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CONTENTS

VOLUME I

AERIAL SYSTEMS AND AEROSPACE ENGINEERING	Page
Marius ALEXA, Cătălin CIOACĂ ***STUDY OF HIGH LEVEL ARCHITECTURE APLICABILITY IN AIR DEFENSE***	**15**
Irina Carmen ANDREI, Constantin ROTARU, Maria Cristina FADGYAS, Gabriela STROE, Mihai Leonida NICULESCU ***NUMERICAL INVESTIGATION OF TURBOJET ENGINE THRUST CORRELATED WITH THE COMBUSTION CHAMBER'S PARAMETERS***	**23**
Irina Carmen ANDREI, Constantin ROTARU, Maria Cristina FADGYAS, Gabriela STROE, Mihai Leonida NICULESCU ***NUMERICAL INVESTIGATION OF MIXED FLOWS TURBOFAN ENGINE THRUST CORRELATED WITH THE COMBUSTION CHAMBER'S PARAMETERS***	**35**
Ana-Maria BÂLDEA, Mihaela GARABET ***INFORMATION MANAGEMENT IN UAS MULTIAGENT***	**49**
Bertold BÉKÉSI, Peter KORONVÁRY ***ARE DRONES A BOON OR BANE?***	**55**
Viorel-Eugen BITAN, Valeriu CĂLIN ***ASPECTS REGARDING SAFETY SYSTEM IN SURFACE-TO-AIR MISSILE FIRINGS***	**65**
Adam BONDARUK, Jarosław KOZUBA ***EVALUATION OF TACTICAL MISSION EXECUTION***	**71**
Adam BONDARUK, Jarosław KOZUBA ***SELECTED ASPECTS OF AVIATION COMMUNICATION***	**79**
Oliver CIUICĂ, Carmen ŞTEFAN, Serjiu OBREJA, Nicolae CREŢU ***ROMANIAN AIR FORCE AVIATION OCCURRENCES***	**89**
Ioan CURTA, Ileana Constanta ROSCA, Ciprian ENE, Marian Nicolae VELCEA, Ionel MOHIRTA ***STRESS ASSESMENT USING MODERN MEASUREMENTS METODS***	**99**
Dumitru DINU ***PSYCHOLOGICAL PROTECTION OF TROOPS WITHIN THE NEW CONTEXT OF THE MILITARY NORMATIVITY***	**109**
Alexandru DUMITRACHE, Mihai-Victor PRICOP, Mihai-Leonida NICULESCU, Marius-Gabriel COJOCARU, Tudor IONESCU ***DESIGN AND ANALYSIS METHODS FOR UAV ROTOR BLADES***	**115**
Andrei-Mihai LUCHIAN, Mircea BOȘCOIANU, Elena-Corina BOŞCOIANU **NOISE REDUCTION IN MULTIPLE RFID SENSOR SYSTEMS USED IN AEROSPACE ENGINEERING**	**127**
Razvan-Viorel MIHAI, Alexandru RADU, Ovidiu TABAN **PROTOTYPING A LOW-COST EMBEDDED AIRSPEED SYSTEM**	**133**

Laurenţiu MITITELU ***SIMULATION TRAINING AND THEIR ROLE IN THE OPERATING INSTRUCTION OF FIGHTING SQUADRON***	**141**
Dinu PĂDURARIU, Nicolae CREŢU ***HELICOPTERS DURING MARITIME MISSIONS***	**145**
Filip PANAYOTOV, Ivan DOBREV, Fawaz MASSOUH, Michael TODOROV ***NUMERICAL STUDY ON THE INFLUENCE OF WAKE CONTRACTION ON THE COMPUTATIONAL ACCURACY AND RAPIDITY OF A MODEL OF A ROTOR IN HOVER***	**153**
Marius PANDELEA, Mircea BOŞCOIANU, Mădălina-Marina FRĂŢILĂ, Victor VLĂDĂREANU ***CONCEPTUAL METHOD OF NAVIGATING AND CONTROLLING A DRONE***	**165**
Sebastian POP, Octavian ISAILĂ, Dragoş PREDA, Andrei-Mihai LUCHIAN ***RISK MANAGEMENT REGARDING THE USE OF UAV IN THE MODERN AIR SPACE***	**171**
Mihai-Victor PRICOP, Mircea BOŞCOIANU, Cătălin NAE, Marius-Gabriel COJOCARU ***MICROFIGHTER AS AN ALTERNATIVE TO FOURTH GENERATION FIGHTER PLANES***	**177**
Vasile PRISACARIU, Alexandru CIUBOTARU ***ASPECT REGARDING OF THE PRATT & WHITNEY F100 JET ENGINE PERFORMANCES***	**187**
Marius RĂDULESCU ***UNIFORMITY AND STANDARDIYATION OF THE AIR DEFENSE WEAPONS***	**195**
Mihai RADULESCU, Victor VLADAREANU ***AERIAL PHOTOGRAPHY AND THE USE OF PHOTO CAMERAS ATTACHED TO DRONES***	**201**
Carmen ŞTEFAN, Oliver CIUICĂ ***DISTANCE LEARNING SYSTEM FOR THEORETICAL TRAINING OF PILOTS***	**207**
Cornel STOICA, Dumitru PEPELEA, Mihai NICULESCU, Adrian TOADER ***AERODYNAMIC DESIGN CONSIDERATIONS OF A FLYING WING TYPE UAV***	**213**
Peter SZEGEDI, Peter KORONVÁRY, Bertold BÉKÉSI ***THE USE OF ROBOTS IN MILITARY OPERATIONS***	**221**
Alexandru Nicolae TUDOSIE ***CONTROL LAWS FOR AN AIRCRAFT SUPERSONIC INLET WITH MOBILE PANEL***	**231**
Alexandru Nicolae TUDOSIE, Madalina-Luciana PAUNESCU ***AUTOMATIC CONTROL SYSTEM FOR AN AIRCRAFT PLAN SUPERSONIC INLET WITH MOBILE PANEL***	**243**

ELECTRICAL AND ELECTRONIC ENGINEERING/ RENEWABLE ENERGY AND ENVIRONMENT

Bogdan Cornel BENEA ***BIODIESEL PRODUCTION USING SOLAR ENERGY***	**253**
Mirela COMAN, Bogdan CIORUŢA ***CONSIDERATIONS ABOUT THE INFLUENCE OF CLIMATE CHANGES AT BAIA MARE URBAN SYSTEM LEVEL***	**257**
Andreea DRĂGHICI, Titus BĂLAN ***REMOTE DETECTION AND TRACKING OF ALCOHOL CONCENTRATION FOR CAR DRIVERS***	**263**
Laura Mihaela LELUȚIU, Marius Dan BENȚA ***STUDY AND CONSTRUCTION OF AN AMPEROMETRIC POTENTIOSTAT SUITABLE FOR USE IN ENVIRONMENTAL MONITORING***	**269**
Valentin MÜLLER, Monica SZABO ***DETERMINING THE CAPACITY CONDENSER VALUE AT SINGLE-PHASE MOTOR SPEED CHANGE***	**275**
Cristian VIDAN, Daniel MĂRĂCINE ***STUDYING THE POSSIBILITY OF INCREASING THE FLIGHT AUTONOMY OF A ROTARY-WING MUAV***	**279**
MECHANICAL ENGINEERING. MATERIALS AND TECHNOLOGY	
Cornel ARAMĂ, Lavinia ARAMĂ, Mariana ARAMĂ ***A STUDY ON THE VEHICLE EVALUATION METHODS IN JUDICIAL TECHNICAL EXPERT REPORTS***	**285**
Ion DINESCU ***EXPERIMENTAL RESEARCH ON POWDER PROPERTIES RESULTING IN BEARING RECTIFYING***	**291**
Linh DO DUC, Vladimír HORÁK, Tomáš LUKÁČ, Vladimir KULISH ***DYNAMICS OF RECOIL SIMULATION DEVICE POWERED BY CARBON DIOXIDE***	**295**
Daniela Georgiana GOLEA, Lucian Ștefan COZMA ***THE MAGNETIC PROPERTIES OF MATERIALS AND NEW MILITARY APPLICATIONS OF THEM***	**305**
Tomáš LUKÁČ, Roman VÍTEK, Linh DO DUC, Vladimír HORÁK ***DYNAMICAL ANALYSIS OF THE GAS POWERED IMPULSE GENERATOR***	**315**
Ionel POPESCU, Lică FLORE, Albert ARNAU CUBILLO ***DERIVATION OF MASS, STIFFNESS AND DAMPING MATRICES OF A MODEL WING FROM EXPERIMENTAL MODAL DATA***	**323**
Horatiu TEODORESCU-DRAGHICESCU, Mariana Domnica *STANCIU, Florin TEODORESCU-DRAGHICESCU* ***NEW COMPOSITE SANDWICH WITH ALUMINUM CORE***	**331**
Béla VARGA, Gyula ÓVÁRI, László KAVAS ***GAS TURBINE ENGINE COMBUSTORS AND THE ESTIMATION OF THEIR PRESSURE LOSS***	**337**

APPLIED MATHEMATICS, COMPUTER SCIENCE & IT	
Alexandra BĂLUŢĂ, Diana ROTARU, Mihaela ILIE, Dragoş FĂLIE, Eugen VASILE ***TRANSITION PROBABILITY MODELING FOR QUANTUM OPTICS***	**345**
Costin ENE, Adrian-Mihail STOICA, Petrisor-Valentin PARVU ***AUTOPILOT DESIGN DOR THE LATERAL-DIRECTIONAL MOTION OF AN UAV***	**357**
Bogdan GOHOREANU, Florin SANDU, Dan-Nicolae ROBU ***SOLUTIONS FOR SECURITY ENHANCEMENTS IN DIGITAL NETWORKS***	**365**
Cosmin-Constantin IACOB, Gabriel BORSOS, Gavrilă CALEFARIU ***THE MANAGAMENT OF BALLISTIC OPERATIONS USING MATLAB SOFTWARE***	**371**
Mircea LUPU, Gheorghe RADU, Cristian-George CONSTANTINESCU ***ANALYTIC-NUMERIC METHODS IN THE VALIDATION OF ANY FLOW REGIMES IN HYDRO-AERODYNAMICS***	**379**
Ioan MILOSAN ***APPLICATION OF THE CHAUVENET CRITERION TO DETECTION OF THE ABERRANT DATA OBTAINED IN THE INDUSTRIAL PROCESSES***	**389**
Bogdan CIORUŢA ***REGARDING A CONTINUOUSLY DIFFERENTIABLE FRICTION MODEL USED FOR CONTROL OF DYNAMIC SYSTEMS DESIGN***	**393**

VOLUME II

MANAGEMENT & SOCIO-HUMANITIES

Anca-Olga ANDRONIC, Răzvan-Lucian ANDRONIC ***REGULATED AND ALTERNATIVE SERVICES ACTING IN MENTAL HEALTH***	**15**
Anca-Olga ANDRONIC, Răzvan-Lucian ANDRONIC ***COMMUNITY-BASED MENTAL HEALTH SERVICES IN ROMANIA***	**19**
Cristiana BALAN ***SCHOOL TODAY, BETWEEN LIMITS AND OPPORTUNITIES***	**23**
Cristiana BALAN ***MEDIATIZED VIOLENCE AND ITS INFLUENCE ON YOUNG PEOPLE***	**29**
Daniela BELU ***REASON VERSUS EMOTION IN THE INDIVIDUAL APPROACH OF STRESS MANAGEMENT***	**35**
Angela BLOGUŢ ***SUBSTANTIATION OF THE OPPORTUNITY AND NEED OF PSYCHOLOGICAL EVALUATION OF THE AIRCREW PERSONNEL***	**41**
Ionel BOSTAN, Vasile Cosmin NICULA ***INTERVENTIONS ON THE LEGAL FRAMEWORK OF FINANCIAL-BUDGETARY REASONS OF NATIONAL DEFENSE***	**49**
Cătălin CIOACĂ, Alexandru BRATU, Daniel ȘTEFĂNESCU ***THE ANALYSIS OF BENCHMARKING APPLICATION IN CYBER SECURITY***	**57**
Georgeta Gabriela CORNEA ***THE EFFICIENCY OF AEROBIC GYMNASTICS PATTERNS IN THE PHYSICAL EDUCATION ACTIVITIES AT PRESCHOOL CHILDREN***	**63**
Georgeta Gabriela CORNEA ***FORMATIVE VALENCES OF LOGICAL-MATHEMATICAL GAMES FOR PRESCHOOLERS***	**69**
Gherasim Solovestru DOMIDE ***10 YEARS OF INSURANCE BROKERAGE IN ROMANIA. EVOLUTION. PERSPECTIVES***	**73**
Ana Maria FURTUNA ***THE CHILD WITH MOTOR DISABILITIES AND HIS RELATIONSHIP WITH THE FAMILY***	**77**
Ana Maria FURTUNA ***ASPECTS OF PHYSICALLY DEFICIENT CHILDREN'S RELATIONS WITH THE FAMILY AND THE EDUCATIONAL ENVIRONMENT***	**83**
Doru GALAN, Gheorghe MIHALACHE ***THE KNIFE - ATTACKING AND DEFENSIVE DANGEROUS WEAPON***	**93**
Doru GALAN, Gheorghe MIHALACHE ***STUDY ABOUT THE USAGE OF BODYBUILDING ELEMENTS IN THE PSYCHO-PHYSICAL PREPARATION OF UNITS WITH SPECIAL STATUS***	**101**
Irina IOANA, Edmond CRACSNER ***THE TERROR OF SUICIDE***	**113**

Diana Cristiana LUPU, Daniel Silviu NICULAE ***THE BALKAN PACT – HISTORY AND MODERNITY***	**123**
Cristian PANAIT ***EMOTIONAL INTELLIGENCE IN LEADERSHIP***	**133**
Alina PAPOI ***THE PILOT TRAINING IN THE "MILITARY ROMANIA" JOURNAL***	**139**
Maria PETKOVA ***PROBABILITY ASSESSMENT OF POSSIBLE VOLCANIC ASH CONTAMINATION FOR THE BULGARIAN AIRSPACE BY DEVELOPING OF EVENT TREE AND RISK MATRIX FOR HYPOTHETICAL VOLCANIC ERUPTION***	**143**
Maria PETKOVA ***CASE-STUDY FOR A HYPOTHETICAL ERUPTION OF ETNA AND THE APPROPRIATE WEATHER CONDITIONS FOR DISPERSION OF VOLCANIC ASH TO BULGARIAN AIRSPACE***	**149**
Aureliana-Loredana PETRE ***THE IMPACT OF ALTERNATIVE ASSESSMENT STRATEGIES ON STUDENTS***	**157**
Aureliana-Loredana PETRE ***THE ROLE OF CONSTANT AND CONTINUOUS FEEDBACK ON STUDENTS' LEARNING MOTIVATION***	**161**
Raluca RĂDUCEA ***EVOLVING NORMS OF MILITARY INTERVENTION: BETWEEN LEGITIMIZING ACTIONS AND SHAPING STATE BEHAVIOUR***	**167**
Roxana MAIER, Marinela SÎRBU ***STREAMLINING THE WORK OF SOCIAL WORKERS THROUGH THE OPTIMIZATION OF CERTAIN CHARACTERISTICS OF EMOTIONAL INTELLIGENCE***	**175**
Peter SZEGEDI ***UAVs AND THE MILITARY LEADERSHIP***	**179**
Mirela TÂRNOVEANU, Monica PURCARU ***CONSIDERATIONS UPON THE METHODS OF TEACHING MATHEMATICS IN PRIMARY SCHOOL***	**189**
Mirela TÂRNOVEANU, Monica PURCARU ***SPECIFIC ASPECTS OF THE DIFFERENTIATED ASSESSMENT IN MATHEMATICS LESSONS IN SECONDARY SCHOOL***	**195**
Rodica ŢOCU ***ADAPTATION TO THE STUDENTS' EDUCATIVE REQUIREMENTS BY DEVELOPING TEACHER'S CREATIVITY***	**207**
Rodica ŢOCU ***PEER VICTIMIZATION: FROM PRESCHOOL TO ADULTHOOD***	**211**
Mihaela Alina TOROK ***PRACTICAL GUIDELINES FOR PRACTICING PSYCHOMOTRICITY***	**217**
Jozsef TOTH, Krisztina FEHÉR ***METHODOLOGICAL QUESTIONS OF COST–BENEFIT ANALYSIS FOR PROJECTS CONNECTED WITH APPLICATION OF ALTERNATIVE FUELS IN PUBLIC AVIATION***	**225**
Florin VANCEA ***THE BODY INTELLIGENCE - DESCRIPTION AND MEASUREMENT***	**231**

Florin VANCEA ***PSYCHOLOGICAL MATURITY AND INTEGRATIVE THREE-DIMENSIONAL STRUCTURE ANXIETY- DEPRESSION-SELF-DISSATISFACTION***	**235**
Corina Mihaela ZAHARIA, Dumitru GRIGORE, Magda MOLDOVAN ***DETERMINING PERSONALITY PROFILE THROUGH INFERENTIAL METHOD BY EDA NEUROSIGNALS***	**241**
Andrei ZOTA ***DEVELOPMENT OF THE INFORMATION MANAGEMENT WITHIN THE ROMANIAN MILTARY ENTITIES PARTICIPATING IN JOINT OPERATIONS***	**257**

REGULATED AND ALTERNATIVE SERVICES ACTING IN MENTAL HEALTH

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Abstract: *This paper presents how mental health services are organized in Romania, where new rules came into force for the implementation of the specific legislation. The main types of services (specialized, complementary and community) as well as the minimum quality requirements they must meet are presented.*

Since the 60s of the twentieth century, there have been alternative approaches to traditional mental health services. These approaches belong to the community psychology, an approach that is still insufficiently known and applied at the national level.

Keywords: *mental health, services, community psychology.*

1. NATIONAL REGULATION

Within the specific regulation (Law no. 487 of 11 July 2002 on mental health and the protection of persons with mental disorders), the specialized mental health services are defined as those made through the following types of structures: mental health center; psychiatric office, office for evaluation, therapy and psychological counseling, psychotherapy and speech therapy office; crisis intervention center; home care services; psychiatric hospital; inpatient day; psychiatric ward of the general hospital; psychiatric department of general hospital; recovery and social reintegration centers; workshops and protected housing; advisory center on domestic violence.

The same law also defines other two types of services: complementary services ("services that provide psychiatric and mental health care, such as psychological counseling, vocational guidance, psychotherapy and other medical and psychosocial procedures") and community services ("services that allow taking care of the patients in their natural living environment").

Moreover, there are mentioned the conditions of the quality of the care to be provided by all the mental health services:

"a) to be geographically accessible, through the judicious distribution in territory of the public sector units;

b) to ensure the continuity of care and cover the diversity of the needs of assessment, treatment, rehabilitation and reintegration of the persons with mental disorders;

c) to ensure and develop models of community care;

d) to have, where necessary, medical, paramedical and qualified support personnel in sufficient number and subject to ongoing training;

e) to have premises, facilities and equipment in order to permit appropriate and active assessment and therapy procedures to ensure complete care in accordance with international standards;

f) to ensure the use of the therapeutic methods that help restore, maintain and develop the patients' ability to self manage;

g) to permit the exercise of civil rights and those that come with being a patient, with the exception of the situations provided by law;

h) to respect the privacy of the person with mental disorders;

i) to comply with and be adapted to the religious and cultural beliefs of the persons with mental disorders;

j) to ensure the patients' access to the care assessment process."

Although the cited law begins by postulating (article 1) that "Mental health is a fundamental component of the individual health and a major goal of public health policy", four years passed until the implementing rules were issued (2006), and they were recently replaced by the implementing rules of 2016.

Overall, the mental health law and its implementing rules address the mental health services through the inclusion of many activities specific to psychology, recognizing the role of this specialty within the framework of the different types of interventions. Moreover, the two acts emphasize the "therapeutic team", placing the center of gravity of the mental health services within the work groups coordinated by a psychiatrist.

2. THE ALTERNATIV MODEL – COMMUNITY PSYCHOLOGY

The medical approach to mental health services is – incontestably – dominant in the operation of such services in Romania and worldwide. This paradigm reflects both a long tradition and indisputable results in addressing this issue and the way public health budgets are administered in direct connection with the medical act.

For over half a century there is an alternative model for addressing mental health and its services which comes from the recognition of the civil rights of the people with mental health disorders. In the strictest sense of the adverb 'alternative' ("one or the other; one by one"), the model is designed to deliver complementary outcome to the medical one. We would like to emphasize in this context that currently it is not about competing models, a fact that can be also understood from the above presented legislation (regulating, for example, the way in which the representatives of the civil society can access the psychiatric medical facilities in order to monitor the services provided by them).

The application of the alternative model in psychology facilitated the delimitation of a new subdivision, which is detailed in this chapter: community psychology. Currently, community psychology is (still) an almost unexplored field in Romania. Although there have been approaches that can be circumscribed to the area since the 90s and even during the communist period (A. Neculau, S. Chelcea), the articles and the works on this topic are still rare compared to those of other applied branches of psychology. Significantly, only few books were published on this approach; there are only two papers that describe comprehensively this approach (Orford, 1998 and Zani and Palmonari, 2003).

However, in Romania there are many projects and intervention programs based on community psychology, practices that are "imported" from the western practice, where community psychology has existed for decades. For example, within the largest professional association of Psychology, The American Psychological Association abbreviated APA (about 117 500 members, distributed in 54 'divisions' created in correspondence to some sub-areas of psychology), to the community psychology it is devoted Division 27: Society for Community Research and Action: Division of Community Psychology.

The emergence of this field of psychology is considered to be more than a mere extension. Community psychology was conceived as a new paradigm that "... transcends the traditional way of looking, focusing only on individuals or only on the environment. This approach views health problems and the nuisance of life as caused by a poor person-environment fit". (Schileppi, Teed and Tones, p .9) This paradigm shift has been driven by a series of historical events and political developments that led to the definition of community psychology and its affirmation as an indispensable component of psychology in the 60s of the XX-th century.

Around 1700's there were the first attempts to reform the institutions that dealt with the disadvantaged groups (particularly the mentally ill people), i.e. a more "moral" treatment was needed; these attempts have had limited effects, especially for financial reasons.

With the rise of psychoanalysis, the help given to the underprivileged categories of the population was oriented towards the individual, by practicing a paternalistic model of care, a model which is still influential at the present time. The first half of the twentieth century brought an increasing number of the social problems. The two World Wars brought massive redeployment of the population, a lot of unexpected "psychiatric losses" in armed conflicts etc. that is lots of new factors that led to an exponential growth in the number of those who needed qualified help.

The intensification of the efforts to support them materialized in significant changes in the '60s, in terms of the mental illness treatment: there were the antipsychotics and the first scientific standpoints against generalized institutionalization and against the professional practices within the large psychiatric hospitals. Among these studies the most well-known remains that of Hans Eysenck, Sr. (1952): The effects of psychotherapy: An Evaluation, in "Journal of Consulting Psychology", 16, pp. 319 – 324. His main conclusion was that in those days the absence of treatment (i.e. just letting time pass) was a practice as effective as professional care (Duffy şi Wong, p.5).

The movement that led to the rise of community psychology occurred mainly in the USA, where a series of events led to increasing citizen involvement in social life in the '60s – '70s: the civil rights movement, the Vietnam War, the East-West polarity and the specter of a nuclear war and so on.

With President J.F. Kennedy (who had a mentally retarded sister), in the USA, the social change (including the mental health services) passed from the electoral discourse into the sphere of concrete actions. In 1963 it is issued the "Community Mental Health Center Act", a document in which the government recognized the need for local and immediate interventions, and the need for prevention through education. The next administration (Johnson) went further, making the fight against poverty and the "empowerment" national policy priorities.

Under these circumstances it took place in May 1965 the Conference in Swampscott (near Boston) which is considered the "official date" of the birth of community psychology. In this participated clinical psychologists worried about the current professional practices in the field; they were oriented towards social and political changes. At the end of the conference it was agreed to focus their efforts on the actions of prevention, not on the treatment itself and accepted that the inclusion of the ecological perspective (the person-situation match) is an essential element of the professional practice.

A summary of those concerns was made in "The Dohrenwend Model" (1978), which is now a true 'reference system' in community psychology.

The model has the name of the author, Barbara S. Dohrenwend, who first presented it in the article "Social stress and Community Psychology" (published in the *"American Journal of Community Psychology"*, 6, pp.1-14)

In a brief presentation (Schileppi, Teed and Tones, 20), the defining notes of the Dohrenwend model were:

– the opposition to the medical model, paternalistic, practiced mainly at the time;

– the differentiation of psychopathology from the psycho-social stress – "a normal emotional reaction to a traumatic life event which does not imply that an individual is mentally ill";

– emphasizing the importance of the time factor in the intervention (the most successful chances are given by its onset during or at the beginning of the crisis);

– the encouragement of the provision of social services proactively, not reactively. In other words, it is preferred looking for to waiting for the potential beneficiaries for the provision of such services;

– promoting the contacts with the media and the political sphere in order to demonstrate the effectiveness of the social services and the negative consequences (especially on a long term) of a reduction in the funds allocated to them.

3. CONCLUSIONS

Community psychology began its asserting with the identification of several clinical psychologists' common works concerned about the reformation of the mental health services in the conference that took place in Swampscott. Although today it means much more than only the management of the mental health services in the community (which is, however, the most common practice), the new field of psychology retains strong links with clinical psychology.

The current regulatory framework, represented by the Mental Health Act of 2002 and its latest implementing rules allow further diversification of the community services as an alternative to the other two types of regulated services (specialized and complementary).

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COMMUNITY-BASED MENTAL HEALTH SERVICES IN ROMANIA

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Abstract: *This paper presents how deinstitutionalization was designed and built in Western countries, as well as the positive and negative effects of this practice.*

Moreover, the paper presents the main types of community-based mental health services, some of which have also been undertaken at a national level.

Keywords: *mental health, services, community.*

1. DEINSTITUTIONALIZATION AND ITS EFFECTS

Clinical psychology appeared and developed as a psychology of individuality, being concentrated traditionally on the intra-psychic factors as the source of an individual's problems. The latest decades have brought an important change in theory: the wide acceptance of the idea that all behaviors (pathological or not) are the common product of personality and situational factors. In practice, the focus is still on the correction of any deficiencies despite the quasi-unanimous acceptance that "between health and illness there is no border that can be defined objectively, what we call 'disease' may be a departure from the 'norms' established or accepted in a given culture" (Athanasiu, 1998, p.224.). This is idea is also true for the mental health disorders, because the "psychology and psychopathology studies could not establish a separation of the normal from the pathological, between the two being an insidious and imperceptible change" (Ionescu, 1995, p.79).

This approach of the report health / mental illness was one of the factors explaining the major transformations undergone in the past half century by the mental health services in the industrialized Western societies. The meaning of the change was generally that of 'deinstitutionalization' ("usually defined as a sending the mentally troubled patients back into community" – Duffy and Wong, p.114), originally adopted with enthusiasm, from the 'anti-psychiatry' positions (an orientation of the recipients of the mental health services and their families, stated in the broader context of civil rights movements), but relativized then based on some extended studies (Gelder, Gath and Mayou, 583-584).

Despite criticism and detention, deinstitutionalization was spread as a widely accepted practice in the recent decades in all Western countries, and since 1990 it has been 'imported' in the Eastern Europe. Deinstitutionalization requires three intertwined processes:

- *depopulation* of the psychiatric hospitals managed by the state (through the release, transfer or death of patients);
- *diversion* of large groups that previously were automatically subject to hospitalization to community;

- *decentralization* in terms of responsibility for the fate of the patient from only one entity (with a presence as unobtrusive as possible) to a variety of entities, with the expected fragmentation of authority.

Simultaneously with the transformation of the mental health services a change of the image of the group of people they serve was also produced. It is significant in this respect the development of the terms used: from the term 'mentally ill' (a label that would not make differences and would 'guarantee' the public stigma) to names such as 'users' or 'consumers' of such services, or even 'survivors' (for the 'traditional' psychiatric services).

There are currently numerous associations of 'users' and / or their relatives that are very efficient in terms of social support. The most powerful is the American one (the National Alliance for the Mentally Ill People), which is not surprising at all, because "about 1 in 5 adults in the United States – 43.8 million, or 18.5% – have some manifestations of mental illness every year". NAMI has over 130,000 active members, organized in about 1,050 branches, being much more than an association of self-help groups, acting as a powerful political lobby source (Duffy and Wong, p.124).

Of course, not all the people sent 'back to the community' did not find the necessary support. Exemplifying again with the situation in the U.S.A., it is estimated that daily about 150,000 people who are 'homeless' are deinstitutionalized and about as much are arrested or detained. The situation is similar in Europe and for large urban areas is very alarming: for example, a study shows that in Belfast 37% of 'the homeless' had or have mental health problems (McCullough, Long, 1997, p.1).

These figures illustrate the unintended consequences of deinstitutionalization, and rekindle the debate around this practice: its partisans find arguments to support the need to ensure full services, integrated in the community, while the followers of 'traditional' psychiatry view the same figures as an urge to direct the funds towards neurology research, not towards research in psychology.

2. TYPES OF COMMUNITY-BASED SERVICES

With the spread of deinstitutionalization, the diversification and growth (quantitative and qualitative) of the community-based mental health services in Western countries were recorded. Some of these services have been developed in Romania, as the following types of community-based services:

a. Self-help groups Starting from the idea that people with similar life experience and similar problems can be a powerful agent of change (through meetings and discussion of these issues, mutual support and sharing their experience), the self-help groups have proliferated in recent years, covering a variety of issues ('Alcoholics Anonymous' being probably the best-known example). Without being a new idea, the self-help groups of people with mental health problems or their relatives / friends developed as a 'movement' only during the latest decades, mainly as a reaction to the social stigma of 'anomic minority'. In an attempt to characterize the group of people with mental health disorders, we started from a remark made by G. Mugny (1996, 120), considering this group as a 'minority' not necessarily because they represent only a part of the general population, but especially because the members of this group have very few resources. In addition, these members are the bearers of a social stigma that puts them "outside the society or at its edge" (Enăchescu, 1996, p.166). Jean-Marie Seca (1998, 69) takes an old distinction of Serge Moscovici (1976), according to which the anomic minorities "*are defined by the reference to the norm or the responses of the larger social system because the group to whom they belong has no own representations and norms"*.

