-traumatic stress disorder.

The evolution of stress syndrome occurs in three phases:

Alert: the body responds to stressors by putting in place both physical and mental coping mechanisms. Examples include increased heart rate, blood pressure, muscle tone and arousal (psychophysiological activation).

Resilience (Resistance): the body tries to fight and counteract the negative effects of prolonged stress by producing hormonal responses.

Exhaustion: if stressors continue to act, there can be overwhelming and permanent negative effects on mental and/or somatic structure.

The stressful elements of a given environment thus call upon the individual, who reacts according to his or her personality with certain resources, thus developing a state of mind that ranges from simple discomfort to **Burnout Syndrome**, which is expressed as a whole series of specific symptoms. For example, the change in the rescuer's behaviour towards the victim is an important sign of a shift from a stressful situation, which can be defined as physiological and in any case manageable by the rescuer, to a true psychopathology which can have serious consequences.

Cherniss, a psychologist specialising in work-related stress, has identified five personality traits that influence an individual's response to stress:

1. **Neurotic anxiety:** this refers to people who set high goals, often beyond their resources and sometimes beyond their abilities, and punish themselves if they do not achieve them.
2. **Type A" syndrome**: this refers to those people who have a hyperactive, competitive, pushy, aggressive, impatient lifestyle and are bound by a pressing sense of time pressure.

3. **"Locus of control":** individuals have a misperception of the degree to which they believe they are in control of their existence, they feel at the mercy of powers beyond their control.
4. **Flexibility**: this is a trait of adaptable and flexible people, which can lead to accepting situations too readily without attempting to continue with intervention.
5. **Introversion**: introverts feel more tension in role situations than extraverts, they withdraw more easily in the face of conflict and stress. This withdrawal hinders effective advocacy and conflict resolution.

2.2. Traumatic stress

Traumatic stress can be the consequence of a critical event, i.e. any situation capable of exerting an extremely stressful impact, such as the annihilation of the coping mechanisms usually used by a person. Emotional reactions following a traumatic event generally take the form of an overwhelming sense of vulnerability, helplessness or loss of control, accompanied by emotions of fear or intense distress. Some of the elements, which define and characterise the occurrence of negative consequences following participation in traumatic emergencies, are the lack of control over what is happening, the feeling that the person is living an extremely negative and sudden experience. These aspects are indispensable to a negative traumatic experience, but at the same time a situation may not be perceived and experienced as traumatic even in the presence of these aspects. For some people, even uncontrollable, extremely negative and sudden events do not generate trauma. As for the uncontrollability of the event, rescuers are often saddened by the fact that they could not do anything to change the situation and may develop intrusive and disturbing thoughts about how things would have turned out if they had had the opportunity to act differently. Also, the extremely negative value of the emergency situation, may be determined by the subjective perception and psychological meaning the event has for the individual. Finally, as far as imminent danger is concerned, it may cause fear or terror for rescuers, because at an unconscious level there is no possibility to protect oneself from danger or to prepare psychologically for the consequences.

On the contrary, in the case of psychological preparation and by increasing resilience, some experiences, although extremely painful, do not cause trauma because they develop gradually, guaranteeing the possibility of adapting to changes both cognitively and emotionally. Psychological suffering following exposure to a stressful or traumatic event is therefore subjective and highly variable: what one individual perceives and experiences as a critical event may not be for another. It is certainly not possible to predict who will develop post-traumatic stress disorder in response to a given situation, but some factors preceding, concurrent with or following the event may facilitate the onset of the disorder. These include personal identification with the event, i.e. the psychological closeness the subject may perceive, the unpredictability of the event, and the degree of exposure and physical proximity to the event. Some events are experienced in a particularly traumatic way when they reactivate previous traumas that have elements in common.

When a person experiences a traumatic event, they may experience a variety of reactions that Roger Solomon has divided into phases:

- **The phase in which the event occurs**. This is the moment at the peak of the crisis. Typically, the response is a peri-traumatic dissociation with disconnection of the functions of consciousness, memory, identity and perception of the environment. The dissociation functions to alleviate fear and a sense of helplessness in the face of an extremely negative event that cannot be controlled.

- **The shock phase** (first 24-72 hours), characterised by feelings of dizziness and confusion.

- **The reality and emotional impact phase** (after 72 hours and even weeks or months later). The individual has passed through the previous stages and begins to become aware of what has happened and gets in touch with their emotions.

- **Adaptation phase**. Assessment of the situation and the resources available to cope with the stressful event are of primary importance in understanding the emotional impact and intensity of the stress itself on the individual.

- **Resolution and integration phase**. The event is assimilated into one's own worldview and in this way a coping mechanism is activated.

- **The learning phase** in which the person adapts to live with the effects of the event. After a serious event, the worldview may change and aspects of reality and the self may be discovered that are unknown, even in relation to one's own resources and capacity to react. Personal responses to a critical event can be very different. Some individuals have a fair level of stress tolerance and are able to maintain the clarity needed to cope with the emergency, showing the ability to manage their emotions and implement behaviours appropriate to the situation. However, delayed reactions may occur over time, which may later develop into pathology. Emotional reactions that occur immediately after the critical event and may persist for days afterwards are characterised by the presence of psychosomatic manifestations such as shock, anxiety, depression, bewilderment, stupor, tremor, palpitations, nausea. These reactions occur immediately after the critical event and affect the person for the following days. Finally, the responses are highly inappropriate as dissociative responses, characterized by confusion, delusions, aggressive and self-harming behaviors, exposure to danger and depression. Following a traumatic situation, typical post-traumatic stress symptoms should be considered normal and physiological, as they are important defence mechanisms necessary for survival. Post-traumatic stress syndrome, on the other hand, is the pathological evolution of these normal reactions. Some people may experience very intense emotional reactions, with significant physiological or even overt avoidance responses, and then return to normal as soon as the threatening situation ceases. Conversely, those who are emotionally and cognitively unable to process the critical event may develop a mental disorder. Given the evidence of such large individual differences in reactions to potentially traumatic stressful events, we wonder why some people develop post-traumatic stress disorder and others do not, and why individual differences in different types of response are also based. Van der Kolk

identifies several factors that affect adaptation to trauma, grouping them into five specific categories: biological factors, developmental level, severity of trauma, the individual's social context before and after the event, and stressful situations experienced before and after the traumatic event.

Biological factors can both aggravate and attenuate an individual response to trauma. As regards a biological predisposition to vulnerability or resilience to traumatic experiences, there is still the mechanism of influence of possible genetic differences, which may cause a tendency towards certain physiological and emotional responses to stressors. Reactions to trauma are also strongly influenced by the developmental level reached at the time of the event.

Early traumatic experiences tend to have a more widespread impact. Indeed, the possession of emotional, cognitive and social skills enables individuals to exercise greater control over their environment and to use more effective coping strategies.

A third factor has been identified in the ***severity of trauma:*** event characteristics, such as intensity and duration, help determine the severity of reactions insofar as they shape subjective perceptions of harm and controllability.

Social context can also weaken or strengthen the ability to cope with a critical event. The support of family, friends and the wider community of reference helps to restore personal balance and a sense of control over the external environment.

Finally, regarding the influence of **stressful situations experienced before and after trauma**, we can identify two opposing orientations in the literature. Stress-inducing stimuli that are rare and of relatively low intensity could produce desensitisation to future stressors. In the opposite orientation, stressful experiences in the past might compromise the ability to cope with trauma in the present. Based on a theoretical model that explains both isolation and awareness effects of events, past past circumstances characterized by a traumatic experience in which maintenance of perception, of control over the environment, was activated would have an isolation effect, on the one hand, and situations experienced as less controllable would produce awareness. In addition, the occurrence of other negative and stressful circumstances after a trauma further increases the perception of lack of control, hindering the process of recovery of psychological balance and emotional well-being.

2.2.1. Reaction to stress

As we have stated, stress is the body's strategic response in adapting to whatever need, both physiological and psychological, it is subjected to. In other words, it is the body's adaptive response, a normal physiological reaction that is absolutely necessary for the survival of the individual. However, the stressful stimulus can be felt positively or negatively. We can define:

- **Eustress** - a situation in which the stressors to which the individual is subjected fall within a tolerance limit, giving rise to an appropriate response. The experience is experienced constructively and causes an increase in performance levels.

- **Distress -** a situation in which stressors exceed the individual's tolerability limits, causing a dysfunctional reaction. In this case, the individual may experience progressive psychophysical burnout.

Situations that could be a source of stress are multiple and generate responses that vary greatly from person to person. Stressful events can in fact cause both physical and psychological consequences, which are experienced differently depending on one's personal sensitivity. Each of us, in a completely subjective way, according to our own experience, filters the different demands of the environment, individually compensating for the stressful stimulus. To cope with situations, in fact, each individual implements his or her own behavioural strategies, which are called coping strategies. Coping styles depend, in fact, on specific personality characteristics and particular personal experiences and hence the many individual

differences in response to stress. This response is a set of reactions that, caused by the external stimulus, are mediated by the endocrine and autonomic nervous systems, involving all physiological functions and emotional and cognitive responses.

The reactive process can be divided into three distinct phases:

- **Alarm phase**: the stressor arouses a sense of alertness in the body, resulting in the activation of a whole series of psychophysiological processes (increased heart rate, hyperventilation, sweating, etc.) aimed at coping with the new situation.

- **Resilience phase**: the individual stabilises its conditions, adapting to the new demands of the external environment, with normalisation of physiological indices. If adaptation is not sufficient, the exhaustion phase occurs.

- **The exhaustion phase**: this is the final phase that occurs when the body runs out of functional reserves and is no longer able to counteract the prolonged action of stressors to restore a state of equilibrium. The cascade of hormonal and nervous events, usually limited over time, is constantly activated, causing a continuous state of emergency, with the consequent appearance of physical, physiological and emotional symptoms.

Each of us faces many acute stressful situations on a daily basis, but when the stressor, repeating itself frequently, becomes chronic, the body can no longer manage to defend itself and lacks the natural ability to adapt. Prolonged exposure to the stressful event(s) can lead to psychophysical pathologies. In other words, stress generates a subjective response to a change or situation perceived as threatening that causes a state of intense physical and psychological activation. The triggered reaction can have several implications: it allows immediate and effective coping with the problematic situation, but if prolonged and excessive, it can become a source of discomfort and distress. Each individual has his or her own capacity to react to changes in life, especially in times of crisis. When the rescuer has to cope with an emergency situation, all available personal resources are activated, but it may happen that, as a result of the excessive expenditure of physical and mental energy, compensatory conditions such as alcohol abuse or smoking, compulsive hunger or states of irritability or aggressive attitudes may occur. Others may instead engage in shut-down and avoidance behaviours. In any case, reacting to stress is vital for the individual and allows them to mobilise internal resources, but at the same time it is important to be aware of when stress exceeds the accepted limit.

