

Iulian Boldea, Dumitru-Mircea Buda (Editors)

CONVERGENT DISCOURSES. Exploring the Contexts of Communication

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EXPERIMENTAL DESIGN REGARDING THE INFLUENCE OF CREWS MULTICULTURALISM ON SHIPPING OPERATIONS

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Abstract: The study aims to identify and describe the particularities of multiculturalism in multinational naval crews of shipping goods from a psycho-social-cultural perspective.

The systemic approach of interdependent variables responsible for accidents and incidents at sea imposed their operationalisation by building an opinion survey. The experimental design involves the design and application of the survey to a number of Romanian sailors subjects (case study 1) and subsequently, in case study 2 we will perform statistical analysis, data interpretation and generation of improvement recommendations.

Keywords: experimental design, multiculturalism, crew.

1. The multiculturalism – an inter- identity characteristic of multiethnic crews

Paraphrasing Vasile Pavelcu in „The Drama of Psychology" we can admit that the concept of multiculturalism has "a long past and a short history". As a multidisciplinary and multifaceted construct, multiculturalism and its complex matter are not easily revealed at a perfunctory approach. Therefore, there is no consensus in its definition in literature; most of the approaches that fall into the category of scientific theories analyze just partly and from a narrow perspective one facet of this concept.

Another important aspect to consider is that the influences brought about by multiculturalism in a particular professional area acquire specific connotations due to several independent psychological and organizational variables, i.e. socio-culturally shaped personality factors, the characteristics of the surrounding professional environment, specific work conditions involving risk or uncertainty, management and leadership strategies, or organizational culture .

Maritime transport is, par excellence, a multinational, multi-confessional, socio-technical field in which we analyze multiculturalism from a systemic perspective with the focus on the essential characteristics of seafarers` interactions of with distinct cultural identities, who, for long extents of time live and work in a confined space on board, in isolation, under occupational pressure of and environmental dangers and risks, in order to effectively and safely carry their ship`s tasks.

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From this perspective, we subscribe to A. Gavriiliuc's view which defines culture as being „an implicit social element. Culture is, therefore, that set of patterns of essential values and attitudes underpinning the functional social behavior and is transmitted between generations through specific agents of socialization.”¹. Cultural exchanges as cognitive, affective and co-native transactions are symbolically "negotiated" through the encultural pattern of the multicultural naval crew on board that interprets the social reality on board through personal life experiences. They experience a dialogue with the others who are different, heterogeneously diversity in terms of tradition, customs, religion, convictions and beliefs, moral and axiomatic values. In order to functionally generate adaptive behaviors, sailors belonging to different cultures, social learn to respect individual lifestyles and national cultural identities without emitting value judgments based on native culture standards and criteria.

Otherwise, mental representations would develop as erroneous evaluative constructs (stereotypes) associated with pejorative emotional tonalities (prejudices) that would lead to behaviors and attitudes of ethnic discrimination, adversity generating interpersonal relationships which lead to multicultural conflict. "While the stereotyping is the cognitive component, prejudice is the emotional component and discrimination is the behavioral component. The reactions that we have towards individuals belonging to other social groups are perceived as being significantly different from those belonging to our group. ”².

Even if they remain consistent with the dominant socio-cultural psychological model which transforms the personality potential in expressed attitudes through explicit behavior, becoming the socio-culturally originated personality allows for permanent formative updating of the character traits, regrouping them in value patterns and psyche auto tune, constantly adjusting and adapting to cultural diversity and social reality on board. This is what Ralph Linton called "cultural foundation of personality” ever since 1968.

From the psychosocial standpoint, multicultural crews may be considered social micro-groups which verify certain small groups criteria such as the relatively small number of members, common consensually assumed objectives with regards to safety and the effectiveness of the maritime transport of goods, hierarchical establishment of ranks onboard (operational or managerial, deck or engine) are consistent with the duties (the harmonization of status - role), interactions between crew members are unmediated, direct, face to face, as relationships are mainly socio-affective; the crew composition is a mixed one, described not only through multiculturalism but also by sailors with different education levels, different ages, different types, different training.

Naval crews are ad hoc working groups, without a common history and their training (team building) undergoes permanent readjustments guided by the professional group benchmark norm, by replacing off signers who finished their employment contract with on signers beginning their employment contract.

¹ Gavriiliuc, A., *Psihologie interculturală*, Ed. Polirom, Iași, 2011, p. 25

² Fiske, S., 1954/1998, p.357 cited. Ivan L. in *Chelcea, S. (eds)*, 2010, p. 344

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In terms of multiculturalism, the specific characteristics of naval crew dynamics facilitate a process of forced and sudden acculturation at the interaction of several different cultures, which requires maximum effort and flexibility in the social partners directly involved in the work aboard ships. These complex systemic interactions of national cultures, of the organizational culture, environment, along with the pressure of high achiever workload on board, may produce transient imbalances of the mental system, i.e. "stress of acculturation resulting in depressive disorders, feelings of marginalization and rejection, which cause confusion in reality perception, thus generating some diseases with psychosomatic content."³ Such psychologically disharmonic relationships require balancing, self-adjusting mechanisms which will lead to the restoration of another systemic balance by the requirements of the objective environmental and socio- professional reality.