A minority is 'anomic' ('deviant') when it is subjected to the majority rule even in the most intimate choices. The term describes the types of minorities corresponding to the social actors that cannot be described clearly as an 'active minority' ("they have neither a style and a code of conduct, nor publicly identified, recognized objective"). The group of people addressed here, deprived of their psychiatric medical condition, may fall within the anomic minorities, at least in Romania. There are currently networks of such groups, for example the *European Federation of Associations of Families of People with Mental Illness* (EUFAMI).

b.'Day care centers' other 'protected' areas Intended to substitute the heavy atmosphere of the psychiatric hospitals of the last century, these 'protected' premises are placed in the community, providing various services aimed at social reintegration. In Romania such services already have a track record of success, such as the 'Estuar' Foundation network of centers, which has the 'Shield' centre in Brasov.

c.'Advocacy'. It is 'advocacy' "when someone speaks or acts on behalf of the others to present their case as being like their own"; 'advocacy' is of particular interest to people with mental health problems because they are often in a situation where they cannot speak / act effectively to protect their own interests in relation to a group (or a person). In these situations (due to suffering or some more difficult problems – for example, problems related to legal situations or the diminished reliability due to the psychiatric diagnosis) this practice may result in the following strategies (Andronic and Andronic, 2016):

- informational – it is assumed that the target groups and the general public do not have enough information to make decisions about the problem they face. In this situation, media and various promotion actions, round tables and debates, etc. are used;
- collaboration – it involves sending a joint message of several stakeholders in the 'advocacy' campaign and joint actions during its occurrence. The methods used are: coalitions between NGOs, using an expert to support the cause, organization of events (meetings, joint press conferences);
- confrontation – it starts from the assumption that the misunderstandings are so great that negotiation and dialogue would not be successful. It involves the use of demonstrations, boycotts of all kinds and ridiculing the opponent's actions as specific methods.

d.Mental health prevention and promotion. The prevention activities in this area are significantly different depending on the targeted age group and the existence or not of some real social support (family, community or support provided by volunteers) for the vulnerable individuals. Regarding the mental health promotion, it is based on several major strategies (Sutton, 1998, 151-152):

- Assistance to the natural systems of social support (family, neighbors) by providing material resources and / or information;
- community networks / building coalitions. This refers to stimulating the approach of some campaigns on mental health issues by the representatives of several social services;
- Support for the take-carers of those in need, provided differently, depending on the type of pain (e.g., senile dementia)
- Influencing the policy makers.

The four categories of community-based mental health services are provided in the community by multidisciplinary teams. In Great Britain, these teams work in already established formulas (Sutton, 1998, 152), depending on the type of care to be given:

i) Preventive care:

- the teams providing basic care include, for example, general practitioners and other specialties doctors, offering help to those who have different disabilities;

- community mental health teams, consisting of people from a wide range of disciplines (including psychiatry, social worker) and provide care in the community. This team effort is taken to avoid hospitalization;

- specialized mental health teams focused on a particular field (area) of difficulties. It offers help to those who must deal with a certain type of mental disorder.

ii) Post-hospitalization care:

- the take-carers for mental health, who may be social workers, community psychiatric nurses, volunteers or those specialized in assisting the severe mental illnesses give continuous support to those who previously received care in hospital;

- teams providing care in the community for people who have been hospitalized for the treatment of an acute disorder. These teams are often multidisciplinary, including psychiatric services, social work, occupational therapy and others;

- teams of the recovery of mental health provide support to those who have been discharged from hospitals after a prolonged stay; also, they are usually multidisciplinary;

- specialized mental care teams, for example, the teams for those suffering from dementia, providing aid for strictly individual needs.

CONCLUSIONS

The significant developments of the community-based mental health services in the postwar era recorded in the West have a poor correlation in Romania, where the decades of totalitarian ideology 'froze' any attempts to intervene in the community. Important steps required by the reform in this area have been made only since 2000, mainly due to the efforts of the non-governmental organizations.

Currently there are few mental health services operating in local communities, while the current law allows and even encourages the development of such services.

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SCHOOL TODAY, BETWEEN LIMITS AND OPPORTUNITIES

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Abstract: *School has been, is and will be an essential institution in the future. Particularly three aspects are highlighted: a) education is an important factor in the socialization and formation of human capital, in what concerns the access of people to high social positions, in social development and change; B) each additional school year translates into earnings in the labor productivity plan; C) the level of education correlates directly with the values of the quality of life indicators.*

The learning problems of today's young people are awkward but normal. It's not them who are unusual, but school has become "improper" to their psychology. Young people already have a modified culture of thinking, a way of knowledge already rooted, about which we, the adults from the traditional desks, do not yet have too much data, consequently no recognition.

Today's generation is growing in an everyday culture - one that is not regulated by strong rules, as was the case with our parents' generations. Due to a wider renouncement of tradition, our children's culture is related to personal sensibilities, the feelings and desires of each and every one, to a greater degree of choice, interpretation, action, personalization.

School encounters a growing problem all over the world, because it has to juggle with a dual and conflictual reality, in principle: on the one hand, the school system - as an external environment, with influences, requirements and expectations normalized by rules and scales; on the other hand, the increasingly subjective tendencies of children, their need to be seen and appreciated, with their inner world, emotions, preferences and learning styles.

Keywords: *Level of education, everyday culture, copy-paste culture, cognitive dissonance, educational entrepreneurship*

INTRODUCTION

School has been, is and will be an essential institution in the future. This statement does not need demonstration, yet we invoke its various contributions to people and to society as a whole. Particularly, we highlight three aspects: a) education is an important factor in the socialization and formation of human capital, in the access of people to high social positions, in social development and change; B) each additional school year translates into earnings in the labor productivity plan; C) the level of education correlates directly with the values of the quality of life indicators.

However (or, maybe that is why!), it is becoming increasingly difficult to be a teacher today. To keep children attentive and motivated. To respect them, to make them listen to you. Schools, all over the world, have more and more young people with learning difficulties. Even in primary classes, their inability to stay in balance, quiet and attention, to focus their mind energy on work tasks becomes visible. Until adolescence, many already develop attitude issues and reflexes of abandonment and challenge formal authority.

The learning problems of today's young people are awkward but normal. It's not them who are unusual, but school has become "improper" to their psychology. Young people already have a modified culture of thinking, a way of knowledge already rooted, about which we, the adults from the traditional desk, do not yet have too much data, consequently no recognition.

According to Professor Thomas Ziehe, well-appreciated in Germany and the Nordic countries for his studies on adolescent minds, today's generation grows into an everyday culture -one not regulated by strong rules, as was the case with our parents' generations. Due to a increased renouncement to tradition, the culture of our children is rather related to personal sensibilities, the feelings and desires of each and every one, to a greater degree of choice, interpretation, action, personalization.

On the other hand, what seems scandalous freedom or carelessness to today's young people lies at the same time inside them as an acute form of insecurity or need for *guidance*. The more you are out of social norms and away of what you "need" or "it would be nice to do," the more you break away from the safety of those who dictate you how to be, the more you have to develop inside a personal compass to give you authority and balance in the world.

The decadent freedom and carelessness of today's young people - as we call them - come with the price of self-seeking, a nmore interior-oriented attention, individual needs, emotions and reactions. Hence, perhaps, the phenomenon of selfies, online exhibitionism on social networks - as a form of obsessive search and spraying of identity, by mirroring in the reactions of others. Hence, the rejection of non-authentic adults from the desk, who just seem to just do their clockwork.

For this reason, of the deregulation, today's young people are not only *sensitive* and *fragile*, but they often go as embarrassing illiterate. Their life is no longer focused on the need to acquire a general culture, a repertoire of ideas and expression from the great classics of mankind. Today, in contemporary art museums, people stop amazed and even solemnly take pictures of a pair of glasses, forgotten on the floor of the exhibition hall. The great culture is no longer the umbrella of our decisions, the academic morgue simply is not *cool*. Even in the past, most of the population did not have access to the great culture - but had tacit recognition for its symbols. The school functioned as a tremendous chance, taken with respect and submission, to join this light of knowledge.

1. LOSS OF RESPECT FOR SCHOOL – A CONCERNING OR A NORMAL PHENOMENON?

This kind of gratitude and respect for the role of the school has been lost largely, with the change in the relationship between the two cultures: the daily culture is dominant; The great culture - without the risk of losing it - remained peripheral and niche. Much stronger is popular culture - one in perpetual motion, integrated into everyday life and capable of fundamentally changing the way in which TV shows are being made today, writing or making politics, for example. But above all, capable of changing dominant cognitive schemes - the way in which the new generations learn and relate to the world.

The rigorous forms of knowledge and social conventions have simplified, the ethical boundaries of decisions or attitudes have been reduced. Our cognitive habits, the solid mental trajectory of attention or analysis, the level of mental energy that we are willing to engage are fundamentally disrupted as a radio channel permanently interfering with other frequencies.

As a result, also in school, the evaluations and scales have been rearranged in the souls of youth, teachers are viewed from totally different perspectives, their speeches are ridiculed, and their prophecies about the book that makes you human are seen in a superficial manner. Why? Because of the lack of education and the poor growth – something that grandmother would call it? No.

The hardest to accept for us - apart from the direct guilt that led to copy-paste culture and administrative corruption of schools - is the assessment system that has been demolished by our children and changed with the subjective standards of pleasure or inconvenience. All of today's children seem to do the job we, the adults hold on to, only if it produces attraction, exaltation, intensity, and fun. The classical culture of learning is based on resilience, obstinacy, discomfort and exhaustion, ambition and overcoming cognitive obstacles. But the young generation has already been baptized in the popular culture of pleasure, comfort, care and immediate satisfaction. How much can these young people engage in school in the "careful-concentrated-resistant-conscientious" mode?

Why don't our children learn? In the dominant daily culture - one in which we have brought them up and served constantly - it is very acceptable to say "no" to any external pressure if it is felt as unpleasant or tense. Parents encourage their children to do this, very they are very young. Learning is a process that involves tension, cognitive dissonance, discomfort, and sometimes inconvenience, insecurity, irritation. The reflex educated in children is that of rejecting or sheltering in relation to this type of energy. They do it unconsciously, they do it because they have seen it around them, because they have been raised in the culture of the individual who is defined by personal reactions and freedoms to norm.

At the time of our parents, the individual had to comply with the norms: duty, self-discipline and emotional self-control were part of early learning. There were classic models of success and patterns of success in life. Today, roles have been redistributed, rules can be adapted, procedures can be personalized, we no longer consider what is allowed or not, but what is "acceptable or tolerable". At the intersection of the two worlds - still present and in natural conflict, our children have to negotiate between the family's ideal of "duty" and the ideal of self about "being free." School itself is the battleground of these two cultural tendencies and the natural place of the most tense conflicts and discordances between what teachers expect and what the children want.

2. SCHOOL - A THEATER OF CONFLICTS BETWEEN TWO WORLD

The school has a growing problem all over the world, because it has to juggle with a dual and conflictual reality, in principle: on the one hand, the school system - as an external environment, with influences, requirements and expectations normalized by rules and scales; on the other hand, the increasingly subjective tendencies of children, their need to be seen and appreciated, with their inner world, the emotions, the preferences, the learning styles.

On the one hand, school has to operate with some planned content, on the other hand, children today tend to reject all the contents felt as unpleasant. On the one hand, the school has a clear management of the roles of teacher-inspector-director, on the other, children have a growing tendency - strongly encouraged in the media - to deal with their own self, to relativize the official power of significant adults in their lives. And last but not least, the school has measurable criteria for assessing performance; children, however, are in a constant quest to validate themselves in the eyes of others through affective reactions, are in a continuous negotiation of inner conflicts, missed opportunities, etc.

The construction of the self - once made in firm lines drawn by society and the norm of the external need imposed, today has the fragile route of uncertain search, introspection, fear of being inadequate. That's why school has an almost impossible role, especially when it comes - as the public system does - from the positions of a giant, bureaucratic, ossified and guided system of own interests. So what chances does a school have, when "the work material" consists of anxious minds, in search of pleasure, intense things, exaggerated reactivity, impulsiveness and disregard of formal authority?

It seems that all traditional pedagogy will be reduced to the chapters of special pedagogy, interventionist, the one written for "special classes" or "problem children". Is that so? How can you get out of the conflict of a reality, where both trends are normal or the natural product of mental and emotional evolution of mankind? Does it make sense to blame someone? Does it make sense to sum up to being right that today's young people are illiterate, uneducated and without values? Are we uncomfortable with our beliefs of respect, norm and success in life? No, it does not make sense to abandon the search or modeling of school, just because our frustration as a teacher or parent is based on the comfort of being right.

To restore order, we no longer need rules first, but we need meaning. Learning is sometimes a painful and unpleasant experience. How do we make the children not back in front of her? We are convinced that public school systems in the West are already bankrupt, mostly. They are, however, in relation to Romanian education, in a perpetual restructuring and search - one, however, one step behind the pace of perpetual reconfiguration of the future. A system that has already developed its own interests, beyond children, can not adapt to the needs of today's minds. In our country, this conflict is based on a 1 000-step gap of 50 years - one that is maintained by the lack of political will and sleepwalking of parents.

Small spaces, community schools, experimental projects, pilot schools, social entrepreneurship in education can make a difference. Even the best results of the elite Romanian public schools are not the merit of the system - but of groups of established professors and parents involved, who have developed over time a way of approach that is parallel to the system. These are the communities that, before complying with the rules imposed by the above, have created their own meanings: the children who go to the Romanian elite schools - high schools and good neighborhood schools, who make preselections - go on their way, in learning, with other meanings - those belonging to a standard that validates them from the start as individuals.

3. REVOLUTION OF LEARNING: CHANGE OF THE LEARNING FRAMEWORK

For any attempt at a school project, the most important thing is to set the framework for the learning process. To learn to resist the "pop" cultural impulses to withdraw, to yield and to avoid discomfort, you must as a pupil be content: someone to assume for you a sense of belonging and a clear picture of how it must show your success.

In special pedagogy, in the case of children with learning disabilities, progress is being established - as many studies say - only after the child views the book he will be able to read after 2 months of planned work - let's say - a bet on which the teacher makes, as in an emotional contract, to support and engage with his student.

Until you actually sell the benefits of their efforts, today's children are not in the game. Besides those for which families have still managed to keep the "must" along with punishment and reward.

The environment in which the child grows is the source of his success. It has to be a supportive one, to generate meaning and motivation. It must contain rituals of awareness, modeling the road to success, visualizing the image of success. Today's child's mind needs rules explained and assimilated from the perspective of "what is acceptable", "what is socially appropriate at a time", not the "must" or "I said so" category. The school framework must respect the individual, make the child feel serene, but at the same time help him out of his comfort zone, helped to consume cognitive energy with satisfaction, refine his reasoning.

In our society, there is a visible tendency for families concerned about transforming education, to slip into the emotional area of the comfort of their children, and neglect the skills, intellectual habits and cognitive traits that the mind must acquire at one age or another. Recently out of the age of constraint, control, and swallowing of emotion, we have the reflex, when we talk about reforming the school, to approach the problem in dangerous and superficial syntagms, such as: "less," "smoother," "simpler, children should have a childhood "etc. Hence, a visceral and hateful reaction from traditionalists who know well and are right in their own way that school was doing better, under the rule of time and outside control. What they do not know is how to stay in class today with 20 minds totally resettled emotionally and cognitively toward intense stimuli and seeking pleasure.

The key to Romanian education reform is not in the syntax of "deforestation" of matter, ie content. Nor in the pompous invocations of emotional comfort of children, friendship between teacher and student - if at its base there is no rigor of planned scientific cognitive trails with visible results. The freedom that Finnish school gives to her children - for example, to climb trees in Biology - is a well-planned one with a routine observation, with a prescribed questionnaire of the child's observations. There is, after the exotic act of freedom, a more thoroughly didactic approach that systematically drives thinking, in its ability to produce comparisons, sorting, classifications, estimations, decision making, constructing explanations and alternative motivations.

To produce this kind of stimulation in the mind of today's child-a thing that was fairly easy in the face of an encyclopedia followed by a pencil, disciplined, in desks lined up under the threat of whip - we need exploratory tricks, Controlled and mind-feeding at the rate at which society - we want-we do not-has already modeled it. This does not mean, by far, the abdication from the principles of learning and the creation of more rigorously science-based pedagogues. As a country, this is exactly what we lack:

1. The empathic understanding of the predispositions of today's minds, as they are determined by the culture in which we participate;
2. Understanding the freedom-constraint ratio;
3. Understanding the need to create meaning, not rules;
4. Understanding the difference between "keeping the space" for our children, containing and "keeping" simply captives of a good paradigm in its time - today, no worse, no better, but clearly, outside validity.

4. TRADITION AND INNOVATION

In our debates so far, we have missed the sense of reconciliation between tradition and innovation. Captives of our professional disappointment with children who simply do not gather in class, miss the intelligent reasoning that makes the right intersection between the constraints of the need to develop the operations of thinking and the freedom or the need for pleasure on which the student's reactions depend.

We now have the same extremes: rigid and deficient schools that continue to play rules as much as they can but do not produce learning; And a frail community of parents - who want something else, but that replace cognitive and emotional needs. I do not understand that you can not interfere with the transformer, the intellect and the reasoning of children, amid a parental attitude of care and hyper-protectionism. Or who do not understand that the child's well-being does not exclude little intellectual "torture."

To reform the Romanian school; We need the intelligence of a reasoning that places the two cultures in the center of our teacher's practices: the classical-academic and the pop, the everyday, the everyday. The same "products" of the thought that our harsh professors celebrated are still valid today. Thought of good quality always remains fashionable. In the past, it was acquired on an emotional self-control background, today, on a practical, explicit emotional background, of the celebration of the personal elections. Ingredients of a good school today include:

- teachers who know how to produce learning under the pretext of climbing into the tree;
- model mentors who manage children's emotions or mediate conflicts and internalize rules;
- a rigorous scientific picture and a shared general philosophy about how our children learn today;
- a method of marketing on the benefits of learning - children need to know how success looks and who contains them to go to it;
- a system for measuring the impact of each teacher.

In other words, a school that has not given up on content or standards, but has changed the framework of learning: the way of addressing, the teacher-student relationship, the relationship of the teacher with the content of the subject he teaches.

5. CONCLUSIONS

At this time, Romania has neither classical academic standards nor culture of nonviolent communication in schools or recognition of the individual's needs. We do not practice either the traditional or the modernist scheme. We are between two waters, from which we have chosen a useful and dissociated mentality of the individual towards knowledge - in the sense that we learn to take a diploma. Of the four types of learning, we practice the one which involves the addition of information and context-assimilated assimilation and completely ignore the adaptive and transformational value of knowledge. The latter two involve the training of teachers in the spirit of teachers who re-enter the contents of textbooks on schemes that produce pleasure and curiosity to the child.

We do not seem to have clear thoughts or insights about our children's minds, no malicious judgments, or well written pedagogues about how cognitive trails can take through trees without losing the depth or volume of knowledge. Hence, a market of strongly polarized pardon - among those who praise the Romanian Olympians and accuses the instigation to superficiality from the reforming voices - and those who are experimenting locally in schools and projects that, while producing results, are still isolated and incapable of producing a current.

We are, in other words, a society almost completely swallowed by the "pop" culture of our children, with hypocritical claims of exigency and academism from adults, either indifferent, or scared of what is happening.

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MEDIATIZED VIOLENCE AND ITS INFLUENCE ON YOUNG PEOPLE

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Abstract: *Aggressive behavior is one of the most difficult social behaviors to define. The meaning of this concept depends on the theoretical perspective adopted. What is considered to be aggressive depends on the social and cultural standards of the perceptor. In some cultures violence is natural, even necessary. Explanations of aggressive behavior are part of two major classes: either biological or social. In the present study, the social factors of aggression are a matter of priority, in the sense that this behavior is learned. However, biological theories can not be ignored. In fact, violence is a reaction that concerns rather the body than the psychic. In some cultures, social norms repress any form of aggression. Therefore, the impulse is repressed until it breaks out violently and very badly. Aggressiveness is adaptive because it helps the individual to live at least until he can procreate.*

The research aims to identify the extent to which the effects of television violence (such as desensitization, catharsis effect, disinhibition or imitation) manifest themselves in the behavior that adolescents adopt within Romanian society.

Keywords*: aggressive behavior, desensitization, catharsis effect, disinhibition, pulsation, affectivity.*

INTRODUCTION

Aggressive behavior, aggression is one of the social behaviors extremely difficult to define. The meaning given by researchers depends on the theoretical perspective adopted. What is considered to be aggressive depends on the social and cultural standards of the perceptor. In some cultures violence is natural, even necessary.

There are a number of definitions:

- A behavior that causes injury to a person or the destruction of one's good;
- A behavior carried out with the intent of harming another of the same species;
- A behavior that is intended to harm or injure another person, who is motivated to escape from such treatment;
- A behavior that involves harming others.

1. SOCIAL AND BIO-SOCIAL EXPLANATION OF AGGRESSIVE BEHAVIOR

Social psychologists do not cherish biological theories too much, preferring theories that emphasize the learning process and certain factors in the social context related to aggression.

Even if the idea of the instinct is rejected, there are researchers who accept that aggression should be regarded as a learned or inborn tendency, the manifestation of which is triggered by specific social circumstances. This is why they are called bio-social theories.

Explanations of aggressive behavior are part of two major classes: either biological or social. In the present study, the social factors of aggression are a matter of priority, in the sense that this behavior is learned. However, biological theories can not be ignored. In fact, violence is a reaction that concerns more the body than the psychic.

Aggressiveness is considered to be an innate tendency for action. Thus, aggression is an instinct, a pattern dominated by genetically controlled responses. The aggressive instinct is based on vital functions such as protecting the territory against invasions, defending offspring, and sexual competition in which the most powerful copies are selected for reproduction.

In some cultures, social norms repress any form of aggression. Therefore, the impulse is repressed until it breaks out violently and very badly. Aggressiveness is adaptive because it helps the individual to live at least until he can procreate.

Generally, social scientists reject the explanations of aggression based solely on the instinct, arguing that the instinct depends on an unknown energy that can not be measured, and that they are based on a circular logic, proposing empirically undemanding causal connections.

2. RESEARCH ON THE INFLUENCE OF MEDIATIZED VIOLENCE ON ADOLESCENTS' BEHAVIOR

2.1. Motivation of choosing the theme

Lately, if we open the TV, we only see people who are arguing on the streets or news about robberies, conjugal murders or suicides, and those who should represent us in a civilized and diplomatic manner act despicably insulting and aggressing verbally or physically Other people in televised talk shows. The question we are trying to find an answer is: To what extent do these TV images influence adolescent behavior nowadays? Sometimes news of violent acts committed by minors that appear to be detached from action films, minors who are basically inspired by what they see on TV and reproduce violent images in their daily lives, family, street or school, and we ask Whether in the middle is coincidence or imitation.

We will try to find out to what extent the effects of television violence (such as desensitization, catharsis effect, disinhibition or imitation) manifest itself in the behavior that adolescents adopt within Romanian society.

We also think that adolescents prefer TV or computer when they want to relax or when they are looking for information about new things, to the detriment of books, the latter using them only for school. Pretty few children read about themselves and are passionate about books, most of them make it compulsory for school, preferring to document most of the time on the internet.

2.2. Lot of subjects

The universe of this research is delimited by adolescents aged 12 to 16, both female and male. Subjects are selected from both rural and urban areas, coming from families with a stable financial situation and being institutionalized in a form of pre-university education. The selection was random, without being based on certain sampling rules, focusing more on the knowledge in our social circle.

2.3. Research objectives

Manifestations of human aggression are extremely diverse and at different levels: pulsational, affective, attitudinal, behavioral.

The notion of aggressiveness includes the elements that designate aggressive behavior, but also the aggressive act involvement in social life. In this context, it can be said that the media do not act directly only on individuals, but it has effects on the culture, the volume of knowledge, values and norms of a society. The media puts into circulation a set of images, ideas and ratings that audience members call when they build their own line of behavior.

2.4. The purpose of the research

This research aims to study how viewing violent programs can influence the behavior of young people from different social and cultural backgrounds.

2.5. Research hypotheses

1) The more adolescents watch violent programs, the more likely they are to show the effects of television violence (desensitization, catharsis, disinhibition, or imitation).

2) Boys have a tendency to pursue violent programs to a greater extent than girls, so the more they are more likely to be aggressive.

3) Adolescents choose behavioral patterns and cultural models from television stars, such as sports, music, cinema, journalism, etc.

4) In recent years, adolescents' preoccupation with reading, as a recreational activity has diminished in favor of television, computer, video games, etc.

2.6 Methodology of research

In the study on the effects of television violence among adolescents, we chose as the type of survey an individual interview interview, coordinated by an interviewer.

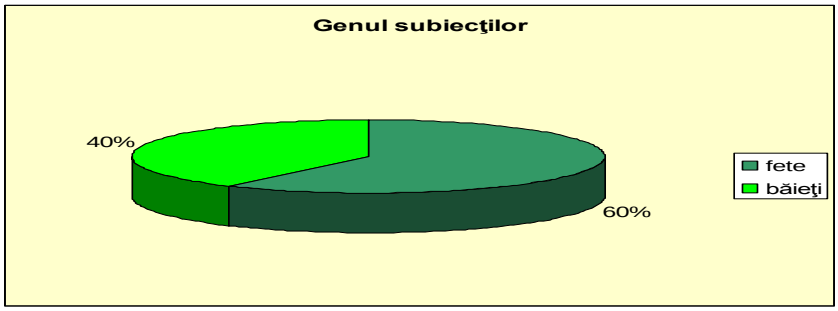
Septimiu Chelcea defines the research interview as a "technique for obtaining, through questions and answers, the verbal information from individuals and human groups in order to verify the hypotheses or for the scientific description of the sociomedical phenomena.”.

The interview has a number of advantages, including: flexibility, refers to the possibility of obtaining specific answers to each question; Ensuring the control over the succession of questions; Collecting spontaneous answers, providing personal answers or answering all questions.

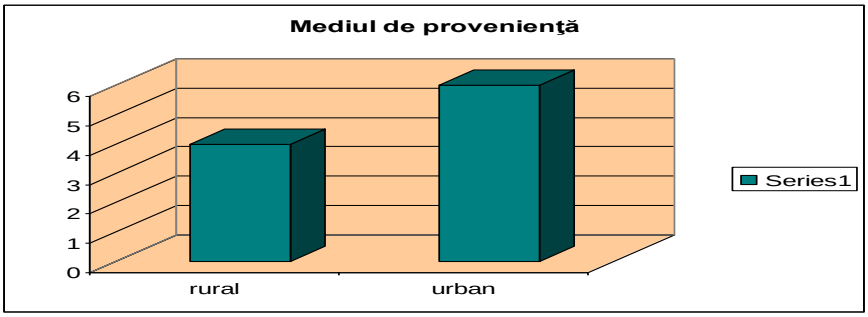
3. RESEARCH RESULTS

The purpose of the research was to observe the way in which the violence of the television violence among adolescents is manifested and to measure the proportion of violent programs in their TV viewing. The interview guide used was structured, the questions being grouped by hypothesis, so the answers obtained help to validate the hypothesis.

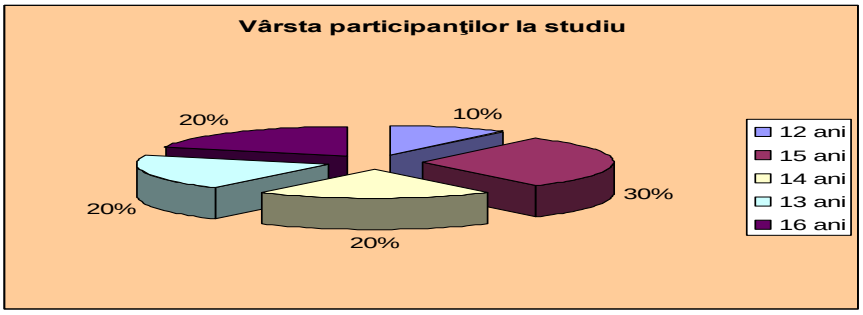
The interview was applied to 10 people, 6 girls and 4 boys coming from both urban and rural areas. Adolescents are part of the 12- to 16-year-old age group and are on average about 2-3 hours a day on television both during the week and on weekends, some of them reaching up to over four hours on day.



Grafic nr. 1 The genre of the subjects



Grafic nr. 2 Environments of origin of subjects



Grafic nr.3 The age of study participants

Choosing patterns of behavior and cultural models

For the first question (see Annex 1), most respondents consider media functions as information and entertainment, some of whom believe that the media also has the function of manipulating the population. Questions number 2 (Do you have a favorite star, a public person you admire? Why?) And number 3 (Regarding your character traits, think of a person in the field with whom you think you could Similarly.) Were formulated to support the hypothesis: "Adolescents choose behavioral patterns and cultural models among television stars in fields such as sports, music, cinema, journalism, etc."

From the teen's answers we noticed the following: Some of them, both boys and girls, regardless of their background, responded that they did not have favorite stars and did not resemble one because they did not know them well enough.

It can be noticed that the people adolescents admire or whose personality they find are the kind of people who get substantial income without a very advanced education (footballers) or who have become famous for their personal life rather than professional activity.

Regarding the relationship with parents (question number 4), they generally have a good relationship, primarily based on communication, especially for girls who have said, for the most part, that they are talking a lot about mothers in particular. In the case of boys, the relationship relies more on understanding, and communication is in some cases low.

Preoccupation of teenagers for reading

The set of questions formulated to support the hypothesis "In recent years, teenagers' preoccupation with reading, as a recreational activity has diminished in favor of television, computer, video games, etc.", has the role of pointing out where the reading is Book among adolescent preferences. In question 5 (How do you feel comfortable relaxing on a weekend after a hard week of school?), Urban respondents, both girls and boys, most often choose as a way of relaxing the internet, going out with friends, listening to music. Watching TV is a secondary option to call in the evening especially when they return home. Only two people, female, said they sometimes get used to reading the weekend to relax. Compared to these, rural respondents, both girls and boys, responded in greater numbers to the weekends than watching television, watching movies or staying at the computer. And they get used to going out with friends or walking, but reading is not found among their recreational activities.

The bottom line here is that girls generally read more than boys and urban adolescents tend to read more than those in rural areas. Of course, here too, it is important to keep in mind the educational unit they are attending, especially those who are enrolled at high schools recognized as having a better quality of education, both girls and boys, have values other than those Who learn in lesser high schools, or in arts and crafts schools.

The amount of violent programs during TV viewing

By question number 9 (see Appendix 1) we have tried to find out if adolescents choose to resort to violence when things do not flow as they want. One factor that we must take into account in this case is the personality of the individual. Most urban boys responded that either they were trying to talk to the other person and convince her to both look at the same thing, either give up watching TV and choose the computer. One person responded that they would resort to physical violence. Guys in rural areas have had similar answers, firstly using ways of persuasion through words. Also, girls, regardless of their background, responded that they usually avoid arguing with the other person so they either give up watching TV, or try to convince her to let her look, rare The cases when forced by force depend on who is the second person.

Through questions 10, 11, 12, we tried to find out to what extent the desensitization effect is found in adolescents in the sample. Thus, in question number 10, referring to engaging or assisting in a scene of violence, most boys, regardless of the background, responded that they did not intervene in the classroom, preferring to assist or leave the class, encouraging them or They are filming them to post on the internet.

Compared to these, girls are much more sensitive, especially those in the urban area, who responded much more to trying to separate the two or to ask for a teacher's help to calm the spirits. Rural girls who gave similar answers were much smaller, preferring, like boys, to assist or get out of class.

