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# Leadership styles determine proactivity of employees - A vessel's example

## Abstract

A crisis event is out of the incidence that is stressful to many people. Stressor as an objective event causes stress in an individual however the level of stress is differently experienced. The affected individuals feel that they cannot fight a crisis event with common mechanisms of dealing. Leadership styles of managers in a large degree determine the proactivity of employees in the crisis events. There can be differentiated transactional, transformational and transcendental leadership. Historically, transactional leadership had been dominated over the years on board. Nowadays, there are more accents on transformational, or even transcendental leadership. Thus, different types of check-lists are introduced to increase situational awareness amongst employees especially in emergency situations. There are also different training and drills scenarios that cover different types of crisis events where employee affected learn how to react well trained and routinely. Familiarization with the anticipated situation, and "know what to do" in the real one, decreases the level of stress among individuals, and helps to react much calmer and focused. In this paper it was analyzed what is increasing individual resources to deal with stressful situation. In addition, individual reaction depends on the hierarchy's structure aboard; concretely leadership styles determine the proactivity of employees, which can be crucial in emergency situations. Research should be continued in the more practical examples from different types of vessels (eg through polls among seamen who are experienced in various emergencies) where it would be possible to find what is increasing individual resources to deal with stressful situations, and what kind of leadership is preferred by crewmembers, traditional or neoteric ones?

**Keywords:** Crisis event, stressor, check-lists, resources, situational awareness, leadership styles

## 1. Introduction

All living creatures are genetically programmed to fight for survival. The Spanish word 'ganas' describes a strong desire to participate in this struggle. This means the desire to put effort into work, to endure, to do all they need to survive, and move on - to safety. 'Ganas' is an extremely valuable feature [1]. It is stated in research that trainings, drills, emergency preparedness, knowledge, skills, experience increase the

person's resources for dealing with demands of emergencies. There is also emphasized importance of check-lists and emergency plans for crisis events. The proposed research analyzes the correlation between leadership styles and proactivity of employees on board, with an accent on emergency situations. Leadership styles of managers determine in a large degree the proactivity of employees in the crisis events. There are a large number of studies dealing with leadership styles, but there is no one linking these three leadership styles, which have been analyzed in the research, with the situation on board. Traditionally, there has been strong authoritative leadership style on board, based on hierarchy, which could be characterized as transactional. Nowadays, there is more liberal or democratic view of leadership. Transformational, or even transcendental style (which is still in development phase) intrudes as a necessity coping with more and more complex situations that cannot be solved by one person, especially in the event of emergencies. Bridge team management and resources have been replacing one man decisions in the last few decades. This research emphasizes the need and importance of leadership, based on the bridge team, especially in emergencies. Beside leadership, that can affect proactive behaviours, especially in emergency situations, the decisive factor in coping with increasing demands is seen in individual resources. This paper analyzes how to increase them in order to make a model of the balance between stressful situations (i.e. emergencies) and individuals who are affected.

## 2. Background of stressful situation

### 2.1. Crisis event as a stressor

A crisis event is an extraordinary, sudden, uncommon or rare incidence that could be very disturbing and stressful to many people. It includes threat or experience of loss, actual loss of persons, things or values important for an individual or group. People have the feeling that they cannot overcome the situation (or get out of the crisis) by themselves using the usual mechanisms of confrontation. This kind of event can produce a certain impact on an individual, a group, or even across various organizations and communities [2].

Stressor is an objective event that causes stress (as the inner state of an individual), but the level of stress depends on an individual's assessment and interpretation of the event. There is a threat, the sense of losing people, personal things, material goods, or ship in general, or endangering the environment. Affected individuals feel that they cannot cope with a crisis event with the usual mechanisms of dealing.

### 2.2. Balance model of stress

Stress is a common human reaction to an unknown and threatening situation. In an exceptional event on a ship, different types of people will respond with a different

stress level on the same stressful situation. In the case of vessel, everyone, starting with officers, including crew and passengers, face a stressful situation in some way. Stress is a normal, unconscious reaction to the stressor or stimulus. Stressor is a specific problem, challenge or threat, in the way that is perceived by an individual. Precisely, because of the subjective experience of an individual, the amount of stress varies from individual to individual and from situation to situation. Generally speaking, in prehistoric times the reaction of stress was a mechanism that focused the entire organism on survival after the threat of predators. Modern kinds of stress replace saber tigers, they have become more sophisticated, but the human reaction, in its essence, remains similar.

Stress is a psychosomatic reaction of the organism after exaggerated demands or pressures which are coming from the environment. Various causes of stress can include noise, language ambiguities, lack of light, hunger, thirst, heat, coldness, lack of ability, anxiety, working environment and working climate, time, fatigue, emotions, and working pressures as well as time limits. The three major areas of stress are tasks, emotions, and time [3]. The level of stress depends on the individual, apropos, on the ability of their own resources to catch up with the new, usually outstanding situation. Regular exercises and experience increase individual resources, as well as the skills required to cope with an extraordinary event, individual's personality, fitness, mental and physical education, and face-to-face strategies.
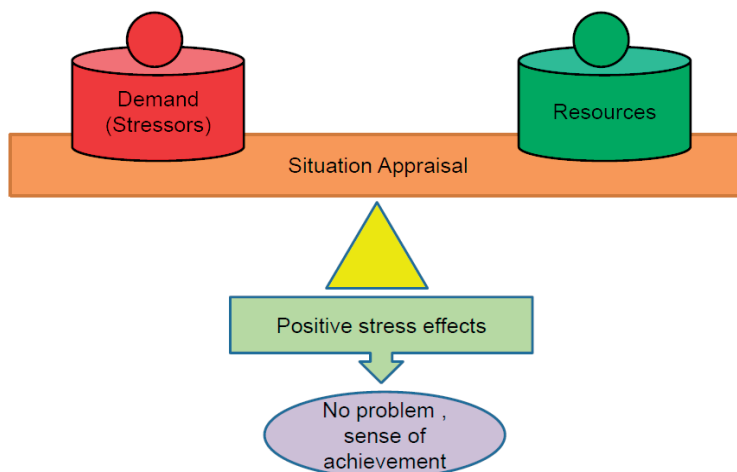