It has often been described that the presence of stress is capable of causing various problems to the individual, as it has a direct and negative impact on the functioning and quality of life of the person. It is also known that the accumulation of stress can cause illness and can be a major cause of disease, if not recognised in time, and is linked to psychosomatic illnesses. Behavioural changes (irritability, isolation or depression), cognitive changes (blocking, frustration, perceived threat, low self-esteem and self-evaluation) and altered physiological functions may occur, reflecting the impact of stress on brain structure. In this way, stress can alter rescuers' adaptation to their situation and prevent them from making strategic decisions due to interference with information processing mechanisms.

2.3. Factors causing stress for emergency personnel

Factors that are a source of considerable stress for emergency personnel have been identified in well-defined categories, although the variety of work forces them to deal with constantly changing situations. Emergency workers are therefore subject to special stressors linked to the characteristics of this type of work:

Career duration. It is mainly the number of years in the career that has an effect on psychological stress symptoms. Length of service is associated with the severity and chronicity of conditions caused by hostile emotional reactions. When length of work experience increases, so does the number of traumatic events.

Time pressure: During a rescue operation or in emergency situations there can be strong time pressure, caused for example by the short time available to rescue an injured person.

Responsibility overload. This is particularly relevant for those with leadership or coordinating roles or coordinating responsibilities, often deciding the prioritisation of response between different emergencies. In the event of an accident they have to decide within moments what is the priority of people to be rescued and thus decide the fate of those to be treated, knowing that they do not have all the time and equipment that would be available in a hospital.

Heavy physical and mental loads. Rescue work requires physical and mental effort, physical energy, strength, stamina and endurance. There is often no time for adequate rest. In addition, emergency workers must have good reasoning skills, sufficient lucidity in examining situations and including complex assessments. All this in an often chaotic environment and under the pressure of heavy tasks, which tends to alter the ability to think in favour of immediate action and in difficult environments (cold, heat, snow, rain, etc.).

Very strong emotional demands. Rescuers are exposed to very violent stimuli and demands. They work under constant pressure. During rescue phases, they need to control their emotions in order to function. Rescuers often have to make decisions that affect the health and safety of others, may have personal fears, moments of anger and discouragement.

Lack of resources in relation to the event. Rescuers are often faced with limited resources and personnel. They often have to act with limited resources and staff, but at the same time, they have to cope with the many requests for intervention.

Expectations from third parties. The emergency worker is recognised in the collective ideal as a kind of "superhero", he is perceived as being able to cope with any work situation, to easily solve any problem, without ever showing insecurity, discomfort or ill feeling. The emergency worker can cope with these emotional and behavioural situations by developing resilience and implementing coping strategies. When these tools are not implemented, the consequences can become negative.

Unpredictability. The emergency professional does not know in advance when he will be called to respond, how many sorties he will have to make in a day, where he will have to go, how many people may be involved, the severity of the rescue, the outcome of his treatment. Having arrived at the scene of the incident, the

professional, who is only in possession of the information provided by the operations centre, which is often fragmentary and brief, needs to understand what the real situation is.

The most powerful emotions are those that arise at the scene of the accident, at the moment of direct impact with the unexpected and the unknown. In fact, rescuers have to respond to the call for help without having the opportunity to prepare for it. On arrival at the scene, the professional has little time to become aware of the situation, the safety of the scene, the distress they find there, to triage the people involved, to ascertain their condition, the deceased, the victims who die during resuscitation measures. In the meantime, he also has to coordinate the team's work, manage passers-by, communicate with the operations centre.

In all this frenzy, feelings act on a subtle, unconscious level.

This uncertainty acting as a common thread, while on the one hand it can be the stimulus that keeps the passion for work high, the drive for work, on the other hand, in the long run, can create discomfort and alienation.

Age of the person to be rescued. Rescuing young victims, especially peers and children, are by far the most stressful situations found in studies. When working to rescue a young person, there is a greater desire for everything to go well; because of this, any failure is experienced in an even more negative way. The top two types of incidents considered most critical by emergency personnel are death and child sexual abuse.

Psychiatric patients. Especially when they are uncooperative. In this case, the patient feels so threatened by everything around him, including the rescuer, that his violent reaction is precisely a defence mechanism. The difficulty in managing the situation is that the situation has to be minimised to deflect the patient's aggression so that a channel of communication can be found to provide help without triggering violent reactions. Emotional control, calmness and trust of the rescuer in this case are essential, but not always easy to put into practice as the tension is very high and the possibility of miscommunication, compromising the success of the intervention, is very high.

Severely traumatised patients. All the more so if they are young or if they have very serious bodily injuries (amputations, malformations) or are involved in serious accidents (patient trapped, overturned car, maxi-emergencies).

Responsibilities. The rescuer's desire for autonomy, the satisfaction of framing the clinical situation in order to treat it and choose the access code to the emergency service, is accompanied by the fear of the responsibility of choice.

Everything for everyone. A feeling frequently reported by some rescuers is that they are part of a team and that the finality of the rescue act depends on each member of the team. While this is reassuring in a way, because they already know how to act, for some it is perceived as a risk of making the situation worse, because they fear that some of their colleagues are not doing their job properly.

Organisation. Situations that create anxiety among emergency staff can be insufficient human resources and the overload of work to which emergency professionals are subjected, especially in recent years, and, not least, the inability to provide care to the expected standard, also due to lack of resources, time and staff.
The strong sense of fatigue felt by the rescue team, which they attribute precisely to the overload of work due to the discrepancy between demands and staff shortages and lack of time, may also be an indication of an unsatisfactory relationship with the object of their work. Struggling with the hectic pace, the rescuer feels that they lose sight of both the relationship with the patient and the concern for the technical aspects of the profession that often motivate the choice to work in the emergency department, overwhelmed by the procedures and the amount of bureaucratic work to be done.

It should also be stressed that care services cannot be delayed, as they are decisions that have to be taken in a short time, with a high risk of error; the variability and rapidity of the clinical picture, a specific characteristic of the critical patient; the need for high levels of performance that derive precisely from the unpredictability of the moment. All this creates in the rescuer a state of constant tension, which can be defined as performance anxiety.

Lack of feedback on the work done. This can lead to disorientation as people don't know how to proceed, which can lead to loss of motivation for work. Often, emergency professionals are alone in their reasoning for the diagnosis needed for intervention, without the opportunity to consult with a colleague, and so feel alone in their decision. Receiving feedback from both colleagues, superiors and

patients (where possible) on how they work and relate is important to cultivate their passion for their work and improve aspects of their professionalism that need to be reviewed. In addition, confrontation between different professionals plays an important role in resolving conflicts that may arise between colleagues.

Victim identification. The problem for the rescuer is not knowing how to manage the distance between him and the sufferer, how to understand that the injured person is not like him or a relative or that it is not happening to him. In fact, empathy is a necessary condition for being close to someone who is suffering, but if the rescuer does not learn to manage this empathy, it can be devastating.

Team. Stress occurs when rescuers work with people who are always different or unprepared and who they don't trust, when the team is not cohesive, when team members don't communicate effectively with each other.

Others. Those who gather at the scene of an accident, who highlight the need for compassion, who can speak out about the inadequacy and lack of preparedness of rescuers, helplessness, bystanders who observe and judge (often filming the scene with cell phones).

2.4. Acute stress disorder

Acute Stress Disorder (ASD) occurs during the trauma exposure phase; as an immediate reaction to the event, the body and psyche react driven by the innate survival instinct, leading to a "fight or flight" choice. This is an emergency defensive response as it prepares the body to respond instinctively by fight or flight to the stressful stimulus.

In essence, TAS is characterised by five main aspects:

1. dissociation or feeling of emotional numbness,
2. reliving the experience of the event,
3. behavioural avoidance,
4. the appearance of physiological changes,
5. social and professional impairment.

The criteria for a diagnosis of SAD according to the DSM (Diagnostic Manual of Mental Disorders) are:

a) The person has been exposed to a traumatic event in which the following elements were present:

1. the person has experienced, witnessed, or been confronted with an event or events involving death or threat to the physical integrity of self or others.
2. the person's reactions included intense fear, helplessness or horror.
b) During or after experiencing the stressful event, the individual shows some symptoms, such as: absence of emotions, lack of emotional reactivity, reduced awareness of the environment, external reality is perceived by the subject with a sense of unreality; there is an inability to remember important aspects of the trauma;
c) The traumatic event is persistently relived through images, thoughts, dreams, illusions or flashbacks.
d) Marked avoidance of stimuli that evoke memories of the trauma.
e) Marked symptoms of anxiety or heightened arousal (e.g., difficulty sleeping, irritability, reduced ability to concentrate, hypervigilance).
f) The disorder causes distress in relational aspects;
g) The disorder lasts for a minimum of two days and a maximum of four weeks and manifests itself within four weeks of the traumatic event.
h)The disorder is not due to the direct physiological effects of a substance (e.g. a substance of abuse or a drug) or a general medical condition.

2.5. Post-traumatic stress disorder or PTSD in emergency workers

In emergency scenarios, the first objective of interventions is to restore the balance and psychological well-being of victims. In the acute phase, it is therefore essential to help victims manage the critical event, making the best use of all available psychological resources, in order to overcome the trauma without suffering lasting consequences. Professionals involved in life-saving, although they tend to develop a high threshold of tolerance to traumatic events, must also be immediately supported psychologically to prevent psychopathological disorders following vicarious trauma. Indeed, rescuers may be victims of trauma, not for direct exposure, but for empathic contact with those affected by the emergency outcomes. It is important to recover the physical and psychological energy essential for the continuation of rescue work, which requires intense efforts, and to maintain the high professional effectiveness required in an emergency context. Moreover, it is necessary to take into account that the operational context in which rescuers evoke distress and risk is characterised by regressive and unpredictable changes that do not allow adequate adaptation to cope with the emotional stress caused by the event.

The intervention of professionals in an emergency scenario is divided into several phases, each of which corresponds to particular emotional experiences and specific reactions that can be evaluated as normal reactions in response to an emergency situation.

- **Alarm phase**. The emergency begins when communication is received of a critical event in which it is necessary to intervene. The news may generate, at first glance, a sense of confusion and bewilderment, accompanied by fear of what will be encountered at the scene of the event and concern about being inadequate to the situation. Some rescuers may experience more extreme, even inhibitory, reactions to the point of shock. Physical activation reactions are common, such as increased heart rate, blood pressure and shortness of breath. In some cases, initial disorientation may cause cognitive difficulty in understanding the severity of the event and the initial information provided, with a consequent decrease in efficiency and communication skills.
- **Mobilization phase**. Once the initial impact is overcome, rescuers prepare to respond. Planning the intervention and the necessary coordination facilitates the recovery of emotional self-control, reducing the state of tension.
- **Action phase**. The rescuer undertakes to help the victims, alternating between feelings of euphoria and gratification when rescue is possible and feelings of disappointment, guilt, discouragement, fear and inadequacy when intervention is not effective. This phase can last for hours, days or weeks, resulting in physical and psychological symptoms related to prolonged exposure to traumatic stress. At this time the tendency to underestimate the rescuer's needs is very common and they tend to overestimate their resources.
- **Release phase**. Once the emergency response is over, rescuers need to return to their personal, social and professional life. There are two aspects to consider at this stage. On the one hand, emotional experiences inhibited during the rescue activity, such as anxiety, disappointment and anger, may resurface through difficulties in restoring a relaxed state. Difficulties falling asleep, tension, irritability, sadness and high emotional impact episodes may also occur. The second aspect concerns the return to normal, to routine, which also involves separation from other rescuers who have intervened in the emergency context and which can take on a totally positive or negative subjective value, to feelings of isolation from 'normal' life and the feeling that the only dimension in which the rescuer feels adequate is that of the emergency.