To the question of negative feelings, most of the answers were that they are not used to watching the news, but I know what it is, and that is why they have forsaken to forget. Most believe that this type of news is the most violent, embarrassing, depressing or degrading one of those presented in our country. On some of them, the topics presented amused them, others impressed them to a small extent.

The catharsis effect (question number 14) is not present in any of the respondents, the programs or violent films do not succeed in destroying them, preferring to choose other ways to calm down, such as playing computer, club or sleep. Regarding verbal violence (question 16), it is mainly used by boys, especially those in the urban environment, and girls only appeal to it when they are very nervous.

The teenagers and their opinion on TV violence

The genre of shows that adolescents in the sample use to watch are: soccer matches, talk shows, reality shows, action movies, SF films, documentaries on Discovery or National Geographic or cartoons.

On the question of violence (see Annex 1), most respondents agree that there is violence on television, some consider that it is present to a large extent, irrespective of the program and the timeframe (especially rural girls) Others thought it only exists in certain programs (opinion expressed in particular by boys).

4. CONCLUSIONS

As a result of this research, the conclusions are the following: one of the effects of television violence most often encountered among adolescents in the sample is desensitization. Violence on the screen, especially actual news bulletins, is seen as tiring, degrading, and sometimes depressing, so that, as used by so many violent scenes, adolescents have become immune to them, sometimes considered common or natural. That's why it's natural for two colleagues to quarrel, and they stand and watch as a reality show. In fact, the deaths of some people, be they national emblems, impress very few of them, others see the event as something that happens somewhere far and the press is trying to get the audience out.

In terms of book use, this is relatively low, especially among young rural people who choose to drop out of school at an increasing rate or who give low school returns, being institutionalized in vocational schools or In lesser high schools.

Although most young respondents felt there was violence in television programs, some of the programs they prefer to watch are included in this category, including verbal and sometimes physical violence. Those who believe that there is too much violence on television are especially urban girls, as one of their TV programming preferences is mostly documentary on Discovery or National Geographic. Those who believe that television violence is not present in such a large proportion, but only in certain programs and at certain times are boys in particular.

The results of this research can not be extended or generalized. The opinion of 10 people can not correctly reflect the opinion of millions of adolescents in this country. What is important to remember is that we have largely succeeded in finding out what we have proposed, most of the assumptions from which we started by obtaining validation following interviews.

Like any other research in this case, we have struck a few limits, one of which is the adolescent's refusal to communicate for interviews.

We believe that Romania is at the beginning on this road, as more research will be done in this area, the more it will be able to draw attention to issues that other countries have long been aware of. But these research should not only be known among sociologists and psychologists but be made public through campaigns in schools, especially among parents who alone are able to educate their children in the spirit of positive values and not Left the TV 'to raise their children'.

Perhaps this research does not change the present situation, the televisions will continue to transmit programs that contain scenes of violence, and the children and adolescents will look at these scenes and will bear their negative impact. We hope, however, that this alert signal will cause people in this study to be more selective with regard to television programs.

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REASON VERSUS EMOTION IN THE INDIVIDUAL APPROACH OF STRESS MANAGEMENT

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Abstract: *The cognitive restructuring technique that consists in the replacement of the imperative style by the desiderative one represents the tool that could be used to solve the problems created by employees with irrational and dysfunctional beliefs that are caused by the intense and prolonged use of the imperative "must". This research aims at analysing the irrational convictions at the workplace and the elimination thereof, with the view to properly training the subordinates.*

Key words: Emotion/ Management/ Stress / Management based on emotional intelligence

1. INTRODUCTION

The abandonment of the psychological contract leads to a management that rarely accepts the provision of a "protective" environment for its employees, i.e. an environment in which the managers offer their support for the subordinates' anxieties; thus, the workplace becomes a much more stressful place. As a result, the mental health of employees is affected. Unfortunately, people's opinions of what a "healthy" individual means seam to vary considerable, depending on the perspective of the person giving the definition. We can better understand the concept of mental health by starting from a more precise definition of the purposes/motivations of each employee, in order to take into account the advantages when trying to avoid involvement in a self-destructive behaviour and to encourage behaviours such as learning/growing/developing/tolerance towards ambiguity/emotional receptiveness/ flexibility/ efficiency, in proportion with the increase of the behavioural repertoire. The manager's role in all of this is to increase the subordinate's freedom of choice, by encouraging initiative instead of being carried away by one's subconscious.

The intertwinement of the management concepts with the psychological perspective and the leadership practice at the workplace will better clarify the meaning of mental health, by underlining the fact that the typical characteristics of a healthy individual (Manfred Kets de Vries, Leadership – Arta şi măiestria de a conduce, 2003) are the following:

- s/he has a stable feeling of identity and knows exactly who s/he is;
- s/he has a high capacity to test the reality;
- when confronted with the outside world, s/he uses mature defensive mechanisms and assumes responsibility for her/his actions instead of placing the blame on others for her/his own difficulties;
- s/he has a sense of her/his own efficiency; s/he is full of resources and s/he relies on trusting her/his capacity of controlling/influencing the events that impact her/his life;

- s/he has a positive attitude towards the body and its operation, thus s/he does not engage in any destructive behaviour caused by cognitive distortions and does not manifest any eating disorders;
- s/he is capable of feeling the entire range of emotions, i.e. s/he is not suffering from alexithymia (the incapacity to be aware of/have feelings), and does everything with passion;
- her/his sexuality/sensuality gives her/him satisfying experiences;
- s/he knows how to control her/his anxieties; therefore s/he does not easily lose her/his temper and does not resort to impulsive acts;
- s/he treasures intimacy/reciprocity, s/he has the ability to build/cultivate interhuman relations and actively maintain a network of contacts for support/advice;
- s/he feels part of a larger group and gets great satisfaction from her/his social interactions with the environment to which s/he is connected;
- s/he knows how to positively approach aspects related to family dependency/separation, because s/he went through the process of crystallisation of her/his individuality during her/his youth and her/his development did not suffer any interruptions, i.e. s/he does not resort to excessive attachment behaviours and s/he is capable of forming mature relationships with people around her/him;
- s/he has a strong sense of identity, i.e. s/he is able to face the inevitable failure/disappointment by knowing what to do when s/he is depressed and by having the ability to recover from loss;
- s/he knows how to approach ambivalence and therefore s/he is able to look at the people around her/him with empathy;
- s/he is creative and has a natural inclination towards ludic activities and, sometimes, s/he even has the ability to violate the norms;
- s/he can reformulate her/his experiences in a positive manner and can imagine a more desirable future, thus maintaining hope for something better, regardless of her/his failures;
- s/he has the ability to self-observe/self-analyse and gives herself/himself time for self-reflection;

Stress management has occurred out of the need to fight the causes of diminished individual/organisational performances using two approaches: organisational and individual.

The individual approach to stress management refers to the responsibility of the management to offer education/facilities to its subordinates with regard to the organisational stress, thus avoiding sudden illness once the stress factors have been identified and teaching people how to manage their energy right from the alarm/agitation phase.

According to the findings of the research conducted in this field, one of the potentially sensitive factors for the management that tries to apply stress management at an individual level is to understand that failure to control stress has devastating financial consequences, especially when key employees are affected.

The statistics on illness, unsatisfactory performances and absenteeism show a dramatic picture of the dysfunctions that occur at all levels at the workplace. Moreover, there is a high tendency towards the professional life, in all fields of activity and therefore, the personal life seems to be inexistent. The overburdening of the employees, the contradictory tasks, the lack of communication, the lack of job opportunities, the unfairness of the systems evaluating performance and compensation, the behavioural limitations and excessive travelling etc., all lead to depression, symptoms of physical suffering, alcohol and drug abuse and sleep disorders.

- Which are the psychological dimensions that make a company a pleasant and interesting place for its employees?
- How could the human potential in any company be fully fructified?

Unfortunately, in this era of company restructuring, in which everyone is obsessed with profit and minimized consumption due to the crisis of fuels and raw materials, the psychological contract can no longer be complied with. The employees have become a sort of independent agents and identifying them with the company has become useless. Therefore, organisational cynicism is increasing, loyalty is becoming extinct and the old version of the employee that used to be deeply attached to the company, that used to understand professional life and that depended on the company where s/he would assert her/his role in life has almost disappeared. Unfortunately, the manner in which people relate to companies in this volatile era leads to the defacement of the employees' sense of well-being.

An individual's mental health relies on the following three rational beliefs:

- s/he considers herself/himself a valuable person even though s/he is not doing well and her/his peers do not acknowledge that s/he is doing well. S/he believes that a person is valuable even if s/he does not do well and is not acknowledged by her/his peers.
- s/he does not consider herself/himself to be despicable when her/his peers reject her/him for acting in a negligent and unfair way towards herself/himself;
- s/he does not believe that the world s/he lives in is cruel and horrible when the things that s/he desires are not easy to achieve; s/he believes that life is an interesting challenge and an opportunity to discover her/his own limits and to exceed them.

Seen from an objective point of view, the individual's health is reflected in whether s/he likes or detests what s/he does, without any self-assessment – likes or detests herself/himself – for the way in which s/he has behaved. If used extensively, the imperative "must" (which mentally healthy individuals have the capacity to renounce every time) determines the following irrational beliefs to occur:

"I must do well and be acknowledged for it, otherwise I am worthless", representing the neurotic's reasoning;

"I must act carefully and correctly towards myself, otherwise I will become despicable", representing the neurotic's reasoning;

"The world must provide me with what I want, quickly and easily, otherwise it proves to be cruel and horrible", representing the neurotic's reasoning.

Such irrational beliefs can be eliminated during bilateral/multilateral communication processes that are specific of the management training activity by applying certain techniques of rational-emotional imagination.

2. THE COGNITIVE RESTRUCTURING TECHNIQUE

The replacement of the imperative style by desiderative one aims to avoid catastrophizing by eliminating irrational fears. Herein under are the irrational convictions that are healthy to let go:

- "I must do well and be approved by my peers in order to consider myself valuable."
- "My peers must act with care and fairness towards me in order for me to believe that they are good and honourable people."
- "The world I live in is horrible and cruel if it does not provide what I need in an easy manner."

The cognitive restructuring technique consists of fighting irrational convictions by applying an analysis algorithm (exemplified in Table 1) that materialises in answering the following set of six questions:

- Which irrational conviction do I wish to fight against?
- Can I prove that this conviction is true?
- What proof do I have with regard to the falseness of this irrational conviction?
- Is there any proof that this irrational conviction is true?
- What other bad things could happen if I were to fail to obtain what I believe that I need or if I were to obtain what I think I do not need
- What kind of good things might I do if I were to fail to obtain what I believe I need or if I were to obtain what think I do not need?

Table 1 Example of answer

Item	A POSSIBLE EXAMPLE OF ANSWER
1.	"I am valuable only if I do well and I am approved by my peers, which confirms that I have done well."
2.	"No. I can't."
3.	"Herein under are the arguments that prove that this conviction is irrational: "The laws of the universe do not state that a "resourceful" individual is a valuable human being. Therefore, what is the meaning of "I am doing well"/ "I'll make it happen"/ "I'll manage to do what I intend to"? The fact that my peers approve of me is related to the benefits they get from my success." "The peers that approve of me do not represent the entire universe, only a part of it." "Being valuable only if "I do well" and only with the approval of my peers has no relation to my self, my skills or my ideals. Basically, it forces me to reduce myself to the exterior image desired by my peers." "My peers confirm my value conditionally, only to the extent to which they wish to know/value me, according to a pre-determined model and not according to who I am; therefore, they are forcing me to become who they want me to be in order to be accepted, thus making me sacrifice what I might actually be" "Affirmation represents the equivalent of an absolutist "must". In this universe we cannot prove the existence of any kind of "must". If, in order to become more aware of my own value, "I must do well" and my peers "must approve of me", then I will pay for it by relinquishing my own free will. This conviction is irrational since it rejects the idea that an individual could be aware of her/his own value only to the extent to which s/he still has her/his free will. This assertion is incorrect because it imposes a formula of self-valorisation based on the cancellation of one's own free will. In real life, a person can consider herself/himself valuable depending on the extent to which s/he is interested in the approval of her/his peers." "The peers whose confirmation I seek are not happy (meaning that they do not make their own decisions), but they pretend that their approval could make me more valuable." "Being "resourceful" excludes creativity and involves aspects that have no relation with one's personal ambitions." "The approval of my peers and what "doing well" would imply have no relation with my own free will, they even exclude it, which makes me unhappy." "I am forced to build a personal image that is different from my real self, which makes me feel disesteem/worthlessness towards myself."
4.	"There is not a shred of evidence that this irrational conviction is true."
5.	ATTENTION! Nothing that might happen is unbearable/dreadful/terrible. In the worst case scenario, we could call them "frictions" (it would be stupid to think of them otherwise). "Herein under are the "worst" things that could happen when I do not get my peers' approval:

	"I could be sentenced to loneliness and isolation." "I could lose some of the satisfaction that I may have gotten had I been to live among my peers." "I would be subjected to an excess of inconvenience and anger." "We could decide that living/working together has no more value and therefore we could break ties." "Other people could suffer or be inconvenienced due to our working/living together unhappily or due to us deciding to break the ties." "I could get involved in the relationships with other peers and get their approval through my actions, which would be really appalling".
6.	"Here are the good things that might happen or that I might cause to happen:" "I could save more time and energy and I could enjoy trying to help other people who might be more receptive to my efforts of helping them (children, friends, relatives) "If I chose not to help anybody around, I might get comfort in the idea that, for now, my call is not giving help, but the understanding of the fact that, in the existing circumstances, there are many other satisfactions in life, such as dedicating one's spare time and energy to many enjoyable activities (sports, listening to music, painting or writing)". "No matter how badly I could fail in the relationships with my peers whose confirmation I wouldn't get, as long as I do not give up my free will in my actions, these attempts can prove to be interesting and pleasant for me. Aspiring to a desirable goal, no matter how unattainable, might give me more substance, vital interest and a fascinating direction of my own life". "It might seem exceptionally challenging and nice to learn how to live happily (even though not as happy as the case might prove to be), even carrying it off well, in accordance with my beliefs, my free will and without the approval or support of my peers. Finally, my main goal in life might be to do reasonably well in a harsh world. Even if I often cannot change the world, I can certainly change myself so as to obstinately refuse to feel miserable when faced with distress. This kind of challenge might always seem attractive if I stop lamenting like a child about the inconveniences and inequities of the universe."

3. CONCLUSION: THE INDIVIDUAL APPROACH OF ORGANISATIONAL STRESS BY APPLYING THE ALGORITHM OF RESIGNIFICATION (GIVING A NEW POSITIVE MEANING) OF FAILURES

Ever since it emerged, the rational-emotional therapy has used other semantic methods than the strong disavowal of each of the 3 irrational convictions as a different premise of action in connection with diverse fears, on a daily basis, for a period of several weeks (the weekends included).

Joseph Daugsh, a dedicated specialist in general semantics, has invented a resignification method that helps employees overcome some of their self-destructive habits (such as the habit of smoking) more than other techniques do.

If we intend not to self-depreciate due to some professional failure, the problem is to change the sense/significance of the "to fail" and "not to succeed" terms whenever we think of our failure and to feel, adequately, sadness/grief/remorse/ discontent/anger and not some state of self-depreciation/inadequacy/appallment/terror/fury.

Resignification algorithm:

How would you describe appallment/fury/self-depreciation as physically perceived sensations when you think of that respective failure?

Possible answer: "We have a strange feeling in the pit of our stomach, we feel the horror of injustice, we feel ashamed for having failed pitiably, we ruminate about our absolute foolishness".

How should we determine ourselves to feel differently when we think of that respective failure?

Possible answer: "We will think of our failure by placing it between inverted commas so as to find other significances apart from the catastrophic ones, while putting down on paper these significances of our failure, including the positive ones" (according to Table 2).

Table no. 2 Significances

Negative significances	Positive significances
1. To notice/become aware of our own neurotic behaviour, respectively our own limits.	1. To become aware of the fact that we do all we can in this respect, despite the adverse circumstances.
2. To feel discontent towards ourselves and the others, such discontent being due to the adopted conduct.	2. To learn, while living that respective failure, a few valuable things about the human anxieties.
3. To do our best to communicate with our peers about their neurotic/irrational behaviour.	3. To become aware of the chance we have to get socially bonded with our life companion, due to the rough times we are living.
4. To try to show the other how to think, feel and act differently, more rationally.	4. To discover the way in which we can help other irrational friends/relatives through the agency of the information that we have gathered from our personal failure.
5. To help the others change a little.	5. To reach a high level of self-respect and happiness, despite the fact that we have experienced the failure.
6. To notice the self-destructive way in which our peers act.	6. To live an interesting life by accepting the challenge posed by the difficulty of experiencing that failure.
7. To understand that people are a mixture of honesty and diligence, but also a mixture of irrationality and neurosis.	
8. To live the experience of getting angry, but hardly that of an unquestionably catastrophe due to people continuing to display this sort of dysfunctional behaviour.	
9. To notice that the peers somehow tolerate each other in their irrationality (their neurosis).	

Any time we think of failure, we strive to bear in mind all the possible significances that we might attach to that failure and not just its negative disavowal meanings. The inherent significance of any loss will change and we shall feel different: spontaneous, relatively sad, indifferent or even well.

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SUBSTANTIATION OF THE OPPORTUNITY AND NEED OF PSYCHOLOGICAL EVALUATION OF THE AIRCREW PERSONNEL

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Abstract: *The psychological evaluation for the aircrew personnel with a high degree of psychic demand should be not just one of the complementary selection instruments, but also a periodically compulsory reevaluation in order to adapt to the complexity of the tasks involved in the work process. The measurement of individual differences or of the demands of various professions with the help of psychological examinations as well as the evaluation represent the scientific basis of the professional selection, the psychic acquirements being diagnosed by specific methods (tests, questionnaires and other methods). The psychological examination may catch by its complexity, significant aspects related to safety during the flight, being possible to early trace aspects which cannot be evaluated by other medical specialties, like the possible latent psychopathologies, which might lead to catastrophic accidents or events.*

Keywords: *psychological exam, psychopathology, selection, aptitude, request*

1. INTRODUCTION

In any human knowledge field, reaching objectives is conditioned by the value of the used methods. The first approach, clinical, orients the psychologist towards marking out the complexity of individual conducts, considering that each and every conduct commits the assembly of the personality factors of the individual, its own method to adapt to various situations, previous experience, systems of values... A great importance is awarded to the intentional nature of conduct, to the significances they have for the individual and for its adaptive character. The role and place of the human factor in the personnel structure in the aircrew field represent an aspect as important as that related to the technical endowment. The improvement of the personnel professionalism, as decisive factor of the work quality, is important as much as the technique and equipments became more and more complex, under the conditions the activities are developed in the more and more diverse theatres of operations. The variety of the activities or missions devolving upon the aviation during peace, in crisis situations, in actions to maintain peace or humanitarian missions, on the domestic territory or abroad, requests actively such professionals.

In many countries, the selection process of the candidates was initially oriented towards evaluating intelligence and aptitudes, considered easier to evaluate and, up to a certain moment, credited with a superior predictive value. However, step by step, the practice of psychological selection determined a contra-balancing of the interest from psycho-aptitude orientation to the evaluation of the personality structure.

In order to support and keep to the maximum the capacities of the aircrew personnel, the psychological adviser needs to know the particularities of the adjustment and self-adjustment of the human conduct, of the performance methods, so that they enter in the evaluation and reevaluation process adjusting actions for reaching high performance. The performance in adjusting an self-adjusting psychic conditions is resumed to: efficient conduct, control and mobilization of the intellectual capacities, maximum volitional employment capacity in the undertaken activities, as high as possible efficiency. Therefore, the efficient conduct is obtained by the control of the emotional sphere and proper motor mobilization, in order to respond as good as possible to the newly appeared situations. The psychological preparation for special activities mainly consists of performing the so-called prestart conditions, forms of adjustment and psycho-behavioral self-adjustment

2. PROFESSIONAL SELECTION

The professional selection continues the action of professional orientation and has the objective, depending on the requirements of the profession, to chose those candidates holding certain psychic attributes – aptitudes, temperamental features, interests – and the most proper preparation to the requirements of the concerned profession. The association of the scientific method to know the psychic attributes with studying the features of the profession is the only way to pursue for performing the selection and professional orientation activity.

Knowing the psychic particularities of the aircrew personnel begins with the psychological selection examination for employment and continues with the psychological examinations held for reevaluation or for other types of activities. The psychological examination is substantiated on standardized methods, which help to catching and discriminating personal aptitudes according to the nature of the demands specific to the investigated category, as well as to the method they react on professional performances. The information obtained are converted into psychological significances, which concur to defining the psychological profile as predictor of the professional success.

The professional selection assumes the inventory of the candidates' features, drafting predictions related to their conduct as members of the organization. In professional selection, they follow the candidates on four dimensions: the first dimension – attitudes to the psychic particularities needed to such trade. This dimension regards the attitude to the psychic attributes (skills, aptitudes, personality features) which the candidate holds and needed for successfully exerting the profession.

The second dimension is the "intrinsic motivation". We know the special importance of the motivational factor in effectively developing any activity. As related to the work activity, the motivation has a great importance, and the companies are interested in choosing motivated persons from their interior, which is, devoted persons, loving their work, with high aspirations to come to fruition by their work.

The relationship with the work partners is the third dimension. The effectiveness of a company, especially in the aeronautic field, depends on assuring a favorable climate at the place of work, and interpersonal relations hold a key role in this regard. For such purpose, we select individuals able to develop harmonious relationships with their work partners and to avoid such persons which may lead to unwanted tensions in the social climate of the organization. Therefore, we check the rational potential of the candidate both with the colleagues from the work group, and with his or her superiors and subordinates.

The discriminatory attitudes to some candidates represent the last dimension and one of the most important. We signal frequently discriminatory attitudes in the recruitment process, the personnel hiring entities have << favorite >> categories of candidates and rejected categories.

The main psychological selection criteria are: general intellectual potential; the features of the personality structure; the psycho professional performances; personal evolution - caught in the psychological knowledge steps; the special aptitude potential. One may affirm that the psycho-aptitude profile of the aircrew personnel is concretized in the following features:

- flexible thinking, availability to become aware of the risk, under the conditions of precise evaluation of the difficulty degree of the duty, compared to the own possibilities to realize, a good learning capacity, possibilities to understand and correctly execute the indications and duties received;
- dynamic, realistic personality; quick actions and correct decisions, constancy in actions, maturity and self-control, sociability, cooperation, a good adhesion to the social and group norms, a good social understanding, emotional stability, objectivity, high tolerance when frustrated, intrinsic motivation for the profession, empathic capacities for a good interpersonal relation contributing to the group cohesion, optimism, perseverance;
- to hold a good emotional quotient

Emotional quotient is not a new concept per se, but back-grounded that of "rational quotient". The two concepts are not contradictory, but only separate. Emotional quotient is the ability of a person to understand and manage efficiently their emotions, to understand and manage with the emotions of the people around them. Emotional quotient means intelligent use of emotions in the professional and personal life. The intra- and inter-personal abilities held by emotional quotient come to complete those related to rational quotient. Emotional quotient (EQ) adds more qualities which determine us to be real people. While the IQ increases from one generation to another, the EQ has the tendency to decrease, being tightly connected to various social issues, depression, violence, delinquency, attention deficit.

- the education level – studies according to the held position.

3. THE PSYCHOLOGICAL EXAMINATION IN CASE OF HIGH RISK PROFESSIONS

In order for the risk level at the address of own or others health and safety be unacceptably high, the literature says it needs to be labeled as “direct risk”. Direct risk needs to concomitantly meet a number of three conditions:

(a) needs to have a certain level of probability and severity. The severity and probability level of a risk is evaluated based on what is called “Risk evaluation matrix”. The direct risk, which is unacceptable is which assumes a severity of “significant” level or higher (“critical” or ”catastrophic”) and, in the same time, a probability of “probable” level appearance or higher.

(b) needs to be supported by scientific evidences. There is a need for the estimated risk to be based on scientific evidence. It regards both the variables evaluated by the psychologist, and the limit level set for a certain variable. For example, the evaluation of the level of neuroticism of a person in order to estimate her or his capacity to practice in the aircraft field can only be made if there are scientific studies showing a direct connection between the work accidents in case of the flight personnel and the level of the neuroticism.

In the same time, the limit level accepted as describing the result of "fit" on a psychological variable connected to a specific incapacity needs to be set based on scientific studies; for example, in order to establish that a result weaker than 10 centime for an attention test shows major risk, there is the need for a study showing a univocal connection between such development level of attention and a certain functional disability.

(c) it needs to be based on individual evaluation. There existed as well trials to calculate the related risk based on statistic reasoning, using equations which balance the involved variable differences, but, they had no practical success.

The psychological examination in case of professions with high risk degree claims the satisfaction of previous conditions: the candidates should be under normal physical, physiological and psychological conditions; to get a good rest during the night before the examination; not to be suffering, with affective disorders etc. There needs to create a usual work atmosphere for the candidates, which means that they need to be explained the examination and the pursued aims.

The psychologist needs to be perceived by the candidates, concomitantly, available which is in permanent listening and observation position but also impartial, which is objective in the appreciations lodged. He needs to strictly meet the instructions for each and every test and to have a concern on noticing the conduct of each and every candidate during the examination, in the moments previous explanations are offered, after the settlement of each and every test, they shall pass to another and so on. Besides applying the battery of tests especially made for the professional selection of the candidates needed for a job, the psychological examination also includes the "discussion or interview for employment" which may occur after a sequence of the action to apply tests or after the end of the entire action. The conversation for employment may be more or less directive, which is, freedom may be awarded to the candidate to speak about what he considers the most important in his life and activity, and the freedom to self-examine and self-appreciate himself from various perspectives.

Some psychologists consider the nondirective dialogue as an important mean to develop the candidate's trust in his own forces and as well to clarify his attitudes, as the understanding and respect proved by the psychologist during such dialogue create the psychological climate favorable for self-exploration and self-appreciation. It does not mean passivity from the psychologist; he thinks about the accounts of the candidate, is receptive to his statements and encourages him to self-analysis. The nondirective discussion supplies rich information, but not always essential for professional selection and last a lot, sometimes. In the "directive discussion" the candidate only answers the psychologist's questions, formulated in advance by him and based on the following directions: biography, personality and history of personality. Plus questions related to the way their spare time is organized and their extra-professional activities, future projects etc. Practically, the two discussion features may be combined in order to adapt to each and every particular and individual case. The standardization of the discussion is not possible as the relationship set between the psychologist and the candidate under such circumstances are not predictable.

The psychological conversation or discussion allows the remedy of deficiencies of the tests, richer data being obtained related to the candidate and therefore, his objective appreciation.

There may appear, in case of professional selection, some appreciation errors, some due to the candidate: the adaptation difficulties to the conditions of the interview, the impossibility to supply useful information due to expression difficulties; others which can be due to the rigidity of the procedure adopted for the development of the conversation and finally, some appreciation errors are due to that guiding the discussion; not focused on what is significant in the candidate's conduct; not creating the favorable climate in order for the interviewed individual to react with maximum easiness and honesty; tendencies to generalize the assembly impression made at the beginning of the discussion on the candidate, on all its features.

M. Mandel summarized the qualities a good interviewer needs to benefit from: good knowledge of the job such selection is made for; to prove amiability and cordiality, but in the same time, objectivity as well; to dispose of the aptitude to know how to listen etc. It is recommended to systemically initiate the personnel which needs to appreciate the candidates by the psychological discussion held on the occasion of employment, assisting to the interviews guided by experienced persons, prevention of the "halo phenomenon", establishing the appreciation criteria etc.

Generally, the psychological selection or reevaluation tests are classified as follows: efficiency tests and personality tests. The efficiency or performance tests are subdivided into knowledge tests and aptitude tests. The latter regard the general aptitudes (IQ tests) or special aptitudes (artistic, plastic, technical etc.). The personality tests are divided in: special questionnaires related to the essential particularities of the person; conduct tests, exploration tests of attitudes and interests; projective tests.

Personality is a bio-psycho-social concept, and represents the way of being of someone, a model he related to, a behavioral style, an "objective image" we make on a subject. The psychopathological manifestations (features) have a debut manifested from teenage, sometimes even earlier, persisting to the adult period, highlighted while getting older. The personality features are constituted in the personality disorders from the moment they become rigid, unadapted, liable for the subjective alteration of the individual in social, family, professional relations, showing a net psychic suffering

The psychopathic structures of personality are represented by the psychic imbalance, characterized by the following aspects: a specific style of existence (impulsivity, instability, inadaptability, lability, mendacity, dissimulation), psycho-biographic evolution reflected by: frustrations, traumatisms, deviance, disordered childhood: apathy, mania, hyper activism, running, indiscipline, accentuation of disorders during teenage by: conflicts with the teachers, authorities, parents, school failures, attending marginal groups, the first delicts, suicide, ethylic, prostitution, drug addiction, the adult's personality being marked by: persistence of instability, difficulty of professional integration, delicts, crimes, egocentrism, affective lability, not assuming liability. Delinquency is a dominant feature of the psychic imbalance which is to be concretized by committing crimes, abuse of trust, theft, vagabonding, drug consumption and traffic, usurpation of titles and positions. According to the statements of Univ. Prof. Mihai Golu, "personality is a complex and heterogenic reality", and the process of integration on the three coordinates leads to the elaboration of three interdependent functional sub-systems: temperament, character and aptitudes, adding creativity, motivation and attitudes:

• Temperament – dynamic-energetic side of personality, with physiological basis. Hippocrates defined the 4 types of temperament: sanguine, choleric, phlegmatic, melancholic.

• Character – reunites the particularities or attributes related to the relational aspect of the person with the environment, values – principles of life, related to reality.

• Aptitudes – physical / psychic attributes with a certain degree of development based on hereditary predispositions, but forming during the development of an activity leading to efficiency and performance. They can be classified in: general aptitudes (memory, attention, intelligence) and special aptitudes (music, technique, management).

• Attitudes – are the states of mental and moral preparation eased by experience, which influence dynamically the human conduct directing it in certain situations, being an adjustment mechanism both cognitive and affective.

• Creativity – reflects the upper level of thinking, and motivation is a factor of professional success, of a person's desire for existential utility.

The essential element of the personality disorder is set by the durable pattern of internal experience and conduct which deviates considerably from the expectations of the individual's culture and which, according to DSM IV:

• Is manifested in at least two of the following fields: knowledge, affectivity, interpersonal functioning, impulse control.

• this durable Pattern is inflexible and extended in most of the social and personal situations of the individual.

• it leads to significant deterioration in the social, professional field or in other important operating fields.

• the pattern is stable and long term, and its debut may be found as well in childhood or at the beginning of adulthood.

• the pattern cannot be better explained as manifestation or consequence of another mental disorder.

• the pattern is not due to direct physical consequences of a substance or of a general medical condition. The pathological accentuation of personality features (accentuated personalities: demonstrative character, hyperthymic, hyper exact, dyshtymia, cyclothymiacs, anxious...) leading to the aforementioned personality disorders.