*Figure 1 - Individual balance model of stress, demands = resources [3]*

When environmental requirements and individual's coping resources are in balance, the individual has control of the situation and there are no negative stress effects. Situation appraisal of individual person is in balance if demands of the

environment (stressors) are in harmony with one's resources. In that case it can be noticed that positive stress effects contribute to positive reactions (Figure 1). Some physical changes that may occur include increased brain activity, increased blood flow to the muscles, and increased gain of adrenaline that increases heart rate and the body energy consumption. Such physical changes contribute to a better response. This leads to the conclusion that a moderate amount of stress contributes to an individual's better performance. The symptoms of moderate stress may be uncomfortable, but they are signs that the body is preparing for action. Such preparation includes increased heart rate, rapid breathing, muscle tension, increased sweating, colder palms and feet, dry mouth and slight nausea.

Where the environmental requirements are misbalanced with an individual's resources, such a situation leads to negative stress factors such as boredom, excess relaxation, rust out, complacency, inactivity, lack of attention, and reduced awareness of the situation (Figure 2).
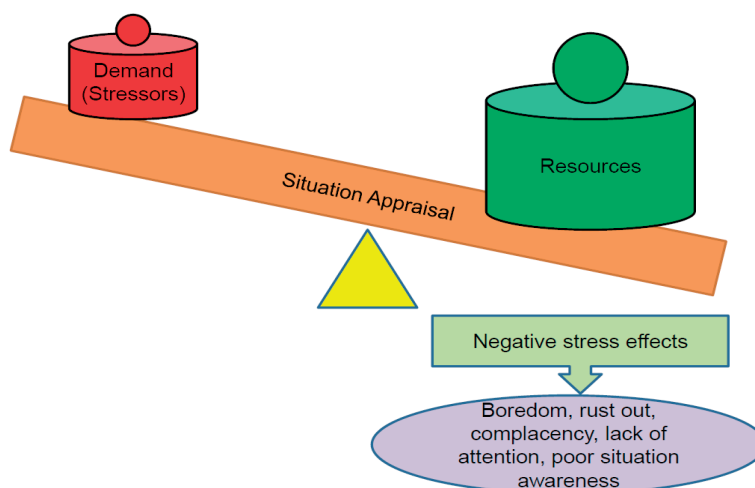


*Figure 2 - Individual balance model of stress, demands < resources [3]*

Increased environmental demands with regard to individual resources also lead to negative stress impacts such as ineffective decision-making, poor team working, failures in communication, and reduced situational awareness (Figure 3). Team members under the influence of stress become focused on their own tasks. People prefer to work within their comfort zone rather than having a complete overview of the situation. Team performance drops significantly. There are errors that evoke team work and communication, and the decision-making process. An individual more significantly influenced by stress has reduced cognitive functions such as reduced memory, reduced concentration, and difficulty in decision making. Excessive stress can

cause reactions that negatively affect the performance. Such reactions can be physical, cognitive, and behavioural. Physical changes are redness, increased sweating, and rapid breathing. Physical reactions include chest pain, breathing difficulty, dizziness, or physical collapse. Cognitive responses would be the impossibility of clear and quick thinking, performing simpler actions, and the problem of recognizing well-known people and subjects. Behavioural reactions would be symptoms of shock, fast mood swings, inappropriate emotions, inadequate remarks or guise. Behavioural changes also include unrestrained movements, irregular, accelerated, flaccid movements of hands and head, forgiveness, increased number of faults, signs of irritability, in addition to speech changes such as unfinished sentences, unnatural breaks, hesitation, and difficulties with finding the right words, unnecessary repetition, etc.
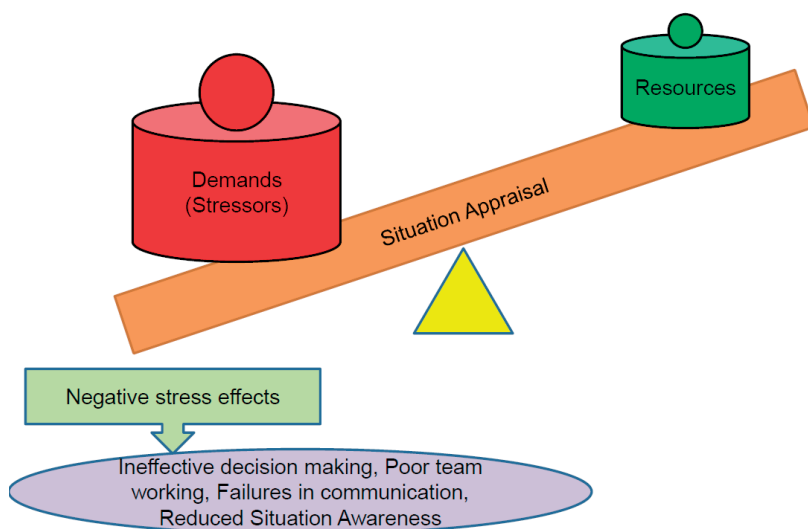