Once the emergency crisis is over, psychological support maintains a central role, because rescuers, after exhausting the available energy, need a cognitive and emotional processing of the lived experience which, if not correctly carried out, could lead to stress psychopathologies with important repercussions on psychophysical well-being. The rescuer may relive the most painful moments, e.g. recall the faces of rescued victims and their suffering, may involve feelings of guilt for not being able to help or save everyone. Along with anxiety states, difficulty sleeping, a sense of insecurity and experiences of living in a vacuum may also occur.

Thus, the essential feature of PTSD is the development of typical symptoms following exposure to an extreme traumatic factor, which involves a direct or indirect personal experience and which may involve harm or threat to a person's physical integrity. The symptom picture must be present for more than one month and cause significant clinical discomfort and impairment of social life:

a) The traumatic event is persistently re-experienced through various modalities:

1. Recurrent and intrusive memories of the event;
2. Recurrent dreams or nightmares about the event;
3. The person suddenly behaves or feels as if the traumatic event is recurring;
4. Intense psychological distress during exposure to events resembling the traumatic event.

b) Persistent avoidance of stimuli associated with the trauma. There is an effort on the part of the subject to avoid the thoughts, feelings, activities, situations associated with the trauma by implementing avoidance behaviours;

c) Persistent symptoms of hypervigilance, difficulty falling asleep, mild irritability, over-reactivity to stimuli, difficulty concentrating.

As mentioned, stress is a syndrome of adaptation to stressors. It can be a normal, physiological adaptation, but it can also have pathological implications. Any stressor that disturbs the body's balance immediately triggers neuropsychological, emotional, locomotor, hormonal and immunological regulatory responses. Predictability, knowledge and severity of events play a fundamental role in the ability to establish coping strategies to manage this stress. Adaptation is problematic when the professional is exposed to sudden catastrophic events, such as in the case of rescuing victims of a very serious accident.

Of note

PTSD does not affect weak or frail people. It can affect anyone who lacks functional coping strategies.

In the case of a serious emergency intervention, then, even for an expert and qualified emergency professional it is very difficult to immediately enter the situation with lucidity and clarity, immediately committing thoughts and actions to the acts required by the intervention. Therefore, when he arrives at the scene, he will experience a certain degree of shock, which may be more or less intense depending on his experience and personal capacity for self-control.

2.6 Burnout syndrome in the emergency professionals

Burnout is a syndrome of physical, emotional and mental exhaustion caused by long-term involvement in emotionally demanding activities. It is a syndrome that can occur in those who through their profession face problematic situations where there is continuous contact with illness and death. In these professionals, the emotional involvement can be so strong that at some point it becomes unbearable. Emergency workers, due to the specific nature of their professional work, are in close and continuous contact with victims of accidents, disasters and emergency situations, and are therefore among the categories most affected by Burnout. The term was first used in the health sector in 1977 by Christina Maslach to define a situation she had experienced in her work. She observed that it was occurring with increasing frequency in emergency medical workers, after months or years of

involvement, with an attitude of either nervousness and restlessness or apathy, indifference and sometimes even cynicism towards their work. Burnout syndrome refers to a type of response to the problems of rescue work, stress, which is the tendency to treat victims in a detached and mechanical way. The syndrome does not appear suddenly, but is the result of a succession of four stages, which Maslach divides as follows:

1. Idealistic Enthusiasm: characterised by the motivations that led workers to choose a caring activity, namely

- conscious motivations: improvement of the world and of themselves, prestige;
- unconscious motivations: the desire to deepen self-knowledge and to exercise some form of control over others;

2. Stagnation: the worker continues to work, but realises that the work does not fully satisfy their needs. A gradual disengagement occurs in which a sense of deep disappointment advances, leading to a closure of the person towards work and colleagues;

3. Frustration: this is considered the most critical phase, in which the rescuer's dominant thought is that he can no longer help anyone, with a deep sense of worthlessness. The person's experience is one of loss, of emptying of emotions and creative values considered fundamental until that moment. Additional frustrating factors are the lack of appreciation from both superiors and users, and the belief in inadequate training for this type of work.

The frustrated person often engages in escapist behaviours (such as unexcused absences from work, extended breaks, frequent sick leave).

4. Professional freeze: the gradual emotional disengagement resulting from frustration, leading to a shift from empathy to apathy.

Burnout is not just a personal problem, the effects of Burnout tend to spread from one team member to another and from one team to another. The consequences of this are very serious and can be summarised on three levels:

1. Employee level,
2. Patient level,
3. The level of the community at large.

2.6.1. Risk factors, causes and symptoms of burnout

According to Maslach, among the health professionals most at risk are those people who throw themselves into their work with more enthusiasm, who are exposed for too long to situations where there is a strong mismatch between demands and resources, between ideal and reality, between what the profession demands and how it is done. Rossati and Magro (1999) define it as "the disappointed Good Samaritan syndrome". Among the epidemiological aspects of Burnout Syndrome described in the literature, there is a certain level of overlap for some variables:

Age: There seems to be a period of awareness that in the early years of the professional career, the subject would be more vulnerable.

Gender: Women are more vulnerable than men. This is due to a variety of reasons, such as the double workload (professional and family) they are subject to and the fulfilment of certain professional specialisations that could expand the role of women.

Marital status: This plays an important role, as the syndrome seems to be more present in people without a family or stable partner. The existence of children makes these people more resistant to the syndrome.

Shift work: Shift work and working hours can favour the onset of the syndrome;

Job seniority: some authors have found a positive relationship, the relationship between the syndrome and job seniority, others have found an inverse relationship, finding that people with more years of employment have a lower level of association with the syndrome.

Work overload: the relationship between Burnout and work overload is certain, in emergency medicine professionals, as this factor would produce a qualitative and quantitative decrease in the services provided by these workers.

Signs and symptoms of burnout

Burnout symptoms can be classified into psychological (cognitive-emotional) symptoms, as they affect both the emotional and cognitive spheres. Christina Maslach describes three groups of symptoms:

Emotional exhaustion: fatigue, feeling drained of all energy, both mental and physical, apathy, demoralisation, difficulty concentrating, restlessness, irritability; excessive worry or fear, feeling frustrated or a sense of failure;

Depersonalisation: loss of any positive attitude towards oneself, the world and others (family members, colleagues, users), leading to a clinical and detached approach compromising any effective helping relationship;

Lack of fulfilment: the person does not feel fulfilled at work and begins to devalue themselves both professionally and personally. Despite their best efforts, new commitments seem unbearable, they feel they are not up to the task at work and in their private life.

To the symptoms included in these three categories, F. Folgheraiter adds those that can be described as:

Loss of control: the person can no longer control the space or importance of the professional activity in his or her life. He has the feeling that work "invades" him; he cannot mentally "disconnect" from it; the thought of victims or problems with colleagues causes him more and more discomfort, even beyond working hours.

Behavioural symptoms: Symptoms of burnout include some or more of the following behaviors:

- Absenteeism;
- Avoiding relationships, spending more time than necessary on the phone, looking for excuses to go out or performing activities that do not require interaction with colleagues;
- Progressive withdrawal from the reality of work: attending meetings without intervening, without emotional participation and only for the bare essentials;
- Difficulty joking at work, sometimes even smiling;
- Loss of self-control: violent, impulsive emotional reactions towards victims and/or colleagues;
- Smoking and use of psychoactive substances: alcohol, psychotropic drugs, narcotics.

Physical symptoms: Burnout syndrome causes or aggravates some of the following psychosomatic disorders:

- Gastrointestinal disorders: gastritis, ulcer, colitis, constipation, diarrhoea;
- CNS dysfunctions: asthenia, headache, migraine;
- Sexual dysfunctions: impotence, frigidity, loss of desire
- Skin disorders: dermatitis, acne, thrush;
- Allergies and asthma;
- Insomnia or other sleep disorders;

- Appetite disorders;
- Psychosomatic components of arthritis, heart disease, diabetes.

Chapter 3
Resilience and adaptive capacity

3.1. What is resilience

In psychology, resilience can be defined as an individual's ability to adapt positively to a negative and traumatic situation. According to many experts, resilience is a capacity that is part of human nature, but it is not always activated and, even when activated, does not always lead to positive outcomes. In fact, an individual's resilience is influenced by a variety of individual, social and relational factors. This diversity may explain, for example, why, under traumatic and stressful conditions, some individuals manage to emerge from them without long-term negative effects, while others succumb under the pressure of the traumatic event, in some cases going as far as developing full-blown psychopathologies.

Over the years, there have been many different definitions of resilience in the psychological field. However, it is possible to describe psychological resilience as the human capacity to cope successfully with a highly stressful and/or traumatic event that causes negative feelings and distress, with the person returning to the state before the event in question and emerging from it strengthened, if not transformed. In other words, psychological resilience can be defined as the ability to cope, to resist and to positively reorganise one's life after experiencing particularly negative and traumatic events.

In the context of research studies it has been observed that not all people, faced with a traumatic experience and subjected to risky situations, develop destructive responses at a psychological and emotional level. In fact, there are other ways of coping with adversity, which are linked to the ability to turn a negative event into an opportunity for personal growth, and it is also possible to draw positives from the experience. Faced with a traumatic event, resilient people are able to maintain a stable balance without it affecting their performance and daily life. Unlike those who progressively recover from a period of dysfunction, resilient individuals do not go through this period but remain at functional levels despite the traumatic experience.

At this point we can emphasise that resilience does not derive exclusively from the environment, nor is it something exclusively innate that some individuals receive at birth and others do not. It is based on the interaction that takes place between the individual and the environment. Some researchers argue that a person

can only be labelled as resilient if there has already been an adaptation; therefore, research focuses on identifying that set of factors that have enabled resilient individuals to overcome various traumas and problems. In contrast, another generation of researchers sees resilience as a process that can be promoted. Research is therefore more interested in clarifying what dynamics are present in the resilience process, with the fundamental aim of replication in similar interventions or contexts. There is a need to investigate the overlap between different risk and resilience factors, and there is also a need to study the development of models to effectively promote resilience through intervention programmes. In this way, studies confirm that the distinction between promoters and risk factors is highly permeable. Although research on resilient people initially focused on studying a childhood marked by traumatic situations, the study of resilience has now been extended and understood as a quality that can therefore be developed throughout the life cycle. Resilience has become a category that can be applied to all of life. Everyone, at any stage of life and in any context, can find themselves in a traumatic situation, overcome it and emerge stronger from it. Thus, resilience is a fundamental concept that involves the coping capacity that people have when faced with a problem or difficulty and how they manage to integrate these negative events into their lives and move on without major consequences. Resilience is therefore never an absolute characteristic, nor is it acquired once and for all. As quoted in Vera Poseck (2004), talking about resilience in individual terms is a fundamental mistake. Resilience is a process, a becoming, for which it is not so much the resilient person as his or her evolution and the process of structuring his or her life story. For some researchers, individual and collective resilience are two sides of the same coin, as coping with adversity involves responses that can be made both individually and collectively. The individual conceives of him/herself as part of the group and recognises that he/she needs the group for development in a relationship of mutual influence.