The deviant behavior – deviance refers to the infringement of social norms; it is not limited to the legal norms, embedding all the possible deviations. This phenomenon can only be understood in a social background. Besides the negative aspect, it can be sometimes an adjusting phenomenon of social life. Deviance consolidates conformation and certifies normality, lack of adhesion to the normative and axiological model of the group, manifested by the infringement of the norms and institutional requirements. It is not a universal and homogenous behavior, varying from one group to another and from one society to another, assuming non-conformism to the social norms and compliance with a group's own norms, subculture, with a spatial and temporal evolution and a relative and cultural character. The deviant behavior can be expressed as well by suicidal behavior and addiction.

It is well known that the personality features influence the organizational behavior and, due to such reason, psychological knowledge does not find its meaning unless this is its main purpose. The personality inventory NEO PI R was built by Costa and McCrae by factorial analysis, it has 240 items, divided in 48 for each of the 5 super factors and 8 for each of the 30 facets. There are separate norms for the two genders.

The five superfactors and the 30 facets are bipolar constructs, the scores of the two heads of polarities having different and opposite significances. The factors they refer to are: neuroticism, extraversion, opening, agreeability and scrupulousness. Analyzing the relation between efficiency (training motivation, training attitude, performance and motivation during the transfer of acquisitions) and the five bipolar factors, Sharon S. Naquin and Elwood F. Holton reached the conclusion that extraversion and opening influence directly and positively efficiency and that scrupulousness and agreeability, by the agency of the variable "involvement in work", influence as well the construct.

Neuroticism indicates the general tendency towards emotional instability and living the negative effects (high scores) versus emotional stability, calm, relaxation (low scores). The facets of neuroticism are anxiety, hostility, depression, self awareness, impulsivity and vulnerability. Extraversion indicates the mainly extravert orientation (high scores) versus introvert orientation (understood as lack of extraversion). It has the following facets: warmth/enthusiasm, gregarious spirit, affirmation, activism, looking for excitement, positive quality of emotions.

Opening defines aspects as active imagination, curiosity, esthetic sensitivity, attention to experiences versus conservatory behavior, with preference towards the family. The facets of opening are: opening towards fantasy, esthetic opening, opening towards own ways of feeling, opening in the plan of actions, opening in an ideal plan, opening in the plan of values. Agreeability indicates aspects like altruism, interpersonal cooperation versus dominant, egocentric, skeptical, competitive behavior. The facets of agreeability are trust, honesty, altruism, amiability, modesty and kindness. Conscientiousness relates to self-control in the aspect of self-organizing capacity, fulfillment of duties, planning versus an easier method to fulfill duties or purposes and a lower exactness in applying moral principles. The facets of conscientiousness are: competence, order, sense of duty, desire of fulfillment, self-discipline and deliberation.

As consequence of the researches in the field, it was found that there were significant negative correlations between: anxiety and affirmation, anxiety and self-discipline; depression and affirmation, depression and self-discipline, depression and conscientiousness; hostility and amicability; vulnerability and self-discipline, vulnerability and extraversion, vulnerability and search for excitement, vulnerability and affirmation, vulnerability and gregarious spirit, vulnerability and competence, vulnerability and order, vulnerability and sense of duty, vulnerability and deliberation, vulnerability and conscientiousness; impulsivity and conscientiousness, impulsivity and self-discipline. As well, between neuroticism and self-discipline, neuroticism and deliberation, neuroticism and conscientiousness, neuroticism and affirmation.

The significant positive correlations are between trust and enthusiasm, trust and gregarious spirit, altruism and enthusiasm, altruism and gregarious spirit, enthusiasm and self-discipline, activism and gregarious spirit, enthusiasm and activism, enthusiasm and looking for excitement, enthusiasm and positive quality of emotional states, enthusiasm and esthetic opening, honesty and gregarious spirit, enthusiasm and opening, enthusiasm and agreeability, enthusiasm and conscientiousness; competence and affirmation, affirmation and sense of duty, affirmation and self-discipline, activism and self-discipline, extraversion and competence, agreeability and gentleness etc. These results give us conclusive information related to the adaptive potential of the evaluated subjects, their feedback mode in various situations, as well as information related to their personality. Hence, the need and importance of the psychological knowledge process of the employed staff.

4. FINAL APPROVAL IN PROFESSIONAL SELECTION

In order to capitalize the information obtained within the selection examination (the candidate's results at psychological tests and the information supplied by him during the interview), some psychologists foresee a global appreciation on the candidate, his "portretization", while others affirm that such features of the candidate, requested for the position he candidates for, need to be appreciated separately. An analytical profile of the candidate is built, and studying it, the psychologist may draw the conclusion if he holds the needed qualities or not, for the concerned job.

The psychologist has the right to ask from other professionals in the field of health, especially mental health, specialty consultation before the award of the qualifier for an evaluated person. In other words, under the conditions the psychologist notices or suspects the existence of affections he has no professional competence or legal permission to diagnose, he is entitled to ask for additional specialty consultation. This measure has not a punitive role, but rather supports the safety at the place of work, not only for the employee, but also for the organization.

In case of psychopathological affection identified or suspected by the psychologist, he is not entitled professionally and legally to issue diagnoses, but can only request from the occupational medicine physician a psychiatric consultation, for clarifying by medical diagnosis a founded suspicion, as well as in order to establish a specialty treatment. The psychologist is liable for the approval or opinion on the candidate, the rejected candidates do not have the moral right to ask to be clarified regarding their examination and appreciations.

CONCLUSIONS

Occupational health and security is a priority axis for the development of organizational performance. This axis is important not only as consequence of the compulsoriness to implement European law, but also as a consequence of the employers' assuming of a healthy working environment. More and more often, the health and occupational security strategies of the companies reflect ideas saying that all the accidents may and need to be avoided and that health and security represent the strategic factor for integration, professionalism and efficiency of the organization.

Work accidents, becoming subsequent deaths, are annually accounted for, at the place of work (sometimes, even at the level of the top management) and other events of such type which put health and security at the place of work on the first place. As long as such events continue to show up, the employers will and ask more and more from the specialists activating in the field of occupational health. The risk related to an activity is evaluated depending on the possible repercussions failure may have. There are positions where such repercussions are void. For example, if a secretary does not fulfill his obligations, it has no immediate negative and major results on her own, her mates' or third parties' health and security. There are, however, positions where the consequences for not fulfilling the work duties are major. For example, if a plane pilot is disabled and cannot fulfill his duties, it has a serious impact on himself, on the remaining crew, on the passengers, property and reputation of the company.

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INTERVENTIONS ON THE LEGAL FRAMEWORK OF FINANCIAL-BUDGETARY REASONS OF NATIONAL DEFENSE

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Abstract: *This paper aims to approach the issue of military spending of Romania, as a member of OTAN, in relation to the legal and financial perspective and changes of specific rules that have occurred recently. For this, we proceeded to investigate the operational legal corpus in this matter, but also to the study of scientific papers and reports issued by certain public bodies of high prestige. First, we present a general outline on military spending of Romania and OTAN member states and then focus on exemptions from legal and financial regime applicable to public procurement system for the Romanian Army. The final part of the paper is devoted to the approach of (possible) new guidelines on national security / regional and conclusions. We note that some content elements found in this study have been published by the author in mainstream media (national), usually daily, at a much smaller scale, ethics forcing us to do here the due details and bibliographical references.*

Keywords: *armed forces; financial and budgetary rules; flexible rules; GDP; Grinding / supplementary budget; military interoperability; OTAN; public expenditure; purchasing / procurement programs.*

1. GENERAL OUTLINE REGARDING MILITARY SPENDING OF ROMANIA AND OTAN MEMBER STATES

For various reasons, but certainly most economic, over time there have been several delays for the start of the programs endowment structures of the Ministry of National Defense (MND) in Romania (Bostan, 2016a). Relatively recently, it has been scheduled for the year 2017 military spending accounted for 2% of Romania's GDP, to fit the recommendations of OTAN (Dinu et al., 2016; Bostan, 2016b). The "10th power number of troops under OTAN with a staff of 70.000 troops" (Lupitu, 2016), is that, based on budget allocation re-assumed at the OTAN summit in Warsaw (at least 2% of GDP), as pledged by all member states summit in Wales in 2014, to start massive program of modernization of the Romanian Army. Currently, OTAN member states which meet or exceed a threshold of 2% of GDP on defense are: USA (3.61%), Greece (2.38%), the UK (2.21%), Estonia (2.16%) and Poland (2%). Just have to mention the restriction that at least 20% of the total military expenditures to look procurement of military equipment. According to the aforementioned source, the restriction is respected by ten Member States. Let us remember that between them, Romania ranks third with 26.13%, after Luxembourg (32.82%) and Lithuania (27.65%).

Moreover, the reasons of the picture sketched here in the last amendment budgetary in 2016 settled in favor of the Defense Ministry "to increase commitment appropriations by 5 million ROL to start procurement of technical and specific equipment" (the Ministry of Finance, 2016). That amount covers - between 2016-2022 - a strategic program to equip the Romanian Navy special warfare vessels (corvettes multifunctional), and initial purchase ammunition and logistical support. Considering the rigor / rigor which should manifest itself in the space budget (Anitei, 2011a,b; Burciu, 2008; Costas and Minea, 2015a,b; Costea, 2015a; Dascălu, 2006; Dascălu and Nicolae, 2006; Drosu-Şaguna and Tofan, 2010; Hurjui, 2008; Lazăr and Bundă, 2012; Niţă, 2010, 2013; Radu et al., 2015; Dascălu et al., 2016), the following lines we bend on the issue of military spending of Romania, OTAN member state, relating to our financial and legal perspective of specific rules changes have occurred recently.

2. EXCEPTIONS TO THE LEGAL AND FINANCIAL REGIME APPLICABLE TO PUBLIC PROCUREMENT SYSTEM FOR THE ROMANIAN ARMY

2.1. Elimination of legal barriers on purchases of equipment and lots of ammunition with long manufacturing cycle

The investment process of the Romanian Army procurement programs correlated with those developed in OTAN, has faced a certain period of time with a big problem of legal and financial order. Namely, the purchase of equipment and lots of ammunition with long manufacturing cycle (12 months) was extremely difficult due to restrictions found in Law 500/2002 on public finances (Bostan, 2016c). Thus art. 52 paragraph (1), (3) - (8) and (10) creates real barriers in this context as any payments made to suppliers in advance (up 30%), unjustified by delivery of goods / works executed up to the end year, were to be recovered by the one who granted the advance and shall be returned to the budget. Moreover, "if non-delivery of goods, works and services for missing employed for which advances were paid, the recovery of sums by the public institution is made by charging interest and penalties for late payment or late payment penalties (...), calculated period when they were granted until recovered" (Government of Romania, 2016a). But an evolution of things on this line in 2016, when aimed at laying the Alliance's capabilities for enhanced response force of OTAN (FCRN), was no longer possible. Let's just mention that provision by Romania, in addition to the necessary infrastructure, system communications and necessary Command, is supported by the Agency OTAN Communications and Information (NCIA), requesting advance payment for the services rendered (Government of Romania, 2015a). Therefore, through an Ordinance introducing more fiscal measures (Government of Romania, 2015b), they were brought to derogate from the provisions of art. 52 parag. (1) (3) - (8) and (10) of Law no. 500/2002, to which we referred above. As a result, in 2016 "authorizing officers in MND can engage and use public funds by using letters of credit or payments in advance for purchases (...) designed to achieve or ensure logistical support for the military equipment for the period of realization exceeds the budget year in which it was made legal commitment or providers do not want to deliver the goods where payment is not made through the use of such instruments, as well as for equipment covered by supply contracts" (Government of Romania, 2015b). However, the same law stipulates that "Payments made in advance by authorizing officers (...) can not exceed the amount of 30% of the products / services / works under the contract" and "For the amounts paid in advance (...), beneficiaries are required to provide the authorizing officers letters of guarantee whose value can not be less than the amount paid as an advance".

In addition, "Liquidation amounts committed, authorized and paid (in advance - n.ns.) is based on the reports of provisional acceptance or minutes commissioning and technical audits and accepting ...". Then, even if it is about OTAN and the FCRN reasons, our references regarding investments intended solely to equip MND approved laws or decisions of the CSAT was established and a maximum time. Specifically: "Liquidation amounts of advances (...) be justified by suppliers no later than 36 months from the date of granting of advances by deliveries of finished products or parts thereof" (Government of Romania, 2015b). In addition, these products come into question whether complex military equipment, ships, missiles, guns, tanks, etc., ammunition, must meet an important condition. Respectively, which is to operate independently and meet all those responsible in national defense system.

2.2. Maximum budgetary flexibility and increase commitment appropriations aimed at increasing the combat capacity of the Romanian Navy Forces (RNF)

Public signals that the wider Black Sea region is one generating anxiety in the "peace" there earlier (Bostan, 2016b), which is credible as possible. For instance we have no reason to not believe what just executive Romania argues in a paper of his own, namely that the area "is characterized by the actions of breach of international law by putting into question the international order, preservation frozen conflicts and the intensification of military presence" (the Romanian Government, 2016b). Then, the authorized person in official, Vice Admiral dr. Alexandru Mîrșu, Chief of Staff RNF, in a recent interview with AGERPRES brought some technical details to that effect. Textual, dignitary military claimed that "The 2016 - just as in March 2014 with the annexation of the Crimean Peninsula of the Russian Federation, when did this climate of tension growing in the Black Sea and can even say in what we, military, call the wider Black Sea - is marked by an unpredictable security environment. In these circumstances, the RNF, part of the national defense system must remain vigilant, level of education and training up to show that we have capabilities to patrol our areas of responsibility" (Mihăescu, 2016). Obviously those mentioned personality capabilities mentioned involve special investment effort (Bostan, 2016c). Or today, according to the assertions of the Government Background note by the aforementioned, RNF have "four corvettes obsolete operationally and technically, with limited interoperability in relation to ships other OTAN member states, with the resource life exhausted and equipping and technical eastern origin, whose modernization is not feasible". RNF ensure operational certainty required specific missions requires provision of "multifunctional corvettes new modern equipment interoperable with vessels from other OTAN member states, tailored actual missions". In fact, corvettes are most effective surface warships in the seaside area, with average displacement, and is capable of performing a wide range of missions in difficult hydro-meteorological conditions. Being made at all levels that a military procurement of this type is a strategic necessity that must be met speedily towards the end of 2016 have taken steps in insurance budget (Romanian Government, 2016b). Note substantiating the Government Emergency Ordinance (GEO) rectifying the state budget for 2016 is proposed for MND "to increase commitment appropriations by 5 000 000 thousand ROL (Romanian Lei) to start procurement of technical and specific equipment" (Government of Romania, 2016c). Later, once adopted that GEO, art. 8 among other provisions aimed at MND, we find that the (al. 3) that "in the Annex is authorized MND. 3/18/29 «Sheet goal / project / category of investment», Chapter 60.01 "defense" title 71 "Non-financial assets", Article 71.01 "Fixed Assets" (...) to increase the amount of commitment appropriations 5 000 000 thousand ROL".

On the other hand, for the remainder of the year 2016, the same EO provides that (art. 8, parag 4) 'notwithstanding the provisions of art. 30 parag. (2) of the Law on Public Finances no. 500/2002 (...) from the Budget Reserve Fund available to the Government, by Government decision, MND can allocate money to finance expenses related to the obligations deriving from procurement of materials, fixed assets, services, works for performing repair and overhaul the current combat equipment and military equipment. "This exemption means that allocations will be made even if it is not necessarily "urgent or unforeseen expenses incurred during the budget year" in the primary vision of the legislature (Parliament of Romania, 2016). Finally, it stipulates that in the same period (art. 8, parag. 5) "notwithstanding the provisions of art. 47 parag. (9) of Law no. 500/2002 (...) to finalize the procurement of military equipment, authorizing the Defense Ministry to carry out transfers of budgetary credits and commitment between budget chapters and between programs, over thresholds, without exceeding the approved budgetary provisions". These legislative provisions should be noted that beyond the fact that it gives guarantees in terms of financial resources necessary to cover the value of acquisitions RNF, we are dealing with a budget bureaucratization, thanks derogations from the common law MND data. Strict regarding the purchase of corvettes, the Romanian Government adopted on 29 November 2016 Decision approving the specific circumstances and procedure related to strategic procurement program ,,corvettes multifunction" (Government of Romania, 2016d). As created mounting financial budget, the total value of the investment project in question (construction and equipment of ships will be done at Damen Shipyards Galaţi) is approximately € 1,6 mld. This is to be paid in installments over the period 2016-2022, within the limits of funds estimated to be allocated in the budget of Defense, under the heading "Non-financial assets" by Law no. 339/2015 of the state budget for 2016. Note that this sum includes the initial purchase ammunition and logistical support, which includes the training of crews. What is hoped, following huge financial effort to equip the state RNF it is that they fulfill specific tasks in an efficient way in the politico-military context to which earlier referred.

2.3. The budgetary costs related to military aviation patrolling the eastern border

1990 was the year in which finalized the purchase of the lot MiG 29 (21 machines), made in the USSR. Highly praised at the time, this type of fighter after nearly three decades and appeared to maturity shutdown. Given that our fleet of MiGs may serve only until this year (2017), four years before it was decided to replace it, with all that means some legislative commitments to OTAN, financial support etc. (Bostan, 2016f). Thus, by Law no. 240/2013 for achieving operational capability airlines have made an important step. That phase (I) is included in the initial stage of transition gradual realization of the concept of air defense capability in the 'multi-role aircraft of the Air Force. "It was stated that the capability will be achieved through" award by the Government of Romania Government of the Portuguese contract purchase 12 F-16A / B MLU M 5.2 of surplus service training of seafarers and technical Portugal and Romania has technical support in Romania, and the elements of logistics support" (the Romanian Parliament, 2013). On the other hand, the Romanian Government (through the National Company "Romtehnica" SA) will assign US Government 'successive contracts Type Letter of Offer and Acceptance - LOA Specific Programme Foreign Military Sales - FMS for the purchase of weapons and ammunition necessary complement package initial logistic support and service training". When it comes to fiscal effort, since 2013 these contracts have assumed insurance from the state budget, the commitment appropriations in the amount of about 218 million. € and budgetary appropriations, in the amount of 97 mil. € (Government of Romania, 2013).

However, the total amount related to these aircraft, including upgrade (Lockheed Martin) is over 600 mil. €. This is because it will be acquired and weapons for the fighters F-16 will modernize Feteşti airbase - extending the runway from 2.5 km to 2.8 km, adaptation hangars, fuel depots and armory, etc. Then, just to serve the 12 multi-role aircraft have undergone a special training program not less than 100 people (crew and technical). As the cost per flight hour (CPFH) of the device concerned, it is appreciable. In rough terms (InfoMondo Military, 2012), for example, if finally we get to fill the need for 24 F-16 (at least for Romania, according to OTAN standards) x 3 pilots need / airplane x 120 flight hours / pilot / year (minimum) x $ 7 000 CPFH yields a total per year - just CPFH - of 60 480 000 million dollars / year. Obviously, this value must be allocated from the state budget for MND. And the existence and allocation of its quality depends defense missions Romanian air space, which means more than just patrol in height, given the obligations to OTAN, it is necessary to comply Service Anti - Air Police, on the eastern border. A look at what was designed, in terms of budget, to be spent this year by MND reveals allocate 11.23 mld. ROL, 51.65% more than in 2015. Only for Chapter "defense" (Manolache, 2015), are provided 7.64 mld. ROL, of which 2.64 mld. ROL for Land forces, 2.24 mld. ROL for the Air Force, 911 million ROL for the Navy and 631 million ROL for Logistic Support. The main source of funding is the defense budget (92.14%), coming in completing their income (7.86%). We retain only so that their role assumed by Romania to OTAN directly MND depends mode on the resources allocated to them and require supplementation to reach the level of 2% of GDP (the Romanian Presidency, 2015). Also on this plan target is to maintain that rate for the period 2017-2027, and if possible, even be increased, "according to security needs and obligations that Romania can take."

2.4. Additional budget allocations aimed at increasing the operational capacity of the army

As is well known, the consequences of the crisis were to be affected structures MND procurement programs, including those of strategic importance. However their mark on completing battle stocks, the readiness status of equipment and perhaps even on the level of training of Romanian soldiers (Bostan, 2016a). Perhaps (and) therefore, by a recent decision of the Executive Romania, the necessary conditions to ensure delivery of products / services contracted have been allocated to the Ministry of Defense, in addition, approx. 146 million € from government reserves. The justification is given by the need to build financial support of "key actions for enhancing the operational capacity of the Romanian Armed Forces in accordance with the provisions of the transformation program, developing and equipping the Romanian Army until 2026 and in the future" (Government of Romania, 2016e). Moreover, it must accelerate implementation of these actions; given the operational requirements critical to the responsible majority a capability is entirely new role early warning and deterrence. "In terms of technical and budgetary amount mentioned is given to Title 20" Real and services' – 191 423 thousand ROL, and another part of Title 71 "non-financial assets" – 460 577 thousand ROL (Government of Romania, 2016f). So all in all, Chapter 60.01 "Defense", the sum amounts to 652 000 thousand ROL. According Substantiation Note the related "targeted some of actions respond to major priorities of 2016, but to be initiated immediately...". In this respect reference is made to the purchase of military equipment, current repair aircraft up of stocks of spare parts for C-27J Spartan and IAR-330L, serving our troops available to the ONU. Also part of the allocation for the completion of the project "communication system for radio relay lines and upgrading access for RTP / RMNC, Phase I".

Recall that the project to modernize the transmission grid Permanent extensions / multiple subscribers / digital terminals with embedded encryption. Regulatory approach of the Romanian Government, on which we are now focused, is consistent with GEO no. 86/2016 regarding the revision of the state budget for 2016 (art. 8, parag. 4) (Government of Romania, 2016g).

3. CONCLUSIONS

In a context that emerged after the time of the annexation of Crimea by the Russian Federation, Romania proximate space has become manifestly suffering from Chapter security. Procurement programs of the Romanian military structures to which we referred here, we meet as a budgetary effort, which should make him the Romanian state, in the context of obligations as a member of OTAN. If efforts are already outstanding on this line, we highlighted the legislative component that manifests itself very active lately. As we have shown in this paper, it is about eliminating latest of legal barriers on purchases of equipment and lots of ammunition with long manufacturing cycle, but also flexible budgetary undertaken and increase - the law of nature executive - credits commitment, which are designed to enhance the combat capacity of the structures in question. Finally, we approached the issue of those budgetary costs related to patrolling military aviation at the eastern border - Romania and also the European Union - and some parameters of allocation of public financial resources additional to the stated purpose of enhancing operational Romanian Army.

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THE ANALYSIS OF BENCHMARKING APPLICATION IN CYBER SECURITY

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Abstract: *Cyber security is a sensitive issue that derives from recognizing the existence of some vulnerabilities within the system. The current study analyzes a number of five national cyber security strategies, with particular emphasis on the specific features, in order to identify possible future directions. To identify the areas that need cyber defense improvement, based on the results of a benchmarking process, a simplified model is used, using cyber threats/ cyberattacks (CA) and information security (IS) as variables. By comparing national security strategies, it is desirable to disseminate best practices and integrate them on a global scale.*

Keywords: *cybersecurity, benchmarking, maturity indicator levels, Data Envelopment Analysis*

1. INTRODUCTION

The information environment is in a continuous dynamic, and with it the threats. Ensuring the availability, integrity and confidentiality of information has become one of the greatest concerns of modern society, in the context of integrating information technologies at all organizational levels as an essential condition for progress.

According to technological determinism, the most important factor in achieving success for an organization is technology [1]. "Technology push" investment programs in the military field have removed the fear of being "left behind" (low confidence in existing capabilities).

There is currently no generally accepted definition of "cyber security", which leads to different approaches (between states, between the public and private sectors, between different fields of activity), in the context where the need for cooperation in this field is unanimously recognized [2].

21 of the 28 NATO member states adopted a range of cyber security documents in 2010-2014: national security and defense strategy, national security information strategy, action plan, white carta.

The European Network and Information Security Agency (ENISA) is concerned about increasing the resilience of critical infrastructures against cyber threats, identifying in this regard a series of concrete actions that each strategy should include on the basis of the answers to the following questions: *What are the security requirements? What are the threats? To whom does this address? What are the vulnerabilities? Who is responsible for the prevention and response? What are the ways of cooperation and with whom?*

The International Telecommunication Union (ITU), an information security and networking agency, in partnership with ABI Research, has developed a Global Cyber Security Indicator (GCI) that assesses the cybernetic security level of each state from the perspective of five areas of interest: legislative, technical, organizational, action and cooperation [3,4].

By adopting the Cyber Security Strategy and the National Action Plan in 2013, Romania recognizes the existence of such threats and is concerned with maintaining a secure and resilient virtual environment that is an important pillar of national security and good governance [5].

2. BENCHMARKING. DESIGNING PERFORMANCE INDICATORS

The specialized literature offers a multitude of approaches to assessing and comparing the performance of organizations in different areas of activity. Such an approach in the field of cyber security must address a number of issues, such as: data collection (in an environment characterized by frequent changes), the quality of information (under explicitly uncertain conditions), the quantification of performance qualitative parameters or intangible results (e.g. innovation and adaptation capacity), the inclusion of sensitive data (ethical and legal barriers).

The military organization is subject to significant uncertainties in the connections between strategic units and functional cells. On the one hand, there is the influence of the external environment (dynamic security context, technological progress, budget constraints, operational capability requirements), and the impact on strategic units and cells on the other hand.

Defining performance indicators and identifying the best practices in the field does not fully solve this complex issue, as a series of challenges arise from the analysis of the data of potential evaluation partners:

- increasing expenditure (operational - against the background of system reliability requirements, training - ensuring the necessary staff training to avoid problems of inactivity, expanding and upgrading operational capabilities - infrastructure);
- the limited absorption capacity of investment funds in the national defense industry;
- overcoming institutional resistance to change (technical, operational or cultural).

The development of a model that incorporates the institutional benchmarking process becomes extremely useful in the decision making process in the context of the trend of updating the technologies with the existing challenges.

Performance indicators provide information about both the cyber security strategy as a whole and some specific activities. Table 1 presents the main (quantitative and qualitative) indicators on the basis of which a benchmarking study on cyber security can be carried out. The grouping of parameters is based on the set objectives, as follows: strategy and priorities; cyber security risk management at a national level; policies and regulations; assessing the responsible governance structure; involved parties; information transfer mechanisms; response capability from emergency plan views; organizing exercises; establishing the basic requirements [2].

The list of parameters and domains is not an exhaustive one. For enhancing cyber security capabilities at the organizational level; evaluation could include IT assets (traditional and emerging) or specific operations technologies (e.g. process control systems, control systems, and data acquisition).

The partial performance indicators method is very popular due to the low complexity of the calculations, but the results obtained provide a truncated image of the cyber security performance. For the interpretation of the results, additional data linked to specific conditions are required.

Table 1. The main areas under benchmarking

<table>
<tr>
<td>Strategy, objectives, priority
- the number of tasks completed according to the Action Plan
- the level of public trust
- existence of a national cybersecurity
- reports of improving resilience</td>
<td>Risk management
- the number of incidents during a period of time
- the impact incidents
- the number of critical infrastructures identified</td>
</tr>
<tr>
<td>Policy and regulations
- the complexity of procedures
- the number response capabilities
- the number of documents adopted after the promulgation strategy</td>
<td rowspan="3">Evaluation of responsible governance structure
- the number of shares executed and state actions;
- the number of tasks/ responsibilities unassigned
- type response chain of command
- the number of cooperation mechanisms, procedures and communication channels that do not work</td>
</tr>
<tr>
<td>Stakeholders
- the number of stakeholders
- the number of existing working groups</td>
</tr>
<tr>
<td>Information transfer mechanisms
- indicate the use of information exchange platform
- the number of measures/ actions taken as a result of analysis of the data;
- the number of parties involved;
- the number of newly identifield threats and vulnerabilities</td>
</tr>
<tr>
<td>Organizing exercises
- the number of exercises performed;
- the status evaluation reports;
- the number of sectors involved;
- the number of persons involved;
- the involvement of the public sector;
- the numbers of plans/ procedures tested</td>
<td>Responsiveness in terms of emergency plans
- the number of activities in the national plan completed on time;
- the number of sectors and stakeholders in the development plan;
- the number of exercises conducted to test the plan;
- the level of trening in response to a cyberattack on different scenarios;
- the existence of crisis management facilities</td>
</tr>
</table>

The Stochastic Frontier Analysis (SFA) method is an extension of the simple regression method, aiming at estimating a border of the security function with different intermediate levels of efficiency.

The Data Envelopment Analysis (DEA) method is a method of calculating the relative efficiency by referring to the best examples of good practice in the reporting group. It involves the use of mathematical programming methods to determine a boundary of good practice, the efficiency being calculated by reference to this limit.

In order to quantify the qualitative parameters the maturity level indicator is used [6]. This tool allows, in a relatively short time and with a flexible approach, the assessment of cyber security capacity, the identification of improvement solutions and the prioritization of investment actions in the field. Examples of risk management are the design of the maturity indicator level (MIL) as follows:

MIL 1 - cyber risks are identified;

- the identified risks are managed (e.g. accepted, tolerated, transferred).

MIL 2 - risks are evaluated according to the management strategy;

- identified risks are authenticated;
- response actions are prioritized;
- the risks are monitored;

- risk analysis is carried out on IT architecture.

MIL 3 - policies and procedures for implementing the risk management strategy are different from the risk management program.

3. USING THE DATA ENVELOPMENT ANALYSIS METHOD

The Data Envelopment Analysis method (DEA) is considered one of the most successful methods for assessing effectiveness. DEA is a method of calculating relative efficiency by referring to best practice models in the reporting group.

In order to determine a boundary of good practice, mathematical programming techniques are used. The limit of good practice is nonparametric and entries may be variable or fixed. The method has the advantage of being able to work with a large number of variables and their restrictions.

To illustrate the relative efficiency assessment mode based on the DEA method, there is a simple example of comparative analysis of five national cyber security strategies (corresponding to Romania, Spain, Great Britain, Poland and Latvia) aiming at establishing and implementing the legislative framework [7,8,9,10,11]. They produce a single output variable, ***the development of cyber defense capabilities***, using two input variables: ***cyber threats/ cyberattacks prevention*** and ***information security*** (IS).

For each of the two input variables the are defined the Maturity Indicators Levels of Strategy (MILS). The levels, which are not cumulative, are highlighted in Table 2.