*Figure 3 - Individual balance model of stress, demands > resources [3]*

### 2.3. Stress on board – positive and negative impacts

Stress caused by an extraordinary event can affect the response of the ship's crew and passengers. There are positive stress impacts [4] where the crew facing a moderate amount of stress will be alert and motivated to face an extraordinary situation. Their physical energy, strength and endurance will be enhanced. Passengers who are under moderate amounts of stress can follow directions in emergency situations and take action to save themselves and others. On the opposite, negative stress impacts [4] occur where the crew facing an excessive amount of stress have

problems with thinking, making conclusions and in general failing to perform basic duties. Passengers who are under excessive stress can start behaving irrationally without being responsive, without any reaction. If the level of stress remains high, they need help from others, they have to be encouraged, primarily by the ship's crew that should help them understand the instructions in emergency situations.

## 2.4. Stress reduction measures

Stress reduction measures include recognizing stress symptoms, reducing workload, requiring additional personnel, giving priority to specific tasks, delegating tasks, working in a group or teams, giving priority to certain tasks, concentration or focusing on tasks, and deep breathing. Among those measures, good physical fitness, relaxation, and regular and healthy nutrition would also be the predominant factors. Humour is a good tool for stress. Prepared checklists and plans in the event of an extraordinary event reduce the level of stress. Education and training lead to routine activities and they also reduce the level of stress. An attempt to look at the whole situation and think ahead of potential outcomes contributes to facing a stressful, disruptive event [3].

# 3. Resource management - ways to increase individual resources

## 3.1. Checklists

Crisis events, situations, emergencies and emergency situations are already foreseen in advance with various types of check-lists on board, in order to increase situational awareness or perception of crisis events among employees. There are also diverse plans in a variety of emergency situations enabling easier implementation of predefined scenarios of crisis events. Different kinds of trainings on board are helping employees to get prepared for possible crisis events that might happen on board. Different types of drills and boat exercises verify the readiness and efficiency of employees, ship's staff, crewmembers and officers. Those drills tend to be as realistic as possible with a goal that, in case of a real danger and actual situation, endangered employees react promptly, readily, instantly and routinely. Getting familiar with potential crisis events, knowing "what to do", acting in accordance with the „know how" in the real situation, lessens the level of stress among individuals and helps them respond calmer and more focused.

An analysis of check-lists in emergencies shows that they consist of two parts: "Do-Read" and „Read-Do" [5]. The "Do-Read" part includes initial, critical, crucial actions, and procedures known by heart. The "Read-Do" part consists of think-over actions cross-checked with check-lists. The safety management manual consists of various checklists, such as checklists for the command bridge, engine room and safety

centre, that are used in various exceptional cases. Checklists represent clear, concise and comprehensive summary of the critical activity identified within an extraordinary event plan. Using checklists also ensures that some details will not be overlooked during stressful and exciting coping with the situation, or even in the phase following the event. Each checklist and the action plan in principle act as a common crisis event for a particular emergency situation. As a rule, any crisis event is an individual case in which instructions from checklists only become guidelines while there always remains the need for a certain aspect of improvisation.

Although exceptional occurrences rarely present themselves, it is essential that the crew are ready to respond quickly and appropriately. Such a reaction can reduce the effects of an extraordinary event and ensure the safety of crew, passengers, and the ship in general. In order to be prepared for an extraordinary event, it is important to have any emergency procedure well planned, and practiced in drills.

## 3.2. Emergency procedures

There are three main things that should be considered within the contingency plans - company plans and procedures, design and layout plan of the vessel, and safety regulations [6]. The International ISM Code requires each company to develop its own safety management system. Such a system includes the plans and procedures through which crewmembers are prepared to be able to respond to all imaginable events. Such procedures and plans are contained within the Safety Management Manual, which is held on board, and they are part of the required ship's literature. Plans and procedures must be held in three different places at least: on the command bridge, in the engine control room, and inside the safety room. Ship's and company's plans and procedures are to be in compliance with each other. They have to be customized for the ship design and adjusted for the respective vessel. It is possible to make some changes in the plans, yet only with the approval by the company that should allow any exception or change in the plan. The safety management manual must comply with the binding rules and regulations of all codes, guidelines and standards recommended by the International Maritime Organization, administration, classification societies and companies carrying out maritime activities. The most significant are the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 (MARPOL 73/78), and International Safety Management (ISM) Code. Each company must take care to have their Safety Management System and the appropriate manual updated and adapted accordingly in case of any change in the regulations. Crew members should get familiar with the safety regulations through trainings and exercises, drills, safety meetings, safety documents and manuals. Planning ahead of extraordinary events and emergencies certainly increases the ability to successfully grapple with an extraordinary crisis event.

Emergency plans reduce the amount of stress because they clearly prescribe and define what needs to be done in certain situations. In addition, the roles and duties of each member of the ship's crew are clearly defined in the alert schedule. Knowing what to do eliminates any ambiguity during an extraordinary event, whereby the amount of stress is certainly reduced. Clearly defined roles and duties of crew members in emergency situations increase the commitment to their performance. Focussing on tasks also reduces the amount of stress.