Continuing with the analysis of personality traits that succeed in generating greater resilience to stress, it is pertinent to develop the concept of Resilient Personalities. This concept was born along the lines of existentialism, understood as a way of looking at life; Maddi and Kobasa are forerunners in introducing this concept into the literature. These authors were the first to refer to "robustness" in 1972 to explain how some people are more successful in resisting stress than others. According to Kobasa (1979) there are structural differences in personality that result

in some individuals becoming ill and others not in various situations, these differences constitute the resilient personality. These authors tell us about three characteristics of the individual that make up this type of personality or that would be essential for its development:

- Challenge,
- Verification,
- Commitment.

Commitment understood as the ability of some people to engage deeply in the activities of everyday life, Challenge as the ability to experience change as an opportunity for growth and Checking as a belief that life circumstances depend on their actions. Although the concepts of resilience and resilient personality have many similarities, they are not the same. Both imply an ability to adapt to stressful situations and speak to an internal or well-created strength from an individual's interaction with the environment. Although it is implied that the resilient personality is composed of three factors, this does not mean that they must also be present in resilience in an exclusive way, as it is an ability that encompasses more qualities than just these three factors.

Returning to the concept of resilience, for Luthar (2006) the fundamental factor of resilience is the ability of the human being to establish strong relationships with others, enhancing adult figures in the early stages of development, i.e. the bond with parents. This indicates that these fundamental figures for children are able to nurture, protect and stimulate them, thus generating secure attachment bonds which will then be reflected in the development of a sense of trust in others, in the

enhancement of personal traits such as intelligence, self-esteem and emotional self-regulation, which are the fundamental ingredients of resilience.

For some authors such as Michael Rutter (1978), belonging to the seventies, when the first approaches to the concept were developed, resilience is considered an almost innate ability, formed by personal factors that help us adapt to stressful situations, while other authors, Kumpfer and Hopkins (1993), belonging to the second historical moment of research on the subject, corresponding to the end of the twentieth century, state that resilience is the product of the individual-environment interaction, emphasizing the importance of the ability. for personal relationships and the subject's relationship with his environment. Rutter agrees with other authors who point out that resilience or vulnerability to stress originates in both environmental and constitutional characteristics - temperament, genetic susceptibility or patterns of physiological reactivity to certain stimuli - which, from early life, work in combination and contribute to coping strategies and, ultimately, to the style and degree of success with which a person develops in their contexts. The concept was further developed with the research of ethologist Boris Cirulnyk, who extended the concept of resilience by observing concentration camp survivors, children in Romanian orphanages and children in distress on the streets of Bolivia. This author has made very significant contributions to the ways in which adversity wounds the subject, causing stress that will lead to the origin of a kind of illness and disease. In the favourable case, the subject will produce a resilient reaction that will enable him to overcome adversity. He described the concept of "oxymoron" which describes the splitting of the trauma-injured subject and which allows him to go further in understanding the process of building resilience, which he considers among the mechanisms of psychological detachment. These mechanisms (described by Edward Bibring), unlike defence mechanisms, aim to realise the subject's possibilities when it comes to overcoming the effects of the pain they are suffering.

Resilience is thus based on the interaction between the person and the environment. More specifically, at the level of psychosocial interventions, this model has changed the nature of conceptual frameworks, goals, strategies and assessments. In the area of intervention goals, these include the promotion of positive ownership through the prevention of specific problems or symptoms. Strategies aim to promote the advantages and positive aspects of the individual's ecological framework (environment, specific tasks corresponding to each

developmental stage and culture), as well as to reduce risk or sources of stress and human developmental processes, and to treat illness. There are two complementary approaches. It is convenient to differentiate between the risk approach and the resilience approach. Both are a consequence of applying the epidemiological method to social phenomena. However, they address different but complementary issues.

Approach to resilience: describes the existence of real protective shields against negative consequences, expressed in terms of damage or risk, thus mitigating their effects and sometimes turning them into a factor for overcoming the difficult situation. Protective factors are all those variables that decrease the likelihood of engaging in risky behaviours because they promote resilience and self-care. These are:

- communication skills
- management of feelings
- decision-making
- meaning of life.

Human beings are predisposed to normality, to what is normal for us. This predilection for the ordinary slows down our perception of exceptions, of the unusual. We see what we expect to see and neglect what we do not expect. This kind of natural filter, which excludes certain details from our vision, can have disastrous consequences in certain circumstances. But there are situations where denying the evidence or distorting reality excessively can have very negative consequences, especially if self-deception prevents us from making appropriate decisions in the face of danger.

The answers will depend on how we assess and use the information provided by these two sources. Whatever the adversity, relevant, truthful, understandable and manageable information is a very useful security tool.

Facing ignorance to understand what is happening helps us to keep our feet on the ground and take concrete action, as well as feeling more in control of our destiny. In disasters affecting a group or community, everyone can exercise selfless leadership and benefit from actively participating in tasks designed to lead and help others.

It has been shown that health workers and life-saving specialists are more likely to cope successfully with a disaster because they focus their attention on the

job at hand, on the mission of helping those affected and, as a result, leave less room for fear and confusion. This role strengthens their concentration, common sense and ability to assess reality rationally. It is a way of acting, intervening, taking control and keeping executive functions active. Helping others in difficult times makes us more resilient to stress and physical and emotional exhaustion, protects us from the tendency to isolate ourselves, to drown in negative emotions or troubling thoughts. After disaster, altruistic behaviour continues to boost positive self-esteem, also a pillar of resilience, as it instils in us a sense of our own competence and the satisfaction of having contributed to the safety of others. People affected by any kind of calamity who have felt useful during a crisis resist and recover better from the emotional aftermath. These benefits of selfless acts are also gained through volunteering. Volunteers experience less anxiety, sleep better, abuse alcohol and drugs less, and have higher self-esteem. On the other hand, in the face of threats that we don't understand or that make us feel powerless, we eagerly seek out people to guide us and give us guidance and advice.

Trusting people in authority who we believe can inform, guide and help us in times of danger is a natural tendency that begins to develop in the first months of life. As children, we trust our parents and caregivers to protect us and meet our vital needs. As we grow up, the trust we place in people we respect or admire also leads us to see them as role models from whom we can learn strategies to protect ourselves and cope with difficult situations. Human beings have a need to explain all the important things that happen to us. Everyone perceives adversity differently and our particular perception will shape our response. Although all misfortunes have in common that they cause fear and threaten our physical and emotional balance, their impact varies according to our personality, circumstances and the cultural and social values of the community in which we live. The meaning or interpretation we give to adversity can strengthen or weaken our ability to overcome it, and can also influence the possible lessons we learn from the experience. There are people who conceive of calamities that affect them as challenges that they must face with all their might and overcome in any way they can. Others, on the contrary, see misfortunes as personal attacks, attacks by evil enemies, even if it is a natural disaster or a disease, against which the only option is to fight relentlessly. These victims are moved by feelings of indignation, anger and a desire for revenge. There are people who conceive of misfortunes as punishments from God or nature, some even judge the

punishment as deserved and respond with feelings of guilt and reproach. Close to this group are those who interpret the tragedies or evils that haunt them as the result of their own secret weaknesses or inadequacies, or unforgivable failures.

The concept of resilience therefore refers to the ability to react positively to traumatic events, to reorganise life following the changes imposed by the difficulties experienced. The process of building resilience not only facilitates coping with adverse situations, but also enables the development and implementation of personal skills and resources, facilitating adaptation to the context. In this sense, a traumatic event can also lead to positive changes, fostering a process of personal growth. By mobilising their own energy and resources, rescuers face critical events with the aim of integrating them and then continuing to develop their lives, reorganising and redefining their own identity. This implies the perception of having an active role in negative experiences. The psychosocial dimensions that facilitate overcoming traumatic events are made up of personal resources, coping strategies used and the resources of the social context. Personal resources refer to individual personality traits. People with a positive self-perception, able to self-regulate their emotions, show a higher degree of resilience. In terms of coping strategies, these are linked to beliefs about the ability to exercise control over the external environment. Research on the resilience dimension leads to a concept introduced by Tedeschi and Calhoun, which shows that lived experience enhances self-perception and sense of self-efficacy because it shows that the person was able to cope with and overcome an extreme situation. In terms of interpersonal relationships, new

bonds are created and existing ones strengthened, developing feelings of emotional sharing, compassion and empathy towards others. Ultimately, overcoming a traumatic event can bring about a shift in personal priorities and a greater awareness of respect for one's core values and goals in life. The anti-fragility construct invented by Nassim Taleb has been very successful in recent years. He shows that in the face of the unpredictability of exceptional and disruptive events called "black swans", whose occurrence is impossible to predict and therefore impossible to plan and control, it is necessary to adopt a less rigid way of thinking based on the ability to react to events and on tolerance of uncertainty, disorder and even failure. We cannot know what the future holds, but we can learn to understand how an event may affect us and what is the most appropriate strategy to deal with its impact.

Please note

Resilience is NOT to be confused with resistance, i.e. the ability of a person to resist - i.e. to resist, not adapt - to certain factors, which are always of a negative nature or, in any case, capable of disrupting normal conditions. Resilience is ADAPTATION!

3.2. Who are the resilient people?

Resilient people are those who - in the face of difficulties and traumatic events - do not give up but, on the contrary, find the strength to move forward and are even able to turn the negative event they have experienced into a source of learning that allows them to acquire useful skills to improve their lives. Resilience mechanisms are present in every human being and can be implemented by anyone. Therefore, every person is potentially a resilient individual. However, not everyone is able to exercise resilience and even if it is activated, the results will not necessarily be positive and improving.

3.2.1 Factors influencing an individual's resilience response

The ability to exercise resilience differs from person to person as it is influenced by a number of factors. Specifically, the likelihood of developing a resilient

response to a negative and traumatic event is closely related to the presence of the following factors.

Individual factors

These are characteristics that an individual possesses that may be helpful in successfully coping with a traumatic or stressful event. Specifically, a resilient person is generally endowed with:

Optimism: An optimistic individual interprets negative events and resulting problems as something transient, yet inevitably part of life. This attitude of the optimistic individual should not be confused with an attempt to minimize problems.

Self-esteem: The higher it is at an optimal, high level, the easier it is to develop resilience.

Problem-solving ability: Finding solutions to problems makes it easier to adapt to different situations and also increases self-esteem.

Communication skills: Good communication facilitates resilience.