Table 2. Defining the maturity indicator levels for strategies

<table>
<tr><td colspan="3">Preventing threats/ cyberattacks</td></tr>
<tr><td>MILS 1</td><td>- one activity</td><td rowspan="4">- legislative measures;
- stimulating and funding initiatives to develop secure systems;
- participation in regional and international cooperation;
- increased capacity of law enforcement;
- warning systems and reporting.</td></tr>
<tr><td>MILS 2</td><td>- two activities</td></tr>
<tr><td>MILS 3</td><td>- three or four activities</td></tr>
<tr><td>MILS 4</td><td>- five activities</td></tr>
<tr><td colspan="3">Information Security</td></tr>
<tr><td>MILS 1</td><td>- one activity</td><td rowspan="4">- coordination between (public-private) involved;
- ensuring the confidentiality, integrity and accessibility of information and services;
- reducing or eliminating disruptions in vital services company;
- increasing the capacity of critical information infrastructure protection;
- secure and reliable cyberspace.</td></tr>
<tr><td>MILS 2</td><td>- two activities</td></tr>
<tr><td>MILS 3</td><td>- three or four activities</td></tr>
<tr><td>MILS 4</td><td>- five activities</td></tr>
</table>

Significant differences between entry and exit data of the security strategies of the countries in this example allow for an immediate comparison of efficiency. Because these reports mean inputs/ outputs, a strategy is all the more effective as these reports, meaning the points in Figure 1, are closer to the origin of the axle system.

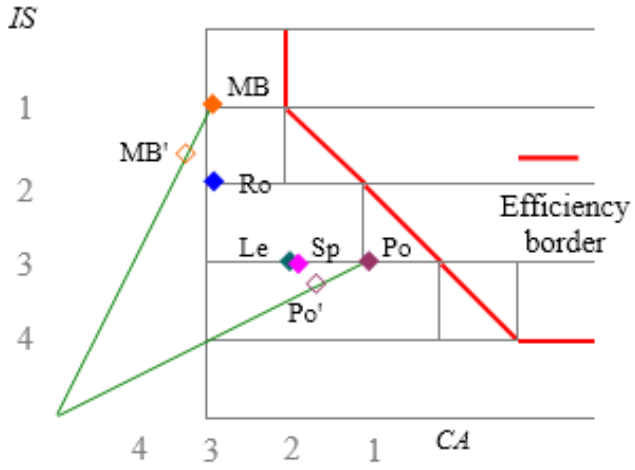

FIG. 1. The representation of the efficiency calculation using DEA

Significant differences between entry and exit data of the security strategies of the countries in this example allow for an immediate comparison of efficiency. Because these reports mean inputs/ outputs, a strategy is all the more effective as these reports, meaning the points in Figure 1, are closer to the origin of the axle system.

The linear Ro-Le curve represents the limit of good practice, the points on it being considered as having a 100% efficiency. So, in the case considered, national cyber security strategies in Romania, Spain and Latvia have an efficiency ratio of 1,0. The Ro-Le curve, also referred to as the unit of isolation (meaning the set of input pairs generating a unit output), allows the measurement of the inefficiency of the strategies that are not located on it. Thus, strategies above the efficiency limit are considered ineffective, consuming larger quantities of inputs to produce a single output unit. To become effective, strategies in the UK and Poland need to reach the MB' or Po' points on the efficiency limit. Their efficiency is given by the ratio between the distance from the origin to the projection of the efficiency limit point and the distance between point and origin.

Another important feature of DEA is predicted in the context of benchmarking. Analyzing the case of the Po strategy, it is clear from the figure that it tends to produce the same results as the Sp and Le strategies belonging to the maximum efficiency curve. However, the strategy to which it relates to establishing relative efficiency is Po', a virtual point on the edge of good practice. The Po' virtual strategy is a combination of the characteristics of the Sp and Le strategies. Therefore, DEA can identify the corresponding pairs with which inefficient strategies can be compared to improve efficiency. Representations in the entry / entry space, as in the example above, are also input-oriented measures.

The study is easy to be graphically represented and interpreted, but if more input and output variables are considered, DEA can no longer be graphically illustrated. In such cases, it is necessary to use linear programming methods for determining the efficiency coefficients and the optimization potential for each of the national cyber security strategies compared.

4. CONCLUSIONS

Ensuring cyber security is more than just a national issue, with the increasing number of threats/ cyberattacks with serious consequences on critical structures, but also on organizations in all areas of activity.

From a security point of view, the IT field experiences a "bipolar cold war": attacked and attacker. The latent, scalable, and accurate detection of threats are features of cyber security tools.

At an European level, ENISA has initiated an assessment of national cyber security strategies without attempting to compare, but rather to explore the state of implementation of these.

Awareness of cyber security risks and motivation to step up national actions in this area can initiate a cybersecurity benchmarking process at international level (including Euro and/ or non-Euro countries).

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THE EFFICIENCY OF AEROBIC GYMNASTICS PATTERNS IN THE PHYSICAL EDUCATION ACTIVITIES AT PRESCHOOL CHILDREN

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Abstract :*Doing sports at preschool age means to provide children the conditions for freedom of actions and to create opportunities for movement specific to their stage of development. The human body undergoes many changes during its development that are particularly noticeable in the first part of life, when growth and development is more intense. Living conditions, as well as the environment influence the growth and development of the child. Thus, there can be noticed differences between the children from the urban - rural area, mountain - field area, wealthy - poor families etc. At the beginning of the preschool age, the child performs spontaneous physical activity. By attending kindergarten, the child is controlled under all aspects of his development and growth. The physical education activity is the basic form that meets all conditions to stimulate the interest of children in conscious and active participation in general physical development in an atmosphere of good mood. It is unfortunate that only one compulsory activity per week is allocated to physical education in the kindergarten. That's why we, when approaching children in openness and knowing their preferences, are able to awaken their interest and pleasure in practicing physical exercise in all its forms. The effects of practicing aerobic gymnastics are beneficial in many ways and contribute to strengthening health. Many children do not know how to walk, they do not know how to run, they have spine deficiencies, they have obesity trends. Besides the beneficial health effects of those who practice aerobic gymnastics, it is of great importance that children get the knowledge and motor skills that will allow them to practice aerobic gymnastics independently.*

Keywords: *physical education, aerobic gymnastics, exercise, motricity, health.*

1. INTRODUCTION

Physical education in preschool education focuses mainly on its specific objectives, that integrate in the content of educational activities in the kindergarten. Since ancient times, physical education has been practiced by man in order to maintain his health, physical and mental vigor.

If the educational climate in the family is not favorable, the kindergarten is the institution where the child can satisfy his or her desire to move, the place where the compensation is made for the physical development of the child. At the beginning of the preschool age, the child performs spontaneous physical activity. By attending kindergarten, the child is controlled under all aspects of his development and growth. Physical education activity is the basic form that meets all the conditions to stimulate children's interest in conscious and active participation in general physical development in an atmosphere of good mood. It is unfortunate that only one compulsory activity per week is allocated to physical education in the kindergarten.

That is why we educators, approaching children with warmth and knowing their preferences, manage to awaken their interest and pleasure for practicing physical exercise in all its forms.

The purpose of the paper

The present study aims to make a contribution to the expansion of practicing aerobic gymnastics in the kindergarten. The design, organization and conduct of aerobics in the kindergarten should be made in the spirit of the modernization of the didactic approach by using modern methods of teaching - learning - evaluation that have the pre-school child in the center.

Research objectives:

O1.Theoretical information on the topic "The Efficiency of aerobic gymnastics patterns in the physical education activity for preschool children";

O2. Defining and verifying the hypothesis, and finding conclusions;

O3. Bringing a contribution to the theoretical substantiation of the theme (which is vast and complex);

O4. Selection and scheduling of aerobic gymnastics patterns that can be used in physical education activities for preschool children;

O5. Applying experimental examinations;

O6. Processing and interpreting the results;

O7. Drawing conclusions and validating the hypothesis.

The hypothesis of research started from the assumption that if physical education in kindergarten uses aerobic gymnastics patterns, this contributes to shaping body muscles, forming a correct posture, lowering body fat, increasing exercise capacity by educating the qualities, motivation and cultivation of the aesthetic sense of movement in preschools.

2. ORGANIZATION AND DEVELOPMENT OF RESEARCH

The pedagogical research was carried out on 15 subjects (10 girls and 5 boys), pre-school children in the combined group from the Kindergarten with extended program, Braşov.

They are aged between 5-7 years.

The sample is as follows:

No. of children	Girls	Boys	5 year olds	6 year olds	7 year olds	Good frequency	Reduced frequency
15	10	5	3	7	5	11	4

Presentation of the group and of the working tools

In autumn, 27 children (9 boys and 18 girls), coming from different social backgrounds, joined the group. A number of 15 children, aged 3-6, attended the kindergarten also last year and 12 children came to the kindergarten for the first time.

From September to May, the entire group was subject to tests aimed at observing the level of psychomotor development and, at the same time, at correcting the difficulties in the execution of motor skills. The subjects presented in the case studies are aged 5-7.

The tools used in completing the research are based on four coordinates, aimed at addressing psychomotor education topics from three different angles (parent, teacher, researcher).

The four research tools are:
- Interview - for parents;
- Medical record - for educators;
- The psycho-pedagogical file - for the researcher;
- The physical exercises - for the researcher.

We interview was conducted with all the parents of the children in the group. This interview focused on motricity issues. This document was very useful for us in order to make an analysis of the subjects, considering that they are analyzed from the point of view of psychomotricity. From the discussions with parents we also collected information on how they spend time outside the kindergarten, their existing recreational programs (see Annex4).

The medical record is structured as follows: anamnesis, immunization dates, periodic physical examinations.

The development of psychomotricity is analyzed for this period.

a) The development of motricity: it goes from its incipient phase to its true phase, of expansion. The child develops his capabilities from the hesitant walking to running, and climbing, from imprecise handling to grip, spinning, opening.

b) The psychomotor development: the term is used to express the fact that the development of psychomotricity is related to the other processes in the intellectual and socio-affective development. Walking is a good illustration of this interrelation.

The psycho-pedagogical sheet was completed for each of the subjects of the case study. Some information is taken from the parents' data sheets on general data related to the child and his / her family, the others being noted following discussions with them or following careful observation in various directed or spontaneous activities.

The physical tests are selected from the annual planning that I made with my colleague at the beginning of the school year. The psychomotor education activities carried out at the kindergarten and in my group were done with much interest by children.

Anthropometric measurements:

1. *Height*. Children in sportswear and bare feet were measured with the help of the anthropometer, and the results were recorded on the sheets.
2. *Weight*. The weight was measured with the weighing scale and expressed in kilograms.

Motricity/Movement tests:

1- 20 meter sprint

2- Standing long jump:

3- Shuttle run:

4- Abdominal muscle force:

5- Trunk mobility:

Research methods

The research methods used were determined according to the research objectives as follows:

The method of direct and indirect observation

We used the observation method in order to obtain information about the psychomotric potential of preschool children.

The interview method

This method was the basis for collecting the information necessary for drafting the evaluation sheets. The interview with the parents gave me the opportunity to outline a general picture of children's motor behavior, existing recreational-instructional programs, as well as of the methodological norms in force on which I was supposed to design the activities specific to the research.

The method of measurement and evaluation

In order to establish specific peculiarities of age and gender, the biomotorical potential characteristic to the middle preschool period, as well as the orientation of the future intervention through the improvement of the existing educational - educational programs, we used the following methods of measurement and evaluation:

a) The Anthropometric method - for evaluation and measurement of functional parameters (waist, weight)

b) The Motricity Test Method - to target the biomotorical potential in terms of speed, strength, strength and skill ratios.

The experiment method

This method consisted of a complex system of knowledge of reality, characterized by the use of "experimental reasoning" that allowed processing of data from both observations and application of tests. Through the experiment, we tried to verify the assumed relationship (given as a hypothesis) by testing and controlling it.

The graphic method

I also used the recording of some aspects during the evaluation activity in order to provide an intuitive support for presenting the measurements made.

3. STEPS OF THE RESEARCH

The initial stage (pretest)

Setting and application of motor capacity tests for preschoolers on the sample of selected subjects (15 subjects).

The following items have been established for the psychomotor field:

To perform general physical exercises with time counting and spatial landmarks;

To make the correct positions at the commands: "Stand straight", "Stand at ease", " To the Left", "To the Right";

To do walking and running exercises maintaining a correct position.

The formative stage (quasi-experimental)

Development and application of training programs accorng to the results of the initial testing. We have applied the activities included in the annual planning.

The training programs aimed at:

- operational objectives / benchmarks;
- evaluation (summative) - test;
- resources used: content of programs and learning capacity;
- didactic scenario: methods, materials, means used;
- the teaching skills used.

By careful selection of exercises and games, we had in mind the improvement of movement skills and abilities, the formation of a correct postures - the permanent control of the position, the education of group relations - the coordination of the personal movements with those of the other children, the development of personality traits as perseverance - in doing exercises as correct as possible, self-control - when being less successful in doing the exercises, fairness - observance of the execution process.

Final stage (posttest)

- Testing the psychomotric level reached by children;
- Doing motricity measurements;
- Recording the data in tables and comparing them with the initial ones, the comparison allowing me an objective interpretation of the results of the two tests.

The final evaluation demonstrated that preschool children acted consciously stimulated by the diversity of the exercises and ways of organizing the activity.

4. PROCESSING AND INTERPRETATION OF RESEARCH RESULTS

The information needed for the research was collected from the very first months, when we came into contact with the children, the parents of the children and the kindergarten teacher.

Following the proposed experiment, the results were recorded and presented in tables and annexes. These results were statistically processed, arranged in a hierarchical order at the same time with highlighting the progress made by children during the experiment. The following statistical and mathematical indices were calculated: arithmetic mean, height progression, weight progression, long-distance jump, hip joint mobility, speed sprint, shuttle run.

In order to highlight the progress made by the children during the experiment, we have compiled centralized tables showing the following:

The results of each child in both tests and the average progress of the children from the first to the second test.

Following statistical calculations of the parameters, a natural increase in somatic parameters and an improvement in motor parameters were observed. This was due to the design and approach of the learning units of the specific training content within the didactic process.

The exercises of aerobic gymnastics are easily done and enjoyed by children, the appropriate musical background creates an atmosphere that favors rhythm and dance. Combinations of elements and aerobic patterns require rigorous consolidation, so that they can then be easily linked in the form of a dance. Playing the whole dance at a celebration in a festive framework, creates an additional motivation for children to learn the dance.

5. CONCLUSIONS

The paper includes the results of a study on the effectiveness of aerobic gymnastics in the physical education activity of preschool children. We underlined the opinions of specialists working in preschool institutions on the importance of physical education of children in the context of the other subjects taught. Plato, said that the two sides of the human being must be educated the same, because they serve us to the same extent.

Modern science also demonstrates, through countless arguments, that there is a close correlation, between the physical development of the preschool children and the capacity to assimilate and capitalize on knowledge.

Practicing aerobic gymnastics, enhancing body vigor, health, preschool children create the essential conditions required by a fruitful and intense intellectual activity.

The content of the information studied reflects the low level of organization of physical education in preschool institutions and the acute need to improve its forms, methods and means.

Analysis of the data, of the results show that preschool children have reached a higher level, with obvious progress.

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FORMATIVE VALENCES OF LOGICAL-MATHEMATICAL GAMES FOR PRESCHOOLERS

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Abstract *:Psychological research conducted in our century on the subject of play has emphasized the many psychological elements that shape this form of human activity. These are those psychological elements that define the game in general and which are sufficiently operative in preschool children. Through the presence and action of these psychological elements, children stand out and appear to us as beings with the personality under development, who think, act motivated by possibilities and aspire to perfection.At preschool age, learning (acquiring new knowledge as well as skills and skills training) has as its main feature the pleasant and attractive character of the activity. That is why at this age it is necessary to combine the elements of learning with elements of the game and this is done through a specific form of preschool activity, namely the didactic game. The introduction of generic, unifying concepts while learning mathematics does not imply acquiring them as an independent unit, but it cultivates a new possibility to understand mathematics through the dynamic knowledge of mathematical relations and classifications.*

Keywords: *learning, didactic game, knowledge, math, preschool age.*

1. INTRODUCTION

From the very first months of activity in kindergarten, the child establishes the first contacts with a fundamental concept of mathematics - the notion of set. The game is a very precious helper, particularly entertaining in initiating set operations. One of the simple games in content and form, but having difficulty in solving compared to the preschooler's development level and welcome to complete, assimilate and impress the knowledge of the children is the logical-mathematical game.

These games play an overwhelming role in providing children with a logical and multifaceted reasoning that allows them to orient themselves in the surrounding realities and express judgments in an appropriate language. Logical games are one of the ways to achieve an active education, which by offering a dynamic role to intuition, emphasizes the action of the child on objects themselves. They are meant to put the child in a position to act, observe, compare and discover logical relationships and implications between real phenomena and things. Logical-mathematical games have proven their outstanding educational value to the actual development of children's intelligence. They contribute to the realization of the formative aspect of the mathematical activity, developing their logical thinking, because they are in a position to seek solutions and to verbalize the actions performed. These games develop the intellectual and actively-creative potential of the preschooler, the spirit of observation, the possibilities of verbalization and oral expression, the ability to analyze and synthesize, to compare, abstract and generalize.

The purpose of the research

The present study aims to make a contribution to the expansion of the mathematical didactic game with a particular importance in the amplification of the formative activity of the kindergarten by the fact that it can be included in the structure of the common activity, thus creating a continuum between the learning activity and the game activity.

Research objectives:

- Development of a set of logical-mathematical games necessary for the achievement of an active and qualitative education, which allows the children to focus on the issues of the surrounding reality;
- Expressing judgments and reasoning in a simple, familiar mathematic language;
- Presentation of mathematical activities performed by logic-mathematical games;
- Emphasizing the effectiveness of logic-mathematical games in stimulating thinking, observation, imagination, creativity and the development of mathematical language;

The research hypothesis was the assumption that if the logic-mathematical games will be intensively used in the educational-training process in kindergarten, higher intuitive and behavioral performances will be achieved.

2. ORGANIZING AND CONDUCTING RESEARCH

The pedagogical research was carried out on a number of 40 subjects (19 girls and 21 boys). They are between 4 and 5 years old.

Presentation of the group and the working tools

The following ***research methods*** have been used in this paper:

- observation;
- pedagogical experiments;

We used ***research tools*** such as:

- observation protocol;
- initial assessment test (individual worksheets);
- final assessment test (individual work papers).

Observation is one of the oldest and best known research techniques. It consists of intentional, methodical and systematic observation of a human subject, of mental manifestations in their natural development, and in the accurate recording of significant, essential facts. It is a method used to collect data and information related to the researched theme, which involves the intentional and systematic surveillance of objects, phenomena and events in a natural state under ordinary conditions of existence and manifestation in order to know them more deeply and to discover their essential features.

As a method of research, it implies the specification of the objective and the tasks of the observation, to establish the conditions for carrying it out, the development of the implementation program and the observation protocol with well-established observation indicators.

The pedagogical experiment

"There is a close association between observation and experiment. The observation is in fact present in all methods of pedagogical research. The experiment is the method of researching the data necessary for the capitalization of the hypothesis (Muster, D. Methodology of research in education, Literary Publishing House, Bucharest, 1985).

In the experiment, the researcher deliberately provokes the phenomenon to be studied, repeats it whenever necessary, can change the conditions and can isolate the studied phenomenon.

3. STAGES OF RESEARCH:

a) Pre-experimental stage:

Collecting and using on the data provided by the current observation of preschooler's activity and behavior led to the knowledge of the used mathematical language, the personal working pace of each child and the level of involvement in their learning activity. At this stage, the behavior, attitudes and interest shown by the subjects in the mathematical activities were followed. For this an observation protocol has been developed and used.

Based on the analysis of established observational indicators, it was possible to determine the level of the subjects' involvement in the learning activity, the mathematical language used, and their working pace. During this stage, the two groups of subjects took an identical initial assessment test.

The initial assessment test was the starting point for establishing the didactic strategy used in the two groups of subjects. Starting from the data contained in these assesments, it was possible to analyze the knowledge of the subjects until the date of application of the samples on which is based the research.

b) The formative stage of the research:

At this stage, mathematical activities were carried out in both groups of subjects. In the control group, mathematical activities were routinely carried out by means of didactic games and exercises with individual material, and in the experimental group these activities were carried out through logic-mathematical games. During this period the experimental group has worked on evaluation forms.

c) The post-experimental stage:

It is the stage in which the results obtained by the two groups of subjects, the experimental group and the control group, were recorded, the differences were established, the data have been statistically processed and the results were interpreted. This was done with the final assessment test for which three performance descriptors were set with performance indicators for maximum, medium and minimum levels.

4. PROCESSING AND INTERPRETATION OF RESEARCH RESULTS

After analyzing the responses for each observation indicator, one can observe the following: in the experimental group the attention of 85% of the subjects was held by the activities carried out, and the attention of 80% of the subjects was held in the control group. By looking at gender, girls are more likely to be caught up in the kindergarten activities than boys. In the experimental group, 80% of the subjects were fully involved in the activity and 75% in the control group.

It was observed that in the experimental group 80% of subjects respond only if they are asked by the kindergarten teacher and the remaining 20% are responding at their own initiative. In the experimental group, 55% of subjects gave closed responses and 45% of subjects gave complex responses while in the control group, 60% of subjects gave complex responses and 40% of subjects gave closed responses. In the experimental group, 70% of the subjects use a suitable mathematical language as compared to 65% of subjects in the control group.

From the analysis of the results obtained on each observational indicator it was found that the mathematical activities are of interest to the subjects, and the research will continue. Analyzing the results obtained after the initial assessment test, it can be noticed that the difference between the control group and the experimental one is relatively small in the subjects with very good and good results and the same for poor results.

Analyzing the results obtained at the final assessment test it can be noticed that there are no poor results in the experimental group, the percentage of the good results is relatively small, and the percentage of very good results is high.

Analyzing the results obtained in the two assessment tests (initial and final), it is noticed that in the experimental group there are no poor results, the percentage of the good results is lower and the percentage of the very good results has increased considerably. At the level of the control group the percentage of poor results decreased, the percentage being very low, the percentage of good results decreased, and the percentage of very good results increased.

Both groups of subjects experienced progress, but the results obtained in the control group were not at the level of the experimental group. These results obtained by subjects from the experimental group were recorded as a result of mathematical activities in the form of logical games.

In conclusion, it can be stated that the research hypothesis is confirmed and the subjects achieved superior intuitive and behavioral performances.

5. CONCLUSIONS

The logical game, as a way of educating and training preschoolers, consists of achieving an optimal combination of the objectives pursued, the content of the activity and the psychic particularities of the preschool age by translating the learning tasks into game.

This gives the child the opportunity to develop his / her creative capacity, performing without too much effort, an intense intellectual activity. In game he/she finds new ways of assimilation of knowledge, establishes links between facts, ideas, actions - the opportunity to accumulate other knowledge. Intellectual development of the child is taking place now, gradually assimilating some logical operations and structures, at first simpler and related to the direct action with the objects, and then more complex, specific to the operative intelligence and later to the hypothetical-deductive thinking.

In the logical-mathematical games, the emphasis is on the formative nature of the activity, aiming to prepare preschoolers for the learning process. It is specific to the game to be based on elements of set theory and logic, considered as basic elements necessary for the subsequent assimilation of mathematical concepts, aiming at the formation of the ability to think logically, to work with structures and logical operations.

In conclusion, it can be said that logical-mathematical games contribute to the formative aspect of the mathematical activities, by using them preschooler develop their capacity for analysis, synthesis, comparison, generalization and abstraction, they train the skill to act orderly with the objects, to correctly represented their objects and attributes. When working with geometric figures, children are asked to express themselves, but not in any way, but using correct, accurate, concise terms, to observe the rules of the game, to be polite with others. The fulfillment of the tasks imposed by the game cultivates the initiative, the independence and the perseverance to finish the game.

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10 YEARS OF INSURANCE BROKERAGE IN ROMANIA. EVOLUTION. PERSPECTIVES

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Abstract: *The paper presents the evolution of insurance brokerage activity in Romania during the period 2007-2016. We chose this period as from 1st January 2007 Romania became a member of the European Union. Since then, the principles of the Single Market on the free movement of services apply in the Romanian insurance market. The insurance brokerage market in Romania has grown year after year. Even in times of crisis when the volume of insurers' business fell, the insurance brokerage market grew. At the end of 2016, 66,14 % of insurance premiums written by insurers in Romania were intermediate by insurance brokers.*

Keywords: *Insurance broker, intermediary premiums, brokerage commissions, brokerage warrant, damage regularization.*

1. INTRODUCTION

On the insurance market in Romania, at the end of 2016, for the first time, the brokerage activity for general insurance, exceeded the percentage of 50% of the insurance premiums subscribed by the insurance companies. Even though in 2009-2014 insurers' subscriptions fell due to the effects of the economic crisis, the value of brokerage insurance premiums increased each year. The increase is due to the reorganization of the insurers in the last years and the increase of the role of the insurance brokers in Romania. The effects of the financial crisis are also felt in insurance spending. Both individual and corporate clients have lowered their insurance costs in the budget. Insurers are increasingly turning to insurance brokers. Brokers analyze and compare all insurance offers in the market. Then, for each client, he / she calculates cost-effective, economical and low-cost insurance offers. In Romania, policyholders do not pay intermediation fees to insurance brokers. Brokers do not apply a commission to the insurance premium set by the insurer. They are commissioned by insurers with a percentage of insurance premiums for them. The commission fee is different depending on the intermediate insurance classes.

2. EVOLUTION OF THE INSURANCE BROKERAGE MARKET IN ROMANIA

In the first years after the introduction of the 32/2000 Law and the establishment of the Insurance Supervisory Commission we witnessed the formation and consolidation of the insurance brokerage market in Romania. Over 2001-2005, more than 300 brokerage insurance companies were established in Romania. After 2007, after Romania's accession to the EU, we witnessed the professionalisation of the brokerage market.

This was done primarily through regulation. Secondary legislation for the authorization of insurance brokerage companies appeared. The Insurance Supervisory Authority in Romania was the Insurance Supervisory Commission (CSA) between 2001-2012 and from 2013 until now the Financial Supervisory Authority (ASF). CSA and ASF issued rules and regulations for continuing professional training of insurance staff. During this period the range of services provided by insurance brokers to their clients has expanded. In addition to brokering, there has been developed and instrumentation and settlement of claims. Currently there are insurance companies that have outsourced to the brokers the damage services, some partially and the others altogether. Some insurance brokers carry out only damage settlement and damage commission (eg Avus, eClaims Interfides International, Pavalascu Risk Consultants). Their number is very low in number. Of the total of insurers paid dunes, the insured brokers' insurance claims over the past 10 years did not exceed the percentage of 2 %.

Table. 1 Insurance brokers in Romania during 2007-2016

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Authorized brokers	383	448	510	527	584	610	611	447	455	317

Source: Author processing of data form ISC and FSA annual reports, Xprimm Profile Magazine

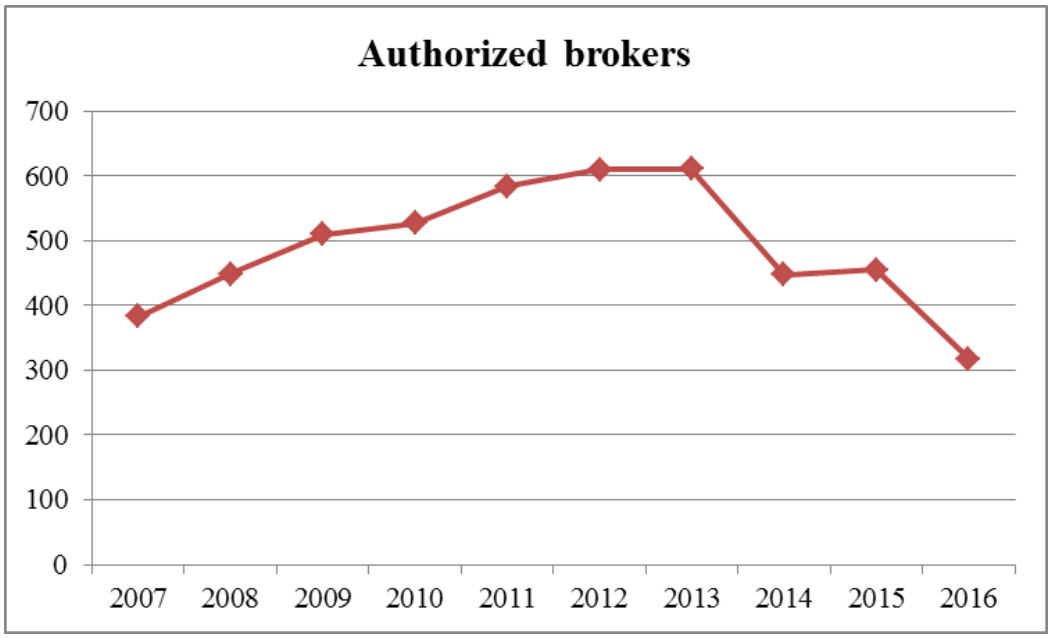

FIG. 1 "Authorized brokers"

It is interesting to analyze the territorial distribution of insurance brokers. As with insurers and insurance brokers, they are concentrated with headquarters and administrative activity in the capital of the country, Bucharest. More than 50% of the insurance brokers have their administrative headquarters in the capital and are represented in several counties. There are also 15% local brokers that mediate insurance in one or more counties. There are counties where we have no local broker. We only have representatives of the brokers in the capital. At the end of 2016 the distribution by administrative counties and by development areas of the country was as shown below.

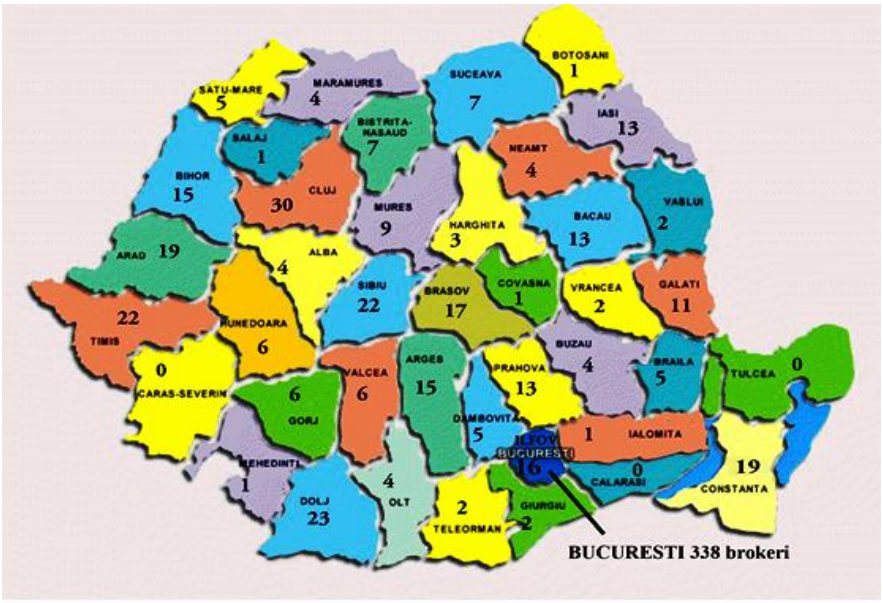

FIG. 2 "New brokers created 2009-2011"

Table 2.1. Evolution of the volume of mediated premiums by insurance brokers in Romania

Year / mil lei	2007	2008	2009	2010	2011
Total mediated premiums	1568	2704	3211	3199	3115
General insurance	1535	2636	3114	3111	3034
Life insurance	330	480	970	878	808

Source: Author processing of data form ISC and FSA annual reports, Xprimm Profile Magazine

Table 2.2. Evolution of the volume of mediated premiums by insurance brokers in Romania

Year / mil lei	2012	2013	2014	2015	2016
Total mediated premiums	3603	3928	4553	5217	6208
General insurance	3506	3830	4440	5088	6038
Life insurance	976	982	1132	1289	1699

Source: Author processing of data form ISC and FSA annual reports, Xprimm Profile Magazine

Although the number of insurance brokers in Romania has grown every year, the insurance brokerage market remains concentrated. In 2007, the first 50 of brokers mediated over 77,16 % of the total of insurance premiums written in Romania, by the end of 2016, the first 10 brokers mediated over 40 % of the market.