Drills also reduce the amount of stress. They improve the skills and teamwork among the crew and increase their level of self-confidence that they can cope with the particular situation. The awareness that they are competent to deal with an extraordinary event also reduces the amount of stress and in case they have to deal with situations that overcomes their abilities, the amount of stress will increase proportionally. The positive attitude of the crew creates self-confidence that an extraordinary situation is a challenge that has to be faced and resolved, and it also reduces the amount of stress. A well-trained crew can expect a lower level of stress from the passengers. The crew who are not well trained may be expected to react similar to the passengers. Not trained crew and passengers under stress can behave strangely in different ways. Some of these behaviours are denial of the situation, panic or shock, pursuit of close friends, friends or personal belongings, searching for safety in their own cabins. It is in the psychology of human beings that in case of an accident in enclosed space they move upstairs, so in case the ship is listed they move to its higher parts. Information reduces the amount of stress in passengers, especially the information on what has happened or is happening, what has been done so far, and what the passengers are required to do. Crew members are expected to lead the passengers. If the crew behave securely, authoritatively, showing that they can cope with the situation, the passengers will take their example, what will also reduce the amount of stress on the passengers.

The purpose of drills as the preparation for an extraordinary event is not only to train the crew, but also to test plans and procedures. It's easy to spot weaknesses and disadvantages of plans for outstanding situations such as items that are forgotten or overwhelmed, unnecessary repetitions, or steps out of order within the plan. Emergency procedures must be planned for all possible conceivable extraordinary and crisis events. Such procedures must be logical and coordinated responses to crisis events. Plans take into consideration any possible factors imaginable and the lessons learned from previous maritime trials and case studies benefit them. It is important that the crew follow the respective approved procedures to ensure that all critical points are covered and that there has been no major oversight introduced in an emergency situation.

Regular drills ensure that approved procedures are carried out by the crew within a crisis event. The crew should perform the correct exercise according to the exercise scenario. In the event of a real accident, the crew will routinely respond in the same way. The crew must have the latest knowledge of all safety procedures as well as

emergency procedures that are related to their obligations and action areas. The best way to 'be in the process' is to participate in trainings, exercises, and to regularly attend any safety meetings. If the ship's crew are aware of the common safety and are cautious, they can often identify and report anything wrong before it is registered by detection devices or before an extraordinary event develops. Safety behaviour and safety attitude comes from the supreme management. If the company itself and the ship's officers approach the safety issue seriously, that attitude will be transferred to the crew of the ship.

Although good, quality trainings, exercises and drills increase the awareness of safety of the crew, as well as the seriousness of the approach to safety at the management level, the level of alertness or 'emergency preparedness' [6] is the best indicator of the crew awareness for the extraordinary and crisis events. This level of alertness is both the result and the consequence of all the aforementioned. Research shows that a crew that regularly practice extraordinary situations show the best response in case of a real extraordinary event.

Advance planned and approved procedures in an extraordinary event as well as regular drills in which ship's crew are capable of acting as a trained team result in the appropriate preparedness for the crisis event. In an extraordinary event, the crew must know what to do and how to do it. Drills give the skills and possibility for practicing emergency procedures. Drills build self-confidence, readiness and dependability on own skills. The ship crew also learn to act as a team. Drills also show where there is a lack of knowledge within the process and where the skills should be improved, such as, the response rate. This type of problem can easily be removed or improved in subsequent drills and afterwards in sessions. Effective drills must be relevant, realistic and unpredictable. They should be varied to cover any extraordinary event possible as well as lessons learned from previous maritime accidents, chiefly within the company, especially on similar ships and sister-ships. Relevant drills are those that relate to a possible real situation. Crew participation and attitude must look like behaving in a situation that can really happen. In this case, the crew are much more involved, cooperative and committed. Drills based on actual accidents are also good because such situations can be repeated. Especially if there has been a mistake in the procedure, the crew can, by practicing such situations, learn what has gone wrong and what action has to be consequently corrected. Realistic drills partially replace the experiential situation. The more realistic drill the better preparedness of the ship crew for a real situation. A drills itself should not be understood as an exercise, in order to prepare the crew for a more serious response if an extraordinary event occurs. It should not be performed half-heartedly. Good drills should also be unpredictable, so that the crew can learn how to deal with unexpected situations, to learn to think beyond the usual pattern of action, act under an increased level of stress, etc. In addition, if held at different times, drills will better increase the initial crew response than when carried out always at the same time. Surprisingly, unpredictable drills can

be a lack of proper equipment or its malfunction, blocked corridors and passageways, and 'injured' persons. Exercises demonstrate the ability of the crew to demonstrate practical knowledge and skills, or to practice procedures in extraordinary events. Drills are not always successful. But this does not necessarily have to be a failure. They can point out where there is a need for review, clarification, familiarity with certain elements, or require future training and repeated training of persons who did not meet standards within the drill.

In order to make the team react in the right way in an extraordinary event, every member of the team has to be prepared and trained, guided to develop to the required level. The ability of the team depends on the good leader and the practice of team work. Skills are trained and maintained at the required level on board in several different ways, including short meetings in which a certain team (e.g. Bridge Team) discuss different simulations of crisis events (table top exercise), short exercises in which individuals present procedures to be made in the event of an extraordinary event (touch drill), through checking the knowledge of checklists in an extraordinary event as well as checking how to use the equipment and resources used in,  mental readiness expressed by the "what if?" syntax, by keeping surprise exercises, and maintain full exercises on a regular basis in which the performance of both individuals and different teams of people is evaluated on certain tasks by the management.