Sense of humour: Humour should not be understood as an attempt to ridicule traumatic life events, but as a tendency to maintain a certain distance from negative events and the lucidity needed to solve the problems that arise from them. Humour also helps to process the emotions associated with the traumatic event, making it easier to communicate and share the negative event with others.

Coping strategies: these are adaptive psychological mechanisms that are used to cope with problems and stress.

Empathy: An empathetic person understands what others are going through.

Social factors

Resilience depends not only on the individual and the characteristics he or she possesses, but is also influenced by the social context of which he or she is a part. In particular, people who are well integrated into their social context and/or receive adequate support from it are more likely to successfully overcome adverse events.

Relational factors

In addition to individual and social factors, the development of resilience is also related to the quality of the relationships that the person has, both before and

after the negative or traumatic event. In addition to the quality of established relationships, the support - both practical and emotional - provided by family and friends is also important in the resilience response.

Children seem to have a greater advantage in implementing resilience mechanisms. This is because they are usually able to make more profound changes and adaptations than adults, who are often hindered by their previous experiences and their conception of the environment and people around them.

3.3. How can resilience be put into practice?

As mentioned above, resilience mechanisms are present in every individual, although they can be influenced by various external factors (relationships and social context) as they evolve and develop over a person's lifetime.

While resilience tends to be an instinctive behaviour in childhood, by adulthood it should have evolved and become an integral part of an individual's attitude. However, the ability to implement resilience depends largely on a person's view of themselves, the world and the people around them. In fact, while for some people the resilient response to negative events is activated almost automatically, for others resilience mechanisms are not put into practice because of the poor view they have of themselves ("I am a failure", "I can't make it", etc.).), because of their view of others ('others succeed and I don't', 'others are better', etc.) and because of their view of their environment, often seen as a dangerous, unpredictable place full of pitfalls and problems.

Resilience therefore requires a change in our view of ourselves, of others and of the world. This does not mean adopting an over-optimistic - and perhaps even naïve - attitude, but it does mean maintaining a realistic attitude that allows you to adapt to reality in a conscious way. This adaptation should be carried out in such a way that negative and traumatic events are seen as opportunities to be exploited and from which useful ideas can be drawn for one's own development and for improving life.

Some experts in the field recommend the practice of Mindfulness to promote resilience. Mindfulness is about developing a person's ability to focus on the present moment and detach from their thoughts, observing them without judging them, but seeing them for what they are - products of their own mind. In this respect, it is very interesting to note that mindfulness practice derives from meditation techniques used in Buddhism.

However, despite what has been said so far, it should be stressed that the interventions needed to develop and practise resilience may vary from one individual to another, as they are closely linked to the situation, environment and social context in which a person lives. The skills and factors needed to overcome one type of negative event may be different from those needed to overcome another type of negative event (e.g. cancer diagnosis and natural disaster).

Therefore, I will focus on building resilience in the field of emergencies, of interest for this guide. Resilience skills development programmes/modules need to be in place before emergencies occur, before rescuers go to the scene of accidents and disasters and involve the whole organisation. Two approaches to resilience development are known, namely:

- Folkman and Greer model
- Psychological first aid method

Folkman and Greer's (2000) model describes a series of assessment steps or sequences and coping strategies designed to recover positive emotions and enable the person to develop an effective level of coping. The sequential approach

to promoting resilience and coping is derived from the field experience of health professionals and includes:

- Problem solving in situations perceived as manageable.
- Coping based on processing one's own emotions.
- Coping based on the meaning attributed to unresolved or unresolvable events.

This approach facilitates flexibility due to the awareness that stress effects and coping responses are subjective (personal) and depend on factors such as previous experience, values, expectations, analysis of strengths and weaknesses of different coping strategies, understanding the maladaptive value of avoidant or self-destructive coping modes in emergency situations.

Psychological first aid - PAP

The PAP methodology facilitates resilient recovery immediately after trauma. Practitioners can learn it easily, even without previous knowledge of mental health, and experience that resilience can also be enhanced by supporting and helping others.

Folkman and Greer's model considers the influence of the whole organisation/health system. Organisational resilience can help maintain resilience of individual professionals by mitigating the effect of stressors during and after an emergency crisis and is based on a number of elements:

- Depends on identified and acquired resources,
- uses hindsight of the completed emergency to prepare a plan for the future, relying on the necessary flexibility and recognised effective leadership skills,
- staff training, including the provision of modules/programmes to develop the skills needed to adapt in extraordinary situations, e.g. a pandemic, in terms of strengthening coping strategies,
- building interprofessional collaborative and supportive relationships, which will be fundamental to making formal and/or informal support effective during a pandemic (at the time of SARS, the most effective psychosocial support interventions were those characterised by pre-existing trusting relationships within the team),
- promoting shared values of moral responsibility and dedication/care for others (which facilitate the maintenance of mental well-being).

3.4 Increasing resilience through coping tools and strategies

Professionals working in the emergency sector have an intense relationship with people facing a sudden and often dramatic critical situation. Patients and relatives can bring with them many problems, thoughts, anxieties, which they inevitably pass on to staff, precisely because of the need to find someone to listen, amplified by the disruption of the previous balance that the emergency situation has created. Continuous contact with this type of request can generate a state of chronic stress in the professional, which can also lead to emotional exhaustion. Hence the importance of knowing coping strategies to control stressors.

This overview has presented several common stressors for emergency rescuers (and other personnel) working in emergency situations, but are there strategies that can reduce this stress and avoid the risk of developing post-traumatic stress disorder or burnout?

Our bodies respond to stress through adaptation, i.e. cognitive and behavioural efforts to cope with specific demands, both internal and external, that place demands on the body's resources. Coping strategies can be either emotion-focused or problem-focused. Emotion-focused coping strategies aim to improve a person's mood by reducing the emotional stress they feel; problem-focused coping strategies aim to manage the problem causing the stress.

In general, both types of strategies are activated in a stressful situation. The situation becomes more complicated if the emotional reaction triggered by the event is managed and controlled by particularly intense defence mechanisms. In this case, intense emotional stimulation does not occur and a psychosomatic reaction may occur. In an operational reality such as an out-of-hospital emergency, suspending action and taking time to reflect on what is being done may seem unusual and threatening. It is precisely for this reason, perhaps more than in other sectors/departments, that there is a need for a physical place to provide a space to think, from where action can be resumed in a more conscious way.

After a particularly serious or difficult intervention, it can be very difficult to spontaneously let go of what has happened, intrusive thoughts can arise, leading to reliving the criticality of the event; if these are not addressed and overcome, they create a state of distress for the rescuer. In order to let go of the accumulated stress, it is necessary for the rescuer to receive understanding, to have the opportunity to talk to someone about their experiences. By talking, the rescuer can realise what

happened, what emotions the negative event caused for him/her, reaffirm that he/she acted in the right way and realise that he/she could not have done otherwise; in this way, he/she can overcome the feelings of guilt that arise from a possible failure of the mission.

In the course of life, everyone faces daily events that can create significant intimate distress. To cope with these circumstances, each person develops one or more operational and psychological coping strategies:

These strategies do not avoid suffering, but limit its quantitative and qualitative effects. They were identified by Lazarus in the 1960s as coping, which means that the person decides whether the source of stress is irrelevant, positive or harmful, and secondly assesses his/her own abilities and resources and makes attempts to cope.

Coping can be considered a multidimensional construct and a process involving several levels: emotional, behavioural, evaluative and social. Coping refers not only to practical problem solving, but also to managing one's own emotions and the stress resulting from coping. Coping is a key strategy for achieving well-being and requires a certain behaviour. The same logic applies in reverse, i.e. people who feel emotionally and physically well are more willing and motivated to deal positively with problematic situations and to try to overcome them or reduce their possible disadvantages.

3.4.1. Strategies for increasing resilience

A comprehensive study on increasing resilience by Calhoun and Tedesch identifies various personal and environmental factors that facilitate positive change in those who have experienced emergencies. These factors guide individuals to restructure resources that are helpful in experiencing positive changes in their lives. Factors that predispose to this process are event appraisal, some personality variables such as extroversion, conscientiousness, conformity, self-esteem, openness to experiences, optimism and self-efficacy. Problem-focused coping strategies and social support as an environmental resource are the most useful elements for positive change. Satisfaction with support and the quality of support from teammates and superiors, along with the perception of help received at the event, acceptance of the event and attribution of meaning to the event are all variables strictly related to positive change. The results of the studies show that the

factors mentioned above can also be considered as protective factors and resources that can be included in a psychological training plan that provides new skills and strategies for rescuers and emergency workers.

What is adaptation in resilience

- is a dynamic process in that it is made up of a set of reciprocal responses, whereby the environment and the individual influence each other.
- It includes a series of actions, both cognitive and behavioural, aimed at controlling the negative impact of the stressful event.

As a result, Majani (2002) identified several strategies that can be implemented:

- distraction, understood as an activity that diverts attention from the problem, the person can engage in all kinds of activities.
- redefining the situation, which is an attempt to see the problem in a different light, to make it seem more bearable or to make it fit into a framework that is known or that has previously been well resolved.
- direct action, which is everything that relates to gathering information about the problem, identifying possible solutions and taking action to solve it.
- catharsis, which is achieved by expressing emotions and responding to the problem to reduce the tension, anxiety and frustration that may be triggered.

Some of the coping tools and strategies for increasing resilience are listed below. Some of these will be described in more detail in Chapter 4.

Table 1. Coping tools and coping strategies

Coping tools and strategies to control stressors	Rațional
Psychological support	Especially for interventions involving great distress, for preventive education and as regular support. This is also an important role for the emergency department organisation, which needs to be able to control as much as possible the sources of stress for professionals working in life-saving. It should also provide opportunities for frequent meetings to avoid negative consequences.
Managing stress caused by critical incidents	The opportunity to give emergency medicine professionals space to talk about their difficulties. This space should be well structured by specialists in psychology and communication.
Debriefing	A controlled setting where emergency medical professionals have the chance to talk about the emergency situations they attend. Benefits: - Increases resilience - Helps prepare professionals to deal with high stress situations; - Helps them to come to terms with their feelings and any symptoms displayed; - Participants support each other; - Some of the problems are solved (e.g. guilt);

	- Participants feel reassured to express their feelings and find that they are no different from those felt by their peers; - Everyone is free to express their feelings or can decide to just listen.
Psychotherapy	It is essential for professionals to talk to a specialist about how they feel and what they have experienced outside of a briefing.
Physical activity	Sport and physical activity help manage stress and are effective coping strategies
Psychophysical recovery	Removing sources of stress by relaxation techniques
Training	Improving a person's training and clinical competence makes them safer and more able to deal with certain situations. In addition, it can be important to have training in emergency psychology, which prepares the rescuer to know what to expect and allows them to recognise some of the symptoms of possible problems.
Systematic desensitization	It is a relaxation technique that consists of associating anxiety with an opposite response, in this case deep muscle relaxation.
Humour	It has been found to provide a degree of tension relief and can facilitate the reinterpretation of a given situation or event and lead to the release of anger, which is an emotion often present in emergency situations.