Intermediation of life insurance policies is not attractive for Romanian insurance brokers. There are life insurance companies do not sell life insurance policies through brokers, selling only through their own network of agents.

Table 3. Dynamics of the insurance brokerage market in Romania

Indicator/ Year		2007	2010	2013	2016
Brokers - Volume of Activity	Income from brokerage	351	536	795	1101
	Fee premiums	338	507	772	987
	Income from risk inspections	0,56	4,73	4,99	1,09
	Income from damage regularization	5,27	11,69	12,56	15,4
	Income from damage commisioner	0,38	3,14	3,12	2,43
	Other incomes	6,36	8,89	5,82	6,70

Source: Author processing of data form ISC and FSA annual reports, Xprimm Profile Magazine

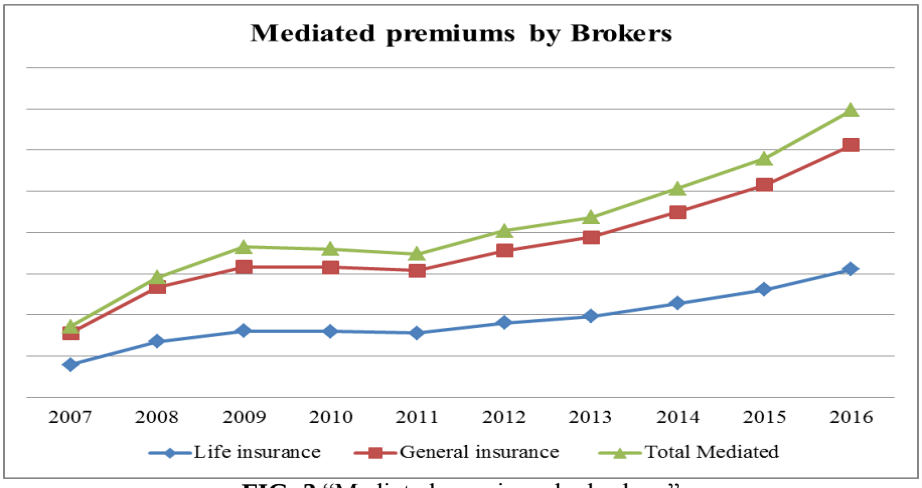

FIG. 3 "Mediated premiums by brokers"

3. CONCLUSIONS

The insurance brokerage market in Romania is now consolidated. It plays an important role in the development of the entire Romanian insurance market. From 2007 to 2013, the number of authorized insurance brokers increased annually. With the application of the capital increase regulations, part of the local brokerage insurance companies ceased their activity. They have transferred their portfolios to their native brokers and act as brokerage assistants. Under these conditions, the market continues to be concentrated. From the data recorded, at the end of 2016, out of 317 brokers carrying out activity, less than 5 % of them, respectively 10 brokers carried out 44,78 % of the total value of mediated insurance premiums.

Life insurance intermediation is kept at a very low level compared to general insurance. In 2016 only 10,18 % of the total life insurance subscribed where by brokers.

One of the opportunities for the future development of the market is also the online commerce with insurance. This modern form of sale is in favor of brokers. From an insurer, the customer can buy online a certain type of insurance policy with a certain price. From insurance brokers, the buyer customer can choose the same type of insurance policy at very different rates and costs. When selling on-line insurance, the client does not receive consultancy from the broker. The customer compares and chooses the price. Lack of direct contact with the insurer and handshake for business consolidation.[3]

Currently in Romania the online insurance commerce does not exceed 10 % of total insurance sales. The bestselling insurance policies are RCA, PAID and travel insurance for travel abroad.

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THE CHILD WITH MOTOR DISABILITIES AND HIS RELATIONSHIP WITH THE FAMILY

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Abstract: *Hypothesis: We assume that: personality is influenced by both disease and environmental factors.*

Objectives:

- *Identification of physical deficiency;*
- *Influence of environmental factors;*
- *Identifying self-image;*
- *Highlighting a personality profile;*

Keywords: *education, factor, deficiency, children, therapy, counselling, temperaments, influence, personality, family,*

1. INTRODUCTION

Interfamily relationships have the most importance among all the factors that compete in childhood modelling relationships. We can observe that in the phase of evolution of direct or implicit interventions, personality structuring needs to model personality functionality. In modern psychology, personality is defined especially in affective-social relationships, which shows us that this type of relationship is defining in the evolution and structuring of personality. Within these relationships the motivation of the interpersonal relationships of the modelling affective order is established.

In the majority of cases, modelling factors are impaired and we notice that they become powerful forces due to the existence of relations between "Myself and the world". Emotion and differential forms of affectivity are forms of interpersonal communication and have a mediating value between "Myself and the world" "J. Nutimm says.

"Whatever the concrete form in which it expresses itself, an affective process always highlights a relational-communicational nature and a selective-evolutionary function" (M. Golu), the affectivity of the child being the result of intercommunication. The parties are the first elements of educational value. The language of exchange between the child and the parents, in the beginning stages, is affectivity. The relationship between the formation of levels of socio-emotional integration is directed by the mother-father couple, starting from the authority, to the determination of the feelings, attitudes and anxiological missions. The social psychology of physical deficiencies, highlights the harmful effects of inter-familial relationships of physical deficiencies on deficient behaviour. When in a family group, a physically deficient child appears, causing a traumatic shock so severely that the family often de-compensates. The problems raised by the physically deficient child cause a serious state of anxiety, conflict in parents. It is noticed that the existence of the physical deck creates different situations in the constellation of family relationships.

Cook applied a questionnaire on parents 'attitudes to more types of deficient and normal, the results leading to the determination of parents' emotional attitudes, polarized as follows: liberalism / authority and cold / soul warmth. C. Paunescu's research that led to the same result was expressed in a computationalist language. It is observed that polarization takes place between the attitude of hyperprotectionism (as a form of anxiety and accusation) and rejects (as a form of conflict) what interests are the forms, the meaning of the manifestations of the parents, but especially of the deficient child.

The most common form is hyperprotection. We see serious contrariety caused by familial hyperprotectionism in developing the child's relational motivation. On the one hand, the abolition of the attempts of autonomy, self-denial, and on the other hand expressing the feeling of guilty culpability of the parents through the overworking form, lead to serious conflicts in the motivational sphere. When placed under competitive conditions in game or school relationships, these forms of disorder become operative. By itself, hyperprotection is a powerful conflict of the parent's affective-motivational origin, which is transmitted through the child-modelling influence. C. Paunescu and I. Musu consider that "hyperpotectionism is a form of anger, aggression, and faulty dissatisfaction of the parent. All these elements act through relationships that are established in the family group. Due to the fact that with the appearance of a child with a family deficiency, the attention is absorbed by it, it can also cause problems for the brothers. The very slow progression of some children is as if the mother would grow more infant series. Because this can be exhausting for those involved, the child must be the constant concern of the whole family.

In the first 7 years, the child's participation to a considerable extent in conflicts is observed, without the existence of an open communication. When the parents of the deficient child learn to master the relationship between them and the child, they learn the individual aspect, the efforts of the child being felt as a separate, free child fighting for affirmation, as well as the symbiotic aspect, which makes the child's needs to be their needs. Then the brothers will not only want to help, but they will not face a problem in treating him as an equal, respecting the needs of their brother or sister. Studies show that siblings are important components in the social support network of caregivers in age. Many have emotional support from siblings (Seltzer, 1981). Usually, the most involved is a sister, usually older, who lives close to home. The burden and parental stress is lower, morale and health are better when the brothers get involved.

When the child does not have siblings, the parents of the deficient child have the tendency to organize their lives according to the needs of the child. If the situation is not well managed, it can create an atmosphere that can only enhance the child's problem. The deficient child must always meet the specific needs according to the context, and the sacrifices are inevitable on both sides.

It is noticed that the functional disorder of the family group is transmitted as a tensional-motivational form of the child.

Another way of expressing the reaction to a child in the family is abandonment with its degrees and intensity - from masked abandonment, through a form of complete satisfaction to the material needs of life, to the manifest abandonment, the rejection of the child, the total abandonment. For the child, abandonment is a major form in which the need for human dignity is compounded to profound trauma. `` Family relationships are of major importance in that they frame the image of the other " and " of the self ", by the permanent comparison of these images appearing the process of modelling the relational motivation" (I. Musu and A.Taflan).

"The handicapped appears only correlated with a particular environment", Andre Berge considers. The child is disabled or not depending on the situation in which it is placed. The family is the first child environment and the starting point, the school, then the adult society.

Paunescu found that `the devalorizing parent devalues himself '. The affective message of the child-parent relationship is very important for the deficient child, who becomes aware of his physical, mental and social deficiency. Between him and his social status, a conflict situation begins. `` He is not sick, but has the status of an invalid, incompatible with normality. His state of illness is fleeting and affects non-specific resonators, the state of social incompetence is a condemnation. "

The research found that mothers of deficient children compared to fathers suffer from stress, several symptoms of restlessness, more pessimism, greater family tension, overburdening, their mental and emotional health is weak, probably due to the roles the parents are taking in the family.

In the family environment, emotional character is the greatest force, but also its weakness. We observe how love easily transforms into hatred, as family members cannot be indifferent to each other. Love is not always disinterested: it can be tyrannical, possessive, detonating. When the least turbulence appears in the emotional balance of parents, the disturbances are much greater in children. Thus, in the relational constellation, intra-family conflicts play a very important role. Close, in terms of intensity, are the school conflicts. For the deficient child, school becomes more conflictual.

When the deficient child does not manage to do things as well as he wants, when failures occur, the family must consider that it was just a mistake, a mistake the child wants to fix.

School is the environment in which the child differentiates his / her feelings and structures his / her personality.

Deficient children who are not in their time in specific therapy activities show more or less strenuous backwardness in the development process. If these children are not rapidly engaged in complex therapy, they also have difficulty in the process of schooling. If they are not registered quickly with educational institutions, there may be a delay in development for various reasons.

A first cause is that they have limited access to information and reduced processing and transmission capacity. Reducing the reduction capacity is another cause of slow development.

Another factor that determines the slow development of the child with deficiencies is the limitation of interpersonal and group relationships with the occurrence of isolation and the appearance of the feeling of inferiority (Radu, 1999).

The disease greatly influences personality. The deficient child becomes irritable, selfish in the sense of taking everything for granted.

Due to the illness, the child may have some reactions considered by the patient as a self-defence system:

• Closing in himself - psychically,

• Refuses contact with other people, can lead to refusal to communicate with the family - socially;

• Installation of the "inferiority complex", shame towards people, thus avoidance or hatred towards others - on the psycho-social plane

In the absence of anomalies, physically impairees are normal in terms of intellectual capabilities.

Due to their exceptional situation and the unfavourable environment, their personality can become fragile with pronounced signs of frustration and anxiety, with conflicts and inner tensions with excessive susceptibility and sensitivities that make it difficult to adapt and relate to others and integrate themselves into socio-professional life.

The integrity of knowledge processes of physically deficient children is relatively similar to normal persons.

Stagnations, progresses and regressions are dependent on the quality of the educational-recuperatory process, but also on the severity, type of handicap, etc. Children with deficiencies can undergo disturbances in the general development process.

2. HISTORY AND OBJECTIVES OF THE RESEARCH

We shall start from the hypothesis that: personality is influenced by both disease and environmental factors.

Objectives:

- Identification of physical deficiency;
- Influence of environmental factors;
- Identification of self-image;
- Highlighting a personality profile;

3. SAMPLE

This research was conducted on a random, unrepresentative sample of 25 physically deficient subjects with different diagnoses: inferior limb inequality, osteochondrodistrophy, neuromuscular dystrophies, congenital dislocations, myopathy of congenital malformations attending both the Special School (22 of the subjects studied), as well as the normal mass education.

4. RESEARCH METHODS

In this research, the method of testing and interviewing was used as a research method.

5. METHODOLOGY

We applied the CORPORAL PERCEPTION TEST (PSC), PERSONALITY QUESTIONNAIRE H.S.P.Q. TEENAGERS and BELLOV QUESTIONNAIRE FOR TEMPERAMENT IDENTIFICATION as well as the interview.

6. RECOLUTION AND DATA PROCESSING

Subjects are 11-16 years of age with the following diagnoses: osteochondrodistrophy, congenital dislocations, congenital malformations, neuromuscular dystrophies, inferior limb inequality. We compared the IQ of the rural and urban subjects, comparison by age, comparison between the school environment of the rural and urban students, the distribution of the subjects according to the factors I, C, Q, D, E (HSPQ), the distribution of subjects according to temperament (Belov) and the distribution of subjects according to self-esteem.

6.1 Corporal series performance test (psc)

The PSC questionnaire is developed by psychologist A. Cilnciu and outlines a comprehensive dimension of self-esteem through the reunion of physical and mental components. The author starts from the premises: "We all know that we have physical points of strength or weaknesses, which benefit us or not. The interest for our own body is vital because it is "our better or less good home, the place where our youth, health, or their opposites come from". The PSC questionnaire calls for objective and sincere answers by completing a few identifiers and giving marks that express the degree of satisfaction or dissatisfaction with your body or parts of it. The rating is as follows:

3 - deep dissatisfaction with the indicated part of the body;
2 - high dissatisfaction;
1 - slight dissatisfaction;
0 - indifference;
1 - slight satisfaction;
2 - accentuated satisfaction;
3 - strong satisfaction

6.2 Bellov questionnaire for temperament identification

It is taken from the Compendium of Psychology for Coaches (Epuran and Holdevici, 1980) with an important change: assumptions about the four temperaments have been grouped and placed one after the other (choleric, blood, phlegmatic, melancholic), the responses are collected on columns, in boxes marked with a bullet, so that they can be easily processed later. The subject has the right to assign 2 points for full concordance, zero for discordance, and one for the midpoint, with the final score having greater variability (0-40 points for the twenty sentences assigned to each temperament). This scoring method creates the possibility of statistical data processing to see if there is a standard of averages and deviations of the four temperaments.

6.3 H.S.P.Q personality questionnaire for teenagers

This questionnaire simultaneously measures 14 personality dimensions and addresses children aged 12-17 years. Each factor of the 14 is measured by 10 items. Because there are two parallel forms of test A, B, there is a possible increase in the fidelity of measurements, giving the same subject the two forms and summing up the results.

The 14 personality dimensions are independent and are designated by letters of the alphabet. It can be observed that dimensions such as: A - cyclotymia / schizo - thymia and D - excitability, refer to temperament traits and others such as: E - dominance / obedience or F - expansivity / nonexpansivity are what we can call environment related features - C - the force of the self, represents the level of integration while the factor G - the force of the super self is a measure of what is usually the development of the moral sense. A dimension - aptitude was also included, general intelligence factor B. The following factors provide us with information about:

H-Factor (anxiety, shyness) / parmia (courage, insensitivity);
Factor I - harria (hardness, realism) / premsia (emotional sensitivity);
Factor j - dynamic simplicity / neurasthenic tendency;
Factor O - confident adaptation / guilt tendencies;
Factor Q2 - group dependency / sufficient self;
Factor Q3 - weakness of self-feeling / strength of self-esteem;
Q4 factor - low energy tension / high energy tension;

This test was applied to reveal an individual personality profile according to the established objective.

7. CONCLUSIONS

After applying the tests and the interview, we found that:

Anxiety, guilt, inferiority complexes, lack of self-confidence, find justification in a concrete physical plane. The deficient child is not only hypersensitive, but also lacking the experience of the self, the body identity that a healthy person gains through the sense of touch, comfort, and movement.

The deficient child is irritated, selfish, his character reduces the ability to engage in activity, and the illness influences his temperament.

We noticed that all subjects have a low self-esteem, due to their physical deficiency. Their personality is fragile, with frustration and anxiety, with internal tensions and conflicts, excessive sensitization, which make interaction with people as well as social and professional integration difficult.

The issue of child disability must be regarded as complex: from a medical, educational, psychological, professional and social perspective.

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ASPECTS OF PHYSICALLY DEFICIENT CHILDREN'S RELATIONS WITH THE FAMILY AND THE EDUCATIONAL ENVIRONMENT

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Abstract: *We start from the hypothesis: Physical deficiency as well as the influence of environmental factors are the triggering factors of the formation and deterioration of self-image.*

Environmental factors: biological factors, unfavorable environmental conditions, unhealthy lifestyles, risk factors related to healthcare. All of these facts contribute to the damaging of self-image.

Objectives:

- *Identification of self-image;*
- *Identification of physical deficiency;*
- *Highlighting a personality profile;*
- *Influence of environmental factors;*

Keywords: *deficiency, children, therapy, counselling, temperaments, personality, family, factor, education.*

1. ANALYSIS AND INTERPRETATION OF DATA

Table 1 - Subjects investigated

Item no.	Name	Sex	Age	Diagnosis	Family	Siblings	Ses	M.R
1.	**A.D**	F	15	Osteochondrodistrophy	COM	1	**Me**	**U**
2.	**C.O**	F	16	Congenital malformation	DI	3	**UA**	**R**
3.	**C.B**	M	13	Inequality of inferior limbs	DI	3	**AA**	**U**
4.	**A.D**	M	15	Neuromuscular dystrophies	COM	-	**UA**	**U**
5.	**A.L**	F	16	Myopathy	COM	1	**Me**	**U**
6.	**B.R**	M	13	Neuromuscular dystrophies	COM	3	**UA**	**U**
7.	**T.D**	M	14	Inequality of inferior limbs	COM	3	**AA**	**U**
8.	**B.V**	M	14	Neuromuscular dystrophies	COM	-	**ME**	**R**
9.	**A.T**	F	16	Congenital luxation	COM	1	**ME**	**U**
10.	**N.S**	M	**12**	Neuromuscular dystrophies	COM	-	**ME**	**R**
11.	**R.D**	M	**15**	Neuromuscular dystrophies	DI	2	**UA**	**U**
12.	**M.F**	M	13	Congenital malformation	COM	-	**ME**	**R**
13.	**F.M**	F	12	Congenital luxation	COM	-	**ME**	**U**
14.	**A.I**	F	13	Neuromuscular dystrophies	COM	2	**AA**	**U**
15.	**C.U**	F	15	Congenital malformation	COM	2	**ME**	**R**
16.	**R.B**	F	12	Congenital luxation	COM	1	**ME**	**R**
17.	**C.I**	F	13	Neuromuscular dystrophies	COM	-	**ME**	**U**
18.	**N.P**	M	14	Congenital malformation	COM	1	**ME**	**R**
19.	**D.I**	M	15	Inequality of inferior limbs	COM	-	**ME**	**R**

Item no.	Name	Sex	Age	Diagnosis	Family	Siblings	Ses	M.R
20.	**L.C**	F	11	Neuromuscular dystrophies	COM	**-**	**ME**	**R**
21.	**A.T**	F	12	Neuromuscular dystrophies	COM	-	**AA**	**U**
22.	**A.A**	M		Congenital luxation	DI	2	**UA**	**U**
23.	**T.A**	F	14	Neuromuscular dystrophies	DI	1	**UA**	**R**
24.	**M.F**	M	16	Congenital luxation	COM	**-**	**UA**	**U**
25.	**R.M.F**	F	14	Congenital malformation	DI	3	**UA**	**R**

LEGEND:
F - female; M - male; COM - compact; DI – dis-harmonic; UA - under average; Me – medium; AA – above average; U - urban; R - rural;

Table 2 - Centralized data of the applied tests

Item no.	Name	PSC	BELOV	HSPQ							
				c	E	D	1	o	Q2	Q3	Q4
1.	A.D	lse	c	-	+	-	+	-	+	+	-
2.	C.O	lse	M	-	-	+	+	+	-	-	+
3.	C.B	lse	F	+	-	+	+	+	-	-	+
4.	A.D	lse	s	-	-	-	-	-	+	+	-
5.	A.L	lse	c	-	+	+	+	+	-	-	+
6.	B.R	lse	M	-	-	+	+	+	-	-	+
7.	T.D	lse	c	-	.	+	+	+	-	-	+
8.	B.V	lse	M		-	. +	+	+	-	-	+
9.	A.T	lse	c	-	+	+	+	+	-	-	+
10.	N.S	lse	c	-	+	-	+	-	+	+	-
11.	R.D	lse	M	-	-	+	+	+	-	-	+
12.	M.F	lse	M			+	+	+	-	-	+
13.	F.M	lse	M	-	-	+	+	+	-	-	+
14.	A.I	lse	M	-	-	+	+	+	-	-	+
15.	C.U	lse	F	+	-	+	+	+	-	-	+
16.	R.B	lse	s	-	-	-	-	.	+	+	.
17.	C.I	lse	M	-	-	+	+	+	-	-	+
18.	N.P	lse	M	-	-	+	+	+	-	-	+
19.	D.I	lse	s	-	-	+	+	+	-	-	+
20.	L.C.	lse	M	-	-	+	+	+	-	-	+
21,	A.T	lse	c	-	+	-	-	-	+	+	-
22.	A.A	lse	c	-	+	+	.+	+	-	-	+
23.	T.A	lse	c	-	+	+	-	+	-	-	+
24.	M.F	lse	F	+	-	+	+	+	-	-	+
25.	RMF	lse	M	-	-	-	+	-	+	+	-

LEGEND:
LSE : Low self-esteem C: choleric M: melancholic F: phlegmatic S: sanguine HSPQ: - FACTORI:C - expansivity – self force; E -submission / dominance; D - excitability; I - realistic / anxious hypochondriac behaviour; Q - adaptation / tendencies towards guilt; Q2 - dependence / independence to a group; Q3 – sense of self; Q4 – energic tension.

Table 3 - Centralized data obtained from the interview with subjects

Item no.	Name	Intr. 1	Intr. 2	Intr. 3	Intr. 4	Intr. 5	Intr. 6	Intr. 7	Intr. 8
1	A.D	3	1	4	4	4	4	1	1
2	C.O	2	2	2	2	2	3	1	2
3	C.B	3	1	4	4	4	4	1	1
4	A.D	3	1	4	2	2	3	3	1
5	A.L	2	3	4	4	4	3	3	1
6	B.R	1	2	2	2	4	1	1	2
7	T.D	2	2	4	4	2	3	3	2
8	B.V	2	3	4	2	4	3	1	1
9	A.T	2	1	4	4	2	3	1	1
10	N.S	1	2	2	2	2	1	3	2
11	R.D	2	2	1	1	1	1	1	2
12	M.F	1	2	1	1	1	1	1	2
13	F.M	3	1	1	1	1	4	1	2
14	A.I	2	3	1	1	1	4	3	1
15	C.U	1	1	4	2	4	3	3	1
16	R.B	2	1	4	4	2	3	1	1
17	C.I	2	1	4	4	4	3	1	1
18	N.P	3	1	4	2	2	3	3	1
19	D.I	2	1	2	2	2	3	3	1
20	L.C	2	2	1	1	1	1	1	1
21	A.T	3	1	4	4	4	3	1	1
22	A.A	2	1	2	2	2	1	3	1
23	T.A	3	1	2	2	2	1	3	1
24	M.F	2	1	4	4	4	1	1	1
25	R.M.F	2	1	4	4	4	3	1	1

2. THE GRAPHICAL PRESENTATION, WHICH IS LATER INCLUDED IN THE QUESTIONNAIRE, HIGHLIGHTS THE DISTRIBUTION OF THE DATA OBTAINED IN THE RESEARCH

This research was carried out on a random, unrepresentative sample of 25 physically deficient subjects attending both normal and mass education, as well as the Special School (mostly, respectively 22 of the subjects studied).

The graphical presentation, which is later included in the questionnaire, highlights the distribution of the data obtained in the research.

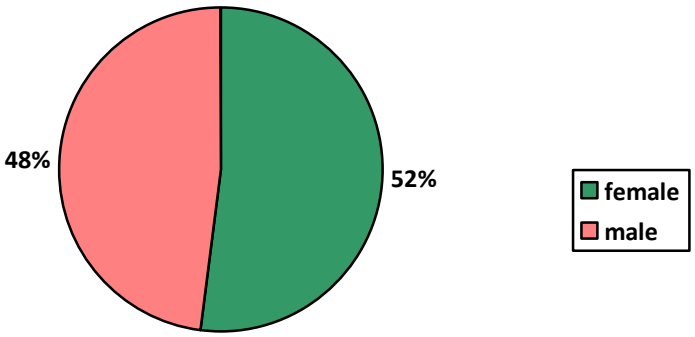

FIG. 1 - The distribution of subjects by gender

In terms of gender distribution, the majority share is held by the female gender, 52%, followed closely by the male gender 48%, the deficiencies not being specific to one gender.

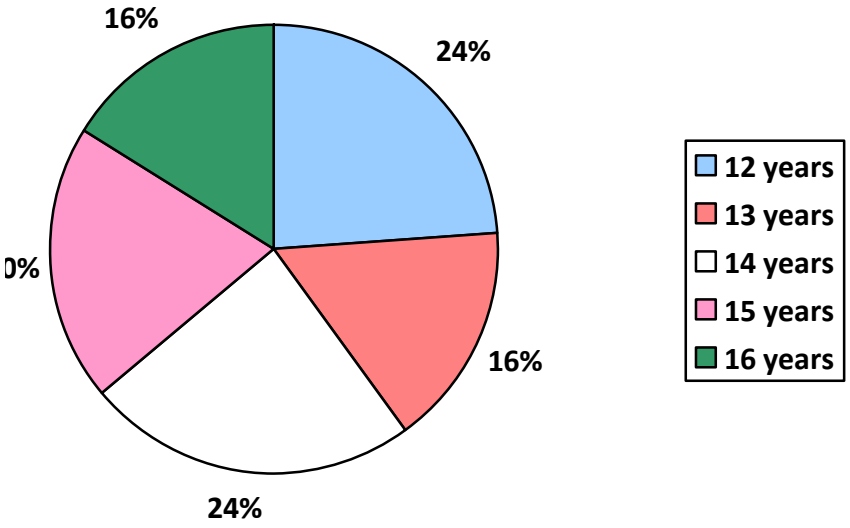

FIG. 2 - The distribution of subjects by age

Distribution by age: 24% 12 years old, 16% 13 years old, 24% 14 years old 20% are 15 years old and 16% are 16 years old.

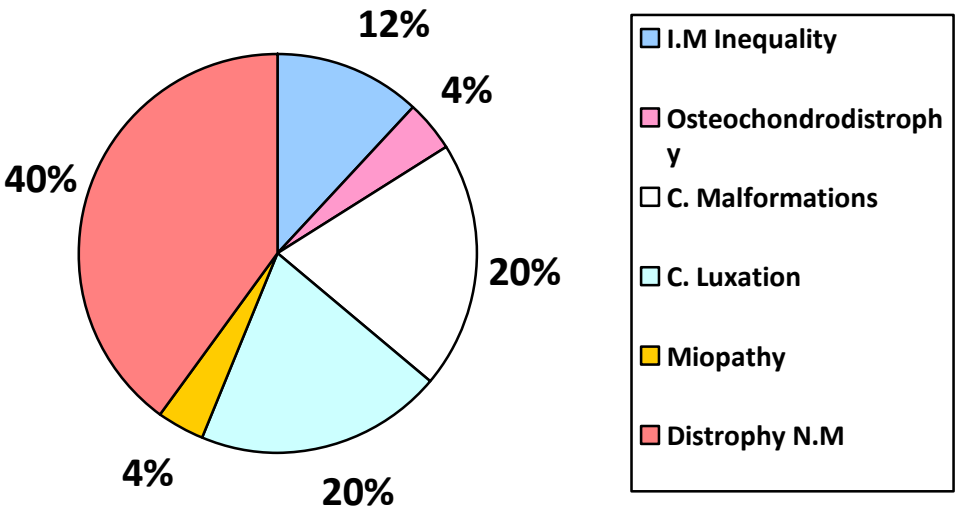

FIG. 3 - The distribution of subjects by diagnosis

Diagnosis based repartition: 40% of subjects have the diagnosis of "neuromuscular disorder", 12% have inferior limb inequalities "integrated in mass education", 4% have osteochondrodistrophy, 20% have DGs. Of Congenital Malformations, 20% have congenital luxations and 4% Myopathy.

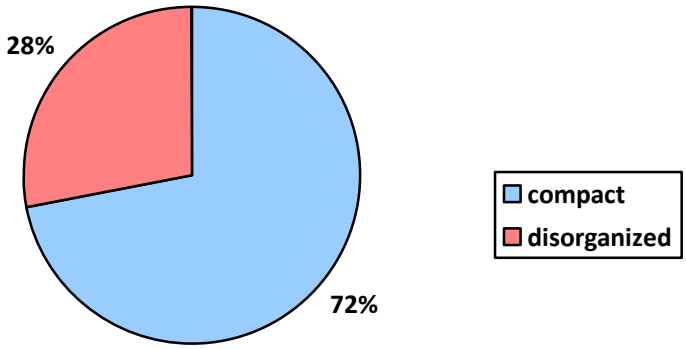

FIG. 4 - The distribution of subjects by family type

We note that 72% of the studied subjects come from compact families and 28% of the subjects are from disorganized families. We can conclude the following: Physical deficiency is not influenced by the type of family, it can occur independently of it.

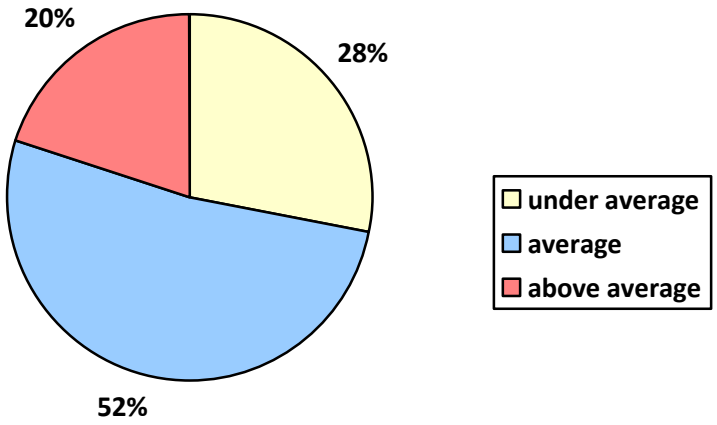

FIG. 5 - The distribution of the economic and social status of the families of the subjects

School performance is one of the factors influencing the (partial) recovery of physical deficiency, and their social integration is the socio-economic status of the family. In this case, most of the children come from families with an average SES, i.e. 52%, and the other percentages are for children from families with SES 20% over average, followed by those with SES under average at 28%.We find that children with lower SES need greater structuring and support to help them succeed in an ordinary classroom. While for those with high SES, self-control and self-direction are more important. In middle-class families, school is more important to learning in both formal and informal programs by contacting frequently the school to ask for information about the children.