## 3.3. Emergency resources

Correct use of resources in extraordinary and crisis events also belongs to the level of readiness and quick action within an emergency. Resources within the crisis event include persons and things, such as officers and crew of the ship, active passengers, equipment for emergency events and outdoor personnel and equipment, most often from the port where the ship is docked [6]. The crew of the ship in the event of an extraordinary event shall act according to the duties prescribed in the muster list. The resources include communication means, fire-fighting equipment, rescue equipment, life-saving appliances and medical equipment and supplies. More capable and more active passengers can also be a resource within an extraordinary and crisis event. Such passengers include doctors, soldiers, police officers, and fire-fighters that are already well disciplined and trained to face extraordinary events. There are also helpful persons who speak more languages, travel guides, teachers, or all those who in their work have to manage a group of people. Resources are best used if they have already been planned in emergency procedures and the crew are trained how to use them. Drills and trainings allow the crew to learn how to use resources and equipment, but also test the correctness of the equipment. Due to an extraordinary event, some of the resources may be reduced or completely inaccessible, in case when improvisation is required, and it is a good practice in certain drills to have limited use or limited availability of some resources.

### 3.4. Situational awareness

Situational awareness would be most easily defined as knowing what is happening around us. In principle, it is a dynamic and continuous construction and maintenance of cognitive processes with a purpose of producing a good mental image, and to have an idea of what is going on outside [7]. It is important for an individual to continuously observe their environment or workplace, through visual and auditory way, and through the instruments. Challenges that arise are too much complacency, too much self-confidence, and routines that can lead to a mistake in perceiving the situation. One great mistake that can be made here is to confirm one's own prejudice about the new situation by accepting only the information that is beneficial to us or our own concept, and denying the signs that come out of our mental framework. To be aware of the situation, it is important to be "ahead of the ship", respectively anticipate events that will follow in the immediate future. In forming a mental image of a situation or situational awareness concentration is certainly important, while factors such as fatigue and stress contribute to mitigating situational awareness, but there are also negative influences like distraction, breakdown in work, and excessive workload.

Situational awareness is the ability to form an image from all available pieces of information and external stimuli that enable the individual to evaluate and react according to the situation in which they found themselves. This ability is required in everyday duties as well as in extraordinary and crisis events. Drills for extraordinary events also train and test the level of situational awareness on board. The most important factors that affect the situational awareness among the crew are safety awareness, knowledge, skills, training and experience. These factors can be upgraded if the company and management on board take care of safety through various exercises and emergency drills, through subsequent reviews and through clearly defined duties set up in crisis events.

### 3.5. Importance of debriefing

Debriefing after a performed drill helps the ship's staff analyze their role within the drill and in particular to evaluate the performance of teams and achievement of drills in general. Likewise, one's own performance as seen by someone else's eyes helps in the different interpretation of one's own roles and actions. It enhances and expands the general image by listening to the experience and exposure of other crew members and increases teamwork among groups. An effective review should include the benefits of the drill held, the deficiencies and mistakes that have been made, the commitment and involvement of the crew, and suggestions for improving the performance or procedures. The best time to debrief is immediately after the end of the exercise, when the impressions are still fresh and the blood full of adrenaline. They should start and finish in a positive tone. The crew should be encouraged to make their own analysis

and assessment of their role and to actively participate in the review. Then they will learn more than just by attending the gathering. Increased and active participation in reviewing will also increase active participation in future exercises.

# 4. Leadership styles

## 4.1. Contemporary access of leaderships

Leadership is a process in which an individual influences a group in order to achieve a common goal [8]. Following the above definition, we see that being a leader means an important interaction with their followers or team members. Transactional leadership is the one in which a group of people is focused on a common goal, although it is not expected of individuals to be proactive, but to perform the tasks that are intended for them. Leadership would be the process of directing others' behaviour towards the accomplishment of a goal, with people ordered to act in a certain way and to follow a certain path. The Anglo-Saxon etymological root of lead, leader, and leadership-led, leader and leadership, is "laed" meaning "pathway" or "path". The verb leaden means "travelling" [9]. The leader shows the way to his companions, walking in front of them [10]. Usually, the domain of leadership can be regarded as the equation which includes the leader, the follower, and the situation. The style of leadership is a cross-section of all of these dependent variables or sets and it will mostly depend on the attitude of the leader and the followers. Often, along with leadership, there is a notion of power. An individual has the power when acting on the values, attitudes and beliefs of others.

## 4.2. Efficient leadership and decision making

A quality decision can be made if the bridge team combine checklists and different perspectives and expertise within their own team. There are two types of events, known and unknown. When something happens, it can be urgency, necessity, an unusual event, a disorder, or a problematic situation. Our task is to determine the cause, the development of the consequences, whether they are a known event (if we already have experience with such a situation) or unknown (if we have not yet encountered such an event). The procedure for the event is that, if it happens, the first step is to identify and recognize it, and the next step is to make people within the team (e.g. the command bridge), or the whole ship, aware that the event has occurred. In the known event, we follow the usual checklist for this event, activate the appropriate action plan, and follow the procedures therein specified. The event may also be unknown, i.e. the one we've never met before. In this case, we need to define the type of events, and also make people aware that the event has occurred. It is desirable to use your own team of people as a resource before activating a plan of action, because someone has probably