3.4.2. Resilience building techniques

As already mentioned, resilience is not a gift, but an ability that is acquired over time. In fact, to become resilient, we don't need to make major changes in our lives: true personal improvement lies in that little extra step we decide to take every day.

Below I will describe some techniques that you can do, individually, even at home, that can make a major contribution to increasing resilience.

1 - **Good self-knowledge**

Resilient people have the characteristic of also being very self-aware. What does this mean specifically? Knowing what their strengths are, the values on which they base their lives and having a purpose that guides them towards certain choices.

They also know how to recognise their own limitations and when automatisms caused by old limiting beliefs/habits/previous life experiences come into play. In difficult moments, those with good self-awareness, although experiencing pain, have a deep confidence in their ability to get out of any situation, even if their mind apparently does not yet see a solution. This trait is also typical of those with good self-esteem who tend not to let events drag them down, allowing themselves to be overwhelmed by self-sabotaging mechanisms.

Another very important aspect of people with good self-awareness is that, in difficult moments, they know how to 'recharge', regain their energy and cope better with difficult times. All it takes is a walk, a meditation, a warm bath, any act of love that can bring comfort, calm, inner peace and introspection.

2 - **Listen to your emotions**

Those who have a good resilient attitude do not repress their emotions, but create space to receive them, listen to them and then ultimately manage them. Every emotion has its own purpose and function, especially the negative ones, they should not be repressed, let alone judged. They must be accepted and listened to because they tell us something more about ourselves, about a need that is missing at that moment.

Moreover, if we leave space for our emotions, thoughts are automatically pushed aside, and it is these thoughts that often cause us additional suffering and do not allow us either to accept the situation or to let go of the pain when necessary.

Listening to our own emotions allows us to connect immediately with the present, without thinking about past regrets or future worries, helps us to accept the situation as it is - which does not mean giving up and having no hope, but being aware that that moment will not define and determine our whole life. The moment we accept the present, with all the pain that accompanies it, we inevitably draw on our resources, shifting the focus to what is within our control.

Here's an exercise to listen to your emotions. Sit down, make yourself comfortable, light a candle and a scented stick. Sit there and observe the flame, smell the smell... and listen to yourself. Let all that needs to surface, like a flowing river. You may only need 10 minutes, half an hour or an hour. The important thing is to stay until you feel that you have lifted that weight from your soul that is weighing you down.

3 - Be persevering

Another fundamental attitude for developing resilience is perseverance, i.e. moving forward despite difficulties. But this is only possible if we set a goal that is really important to us. You may have already heard many times the example of Thomas Edison, who had to go through more than 1,000 failed attempts before he achieved the incandescent light bulb. His case has gone down in history, along with many others who have become important and influential in today's world.

To persevere in what is important to us, beyond setbacks and failures, it is therefore necessary not only to be able to bounce back quickly after each relapse, but also to tap into that "inner fire" that keeps us going despite everything.

If you feel that you are not a very persistent person, I would advise you to train yourself by applying it in small daily habits in your life. This might mean, for example, setting your alarm clock a little earlier in the morning and dedicating yourself to something you enjoy, challenging yourself to do this every day, or anything else... your choice! The important thing is to do something every day. Or you can decide to start a course or project of some kind and complete it.

In short: define a goal that can help you improve any area of your life, break it down into several actions to turn it into a project or habit, and carry it out! If you start, from time to time, to engage with this attitude, especially in the small things, you will undoubtedly end up increasing your perseverance side and develop more resilience when difficult moments arise.

4 - Build a positive mentality

Being positive does not mean ignoring the critical aspects of a situation or always being kind and good-natured, but it does mean focusing on what we can control. For example, a person who gives up easily when faced with a difficulty tends to always ask these kinds of questions: "Why is this happening to me? Will I be able to get out of this situation?".

On the other hand, a person who has developed a good resilience capacity thinks: "What can I do to improve this situation?". How can this situation teach me something, help me to be stronger?". All it takes to change one's mindset is to ask the right questions. The resilient person's questions shift the focus to what is within their control, i.e. their abilities, their sense of responsibility, their way of reacting in situations of risk or emergency. This ultimately allows him to focus on the solution rather than the problem.

On the other hand, questions from those who have not yet developed good resilience skills tend to lead to complaints and victimisation. Inner dialogue in this regard is very important, even reinterpreting a failure, giving it an empowering meaning, makes a huge difference. The moment we stop blaming something external and focus only on what we can learn well, we start a virtuous circle that allows us to get out of victimhood, unlocking any situation..

5 - Surround yourself with people who inspire you and look for reference points

"We are the average of the five people we spend the most time around" (Jim Rohn). If we find ourselves in an environment that doesn't encourage us to do our best, if we hang out with people who depress us, who don't encourage us to develop resilience in difficult times, then it's time to change company. Because choosing the people with whom we share our journey is also our responsibility. It is enough to have at least one person, the one we can talk to about anything, the one we can trust, the one we can open up and share with even in difficult moments, feeling understood, respected and stimulated. Finding this kind of support is a key ingredient that can nurture our ability to develop resilience.

Resilient people are also not only surrounded by people with a 'resilient mindset', but they also carefully and thoughtfully choose the role models they look up to. It is important to have as a point of reference people who set an example and from whom we can draw inspiration to cultivate resilience in moments of blockage.

6 - Feel gratitude

Gratitude is a very important resource for developing greater resilience, as it helps us realise that there is always something good to be grateful for. And this ultimately allows a person to feel less weight, less pain, when they go through a difficult situation. If we surround ourselves with the right people, as stated above, having someone to help and support us in difficult situations is already a huge reason to be grateful. Gratitude also allows us to not let negative emotions get too overwhelming.

If you feel like you're having a hard time right now feeling gratitude for even the smallest things, don't worry. Know that it is not a matter of routine, but a resource that is cultivated over time and does not appear overnight. That's why there are little strategies, like the gratitude journal, that can help you in this process. Why is it so important to have a gratitude journal? Because even if we struggle to write at first, even the simple intention of looking for something to say "thank you" for awakens that resource within us. In fact, remembering to look for something beautiful already triggers a shift in our perspective.

7 - Developing the ability to reinvent yourself

Life changes all the time. People grow and change. Values, priorities, emotions, thoughts change, our bodies change almost imperceptibly. All the more we can experience this phenomenon in the workplace, where, through digitisation, novelty and change are almost the order of the day. Always remember that every moment of change, however destabilising, can be experienced in two ways, as a crisis or as an opportunity. Having the ability to reinvent oneself and seize the opportunity that change offers is a fundamental characteristic of resilient people. We always have the opportunity to rediscover ourselves in something entirely new and different. We can do this by, for example, cultivating our creativity - which does not mean becoming artists, but cultivating lateral thinking, i.e. looking at situations from a different perspective. Creativity, like everything else, is something you train: why not try doing something you've never done before? There's always something we can learn that can help us get to know ourselves better, maybe bring out talents we didn't even think we had.

However, if we don't act, we can't discover it. If you feel you are lacking in creativity, I advise you to take a pen and paper and write down all the crazy things you would like to do that you have never done because you didn't think you were capable.

Another extremely simple but effective way to train our creativity in problem solving is to practice brain storming. Try taking five minutes every day for a week to find solutions to a problem. I suggest choosing something very mundane, such as "How to get to Oradea from Bucharest". How would you get to Oradea? By train, by plane, by car... and then by what? Write down all the most absurd thoughts that come into your head, it doesn't matter if they don't make sense! The function of this exercise is to develop your problem-solving and lateral thinking skills and to train your creativity.

8 - Recreate a routine

Being able to organise yourself even in times of confusion is very important for developing resilience. People who can quickly recreate a routine that gives them security manage chaos better, reduce their perceived stress levels, prevent impulsive actions and unwise choices.

Chapter 4
Emergency psychology and response

4.1. Emergency psychology

The first studies on emergency psychology date back to 1783, but the most detailed observations were made after the First World War. Emergency psychology officially exists in Italy, Cyprus and other countries, but not in Romania.

Emergency psychology aims to study, prevent and treat psychological processes, emotions and behaviours before, during and after a traumatic event. In particular, before the event occurs, intervention aims to prepare professionals working in emergency situations to deal with events that are expected to happen; during their occurrence, intervention consists of psychological first aid, which aims to support the person involved; after the traumatic event has occurred, the activity aims to reduce or overcome psychological damage to rescuers and victims through interventions to rehabilitate their psychological environment.

A psychological emergency is a moment of disruption of a person's psychological and emotional state as a result of one or more events, triggering circumstances, which require the mobilisation of new, unusual means, resources and psychological coping strategies. The object of study and intervention in this discipline is both the individual, who aims to restore the cognitive and emotional structure and protect from the destabilising action of trauma, for the individual, and the community as a whole, to prevent or overcome these psychological phenomena that occur in large human groups.

The level of intervention is therefore articulated in the field:

1. individual emergencies
2. collective emergencies

4.1.1. Rescuers as beneficiaries of psychological support interventions in emergency situations

The beneficiaries of psychological support in emergency situations are not only the people who have directly and concretely experienced the traumatic event, but also those who have suffered the threat in a different way, through involvement in the rescue of victims, such as professionals working in emergency medicine. In

addition, those working in emergency situations, such as rescuers, who are the first to arrive at the scene of the event, while developing particularly high levels of tolerance to stressors, are at high risk from a psycho-traumatic and psychological point of view, because they are experiencing vicarious trauma.

The study and treatment of psychological trauma is of particular importance in emergency psychology, in the treatment of psychological trauma, understood as a state resulting from one or more traumatic events, internal or external. Collective critical events involve multiple situations of victimisation to which correspond as many types of victims.

Of these, the literature reports

First level victims, which can include people who have suffered the critical event directly;

Second level victims, which includes relatives of first level victims;

Level three victims, which includes rescuers, professionals and volunteers, called to respond to the scene of the traumatic event, who in turn suffer psychological damage as a result of the event, due to the traumatic nature of the situations they have to face.

It is important to emphasise that the aim of emergency psychology intervention is not to change the situation, but to restore the level of functioning in the shortest possible time, to prevent medium and long-term worsening of psychological problems arising from the disastrous event and to integrate the institutional system of psychosocial care with the provision of an emergency service capable of operating on the scene in the early phases of the emergency situation.

Some differences between traditional therapeutic practice and crisis intervention are, for example, the framework, which in emergency psychology is unstable and unstructured, the focus is on assessing the current problem and available resources, adapting response strategies, developing new coping/response strategies.

In terms of operational techniques in emergency psychology, the most common psychotherapeutic approaches are:

Cognitive restructuring: this is essentially a modification of dysfunctional thoughts, known as automatic thoughts, because they are almost completely unconscious for the subject, which generates negative emotions that in turn negatively influence behaviour.

Desensitisation of traumatic memories: is a therapeutic procedure that aims to normalise and eliminate fear reactions and avoidance behaviour. It is characterised by two components:

1. An antagonistic response to anxiety, such as a relaxation technique;

2. Gradual exposure of the subject to stimuli that provoke anxiety responses through in vivo (in the office) or in vitro (in the imagination) techniques.