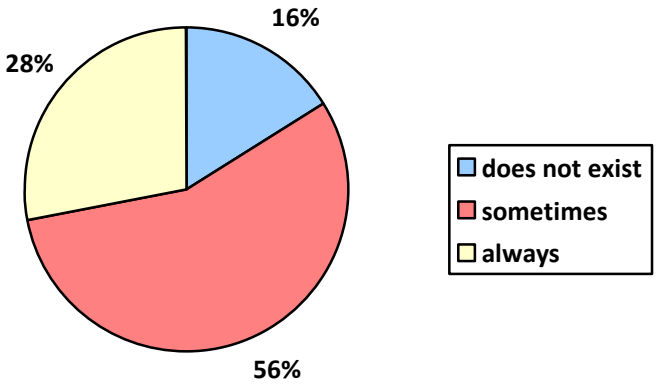

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FIG. 6 - Representation of family – school cooperation relationship

After applying the interview, the question about the real collaboration of families with the school, the results are as follows: in 56% of cases the family is specifically interested in the child's evolution only at times. In 28% of cases, the family maintains permanent reports with the school, contributing greatly to the development and integration of the child, 16% of parents do not care about school and the child's evolution. It has been shown that systematic meetings between school staff and pupils' parents can contribute to their progress. It has been found that middle-class families pay more attention to school, to the need for learning.

They frequently contact the school to get information for their children. In the case of parents with low SES, we notice that they prefer to let the children go through school however they can, based on the decisions of others.

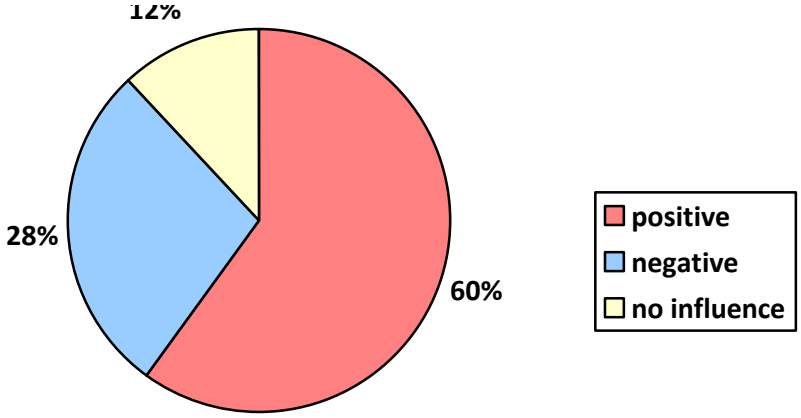

FIG. 7 - Representation of the influence of family on the child's evolution

Family is the most important factor in modelling relationships.

"Family relationships are of major importance in that they frame the image of" the other "and" the self "by the comparison effect, and the ongoing reporting of these images takes place in the process of modelling the relational motivation." (I. Muşu and A. Taflan)

Roger Perron says: "It is likely that parents who focus their attitudes and behaviour on the disability of the child teach them to perceive and define themselves as handicapped."

In our case it has been demonstrated in most situations - 60 / that the family positively influences the evolution of the child. However, in a significant percentage of 28%, families that negatively influence the child's evolution are affected. Specialty literature talks about the family's disintegration as to the evolution of the child, as we have seen before. So intra-family conflicts occupy a very important place in the relational constellation.

These are closely followed by inter-school conflicts. Thus, school becomes more conflicting for the physical deficient than for the normal child.

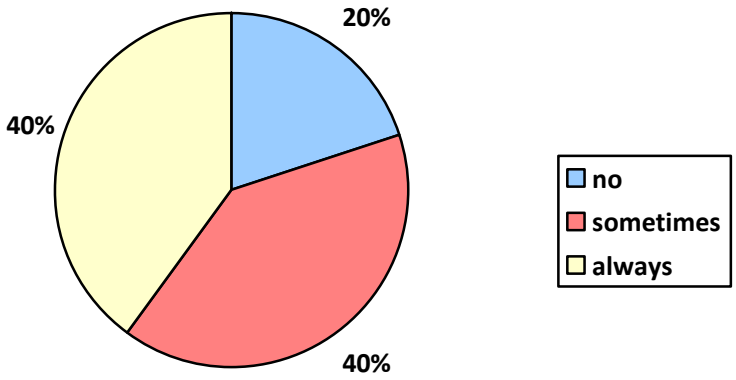

FIG. 8 - The frequency of teacher requests by parents in order to solve educational problems

The information that parents can give to the teacher about the child can be the basis for making the most appropriate decisions when parents are interested in the child's progress and show willingness to collaborate with the school staff.

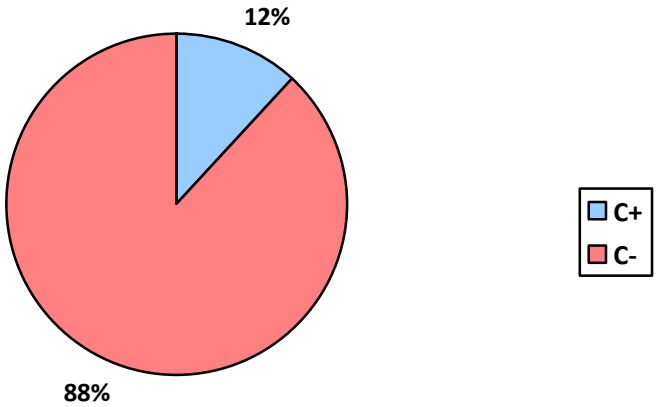

FIG. 9 - Repartition of the subjects depending on the C-HSPQ factor

These children are not satisfied with school and family, slightly contradicted by things and people, hard to keep calm, are unable to follow rules, suffer from digestive and sleep disorders, unmotivated fears.

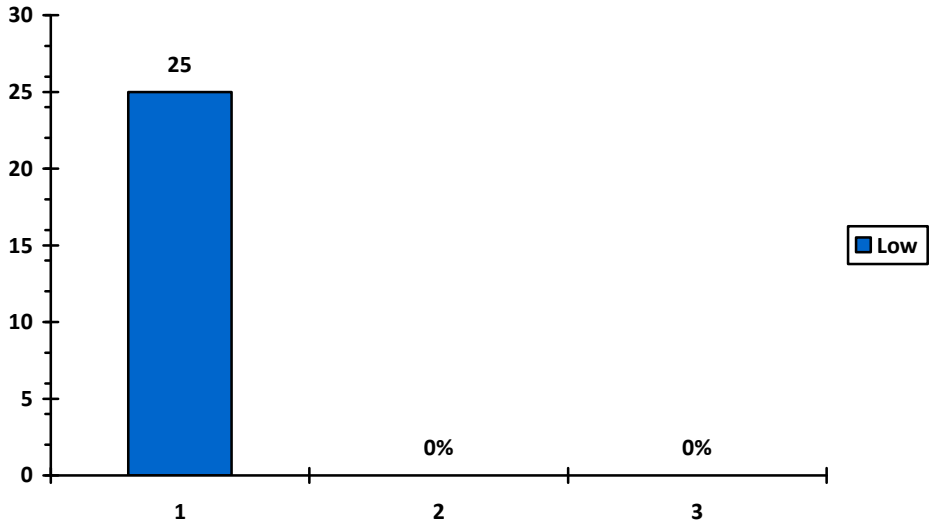

FIG. 10 - Distribution of the subjects according to self-esteem BSP

Both the disease and the influence of environmental factors contribute to the formation and deterioration of self-image.

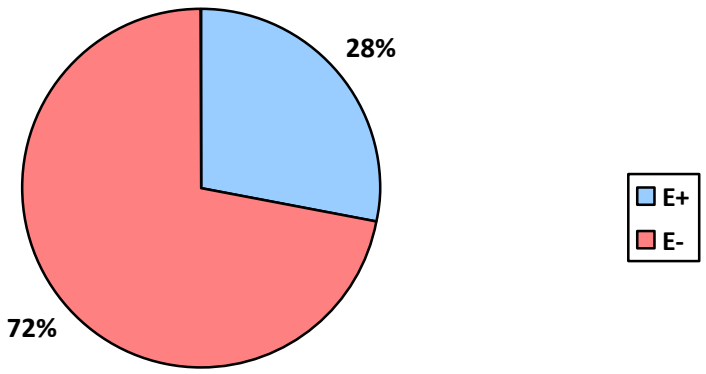

FIG. 11 - Repartition of the subjects depending on the E-HSPQ factor

Factor E highlights subject dominance and respectively submission. Dominance tends to be positively correlated with social status and is higher for recognized leaders than for listening people. Both positions of this dimension raise problems of adaptation. High grades occur in the case of teenager offence-related problems associated with part of the teenager pattern, the low grades being equally pathological because they appear in the traditional neurotic profile. Subjects are characterized by dependence, obedience.

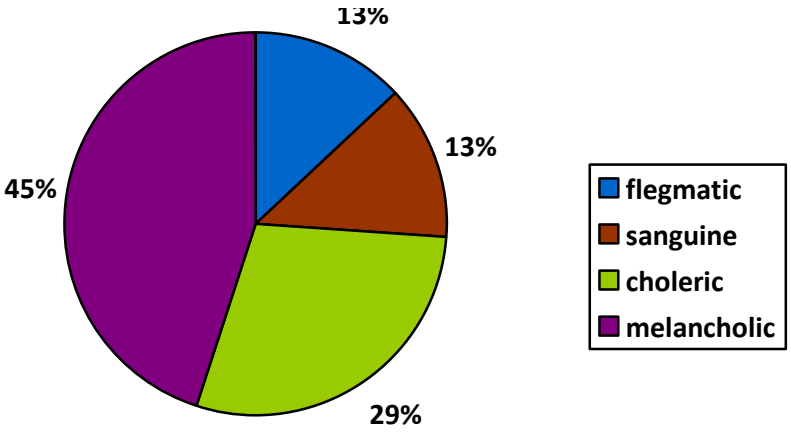

FIG. 12 - Repartition of the subjects depending on temperament type - Belov

Following the Belov test, we noticed that 45% of our subjects belong to melancholic temperament, do not have affective reactions, being introverted and lacking in energy; 29% of choleric temperament, characterized by inequality in manifestations, anxiety, exaggeration in terms of friendship, and hostility; 13% of the blood temperament: sociable, lively, adaptable, etc. and 13% of phlegmatic temperament: people with stable, calm habit, dedicated to an activity.

3. CONCLUSIONS

Following the tests and the interview, we observed the following:

Warmness, anxiety, self-confidence, inferiority complexes find justification in a concrete physical plane.

The physically deficient child is hypersensitive, lacking self-experience, the bodily identity that a healthy person gains through the sense of touch, comfort, movement.

The deficient child is selfish, irritated, we also observe how engagement capacity in activity is reduced by the character, and how illness influences temperament.

The above draws attention to the low self-esteem of all subjects due to physical deficiencies.

We notice that their personality is fragile, with frustration and anxious notes, with internal tensions and conflicts, excessive sensitization, which hinders the relationship with the others as well as social-professional integration.

The issue of disabilities in children must be regarded as complex: from a medical, educational, psychological, professional and social perspective.

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THE KNIFE - ATTACKING AND DEFENSIVE DANGEROUS WEAPON

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***Abstract**:In a world dominated by the wish to distinguish oneself and the gaining of goods in a very easy way, the wrong path is choose by a growing number of individuals, who, in response to their desire of achieving the personal "goals", does not avoid using classical or improvised weapons, without taking in consideration the human or social standards.*

The knife, as designed, the way of procuring and its aim, is one of the most used and dangerous weapon, utilized to intimidate and for annihilation. The persons from military structures (from national security department, the one responsible to maintain and re-establish the public order), need to have technical abilities and a strong psycho-physical format, required to avoid anti-social disorders, as they are the first being facing this hostile elements.

We are bringing to the attention of interested parties, theoretical, practical and tactical aspects regarding (self) defense against aggression with sharp objects from the perspective of martial arts and operative experience.

***Keywords:** knife, psycho-physical preparation, martial arts, self defense*

1. ANALYSIS REGARDING THE ACTUALITY OF THE THEME

We are leaving in a world where the old knight virtues from past times are becoming untouchable high standards for a generation dominated by artificial intelligence. Despite the fact that technology advanced remarkably in the past times, the people are coming back to the era where they are lead by instincts and the life is a continuous fight with the stronger being the winner, ignoring the honor codes or the social laws being in place.

The number of people being injured by offenders is growing day by day. The persons responsible to control and maintain the order and public safety are hardly conducting their duty in the real world today, because of missing law enforcement to protect their service and the lack of time for physical preparation and self-defense tactics. We are guiding our self based on the principle "this could not happen to us", but this is a wrong approach, anytime we can find our self in the position of being robber, in the impossibility to solve a mission.

The knife is one of the most utilized and dangerous weapons, used for attack or defense, because of the simplicity to employ it and the gravity of the injuries those are provoked. As it does not have a big dimension, it can be easily hidden by a professional, simply using the hand, it can be hardly detected, as the facts are narrow down by victims surviving attacks using the knife: the bigger amount of people being attacked are declaring that they were not observing the aggressor possessing a knife.

In fact, if we perform an analysis of the statistics about the aggressions using a knife, the exposure is not an attack itself, it is an ambush and there are few situations when the aggressor is attacking the victim after showing the knife.

We need to distinguish between threaten having the knife as and an object, a situation when the aggressor has a low probability to wish to kill the victim and a knife attack, which has a big brutality and it is very dangerous. The first situation is encountered during the robbery injuries, as threaten and it is most probably that the aggressor to be disarmed by the victim without being seriously injured. The second form is much dangerous and it is referred as "knife attack". There are multiple ways in which the aggressor can attack using a knife. The main direction of aggression, from the mechanical perspective of the movement, the attack refers to:

⇒ cutting

⇒ pricking/stitching.

Taking in consideration these aspects, we need to distinguish between sport, martial arts and the reality of a street fight or national security situation, where "surviving" is the key word. In a real situation, there is no rule, there is no time limit for the action to be materialized, there is no referee or sensei from dojo, who will tell you what to do.

Nothing is fixed and safe in a real situation… it is all about surviving! Most of the people are approaching contact disciplines (kick boxing, mixed martial arts, box), which is helping from physical strength perspective, in the creation of a better conditional reflex or superior coordination in the real fight, but at the beginning, the advantage is with the one using a weapon.

Why this highlight? Because in the real fight it is appearing the stress, with his well known effects: the level of adrenaline is increasing, hyperventilation, the heart beats is increasing, the ability of taking decisions is reducing, the side view is decreasing, the movement abilities are decreasing, the appearance of "freezing effect" – mostly to the subjects lacking the training or the one conducting a superficial training.

Learning the offensive part using such a weapon is necessary to gain the maturity and dexterity required to approach with efficiency an aggressor with knife. Majority of the experts from martial arts are having the opinion that if you know how to use a knife in an attack, you will be more prepared to confront with it. In the special literature of this domain, it is highlighted the methodical approach of learning starting from the attack and later it is treated the defensive approach.

2. THEORETICAL FUNDAMENTS REGARDING THE KNIFE AS A COMBAT WEAPON

To survive an aggression of the knife usage, the knowledge package needs to be very rich, starting from learning of specific elements mentioned in the above paragraph, and also including different scenarios that will lead the trainees close to the real life. Training in different tactics with weapons usage is the most important one, because, from our opinion, in most of the cases, the real life beats the movie!

Only after attending a long period of intense training, approaching multiple scenarios – that will lead to operative situation, with a suitable psycho-physical training enriched with a widely technical martial art package, suitable to the individual, it can be discussed about an efficient approach of aggressions having as a weapon a **knife**. This is more to be considered as, the imagination of human being contributes a lot in this domain by creating weapons/knifes of different forms and dimensions, which creates opportunities of being used broadly and an aggressor possessing a knife, with or without training, can decide your destiny in a fraction of a second.

3. SPECIFIC ASPECTS OF KNIFE FIGHT

Starting from the intention of cutting and pricking with the knife, those were presented above, the experts in fighting using the knife have developed other posibilities to engage the knife as a weapon, by taking in consideraton the different aspects materialized by "specialized people" from this domain, identified with the *specialization*.

From superficial cutting or pricking (in the region of arms), to attacks in specific well defined or vital zone choosed from the persective of individual surviving, the range of attacks is really diversified. Another aspect that needs to be taken in consideration is the wrong ideea that a knife is deangerous only in the hands of a trained individual. In reality, almost any person, independ of the weight, gender or age can be dangerous on the same avarrage, if it holds a knife in his hand. Attacks with knife are hardly intuitive, are very quick, impling many succesive kicks, with changes of the angle, from unpredictible postures, and are parcticed by and expert or any person, even a kid from the corner of the street.

The saying that, "there is no chance when faicing a knife", is most of the time true, related to the case of missing martial arts knowleges – even at a low level – or lacking of psyho-phisical fromal tarining, but also from the perspective of missing basic knowledge about knife fight.

In regards to our experience, the practice has demonstrated the truth. Behind the martial arts abilities and training in fighting using the knife (*Tanto-jutsu* – in Ju-jitsu), in background, there are capabilities evolved in the psyho-phisical system of the tarinees, those "are not given by default" to each individual.

Those could imply:

- improving the trust in oneself;
- better coordination;
- space-time orientation;
- the feeling of tempo and rhythmus of the fight;
- intuitive feeling

At the same time, knowing the effects of cutting and the counter measures of (self) defense techniques as an answer, involuntary some moral capabilities are amplified like: tolerance, compassion, the wish to appreciate the life, reducing the aggressiveness.

Regarding the reduction of aggressiveness, our daily experience, from martial arts or operative perspective, has shown that the probability of an aggressor to attack vital zones of human body is having a low level. Evidently, we are not taking in consideration an aggressor being under the influence of alcohol or drugs, neither for those having psychical affections.

The majority of operative situations with which we have confronted have shown a unspeakable truth: 8 out of 10 aggressors are using the knife for intimidation!

This is the reason why there is a need for a strong training, with a big focus on mind control!

If we are discussing about the body zone selected to be attacked, generally, this is "suggested" by the victim through his attitude in the moment of action:

- ✓ stretching or the intention to stop the attack using the hands through the direction of the attack;
- ✓ the intention to intercept or catch the knife of the aggressor at the moment when the attack is started;
- ✓ when the panic is established;
- ✓ turning around and showing the back side of the body to the aggressor;
- ✓ lost of control or self confidence.

Any type of attack is dangerous, based on the body zone which has been cutting or pricking. The top of the list is occupied by the veins and arterials. From the perspective of the profile of the attack, as psychological aspect, this is aiming the instauration of the panic to the potential victim, and then, the wish to annihilate it through the cutting or pricking actions by targeting the arms, the chest, the abdomen mostly, the legs or the higher part f the body (the neck or the face).

The specialized people from this domain are familiarized with what is named a *bio-mechanical cut*, having the scope to broke the tendon and ligament normally used to execute catching movements and not only that. In regards to the cutting or pricking attacks, we need to highlight that these are very dangerous and can lead to death when reaching vital organs, being on the same time hard to intercept of defend.

Generally, the bigger error performed during the (self) defense against this type of attack is that one when it is tried to intercept the knife.

Through the experience of the daily work and specialization in martial arts, we have enlighten our self about the most efficient (self) defense technique, regardless of the direction of the attack, the technique which we have named FUNDAMENTAL (SELF) DEFENSE having as primary manifestation the fact of *NOT BEING THERE where the aggression is taking place*!

"*Avoiding to be there*", in the context of efficiency of (self) defense, does not mean to *start running*, but the manifestation of the efficiency of the technique through roll-out or turning around and let the attack follow his course, take it over and initiate the adequate annihilation technique.

The actual informational package about approaching the knife, being at anyone disposal, and taking in consideration the psycho-motive evolution of the human beings, imposes a diversification of operative situations related to (self) defense for these types of aggressions, starting from the discovery of main techniques of attacks, as follow:

- the four classical directions of the attack:
  - vertical descendent attack;
  - vertical ascendant attack;
  - the side attack;
  - the pricking attack .
- on the classical directions of the attack it will be developed all the manners of usage the knife as:
  - crossing descendent attack;
  - crossing ascendant attack;
  - „the shape of 8" attack;
  - „turning around the hand" attack;
  - hidden blade attack.

4. TACTICAL PRINCIPLES OF (SELF) DEENSE IN CASE OF AGGRESSIONS WITH CUTTING-PRINCKING OBJECTS

As highlighted above, specific aspects of the fight implying cutting-pricking objects imposes the need to know of some tactical principles for actions, that can guarantee the surviving during the different scenarios of the fight. Taking in consideration this aspect, the tactical principles to be aware of during the situations under discussion, arousing from our martial arts experience and from the operative activities, refers to:

- ✓ the appreciation of the optimal distance of the attack (*MA-AI*);
- ✓ the usage of the most efficient techniques that is exposing the defender with a lower risk;
- ✓ the intuition of the direction of the attack from the way how the weapon is hold;

- ✓ the usage of specific tools, the personal belongings, the objects from the surrounding as a defending weapon;
- ✓ the usage of the fight psychology.

o ***Appreciation of the optimal distance of the (MA-AI)***

MA - AI or the optimal distance of the attack, represents the perfect time-distance that is between two fighters, ensuring the evaluation, respectively the appliance in optimum time and efficient way of techniques for attack or defense.

The one who can appreciate in an efficient and spontaneously way, eventually to annihilate this distance in the shortest time period, will gain an advantage against his opponent, and give himself the possibility to use his psycho-physical-technical capability. In combat or self defense domain, the continuous changing of fight and guard position is increasing of reducing the attack or defense possibilities. This is the reason why we are considering this aspect extremely important for the study and consolidation of the knowledge. On the same time the ability to appreciate correctly (and spontaneously) of the distance are welcomed during the daily business of specific activities for the employees of the Ministry of Interior.

Some experts from the domain (D. Deliu, 2002) are expressing the notion "security sphere", aiming the imaginary sphere that is surrounding the fighter for a distance of approximately one meter. Inside that, a skilled fighter can take the most efficient decision, not only about the attack, but also in relation with the defense.

From distance point of view, in budo (martial arts) we can distinguish three types of distance:

- ➢ *small distance (CHIKA - MA);*
- ➢ *optimal distance for attacking (MA – AI);*
- ➢ *large distance (TO - MA).*

Fighting distance *(Ma-ai)*

Ma – Ai regarded as *optimal distance for the attack*, is the perfect time-distance separating two fighters, ensuring the evaluation and application at the proper time in an efficient manner of attack or defense techniques. In short we can mention:

- ❖ *small distance* – is "the fire distance" being preferred by the fast *budoka* or those having as favorites technique (*tokui – waza*) short strikes, ascending of descending. Small distance is specific for joint (articulation) or strangulation techniques.
- ❖ *optimal distance for attacking* (*ma – ai*) – is the most used fighting distance from where can start a large variety of techniques, but still keeping a safe distance for protection. When fighting with the knife, this is the recommended distance.

Ma – ai is instinctively considered by the beginners (some times the large distance is choose), but for the skilled fighters it represents a strategy about the approaching of the fight because it creates the chance to execute the most efficient technique. It has to be highlighted the fact that keeping the proper distance – in any domain, not only in *budo/self defense*, expresses respect for the partner or adversary in physical and spiritual plan, and could be a friendly attitude and on the same time cautious. The actions those could be taken associated with this type of distance are unlimited, especially when the knowledge level is higher.

Ma-ai is the distance of those having equilibrium during the fight and why not in the complex situations of daily life. The correct and spontaneously appreciation of optimal distance for the attack creates the premises of executing the most efficient procedures for self defense or attack.

- ❖ *large distance (to - ma)* - represents that distance when the executed technique is reaching the target only after moving forward and approach the opponent, as a quick step or a short jump.

On the same time, *the large distance*, is the observation distance, offering the opportunity to analyze and calm down the fight, in a safety zone. This is frequently used in combat fight to secure the advantage of the accumulated points. The appreciation of the distance during the fast actions of the fight is the most difficult ability and it is gained only with continuous practice. It must be permanently searched by the person interested about self defense domain.

Below schemes are showing the three types of the distance (figures 1 - 3).

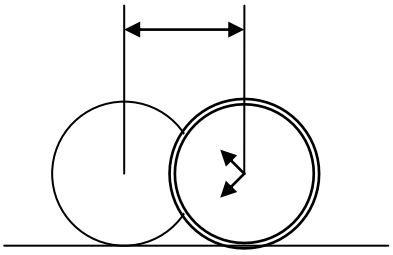

FIG. 1. small distance [for attacking]

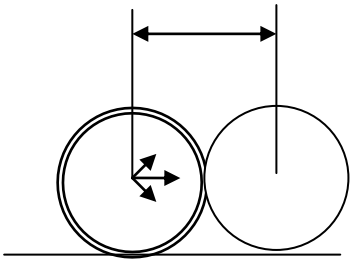

FIG. 2. optimal distance [for attacking]

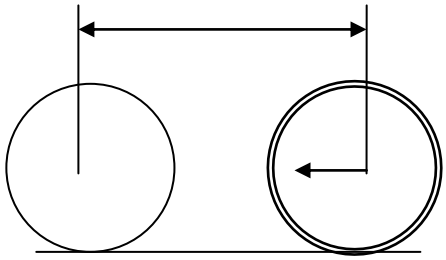

FIG. 3. large distance [for attacking]

- **the usage of most efficient techniques those are exposing the defender in a less risky way**

To highlight this fact, we take in consideration the following aspects:

✓ usage of the most efficient techniques for movement/turning around, making the opponent to lost his equilibrium, striking techniques with preference for arms usage, but not excluding the kicks using the leg to the sensible portion of the opponent body to make him losing his control and braking the rhythmus and attacking desire or his annihilation;

✓ creating the opportunity to apply the joint techniques;

✓ creating the opportunity to apply *kyusho* techniques.

- ***intuition of the direction of the attack from the way how the weapon is hold***

During the specific trainings [in Ju-jitsu] one of the elements those are studied in *Tanto-jutsu,* is about taking in consideration as a spontaneous observation the way how the aggressor is holding the weapon. Doing so, studying the way how the lever is handled it can be anticipated the attack direction and in reaction, the proper response that applies.

Of course, a skilled aggressor who knows how to handle the weapon can change the way of holding it in a short time period. Our experience in martial arts give us the chance to have an objection: the probability to be attacked by a *Tanto-jutsu* expert, is very low!

This is because of the moral discipline that is developed during the training hours dedicated to the instruction, so that, in our opinion the above expressed idea is truly valid.

- ***usage of specific tools, personal belongings, the objects from the surrounding as a defending weapon***

Ed Parker, karate grand master and multiple times world champion during '70 was questioned: „*What you will do if somebody is approaching you in an aggressive manner pointing a knife in your direction and asking for your wallet*?" „*I will give it without any hesitation*", it came the answer. „*My life is much more important*…"

So, this is a way to address a situation from a posture of a big champion!

As a Ministry of Interior or Ministry of Defense employee, as a simple citizen we are not wiling to approach the situation in that manner because of different concepts!

For an efficient self defense, we suggest:

- ✓ usage of specific tools during mission execution (correction stick, spray, handcuffs, fire weapon);
- ✓ usage of the personal belongings as a interception/intimidation weapon: the jacket, the necktie, the belt, the muffler, the hat, the keys or the cell phone to be thrown in the direction of the eyes of the aggressor;
- ✓ usage or transformation in a weapon any object from the surrounding: branch from a tree, a stone, any object that is close to you (a chair) to put it between the victim and the aggressor or to be transformed in an interception/attacking weapon.

- ***usage of fighting psychology***

„Master" or beginner, when you are aggressed with a knife by a determined individual with a scary figure, only by keeping a calm attitude can save you. Running with full speed, even that it is said "running is a shame, but is healthy" does not apply!

The usage of fighting psychology in this situation is assuming:

- ✓ the simulation or creation of the impression that you are not alone; somebody is about to come an help you or is just behind the aggressor! The short hesitation and loose of attention of the aggressor must be used to initiate the defense;
- ✓ usage of intimidation speech or attitude;
- ✓ usage of the environment factors: making the aggressor to face the sun, exposing his eyes to the wind, lowering his position, bringing him to unstable ground;
- ✓ throwing sand or dust in the eyes to distract the attention.

- ***rules those can save your life in real fight***

The topic of fight or self defense with knife usage is very extensive. We consider useful some recommendations extracted from operative and martial arts domain:

- ➢ ALWAYS make the assumption that the aggressor has a weapon with him;
- ➢ The body, the arms and the legs of the aggressor could be considered weapons, so be careful!
- ➢ The knife could be felt not always shown;
- ➢ Be watchful to the movement of the aggressor;
- ➢ Keep a safe distance regardless of the circumstances;
- ➢ In case of an aggression with knife usage do not try to bring the fight to the ground;
- ➢ Do not try to bring to the ground the aggressor from the first phase. This could be dangerous in case that he posses a knife;
- ➢ Apply ALWAYS a strike to temper the attack;
- ➢ There is no place for a polite behavior when the knife is used in a dispute;
- ➢ When you know that the aggressor has a knife with him and he will use it, if you will not have the chance to run, use any object from personal belongings (handbag, keys, pen, hat, cell phone, lighter) or from the surrounding (chair, brick, stick, dust, sand) to prepare a response;
- ➢ Accept to fight only if there is no other chance!
- ➢ If YOU HAVE TO FIGHT, FIGHT FOR SURVIVING!

5. CONCLUSIONS

Starting from the operative, martial arts and experimental-theoretical experience, we are proposing this article for the analysis, preparations and diversification of specific activities belonging to the persons responsible for the maintenance or restoration of the public safety, but also to the other individuals, who can be in the posture of a victim of an aggression conducted by the usage of a cutting-pricking object or being on duty during the mission execution.

A superior training must be conducted in regard to the physical and tactical preparation for the persons working for police forces, especially for the operative department, who is interacting with any kind of people. This does not exclude the other operative categories.

The simple scenario of routine checking the ID of a person, when the person being asked for the papers posting a weapon with his hand or hiding it under the clothes, require the distance and reaction time to be trained to be able to face the situation and being able to create an opportunity and the necessary time to react. Using this example, timing and distance are major aspects those need to be taken in consideration when asking for personal ID of a person.

The attack is all the time quicker than the reaction. This is the reason why you must be prepared for any type of scenario when intercepting an individual. The arms shall be somewhere at the chest level to be able to have a quick reaction in case of an attack.