already encountered an unknown event and might have the necessary experience. Nowadays, there is an increasing use of the SITREP (Situational Report) method on board the ship. The word is borrowed from the military terminology, meaning a periodical report on the current military situation. In seafaring, SITREP is considered a systematic working method for achieving optimal awareness of the newly created situation, the event that has taken place in order to make quality decisions with the whole team involved. The use of systematic working methods includes time savings, the possibility of repeating the same procedure in different scenarios, reducing the risk of human error, improving the efficiency and effectiveness of the team, harmonized and consistent working methods, reducing the negative effects of changes in crew members. The advantage of SITREP would be to use the whole team's awareness of the newly created situation, the extraordinary event, and team risk assessment, which helps us make the best decision, taking into account more points of view. Within the team, each individual presents their position, or the most important elements of their situation, so the entire team have an insight into each individual reaction or action. In such an environment it is very important to respect discipline, to speak in line, and to be concise and clear. Otherwise, the decision-maker will need to spend more time to recognize what information is relevant in the noise of the data that have been reported. Each member of the team should provide information that is relevant, short and clear; English terminology uses the mnemonics method using the initial letters of adjective ABC (Adequate, Brief, Clear). Each member of the team, along with the presentation of their own concise information, is invited to propose actions that should be carried out in their opinion. The person responsible for making decisions on the basis of the received information and suggestions draws up a plan of action, describes the strategy, i.e. clarifications that should be done at the end of the plan, and gives orders and assigns tasks to team members. It is important to emphasize that every member of the team can request SITREP, but it starts when a responsible person (leader of the team, person in charge) decides. Most commonly the method is used when the responsible person (in charge) is unconscious or is not certain of a certain situation, i.e. their perception or awareness of the situation is reduced. Or, if the responsible person considers that the team is not aware of a newly created or existing situation. The responsible person uses SITREP as a platform for the future action plan within the newly emerging event. Sometimes SITREP is used as an accelerated method of taking over the ship's watch on the command bridge or in the engine room, within an emergency situation.

## 4.3. Effective leadership and leadership styles

One of the many definitions of leadership is given by Mick Yates, taken from his official website [11], which states that leadership is an energetic process of attracting other people who are completely and voluntarily committed to a new and sustainable direction of action, in order to meet the common goals, sharing common values.

Being a successful manager is impossible without being a successful leader at the same time. There is a famous phrase that without followers, there is no successful leader. Some people by their genetic predispositions are more likely to be leaders in emergency situations, but to be a successful leader certain experiences need to be gained. To be a successful leader, you need to have awareness of your position, as well as the position of others within your own team, to be open for the suggestions, advices, messages and information of members, to develop a clear direction of action, to reduce the influence of discouraging persons, or their behaviour, to be an example to each team member. Richard Jeffery in his book "Leadership Throughout" (2007) lists the leadership of the leadership in which he lists five main issues with a successful leader: Awareness (self-awareness, empathy, influence on the behaviour of team members), Direction (direction of action, defining goals), Openness (patency, message sharing and information among team members, two-way communication), Atmosphere (creating a modus for self-motivation of team members), Doing (doing things, taking action, acting, by showing it to others) [12].

The goals should be according to the acronym SMART [13] (attributed to Peter Drucker (1955) and G.T.Doran (1991)) and should be consistent. The SMART acronym is now commonplace among managers who define goals.

- Specific - clearly recognizable and communicated
- Measurable - progress can be objectively measured
- Achievable - goals can be achieved within available means
- Realistic - suited to the ultimate outcome / goal
- Timebound - known deadline

There are two types of leadership, differentiated by the leaders who give orders, directions and guidelines, and the leaders who give support. The leaders who give orders generally expect the tasks to be completed and the given guidelines and instructions followed, while leaders who support their employees are more open and willing to listen, explain and make it easier for their employees. To lead a multicultural team of people, which is most common on board, requires special preparation. By being ignorant or not knowing the basic mores of their employees the leaders may turn out prudent, rough, rude, be at a distance, unpleasant, abusive, weird. To lead a multicultural team of people means to increase the boundaries of understanding, to respect others, to learn what motivates them, to be consistent and to use the names of people within the team. For a successful leader good practice means to reach the balance between the authority level and subordinates, to maintain set standards, to plan tasks, or to give priority to certain tasks over others, to manage workload and available resources, not doing what subordinates can do on their own, but to give them support and encouragement, communicate and interact with their team, and encourage them in case they are uncertain. A successful leader, in addition of giving orders and guidelines, should definitely lead his team, be supportive, and properly assign tasks and goals, using the SMART acronym.