The formative training of sailors and the internalization and integration of the cognitive – emotional results of social learning in the area of multiculturalism, aboard ships, contribute to the improvement and enrichment of their personality, along with its optimum maturation, by the requirements of functional adaptation to the socio-cultural and socio-professional environment.

2. Experimental design

An analysis carried out by the European Maritime Safety on marine casualties and incidents for the period 2011 - 2014 in the naval field of the EU countries, showed (fig. 1) that there has been an exponential increase of their production in the last years, and anticipated the highest peak in 2015⁴.

Surprisingly and alarmingly, at the same time, the abovementioned study reveals that 67% of the 908 events recorded were caused by human error, ranked in the figure below, in order of their relevance.

Taking into account the fact that any piece of scientific research is inspired by the needs of the objective reality, we plan to launch an exploratory, descriptive - explanatory study regarding the subjective perception of the Romanian sailors on the factors that affect the production of marine casualties and incidents; we also plan to generate practical solutions for the improvement and optimization of human resources.

To this end, we have devised three opinion questionnaires using the list of attributes on a Lickert scale with four response options (very important, important, less important, not important) for investigation of a number of N = 200 Romanian sailors who are engaged in operational and managerial positions on a ship, be them crew or officers. The questionnaire contains 45 questions distributed in four methodological dimensions considered to be sub-domains of investigation: Factual data (identification), Human factor, Multiculturalism and Working conditions on the ship, as interdependent variables that influence, in different percentages, the production of incidents / accidents at sea.

³ Berry et al., 1987, Rudmin, 2008, cited. Gavriiliuc, 2011, p. 56

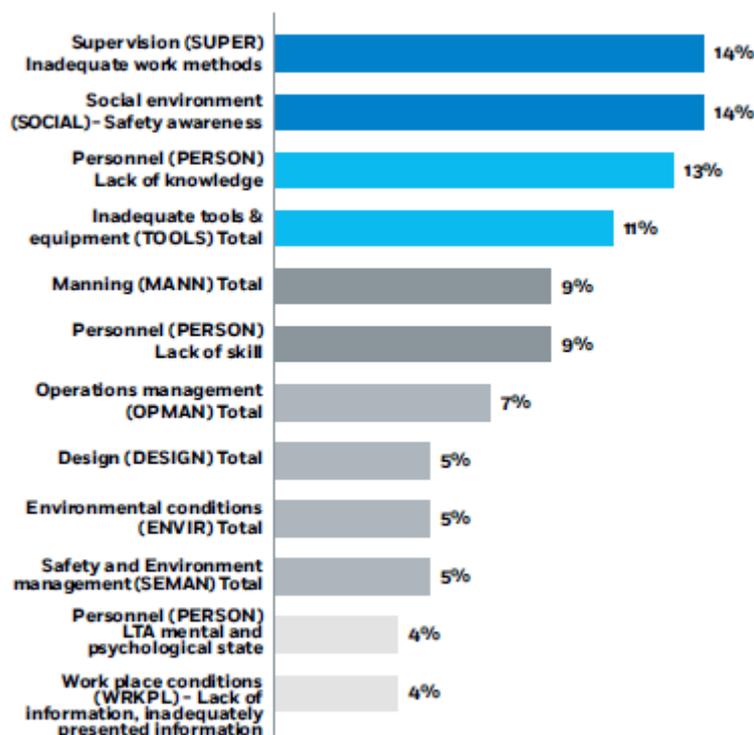
⁴ <http://www.emsa.europa.eu/news-a-press-centre>

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Figural Contributing factors subcategories related to human erroneous actions⁵

The first dimension under research comprises a number of 8 questions and allows the collection of relevant data with factual character regarding the types of ship crews (national, multinational), the composition of the crew (age, gender, education, training level, nationality), data on the specific activity at work place in the naval field (professional status given by the hierarchical position, as well as the work department, i.e. deck or engine) and not in the least, the professional experience at sea, on periods of training and accumulation of professional know-how).

The second dimension investigated focuses on the human resource perception regarding relevant factors that affect the production of marine casualties and incidents and contains estimations for items corresponding to 16 questions. Of these, 9 questions directly address the structure and maturation of personality factors ("mental and psychological state"), and the other seven items of the questionnaire are focused on the psychosocial aspect of the naval group.

When human error is the cause of marine accidents and incidents, an issue of interest in the sailors' vocational personality analysis concerns the predisposing factors of the human psychic system that create vulnerability to new, unfamiliar, overly monotonous, or routine situations.