Problem solving: is a technique for solving a problem in a constructive and rational way. An algorithm of the problem solving process can be summarised as follows:

- problem perception,
- problem acceptance,
- problem description,
- generating alternatives,
- identifying the consequences associated with each alternative,
- evaluating the consequences,
- the decision,
- the decision-making process,
- implementation of decisions.

In recent years, specific psychological intervention procedures have also been formalised for primary prevention and coping with emergency situations, such as support, debriefing and debriefing;

There is a growing awareness that paying attention to educational aspects and psychological dimensions in such contexts is not a secondary option but a priority.

4.2. Importance of theoretical/practical emergency training

Rescuers can learn a range of interventions aimed at preparing them for impact, especially with highly emotional events. Such initiatives are about theoretical training and making the most of the resources and strategies they have already mastered. Taking advantage of theoretical and practical training can help the rescuer to realise that during their work they may have to deal with very strong emotions.

Theoretical training can be implemented through:

- analysis of stressors that may arise in short or long-term emergency situations;
- analysis of possible personal and collective reactions;
- knowledge of psychological and physical techniques and strategies to help themselves and cope with stressful experiences;
- analysis of non-productive strategies, such as excessive use of tobacco, alcohol or other drugs;
- recognising the signs of stress and looking for the best strategies to minimise the impact;
- training in defining and expressing feelings and sharing them with colleagues. This can help the rescuer to be more sensitive to their own stress levels and more willing to seek out and help colleagues;

- maintaining interpersonal relationships between rescuers, as it helps to strengthen the individual against stressful experiences and enhances the group's function of supporting the individual.

Practical training can be implemented through exercises and simulations, which can test both the technical skills of rescuers and the emotional experiences that are developed in these circumstances. The role of exercises and simulations is often underestimated in its psychological aspects. In reality, each exercise has the ability to evoke experiences and emotions related to the real situations it represents. In fact, it is precisely the soothing container represented by the exercise or simulation that allows them to relate to their emotions and fears with less fear and therefore to be able to express themselves more freely than they would in a real situation. In addition to exercises, there are other strategies that can be useful for this purpose. Role-playing is useful in situations that may arise in the field, to bring out behaviours and attitudes that might remain implicit, having only a theoretical basis. Participants, taking on different roles in different contexts, characterise the most common field situations and emotions in a scenario that evolves from a role-play to a representation of reality.

For example, a terrorist nerve gas attack was simulated at Roma Termini in Italy in 2004. This exercise aimed to check the timing and modalities of intervention, as well as the level of preparedness of firefighters in terms of resilience.

I will describe below in more detail the intervention techniques in the first moments after the rescuer has completed the emergency situation. These techniques have already been reported in previous chapters, but in a much more summary way.

4.3. Support techniques for emergency professionals

a) Support

Supporters are made up of staff who, after specific training, can provide psychological support to colleagues. Their function is important for two main reasons:

1. *Belonging to the same organisation*, which leads to the establishment of a climate of acceptance and sharing of colleagues' emotions and experiences. This limits possible mistrust and reluctance to approach a mental health professional about their distress. Often the cause of this resistance is fear of being judged as not

being able to cope with difficulties, or that they would have to undergo lengthy therapy that could affect their career.

2. *Colleagues can more easily* act as a bridge between fellow sufferers and mental health professionals. Because they are in daily contact with colleagues, they are able to detect potentially problematic situations before they become too difficult to manage. So these advocates have three important tools at their disposal to function properly:

- listening
- evaluation
- support

Through listening, they give colleagues the opportunity to express their difficulties, frustrations, fears and emotions related to a particular event or work situation; the advocate does not operate on the basis of diagnostic criteria, but creates an environment of empathic listening, where colleagues can experience a situation of mutual respect, shared responsibility for individual experiences and mutual agreement in identifying aspects of the need to ask for help from outside, without this being felt negatively. This can be done in an informal setting, but can also be done over the coffee machine or during a work break. Through listening, colleagues can assess whether the extent of the problem expressed by the colleague is such that it requires professional intervention. Supporters can be recruited on a voluntary basis by simply asking for their availability. The task of selecting people to fulfil this role should be entrusted to a team of psychologists able to assess the characteristics of the candidates, particularly in terms of their communication and listening skills, building empathy, problem solving, etc.

b) **Debriefing** is usually offered to the team in the first hours after the intervention, with the aim of expressing and sharing the emotions experienced. This activity will help the professional to understand what they have experienced and return to everyday life. Debriefing is divided into three distinct phases:

- **Induction:** in this phase the objective and methods of work are explained to the rescuers, making it clear that this is not psychotherapy and that everything that will happen must remain confidential;

- **Exploration:** in this phase, participants are asked to discuss their experience, to talk freely about what happened and how they felt. The aim of this

phase is to recount facts and experiences, sharing them with the group and realising that the professional is not the only one who has experienced these moments of anxiety, pain or confusion during the intervention;

- Information: the trainer provides basic information about the post-traumatic reactions that someone may experience after an intervention, but also in the following days. This phase aims to help overcome any kind of trauma of what has been experienced, as some emotional aspects, even if silenced or neglected by rescuers, need to be effectively addressed. At this stage, techniques for overcoming stress can be suggested, such as rest, exercise, avoiding alcohol and tranquilisers, or contacting specialists if one feels the need.

c) The debriefing is one of the main techniques used in a psychological intervention after a critical event because it addresses in a structured and protected way what happened and what it meant subjectively for each of the participants. In these cases, we are not dealing with an ordinary event, but with a traumatic event, experienced in an emergency situation, at the scene of the event, so debriefing becomes useful because:

- it increases internal cohesion and group trust.

- it promotes the integration within the group of the experience in an emergency situation to help group members regain an acceptable quality of life in a short period of time.

- encourages the process of identifying coping strategies to deal with emotions.

Debriefing should, unlike debriefing, be managed by a specialist with specific experience in group management, because a debriefing can provoke strong emotions that can cause much more serious distress if a psychologist is not present. Debriefing should also be organised between 24 and 72 hours after the end of the intervention and is divided into several stages:

- **Induction**: an important phase to establish the necessary conditions of trust in what is to be done. In this phase, the debriefer, after a brief introduction, explains to those around him/her the objectives and functioning of the meeting and its phases. There is no obligation to speak, only those who wish to do so may do so, leaving time for any of the rescuers to express their thoughts when they wish. This is why listening without judgement is essential.

- **The facts**: the leader invites the participants to present the event, to reconstruct it as objectively as possible.

- **Thoughts**: focus on the thoughts the rescuers had during the event.

- **Emotions**: this is the most delicate phase and requires the trainer to be able to maintain control over the psychological reactions of the participants. In this phase, participants present, share and analyse the anxieties, pains, hopes experienced during the event;

- **Symptoms**: it is essential to analyse and discuss the main symptoms presented and experienced by the group members and related to the event. For the participants, discovering that their peers have the same symptoms relieves them of that feeling of uniqueness and weakness that might make them think they are dealing with something pathological.

- **Teaching**: the specialist, linking to what has emerged in the previous stages, illustrates the characteristics of traumatic events, likely individual reactions and gives the main indications and advice for their management and coping strategies and demonstrated resilience;

- **Ritual**: a short ritual can be introduced, symbolically uniting group members and signalling the end of the activity

- **Conclusion**: participants' final questions are clarified and they are given the opportunity to discuss among themselves both what happened during the debriefing and their emotions and experiences.

d) EMDR

It is an acronym for Eye Movement Desensitization and Reprocessing, a therapeutic approach devised by American psychologist Francine Shapiro in 1989 that facilitates the treatment of various psychopathologies and problems related to both traumatic events and more common but emotionally stressful experiences. Today it is considered an evidence-based treatment for post-traumatic stress disorder also recognised by the World Health Organisation. EMDR therapy has a theoretical basis in the Adaptive Information Processing (AIP) model which addresses unprocessed memories, which can give rise to many dysfunctions. Neurophysiological studies have documented the rapid post-treatment effects of EMDR. The EMDR technique focuses precisely on memories of the trauma or stressful event and, using eye stimulation or other forms of alternating right/left stimulation, works to desensitise these memories. This allows a processing of the "traumatic" memories, allowing an adaptive restoration of dysfunctionally stored information. Another possible use of EMDR in the field of psycho-trauma is resource grafting, understood as the recall of positive moments, episodes, feelings, memories.

e) **Mindfulness** - was developed by Steve Hayes and his collaborators in 1986. The aim of this method is not to reduce symptoms, but to profoundly change the relationship we have with our dysfunctional thoughts and negative emotions. Only by pursuing this objectively will symptoms undergo remission. According to the theory that supports this approach, it is necessary to target the intervention, in case

of trauma, on the role played by avoidance behaviours, the main symptom of the disorder. The more a person struggles to try to reject any negative emotion by trying to avoid it, the more it will increase, thus amplifying the distress. On this basis, some authors (Segal, Williams and Teasdale, 2002; Linehan 1993; Hayes et al., 1999) argue that therapy for PTSD should aim, on the one hand, to reduce avoidance behaviours and, on the other, to increase the willingness to tolerate and accept the internal states characteristic of individuals with PTSD.

- The steps indicated in turn, which involve specific training, are summarised as follows:
- Focus on what is in your control.
- Acknowledge your thoughts and feelings
- Commit to what you are doing
- Identify your resources

Another important aspect in emergency psychology is counselling, which I will describe in the following lines.

4.4 Emergency counselling. What is counselling?

Counselling is not about telling the other person "what to do", but about making them understand their situation and helping them to manage it as independently as possible.

Counselling can be defined as an intervention with the following objectives:

- To correct the temporary imbalance
- To improve the rescuer's resources so that he/she can cope with and manage future crisis situations.

Counselling is therefore a set of techniques, skills, attitudes to help people manage their problems using personal resources. It is a process that addresses individual, social and cultural issues in a holistic way and teaches the person in need methods, strategies, techniques, goals.

Emergency counselling is for people affected by disaster, trauma, but also for rescuers, i.e. first responders, who, together with survivors, experience feelings of helplessness, helplessness, loss and trauma about what has happened. To cope with a 'disaster' situation, everyone develops one or more strategies that do not avoid suffering, but limit its effects. The same situation produces different reactions,

depending on the significance of the event for a particular person and their ability to cope with the traumatic event.

The main aim of crisis counselling is to reduce the likelihood of long-term mental disorders such as PTSD (post-traumatic stress disorder). Through structured techniques and interviews, the person is led to organise the lived reality, to normalise it, attributing a meaning and significance to the event that can allow the subject to place it as a past event.

The counselling process and its phases

A counselling process consists of three moments:

1. Understanding the problem - The first phase is the moment of acceptance and represents the building of an alliance and defining the contact between trainer and rescuers. In this first phase, the rescuer's objective is to understand exactly what the problem is. This is the phase of clarification, of moving on to understanding the emotions and behaviours experienced by the rescuer. The task of the counsellor is to help the rescuer as much as possible to express the problem, to facilitate discussion of the problem, to enable him to go deeper into the multitude of data and emotions presented.