### 4.4. Team situational awareness

The mental model within the team is achieved through communication, especially with the "think aloud" technique, about the current situation as well as future intentions, which involves other team members in the joint cognitive process. In this case, team members can participate or prevent possible negative consequences. Visible indications that a member of the team has lost awareness of the situation can be his ambiguous answers, fixation, or focus on specific details, confusion, lack of required information, inability to perform basic tasks, inability to achieve expected goals, inability to resolve inconsistencies in his behaviour, action, speech… Maintaining good situational awareness means good awareness of all team members, ability to work (restraint), minimizing interference and interruptions within critical tasks, closed command bridge (Closed Bridge) during extraordinary and crisis events, regular updating with information and on current situation, to think aloud about situations and planned actions accordingly, to raise voice in the case of a misunderstanding, the leader should think about the timeframe required by the situation and assign the tasks to team members accordingly. In acting and making decisions alone there is an increased risk of errors to be made. One of the characteristics of a good team presents itself where information is exchanged, or where co-ordination between individuals is coordinated, with clearly defined tasks and objectives. Within such a working atmosphere, the risk area is reduced in making and implementing decisions (Figure 4). The Bridge Resource Management reduces the error risk area and helps the bridge team to anticipate and properly respond to demands of newly created situation. It is visible in the pie diagram that a leader acting alone has a 23% possibility (Risk Area, coloured red) to make errors. By acting within the Bridge Team, considering their experience, knowledge and finally, their situational awareness, the risk area is reduced to 10% (coloured red). A 13% reduction is split among Officer (8%, coloured purple) and Able Body Seaman (5%, coloured green). The total relevant knowledge or situational awareness increase from initial 77% (coloured blue) up to 90% (77% + 8% + 5%, combined blue, purple and green clips). The values and percentages are taken from the presentation "The Human Element" within the course on Bridge Resource Management, held in CSmart (Centre for Simulator Maritime Training) training centre, in Almere, Netherlands, as mentioned in references [14].

To additionally increase or add more people in the Bridge Team does not necessarily lead to better performance of the Bridge Team. Too much stir on the Navigational Bridge can even reduce situational awareness of the whole team, and contrary to the intent, increase the risk area (red coloured clip). The ideal number in the team depends on the situation (e.g. routine or emergency, open sea navigation or manoeuvring in the port) and also on the leader himself and his assessment (which also make good leadership characteristic). A separate study should be made, taking into account many factors to define the ideal number of the Bridge Team, i.e. rank, skills, knowledge, education, familiarity with equipment, etc..
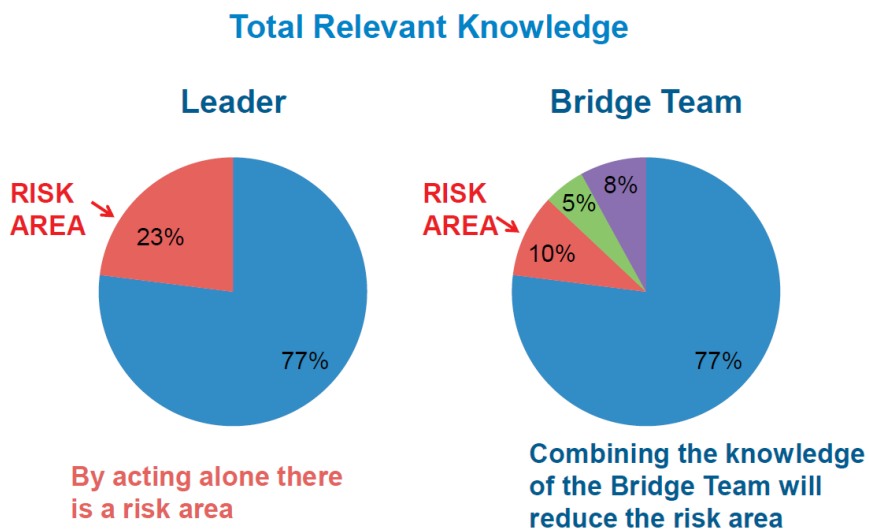
## Total Relevant Knowledge

### Leader

### Bridge Team

RISK AREA → 23%

77%

**By acting alone there is a risk area**

RISK AREA ↘ 10%

5%  8%

77%

**Combining the knowledge of the Bridge Team will reduce the risk area**

*Figure 4 - Managing error risk area, Bridge Resource Management [14]*

### 4.5. Decision making

Good leader within the bridge team is capable to make the decision that best suits the current situation. In general, the leader gathers information, assesses the situation, allocates tasks among subordinates and followers, plans ahead for extra equipment and personnel where necessary, adjusts action plan as required by changed situation. In following the established procedures the leader needs to estimate where an improvisation is required, or priority to specific tasks should be given.

### 4.6. Transactional, transformational and transcendental leadership

Good leaders with their own actions give good examples to others, make timely decisions, act quickly, have power of motivation, persuasion and encouragement. They are characterized by quality, enthusiasm, confidence, courage, reliability, and determination. A trusted leader demonstrates an initiative, a good estimate, and has the right knowledge according to the situation. Leadership styles of managers to a large degree determine proactivity of employees in the crisis events.

During the crisis, proactive organizational behaviour depends on the type or leadership style applied by a crisis manager in relation to associates, as well as to all members of the organization, because he has to induce others to accept and to

manage the changes. Most commonly, there can be identified two traditional types of leadership: transactional and transformational leadership, whereby the transactional is usually negative, and the transformational is positively correlated with proactivity [15].

Transactional leadership is characterized by emphasizing authority and power in order to achieve the ultimate goals - planning and executing a defined work task. In doing so, the transaction manager rewards each successfully completed task and punishes unsuccessfully executed tasks; he does not require his or her subordinate additional contributions, but solely fulfilling the formal job requirements, which results in employee de-motivation and results in (undesired) dictator status of the leader. Transactional management is not a good choice if the leader wants to keep his/her employees proactive, because even in the case of maximizing all the benefits of this type of leadership, the application of this type of leadership encourages employee behaviour only under the official requirements of a job [16]. Transactional leader is determined by authority, power and self-confidence. His followers are expected to fulfil formal demands and requests. As a final outcome, there are completed work tasks and expected outcomes. Transactional leadership is characterized by the system of penalties and awards which can discourage followers, so there is no or small proactivity.