⁵<http://www.emsa.europa.eu/news-a-press-centre/>

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Adaptability to life and work at sea carries meanings depending on the perception, representation⁶ and assuming of risk as described by psychological experiences of „peak” type. Acceptance and tolerance of ambiguous, uncertain stimuli and optimal decision making in such conditions involve both personal, intrinsic variables, such as the tendency to respect authority and compliance with both rules and psychosocial variables on board ships. "From the psychological point of view, risk is essentially a subjective construct which announces the possibility of some bad experience in a certain situation, causing some loss."

Further on, the same author states that "in reality, the individual ability to estimate risk in a situation is determined by the perception of risk (identification phase), by risk assessment (subjective analysis phase) and risk tolerance (personal level acceptance)"⁷. Specific to the vocational personality of sailors is the continuous need to adapt and re-adapt to different situations determined by the pace and duration of voyages at sea. To this end, the questionnaire refers to the evaluation perceptive grid in emotions management, to the situational awareness and ability to react quickly to the tasks given, along with the degree of inhibition of mental activism induced by the automation and sophisticated modern technology and the crews' dependency on it. One extremely important factor of personality activating performant psychological functionality is motivation with its two aspects: extrinsic motivation tributary to material gains and intrinsic motivation which refers to career achievement. In our study, we also take into account the level of motivational aspiration, knowing that both over-motivation and under-motivation may lead to failure.

There is no doubt that the facilitator and mediator role is achieved by the general and specialized knowledge, technics and engineering aptitudes which are permanently recalled and practiced while on board ships, along with the training and practical activities. It was not by accident that EMSA statistical analysis presented above accounts for lack of knowledge in a percentage of 13 %, for lack of skill 9%, and for social environment - safety awareness 14%. This aspect is investigated in this study through items that measure the perception of the importance of team building, teamwork, work climate and, especially, types and characteristics of interpersonal relationships in naval crews. The literature states personal, occupational, safety benefits of promoting desirable attitudes, empathy, cooperative, partnership interpersonal interactions of cooperative partnership, even competitive, in the detriment of human conflicting, hostile human relationships.

The third dimension concerns the issue of multiculturalism as a cultural diversity concept represented, in our study by 8 items related to tradition and religion of the national culture, beliefs, customs, moral cultural values and political beliefs along with the possibility of unacceptable behaviors maladaptive multicultural stereotypes, prejudices and discriminatory attitudes. We can note here the process characteristic of cultural dynamic which influences the personality factors and confirms scientifically the hypothesis of pro-active human model, who, in turn, take possession of the environment and turns it to his advantage, becoming producer of values. Special attention is paid

⁶ Hăvârneanu, C., Hăvârneanu, Gr.,(coord.), *Psihologia riscului*, Ed. Polirom, Iaşi, 2015, page. 16

⁷ Hăvârneanu, C., Hăvârneanu, Gr.,(coord.), *Psihologia riscului*, Ed. Polirom, Iaşi, 2015, page. 18

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to multicultural awareness and promotion of cultural relativism which provide distinct cultural identity, open partnership relations, between representatives of different cultures, without labels and value judgments based on criteria valid only in the perimeter of a national culture.

A focal point of cultural diversity dimension investigates aspects of oral/ written communication and nonverbal, cultural communication, statistically quantified by EMSA as being responsible for 4% of maritime accidents and incidents. (lack of information, inadequately presented information). Having cultural determinism, communication, language and speech undergo not only unclear transmission but also, difficulties related to the fact that English is used in multicultural crews, quite different from the one's mother tongue. This requires additional psychological effort to give other meanings to the mental linguistic representations with the explicit aim of reporting to a set of codes that form a common mental construct. During this intellectual labor one can identify semantic errors or false interpretations of linguistic codes, sometimes with critical consequences.

Working conditions on board ship is the fourth methodological dimension of the questionnaires and is represented by 13 items referring to workplace on board. The first set of questions has direct addressability to accommodation, food, vessel design, with direct implications on the degree of satisfaction of human basic needs, on the basis of which we can state the level of motivation. Another set of items addresses the issue of technological equipment of the ship's with an impact of 11% in the statistical study prepared by EMSA (inadequate tools & equipment); there follows collecting data about leadership and management strategies practiced on board under specific environmental safety. (supervision 14%, operations management 7%, inadequate work methods 14 %, safety environment management 5%, the same source). One last aspect analyzed is related to the perceptions of the subjects undergoing the study concerning the workload, and the counterbalance of stress through entertainment and leisure activities (sports, games, i.e. "happy, happy, together" in Filipino culture!)

After applying the questionnaires via Google Drive, we will proceed to data collection, statistical processing, analysis and interpretation. The results combined with structured interviews with shipping experts will lead to solutions and recommendations for improving or optimizing human resources. The study of case study 2, with everything that it implies, will be the subject of a future piece of research which we hope will contribute to the decrease or reduction of accidents and incidents in maritime transport.

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