2. Exploring the problem - The second phase allows for redefinition and clarification of the problem, i.e. encourages exploration and focus on the problem. The counsellor's task is to encourage and stimulate the rescuer so that he/she can determine and identify the real and true problem. This is the moment of problem awareness.

3. Managing the problem - The third phase aims to activate the rescuer's internal and external resources. It is therefore the time of management

problem by the rescuer. In this phase, the objective is to put the rescuer in a position to take charge of the problem and help him identify objectives and strategies to solve it. This is the time to identify options, assess and choose the resources to be used, and check the relevance of both the intended objectives and the results achieved. The counsellor is a person trained to use techniques to facilitate the resolution or ameliorate the situation of discomfort. All this without restructuring the rescuer's personality, but by using his/her resources. In the field of emergencies, several basic elements are needed to create a good relationship with the counsellor, such as person-centredness, unconditional acceptance, active listening, empathy, congruence and transparency.

The counsellor should serve as a support to the emergency team, should not impose his/her help on anyone, should treat the emergency operators as qualified experts and offer them the best possible support. The aim of the counsellor is to help operators manage the stress caused by continuous contact with death and suffering and this can be achieved by organising help and support groups in which the counsellor is an active part, in the sense that he shares his experience with the group as an equal and helps rescuers to manage possible failures which in disaster situations can be very frequent and may depend on factors beyond the control of emergency personnel.

A counselling desk should be present in every health facility, available to those in need.

4.5. Behavioural strategies and coping style to strengthen resilience

Human behaviours are extremely complex variables, which are all the more important in a context in which emotions are undeniably relevant. But it is more necessary than ever to emphasise the close links between the psychological aspects of individual experience (thoughts, emotions, behaviours) and wider social experience (relationships, traditions, culture). Interventions that focus only on mental health concepts such as psychological trauma actually risk ignoring aspects of the social context considered vital to individual well-being, such as family and community that define the sphere of belonging. Helpful actions also emerge from relationships that mature in the context of an emergency between rescuers and rescued people. It is therefore up to rescuers to foster good relationships from the outset through clear and transparent communication that builds trust and collaboration. Communication is considered one of the key elements for a successful rescue response and should be managed by experienced professionals who know how to break it down into different levels of interaction

Coping styles

As mentioned in the previous chapters, stress is considered a normal response to daily stimuli or events that generate physical and psychological disturbances or imbalances. It triggers several particular reactions. However, faced with the same potentially stressful event, people may have very different or very

similar reactions: it all depends on the perception and importance attached to this event, which is assessed in two phases:

Phase 1, in which one considers whether the event is positive or not and assesses its present and/or future consequences.

Phase 2, in which the body's ability to cope with the event is assessed. In this sense, coping refers to the cognitive and behavioural efforts that are developed to manage specific external and/or internal demands that are assessed as the individual's resource surplus or excess. Thus, coping is a comprehensive cognitive and behavioural process that will depend on a range of internal and external factors that intervene as resources or impediments and trigger a final response.

In the case of individual internal factors, we can mention:

- power
- motivation
- health
- personality type
- ability to solve problems based on previous experience
- beliefs about the power and control they need to exercise over their environment and themselves.

On the other hand, **external interfering factors** are usually:

- tangible or perceptible elements of the environment
- material resources
- social support which in turn can act as a buffer or directly influence the coping strategy to be used.

When it comes to coping with stress, we can refer to both coping styles and strategies. Coping styles refer to personal coping predispositions and depend on individual preferences in the use of one or another type of coping strategy, as well as their temporal and situational stability. They are characterised by being long-term responses associated with the personality pattern of individuals and which develop according to the culture and influence of the social environment. In turn, coping strategies are specific processes used in each context and can be highly modifiable depending on the trigger conditions. The use of both coping styles and coping strategies is determined by the nature of the stressor and the circumstances in which it occurs, as well as the influence of the environment or culture. With the intention of

organising some concepts, contemporary theories conceptualise coping processes by assessing people's adaptation to stressful situations in their everyday context. Another way of understanding coping processes is proposed by Moos (1993), who combines two perspectives in assessing coping. The author divides attention into coping and avoidance. Approach focuses on the problem and reflects efforts to manage or resolve life stressors. In contrast, the avoidance type of coping tends to focus on emotion: it reflects the person's attempts to avoid thinking about a stressor and its implications or to manage the affect associated with it. According to the same author, the coping method is divided into cognitive and/or behavioural attempts to manage stress and, together with the coping orientation, consists of the following strategies:

- Logical analysis: cognitive attempts to understand and mentally prepare to deal with a stressor and its consequences.

- Positive reappraisal: cognitive attempts to construct and restructure a problem in a positive way by accepting the reality of a situation.

- Seeking guidance and support: behavioural attempts to seek information, support and guidance.

- Problem Solving: behavioural attempts to take actions that lead directly to solving the problem.

- Cognitive avoidance: cognitive attempts to avoid thinking realistically about the problem.

- Acceptance/resignation: cognitive attempts to react to the problem by accepting it.

- Seeking alternative rewards: behavioural attempts to engage in substitute activities and create new sources of satisfaction.

- Emotional release: behavioural attempts to reduce stress by expressing negative feelings.

To understand the nature of the use of these types of coping, Schaefer and Moos (1998) point out that coping by approximation, including positive reappraisal and its relationship to seeking emotional support, planning to resolve the stressor, and researching for information about the stressor, can be considered adaptive to the extent that it helps the individual cope effectively with the stressful situation. On the other hand, avoidance coping can reduce the anxiety of the traumatic event, allowing the person to contain the anxiety generated by reliving the trauma. In this

way, avoidance coping would be associated with greater adaptation in the short term, whereas in the long term it would involve a maladaptive mode.

Several researchers have found that greater use of avoidance coping strategies correlates with greater symptoms of post-traumatic stress, just as coping strategies are associated with fewer symptoms, and women are most vulnerable.
If the understanding of coping styles is extrapolated to crises and emergencies, the mere fact of developing innovative practices, content, research and disciplines aimed at understanding the situation in its complexity in order to find the most appropriate solution, in itself implies an adaptive coping style.

The objective of psychological intervention in emergency psychology, as already mentioned, is to promote the recovery of well-being or psychological balance for affected rescuers, to reduce the risk of developing and stabilising forms of discomfort including depressive symptoms, or post-traumatic stress disorder or symptomatic images of coping disorder, through strategies aimed at enhancing the ability to cope with the traumatic effects of the event by developing effective forms of resilience. Interventions aim at facilitating the activation of emotional re-processing processes, promoting the recovery of individual and collective identity and security. Support measures therefore aim to limit and resolve possible negative reactions.

Understanding of the traumatic event and appropriate empathic support aimed at improving self-awareness processes often lead to sufficient measures for the remission and resolution of the distress experienced. Being able to make the event explicit and share their reactions facilitates for rescuers to a large extent the processing process. The most common reactivity in the immediate aftermath of the traumatic event refers to the emergence of recurring and intrusive memories or thoughts and images, malaise and discomfort in relation to subliminal stimuli, such as smells or sounds experienced during the traumatic event that trigger the same physiological reactivity as experienced during the event. There may also be persistent avoidance of stimuli associated with trauma and nightmares, sleep disturbances, irritability, difficulty concentrating, generalised tension and marked hypervigilance. Biological, psychological, social and interpersonal factors can integrate and transform a particularly significant traumatic factor, which the person has experienced, witnessed, or been confronted with involving death, the threat of death, serious injury or any threat to the physical integrity of self or others, into a true psychopathological disorder. The symptomatic, long-term persistent manifestation

produces a chronicity that deteriorates the adaptability of affected individuals. It is therefore necessary to intervene promptly in such situations with rescuers in the emergency system in order to avoid consequences for them that significantly interfere with normal functioning. It should be noted that the focus of psychological intervention is always articulated on the individual and social side and is not related to a pathology to be treated, but to a normality to be recovered, starting from the mentalisation of the new individual existential situation, as well as from the repair of possible consequences. This can be achieved by promoting the reconstruction of the individual identity redefined by the experience of the emergency situation and restoring collective security. In order to achieve a new form of individual restructuring, it is possible to address and process the traumatic event experienced, allowing the trauma to be realised conceptually, expressible and processable.

4.6. Intervention protocols for rescuers

There are real support programmes for rescuers (doctors, nurses, volunteers, national emergency medical assistance system operators, police, firefighters, military, Red Cross, civil protection, etc.) and volunteer organisations. Aid initiatives can be divided into preventive, support during response and follow-up. Emergency psychology, as well as the intervention and post-emergency phase, also deals with prevention, study, research, information and training of emergency workers to prepare them for the management of intense emotions that are activated in emergency situations.

The management of emergency situations from an emotional point of view is divided into several phases:

Critical phase - psychological first aid, defusing and demobilization, debriefing and individual interviews.

Post-critical phase - individual or family support counselling.

Pre-critical phase - preventive training interventions on traumatic reactions and psychoeducation. Consists of interventions that develop in the pre-emergency phase. Among these, psychoeducation interventions are of particular importance, realistic simulation, stress inoculation training (SIT)

- **Psychoeducation**. This phase includes all training interventions, which aim at imparting effective knowledge and skills and information elements related to reactions the rescuer may encounter in emergency activities. It allows a significant

normalisation of experiences and a better coping capacity towards the emotional experiences aroused by rescue events.

- **Realistic simulation** aims to activate experiences and emotions connected to the real situations they represent, even if in a theatrical way. In this case, the awareness of experiencing a realistic but simulated situation guarantees reassurance and allows the exercise to alleviate the degree of fear in the rescuer who is facing their own emotions.

- **Stress Inoculation Training** (SIT) is a cognitive technique, born out of learning theory and developed by Meichenbaum. It consists of a gradual and constant inoculation of stress. SIT is based on the theory that exposure to moderately stressful events serves to build an individual's coping resources and that successful adaptation to these events can facilitate the development of resilience to future stress. Through training, the activation of defensive emotional immune reactions for future situations to be faced is achieved. It includes a rich package of information on traumatic stress that can develop in emergency situations. It involves teaching the main coping and stress management techniques used by rescuers, teaching relaxation techniques, cognitive activities characterized by the production of mental images that bring the subject closer to the event to be confronted, teaching breathing control techniques and appropriate tools for acquiring the ability to cope with the critical event. Through the technique of guided imagery, mental image production allows the subject to "meet the event". Exposure to imagery facilitates the process of gradual adaptation to the traumatic event. The projection of videos allows exposure to traumatic situations that are activated in a protected context. The technique of role-playing, or role-playing, allows the rescuer to become an active part of a particular moment experienced in an emergency situation created ad hoc, allowing them to implement motor, emotional and cognitive responses and reactions as if they were actually experiencing that situation; the event will be experienced with full emotional, cognitive and behavioural involvement of the rescuer-in-training who will experience new responses and strategies useful to enrich their pattern of reactivity to the situation.

Thoughts such as "I didn't do enough", "I didn't understand", "I could have intervened earlier and it wouldn't have happened" become thoughts, which can trigger inappropriate emotions and behaviours in rescuers.

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