Transformational leadership emphasises people and their abilities - innovation, creativity and motivation of employees by adjusting their personal to organizational values to improve employee working conditions. Transformational leaders are inclined to developing good interpersonal relationships, empathy and joint collaboration, understanding the contribution of each employee to continually set organizational goals ahead of their own in order to successfully achieve a vision. As a result, there will be a sense of contribution and own value for proactive employees, and consequently an increased willingness to cooperate with the transformational leader who acts and promotes such a practice [16]. In this kind of leadership, an accent is on people and their competences. Innovation, creativity and motivation of employees are appreciated. Leader maintains inter-personal relations, empathy and joint co-operation. Followers set organizational and team interests in front of their own, in order to fulfil a vision set. Employees feel personal contribution, they have a feeling of self-worthiness and finally, proactivity includes increased willingness to cooperate with leader. Usually, the outcomes are expected to be exceeded. Transformational leadership is a process that changes people, which includes emotions, values, ethics, norms, and long-term goals, as well as assessing the motives of followers, meeting their needs, and treating followers as unique human beings. Transformation guidance involves an exceptional form of influence that encourages followers to achieve more than what is expected of them [8]. Transformational leadership increases awareness of the subordinates of the importance and value of determined and laid down goals, helps followers overcome their personal interests in the name of multiple goals, organizations or teams.

Transformational management results in greater effects than the transactional one that results in expected outcomes, while the outcomes of transformational leadership are expected to be exceeded. Through transformational leadership leader affects the members of the team in a way that they realize their full potential, personal development and achieve more than what is required and expected of them, and overcome their own interests for the benefit of the organization. Transformational leadership creates an atmosphere of co-operation. Organizing through employees' engagement in activities maximizes their effectiveness.

In recent times, vis-a-vis transactional and transformational leadership, there is transcendental leadership to be contradistinguished [17]. Transcendental leadership is based on the relationship of personal influence by which employees are not only motivated by financial rewards and the inherent interest of their work, but also have a personal commitment to leadership to achieve an important joint mission. This means that a transcendental leader can influence people not only by rewards and punishments or by challenging professional challenges, but by invoking their awareness that other people need their well-done job and by linking them to a sense of mission. This approach enables a transcendental leader to create new leaders, thus creating a fertile ground for further employee proactivity [16]. In transcendental leadership, followers are not motivated only by awards or interested in the work tasks, they have personal obligation towards the leader to achieve the common mission. Leader creates new leaders among followers, whereby making a high degree of proactivity present.

One of the basic dimensions of proactive employee behaviour is collective activism, which implies a high level of commitment and support of the organization's employees to protect organizational interests from external threats as well as all kinds of internal weaknesses [18]. Leadership of crisis managers largely determine the proactive behaviour of employees in crisis events, thus distinguishing transactional, transformational and transcendental leadership. Historically, ships were dominated by transactional leadership over the past time. Today, there is more emphasis on transformational and even transcendental leadership. The style of a crisis manager includes a clear demonstration of authority, determination, and confidence in the characteristics of transaction leadership. For effective communication and development of employees' trust, it is necessary to include the components of the transformational leadership style as it is the basis for creating a partnership relationship. Again, the concept of transcendental leadership offers some new guidelines in which employees take on additional responsibility, become more proactive, which can be of crucial importance in a crisis event.

It is important to emphasize that there is no ideal approach that would apply to all situations and give a unique formula for successful leadership. A successful leader must be aware of the importance of lifelong learning and must strive for continuous improvement both in his own and in his or her followers or subordinates. Successful leaders often have a strong charisma and ability to influence the subordinates. A

successful leader should build his standing on the power of a person, knowledge and expertise. Leader needs to adapt to the different situations and tasks they bring, takes into consideration the needs of his followers, and tasks set up by them.

## 5. Conclusion

Stress on board is mostly generated due to crisis events, emergencies, unfamiliar, and unknown situations. Emergencies could be foreseen by various types of check-lists. Performing tasks and following prescribed procedures decreases stress. Experience, knowledge and skills increase individual resources for dealing with stress. The quality of team response arises from appropriate leadership. There is no ideal approach for all imaginable situations. There is no universal formula for leadership style. Traditionally, transactional leadership had dominated over the years on board. Nowadays, there is more accent on transformational, or even transcendental leadership. To deal with crisis events and emergencies, the elements of transactional leadership such as authority, resolve, self-confidence are good tools, but not enough for emergency situations. Effective communication and development of employees' trust, common mission and increased proactivity characterize transformational leadership. Once traditional and strictly hierarchical, in which only one person makes decisions, has been recently replaced with bridge team decisions. Hierarchy is still present, so it seems that the combination of transactional and transformational leadership is the best solution. Bridge team can reduce the errors' risk area, and the leader can use human resources inside own team. This research points out the importance of bridge team in the case of emergency event and emphasizes the key factors that could influence the making of decision which can be very complex and affect lives of people, safety of the ship and environmental protection. Individual resources can be increased by stated techniques and procedures, in order to decrease stress evaluation by individual. Further research can be based on procedures, techniques, factors and tools which can bring balance between stressors and resources in emergency situation. Research can be conducted to specify the best combination of different kinds of leadership style. In regard to Bridge Team, a separate research should be carried out, taking into account different situations and including many factors (i.e. rank, skills, knowledge, education, familiarity with equipment, etc.) to define the ideal number of participating persons.

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