All the specific tools of a policeman shall be well positioned all the time and must be accessible in the shortest time possible. Of course, the usage and their knowledge must be an obligation coming from their duty and it is a necessity.

The ability to make a fast analysis about the risk presented by the person being questioned can help the policeman to determine as quick as possible if the force needs to be utilized and with which intensity. This analysis can be concluded from the body language, the arms posture and the area where the discussion is taking place. From this perspective, it leads us to the distance that needs to be kept, making the assumption that the each person possessing a weapon that can be any time accessed. The analysis of distance presented in the paragraph above for different scenarios presenting higher or lower risk, is materialized in the distance to the suspect, that is necessary to be able to avoid a possible attack and the optimal technique to apply the defending technique, all of these materialized in order to obtain the operative efficiency.

From our opinion the persons having their duty to maintain and restore the public safety, but also the other categories of person, must train their self as close as possible to the real life scenarios, using the weapons and tools as their duty require, or any other type of objects those could be possible transformed in weapon, being dressed with their intervention or operative equipment.

This is why we are considering our article very important and the different scenarios about cutting objects being treated, will lead to a stronger psycho-physical system, besides the creation of specific abilities in self defense, required by our society where the democratic values of our social life are wrongly understood.

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STUDY ABOUT THE USAGE OF BODYBUILDING ELEMENTS IN THE PSYCHO-PHYSICAL PREPARATION OF UNITS WITH SPECIAL STATUS

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Abstract: *As we have mention in some other articles, the psycho-physical preparation of units with special status, those belonging to the Ministry of Interior or the Ministry of Defense, takes place based on certain regulatory provisions and has a final result the maintenance and improvement of the healthy conditions, but also the consolidation and straighten of psycho-physical system, so useful in the special mission conditions for those responsible of the maintenance and restoration of public safety, and also the ones for defense and national security.*

Among the components of psycho-physical training, the bodybuilding is one of the discipline agreed by a considerable number of person from active duty, because of well-founded reasons, from our opinion. This is the reason why we decided to elaborate the current study about this theme.

Keywords: *bodybuilding, psycho-physical preparation, sport training*

1. BODYBUILDING

Bodybuilding: definition, origin and evolution

Bodybuilding is the physical activity having the main objective to form and strengthen the complete muscular system. The scope of bodybuilding is to develop a healthy, vigorous, strong, beauty and harmonious body, throughout a special set of exercises performed using progressive resistance, weightlifting or multifunctioning equipment's. Physical exercises were practiced from ancient times, being known in Egypt, Greece, Rome and China. In the period of antic Olympics games, weightlifting was both a means to display the physical strength and a way for preparation and training. The body building is coming out of that times and is wide spread within our days.

The father of modern bodybuilding is considered Eugen Sandow (1867-1925), who, from the posture of a fragile and sickly young man, through an exemplary freewill exercises, overrun his human existence and created a wave that catches a big influence today.

In our country, the Romanian Bodybuilding Federation was founded on 11th of January 1990 by separation from the Romanian Weightlifting and Bodybuilding Federation. In reality, the basement was between 1965-1969, when it was organized under the patronage of Romanian Weightlifting Federation, the first national junior championship took place in Craiova and the national senior championship took place in Cluj-Napoca, at that times based on the tall of the persons. In our days, the individuals engaged with bodybuilding are proud to be awarded with medals during European and World championship competitions.

The definition of the term that has as a main objective the building of an ideal body, through the bulking up and develop one's musculature was finally choose to be bodybuilding. In the old U.R.S.S. the term *atleticeskaia ghimnastika* (athletic gymnastic) was used, or *ganternaia ghimnastica* in the old R.D.G and R.F.G. In Austria the recognized term was *Kraftsport* – force sport, as far as in the Anglo-Saxons countries the naming convention was *bodybuilding* – construction of the body, which is used also today.

Independently of adopted naming convention, it must be highlighted that performing a sustained effort, all the persons practicing bodybuilding are enjoying the reward of being healthy, strong, vigorous, resistant to diseases, tiredness and stress. There are implicitly positive aspects transferred to the physical plane (trust in own forces, the wish to be better, moral discipline, altruism).

Bodybuilding is a branch of physical preparation training, that consists in the development of a specific group of muscles with the help of the weights used in a repeated cycles in accordance with a predefined schedule. Even that it appear in Europe, bodybuilding got a huge spread around the Globe, mostly adopted by the young people, who wants to have a good-looking and pleasant appearance, correlated with the corresponding power.

When practicing bodybuilding the group of muscles used during the training program are growing.

The bodybuilding is accessible independent of the gender, taking in consideration the recommendations regarding the age. As for the children is not recommended, for men and even the women, bodybuilding exercises lead to a healthy person and a better tonus for musculature. As a general idea, after the age of 17-18 years, it can work with weights up to 100% comparted to the body gross.

Today, in majority of the gym training rooms, the old device used in the past are replaced by multifunctional equipment, that can ensure a big number of exercises, having an influence on all muscles groups. To facilitate the accessibility and working conditions with these equipment's, generally, a label is displayed on each equipment having a schematic of detailed possible exercises those could be executed and the influence it brings to the muscles group.

2. PRO AND CON ABOUT BODYBUILDING PRACTICE

As in any other domain of the daily activity or sport, there are pro and con elements about conducting that specific activity, analyzing the benefits and possible negative aspects of the corresponding training. What has to be remember is the fact that each activity has a specific progress when conducted and implicitly some influences on the psycho-physical system. In a short list with succinct analysis, we are presenting the pro and con elements about bodybuilding practice in table below.

Table 1. Pro and con elements about the bodybuilding practice

	PRO elements about bodybuilding practice	CON elements about bodybuilding practice
1.	Positive influence to the health	The athletic body of the bodybuilder "is useless and can be considered only a decorative element"
2.	Display of the exhausting training sessions effects is in fact a display of the science of "the body building"	The shows where the bodybuilders are presenting their self in the specific contest are sometimes considered to be silly
3.	Highlighting the body performances is the result of intense training and not the effect of one or the other equipment, and this is the reason why we have an influence on the improved moral	Aggressive publicity lead to the impression that performance can be reach only using the products of a specific company
4.	Development of the muscle volume is directly connected with the growth of power	Big muscles are just "decorative"; this is valid only in case of anabolic substances usage
5.	Specific training sessions lead to the growth of power and resistance	Growth of the muscles reduces the speed and the suppleness
6.	The practice of the bodybuilding does not require a specific "talent"; appearance of modern equipment facilitate the access to each gender and age	Weightlifting at earlier age can lead to healthy problems, especially to the spine
7.	Bodybuilding can be practices at home with the procurement of a minimal set of equipment	For higher performance a specific nutrition is necessary, that can be expensive
8.	Bodybuilding can de practiced alone without being necessary to have a team (as in the football team for example)	The individual effort that is spend can lead to a superiority complex, or unsocial behavior

3. AT WHICH AGE, WHEN AND HOW MUCH THE BODYBUILDING CAN BE PRACTICED

Taking in consideration the evolving of equipment's and specific exercises, today, the bodybuilding can be started around 10-11 years, but this can be performed under pedagogical and medical, supervision.

In any case, according to the experts from this domain (Szekeli, L., 1977; L. Baroga, 1970) the most remarkable results are obtain between 18 and 30 years. In the opinion of these experts, the bodybuilding exercises restore the vigor of the musculature system even at 40, 50 or even 60 years.

Making a synthesis for the above expressed ideas, we can mention that not the age is the most important part when practicing the bodybuilding exercises, but the care that applies in rigorously respecting the principle of progressive adaption of human body to the intense effort conducted by the muscles.

Regarding the period and the duration of the weekly training, majority of the experts from the domain and coaches from sport in general, agree that the number of training sessions and the intensity of each round, depends on the age and the physical condition of the individual.

It is generally agreed that three training sessions per week are sufficient to obtain satisfactory results. On the same time, special attention must be given to the rest period for the body. Also, it is recommended to conduct the training on the same time interval, with one, one and a half hour before serving the meal and the duration of the effort and intensity to be well considered.

4. THE BODYBUILDING TRAINING SESSION

Lots of people "are lifting up weighs" to look good or to be in a good shape, aspects which, if negatively approached can became harmful sooner or later, or simply said it is hard to recognize the result of this effort.

Bodybuilding training needs to respect few principles, those are present in other disciplines, as following:

- *Warmup phase* – before each training session a basic set of exercises from gymnastic shall be executed to engage all group of muscles those will be involved during the training;
- *Periodical repetitions* – it is about the practicing of exercises in cycle with periodical repetition. Specialist from the domain recommend the formula: X kg <> 6-9*2, that means, the X kilograms weight will be lifted for 6 to 9 times in 2 sessions. The pause time between repetition is 1-2 minutes;
- *Increasing the weight* – the weight shall be increased gradually, starting with less heavy pieces and then go to bigger ones;
- *Increasing the force* – by using weights those are compounding 80-90% of the maximum lifting capacity in short repetition cycles;
- *Isolation* – it is used to straighten a specific group of muscles those were delayed or to influence a specific group of muscles those are representative for a dedicated sport discipline;
- *The maximum contraction* – it takes in consideration the fact that only after a specific period of time during the training the muscle will reach the maximum contraction and from this perspective it is recommended the maximum contraction with each movement;
- *Combined session* – it is about practicing first exercise in the first cycle, then execute the second exercise. Then go to the second cycle for the first exercise and the second cycle for the second exercise;
- *Stretching* – the bodybuilding exercises are recommended to be combined with stretching exercises for the main articulations;
- *Relaxation* – after each training session relaxation exercises must be performed followed by a resting period, lying down few minutes;
- *Nutrition* – include in the daily alimentation: eggs, milk, cream, fruits, vegetables, sweets. Liquids are recommended for skinny persons. Fat persons shall reduce the consumption of sweets, liquids and fat and compensate that with protein (meat, cheese, fruits or vegetables). The meal will be served one hour or one and a half hour before or after the training. We personally do not recommend the publicized so called "sustained effort supplements" (artificial), because of the negative effects on long term usage.

Above principles must be supplemented by healthy life (sleep well, relaxation), drop the vices (do not smoke, do not consume alcohol). With this behavior it will be ensured a higher efficacity by practicing this discipline.

5. BODYBUILDING TRAINING METHODS

We are aware about multiple existing training methods and inclusively the one related to bodybuilding. The actual trend about "going to the gym" is present everywhere. This is because of the (mostly) sedentary life of many people and the "looking good" desire, but also because of the professional activities imposed by the job, especially related to our daily activities. Having a look to our experience in psycho-physical training domain, we will make some recommendations regarding bodybuilding training methods.

For training it will be used:

- *small weights* for an increased number of repetitions (9-30);
- *middle weights* when practicing an average number of repetitions (3-9);
- *heavy weights* for a reduced number of repetitions (1-3);

The weights are classified as:

- *small* by taking in consideration 50% of the maximum potential;
- *middle* considering 50-60% of the maximum potential;
- *heavy* rendering in the range of 80-100% from the maximum potential.

The most important element that require the full attention during the training exercises is *the breath*. Before and after each exercise take a breath for 2-3 times. During the execution of the exercise, it is recommended to breath in the middle of the time interval necessary to the equipment used to work with to reach the end of the course.

Duration of the training:

- 60-80 minutes, 3 times per week for the beginners;
- 120-180 minutes, 4 times per week for advance practitioners.

In regard to the content of the training program, multifunctional equipment exist in all training rooms with specific profile, ensuring a large scale of exercises, many of them giving the chance to approach almost the complete group of muscles without supplemental indications.

6. NUTRITION IN BODYBUILDING TRAINING

The experts in bodybuilding training like Vince Gironda, Larry Scott, Don Howort mentioned by Sekeli Laszlo, 1977, highlight the essential role of nutrition in bodybuilder existence, and not only, arguing that 50% of their results are conditioned by alimentation.

Food is represented by any natural or processed product, which contributes to the maintenance of the vital processes of the body and sustain the specific activities at higher or normal standards. Through the burning of the nutritious substances it is obtained the energy expressed in calories, highlighting the energetic role of the food.

Consumed nutritive substances contribute to the recovery of the used or destroyed cells, but also to the forming of new cells, confirm the benefic role of food. Catalytical role is materialized through the chemical components existing in food, those influencing the assimilation and de-assimilation processes.

Normally, the natural feeding of human being is composed of the following nutritive substances: proteins, lipids (fat), carbohydrate (sugar), vitamins, water and mineral salts. The catalytic role is ensured by vitamins, mineral salts and water.

The extraction of nutritive substances from food is called assimilation or anabolism, as far as the degradation of incorporated substances or those being part of the structure of the body, is called catabolism or de-assimilation.

These two processes, anabolism, which is constructive and catabolism, which is destructive form the metabolic process representing the full amount of transformations suffered by the substances introduced in the body.

Equilibrium of the two phases of the metabolism has as a main consequence the constant weight of the body.

The protein has a plastic role in helping to form and develop new young cells and regeneration of used ones. Protein has an essential role in sustaining the life, inclusively in the bodybuilding existence, through the elaboration of energy, because of their burning, having his influence to the immunity of the body and the increase resistance to the infections.

Proteins have their roots in vegetable and products coming out from animals. The ones coming from animals could be found in meat, processed products from meat, fish, eggs, milk and cheese. Vegetable proteins are present in bread, noodles, fruits, pulses (beans, peas, lentil).

Taking in consideration that the proteins coming from animals have a bigger amount of nutritive elements in comparison with vegetable ones, these shall not miss from the bodybuilder nutrition.

Lipids (fats) are nutritive energetic substances coming from animals (butter, whipped cream, cream, fat cheese, egg yolk, lard, beacon, tallow, brain, roe, liver, fish oil) and vegetables (olives, peanuts, nuts, almonds, sunflower seeds, pumpkin seeds, soy, beans, groundnuts, maize) having an energetic role, protecting and regenerating internal organs. The lipids are representing the support for soluble vitamins: A, D, E, F, K.

Carbohydrates (sugar) represent an important source of energy, being also a consistent source of fat that is stored under the adipose tissue. The food reach in carbohydrates is represented by sugar, honey, candy, syrups, jams, marmalade. Vegetable products containing carbohydrates are: cereals (wheat, maize, barley), noodles, dried fruits (plums, apricots, figs, raisins, dates), pulses (beans, peas, lentil, soy), bread, potato, fruits and vegetables.

Making a synthesis about what has been mentioned above it needs to be taken in consideration to avoid the consumption of carbohydrates in big quantities, being used by the person who is following the training program based on the scope to be reached: gaining weight - consistent amount of protein, lipid and carbohydrates, reducing the weight – usage of carbohydrates in small amount.

7. THE ROLE OF VITAMINES, WATER AND MINERAL SALTS

Vitamins have a big importance in the metabolic processes between cells, in the growing and development of the cell, because they facilitate the different chemical reactions being indispensable to the human alimentation and much more to the bodybuilding. Obviously, exaggerated consumption can lead to bad effects like kidney failure, digestive troubles, nervous and cardiovascular disorder.

The practice from the domain has proven that the usage of an increased amount of C, B_1, B_6, E vitamins will improve the resistance to effort, reduction of the restoration time and implicitly to higher performance. Consumption of vitamins in natural forms is more efficient than the drug form.

In a short overview we will analyze the role of vitamins for sport practitioners and normal people, with special particularities for bodybuilders.

Vitamin A is absolutely necessary to the visual system, straighten and regenerate respiratory, digestive, urinary skin and mucous, preventing the loses of hair, infection, renal or bile failure.

It can be found in products coming from animals (butter, milk, cream, egg yolk, beef liver, roe) and vegetables as carotene (carrot, beet, radishes, tomatoes, spinach, parsley, cabbage, pepper, eggplants, pumpkins, beans, green pea, apricots, peaches, cherries). Daily usage can be 2mg in case of high effort.

Vitamin B_1, has an important role in carbohydrates, lipids and proteins metabolism. It reduces the stress, it facilitates the transmission of the nervous momentum and contributes to the resistance to effort. It can be found in vegetable (green bean and peas, beet, cabbage, potatoes, spinach), peel cereals, yeast, whole meal bread. The daily usage for an adult is about 1,5-2mg and can reach 5mg for a bodybuilder.

Vitamin B_2, enrich the contraction of the musculature and the resistance to effort. It can be found in peel cereals, yeast, green vegetables and fruits, beef, liver, heart, kidney, milk, eggs, cheese. Daily usage for an adult is about 2-3mg, for bodybuilder is up to 8mg.

Some other important vitamins from B group, required by bodybuilders and not only, are Vitamin B_6 and Vitamin B_{16}.

Vitamin C has a great contribution to the body: it is used for carbohydrates, lipids and proteins metabolism, facilitate the iron resorption, it delays the appearance of tiredness. The sources reach in vitamin C are hawthorn fruits, strawberries, white and red cabbage, blueberries, citrus, green onions, nettles, garlic. The daily requirement for an adult is 1mg per body Kg. For bodybuilder is increased up to 200-250 mg.

Vitamin D is an important role in musculature tonus. Sitting in the sunshine helps in fixing this vitamin.

Vitamin E facilitate the growing and reproduction processes, assimilation of calcium and phosphorus, increases the functional capacity of the muscles and contributes to the adaption of the body to higher efforts. Lack of vitamin E can lead to muscle atrophy. It can be found in the green parts of the plants (germinated wheat), peel grasses, peanut or olive oil, dark bread, lettuce, meat and beef liver. The daily requirement is 10-30mg and for bodybuilder is 50-70mg.

Water is the vital element for the body. Its 48 hours missing from body can lead to severe troubles and if that situation persists for 4-5 days can lead to death. Water has a bio-catalytic function and represents the environment where the vital processes and reactions take place in the body. An individual requires 2,5 liters of water daily and for a bodybuilder this can reach 3-3,5 liters. It is not recommended to consume a higher amount of water because it hinders the activity of the heart and kidneys. During bodybuilding training it is recommended the consumption in small amount (alkaline water, fruit juice, cold tea with a lot of lemon).

Mineral salts are indispensable to life, having a plastic role (calcium salts, phosphorus, sodium, potassium, iron) and catalytic (copper salts, iodine, cobalt and iron) being part of the skeleton system as essential elements of the cells; adjusts the nervous and musculature excitability. It can be found in the main products coming from animals or vegetables.

8. WHAT WE EAT, WHEN WE EAT AND HOW WE EAT

What we eat? The complete range of food mentioned above can be consumed with moderation. It is recommended to avoid sauces and fats. Milk and cheese, yogurt, meat, fish and all their derivate, eggs, vegetables and fruits, cereals and legumes products, sugar products shall be consumed in moderate quantities. Fats also shall be consumed with care regarding the quantity. It can be consumed drinking water, mineral water, fruit juice, tea and coffee. Drinking alcohol regularly is bad for the body. Vine and beer are acceptable in moderate quantities.

When we eat? Generally, it is recommended to serve the meal at a fix hour. Shall not eat too much once. The breakfast shall be a must have meal. Take care of the saying: "the breakfast shall be served alone, take the lunch with a friend and the dinner give it to the enemy". Do not take the meal one hour, one and a half hour before or after the training. Dinner shall be light and shall be take it two hours before going to bed.

How we eat? Mastication shall be low and complete, in a pleasant atmosphere with tasty and nice looking food. It is not recommended to serve the meal when you are nervous and side activities are to be avoided (reading the newspaper).

9. TECHNICAL RECOMMENDATIONS FOR THE MAIN MUSCLE GROUPS

Taking in consideration the daily schedule, which is full of activities and the insufficient or mediocre presence of equipment in the psycho-physical training rooms for the preparation of the employees of the two directions of national security department, we recommend: departure and proximity of arms with weight in hands from sitting or supine position, drawing bumper lying, raising the arms from standing, various exercises with bent torso, back squats with dumbbell, raising the legs vertically from lying posture, bending the sides of the torso.

We are recommending the most accessible exercises for the main group of muscle:

⇨ Neck and lower back muscles

Strong lower back muscles is the center of the force, since almost every movement performed imply these muscles. This is the reason why a special attention must be taken to avoid the injuries of this zone. As for the methodic of the exercises, the majority of experts from the domain recommend to keep the back straight or even arched in the lumbar area during the practice for lower back muscles.

For lower back muscles, the most efficient and usual exercises are: alignment, hyperextensions (lying down on the bank, facing the ground, extending the torso starting from the fixing point of the bank, from the ground to the maximum extension of the torso); alignment/extensions with dumbbell at shoulder level, twists with barbell on shoulders, twists consecutively with barbell held on chest, side bending/arching with barbell on shoulders, bending the torso forward, lying down facing the sky, from inclined bank of soil. Rising the torso to the vertical, hanging trellis and back support, supported on sloping bank, supported on gym box; moving aside the legs from lying down position.

For the neck muscles we recommend: flexing and extensions against the resistance of the own arms those are moving in the opposite direction of the movement; extension of the neck with weights, disk attached to the neck with a strap; defeat the partner resistance who is forcing the neck; bridge forehead, bridge with bar at chest, bridge with bar on abdomen, bridge with back support neck.

⇨ Shoulder muscles

Strong and well defined shoulders it is a manhood, power and healthy symbol. Deltoid muscles have an essential role in sport and daily life activities. From the most usual and efficient exercises for this group of muscles we recommend: push by the nape of the dumbbell from seated on the bank position; push from the chest from lying down position, pushing forward of weights from seated position, sailing from standing position, balancing the arms from bending position, balancing the arms using a pulley, side balancing, rising up the hands in front of the body, side rotation of arms using small weights, rotation of shoulders.

⇨ Back muscles

Back muscles are giving "prestige" and force. Weak development of lumbar region has as a side effect vertebral troubles or affections.

Starting from simple to complex, we will give sample exercises: traction to the bar with palms facing outside, traction to the bar with palms facing inside (with action to biceps and the big dorsal muscles), traction to the bar with large distance between arms, traction using special bar (a curved bar applied to the normal bar) or a rope, extension of torso from laying on the bank position, traction using force equipment from sitting position, sailing from mounting on the bar position, sailing using a pulley, standing up using the dumbbell, bending using the dumbbell.

⇨ Arm muscles

In daily life or in sport activities, strong and nice arms are imposing respect and admiration. There are numerous exercises for arm muscles and are simple and efficient.

Selectively, we will mention: traction with the palms facing inside, push ups using parallel bars, push ups using the hands, flexion of forearms using heavy weights, flexion of forehands using weights with elbow fixed on bank, flexion of forearms using a dumbbell with weight loaded on middle, flexion of forearms using a force equipment, bending and stretching the arms using small weights, flexion and extension of hands.

⇨ Chest muscles

Voluminous chest with well defined muscles is necessary as far as the heart and lungs are protected by it. The exercises for breastplate muscles need to be selected in a logical order to work constantly with muscle groups , with special attention to the number of series, used weights, the tempo of repetition, break between series, the execution style and probably the most important aspect, the mental attitude.

From the various number of existing exercises, we select: push ups, pushing from horizontal sitting, pushing in the oblique plane from sitting position, pushing from declination sitting, horizontal twisting, oblique twisting, twisting using a pulley, rising the hands laterally with hyperextension, rising the hands laterally up to the head from lying down position, traction to the force equipment.

⇨ Abdomen muscles

The muscles of the abdomen are very important in maintenance of the health, protecting the internal organs. Keeping in mind that in the daily activities the abdomen muscles are not so used, these are becoming weak and reducing their protecting role.

There are many exercises for this group of muscles and as a resume: balancing the legs left and right from sitting position, pushing up the legs from sitting in an oblique plane, pushing the legs from hanging position, rising the torso with the legs uphold on a bank, rising the torso from sitting position, pivoting the torso with dumbbell on the shoulders, laterally bending the torso with or without dumbbell, pivoting the torso using small weights, sitting on shoulder blade fixing the bank edge pushing the shoulder blade.

⇨ Leg muscles

Taking in consideration that the legs are “the pillars” sustaining the body, these must be strong and slender as a symbol of youngness. Generally, the exercises for legs are executed using heavy weights in comparison with the other muscle groups.

There are many different exercises for these muscles: genuflexion, genuflexion with dumbbell on shoulders, standing up exercises, pushing on the force equipment, half performed genuflexion with the dumbbell on the shoulders or on chest, extension of thigh using the equipment, flexion of thigh using equipment, lunge with the dumbbell on shoulders, jumping genuflexion (with dumbbell on shoulders), one leg genuflexion.

10. TRAINING PROGRAM

We would like to finish our journey through "bodybuilding" discipline recommending two sets of exercises. As the majority of the experts are saying "The usage of super-protein will lead unconditionally to a well-developed musculature, is a wrong understood idea. To increase the muscles volume and the force, the bodybuilding shall be practiced based on a concrete training program, following a defined set of the exercises, taking the necessary time to rest." using the experience of cited author, we will give two training program those have been used personally with great results.

First program: exercises using 0,5-2kg handy weights

1. Standing, raising the hands laterally and bring it back to the normal position. It will be executed two series with 8-9 repetitions.
2. Standing with hands raised laterally perform rotations back and forward. It will be executed four series with 8 repetitions each. It helps to develop the deltoid, chest and large dorsal muscles.
3. Standing with the arms raised, rotation of the body to the left and the right side in the horizontal plane. It will be executed two series with 8 repetitions in both directions. It helps in the development of the pivoting muscles of the torso.
4. Standing with flexed arms keeping the weights at the shoulder level, bending the torso forward and come back to the initial position. It will develop the extending muscles of the torso, mainly the groups between vertebral.
5. Standing, execute genuflexion using both legs. It will be executed two series with 12 repetitions each. It will develop the flexor and extensor muscles of the legs.
6. Standing, raising the legs to the tip toes and return. It will be executed two series with 24 repetitions each. It will develop the flexor and extensor muscles of the calf.
7. Sited with the palms fixed back on the ground, raising the legs 30-35cm from the ground executing side movements, left leg moving to the right side and right leg moving to the left side. It will be executed two series with 15-20 repetitions each. It will develop the abdominal and thighs muscles.
8. Running in place on the tip toes with the knees up for about 3 minutes.

Training session will be finished with breathing exercises and take a warm shower and, if possible, massage session. Important remark: the breaks between series and exercises can vary from 1 to 3 minutes, depending on each individual.

The second program: exercises using 5-7kg handy weights

1. Standing, flexing the arms alternatively in the direction of the shoulder. It will be executed two series with 6-12 repetitions. It will develop the biceps muscles.
2. Standing, with the arms flexed on the shoulder level, raising the arms upwards simultaneously and return. It will be executed two series with 8-16 repetitions. It will develop the deltoids and triceps muscles.
3. Standing with the torso bended forward and the arms hanging, flexing the arms simultaneously and bringing the weights to the chest, then return. It will be executed two series with 9-12 repetitions. It will develop the arms flexor, rhomboids, trapezius, large round and small round muscles.
4. Standing with the torso bended forward and the arms pointing forward, straightening of the torso and return. It will be executed two series with 12-16 repetitions. It will develop the sacro-spinal muscles, the muscles between vertebral and spinal muscle.
5. Standing, genuflexions with the weights in hands. It will be executed two series with 16-22 repetitions. It will develop the flexor and extensor muscles of the legs.

6. Lying down facing the sky, arms flexed with the weights on the chest, push up the hands and return. It will be executed two series with 6-9 repetitions. It will develop the pectorals and deltoid muscles.

7. Lying down on a inclined gym bank, hands behind your head and feet resting on a fixed slat ladder, raising the torso to the vertical plane and return. It will be executed two series with 10-12 repetitions. It will develop the abdominal and thighs muscles.

8. Jumping to a 40-50cm high object starting from one leg. It will be executed two series with 15-20 repetitions. It will develop the flexor and extensor muscles of the legs.

Training program will be finished with a light run, walking and breathing exercises.

11. CONCLUSIONS

As every article aiming for a prestigious academic presence, we will not finish without concluding the recommendation of bodybuilding as an efficient discipline for the psycho-physical preparation of military or employees from the maintenance of public safety departments. These are the conclusions from our study:

- In a world where the time is compressed, where daily or professional activities are various and multiple, the practice of bodybuilding can constitute an alternative for the psycho-physical preparation of employees from Ministry of Defense and Ministry of Interior;
- Practicing of bodybuilding is improving the general healthy condition;
- Defining an athletic body as a direct effect of the bodybuilding practicing is a desiderate for the modern people, a desire that is present from the ancient times;
- Since the bodybuilding exercises can be practiced at home – conditioned by a minimal set of equipment and the availability of space – it is preferred to the other disciplines those require the presence in special environment and time implicitly (stadium for athletics);
- Practicing the bodybuilding exercises based on the training principles imply the study of available documentation from the domain and the increase basement for the knowledge implicitly;
- Development of an imposing and nice body takes place on the same time with an increasing straight that leads to an improved efficacity in the mission execution;
- Complementing the bodybuilding exercises with elements from other different sport discipline (swimming, athletics, gymnastic) lead to a diversification for preparation and enriching the coordination skills;
- Learning training exercises using weights can become a hobby and constantly practice impose a healthy life regime without smoking, drinking alcohol or loosing nights;
- Practicing the force training will have a positive transfer effect, influencing the moral-volitional skills and motive aspects, those being essential elements for our specific activities.

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THE TERROR OF SUICIDE

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Abstract: *According to the World Health Organization (WHO), one person commits suicide every 40 seconds, and the figures seem to be much higher than reported, indicating a worrying increase in recent years. In general, people commit suicide because they do not see any other solution to their turmoil, and because they lose any hope for improvement. The reasons, be they financial, personal, or due to mental disorders, push the individual toward despair. For the suicide bombers though, the reasons vary from military orders to nationalism or religious fanaticism, but most commonly, suicide bombings are based on fundamentalist-religious motivation, thus their overwhelming majority were justified in the name of the Islamist ideology, according to data provided by the literature. Suicide attacks are a form of extreme violence, whose dimensions lie at the intersection of politics, religion, history, and clinical psychology. If a soldier dies for his country, he is the hero. If a believer dies for his God, he is a martyr. If an individual overwhelmed with pain and sadness dies to put an end to it all, it is considered pathological suicide. But are suicide bombers really suicidal? The acts themselves, their motivations and intentions, the circumstances are different, and the present paper intends to analyze the aspects that enable the existence of these suicides.*

Keywords: *suicide, terrorism, criminal behaviour, prevention, intervention*

1. THE SUICIDE MARTYRS

Suicide bombers turned along the last three decades into the most deadly and efficient terrorist weapon, but also the only form of attack in which the assailant is no longer expected to survive the mission. This dangerous and difficult to explain behaviour can be seen as the result of the criminal mind's cruelty combined with the suicidal despair, since the attacker decides, on the one hand, to end his own life, and on the other hand, to kill others. Accordingly, the suicide attacker invokes a wide range of reasons, starting with religious hatred against the West, ending with the eternal paradise awaiting him, however trying to explain these reasons could be the path to a possible solution.

Since the early 1980s, suicide bombings have become the terrorists' favourite killing method in Iraq and Afghanistan, but gaining fast in popularity in territories like Chechnya, the West Bank and Gaza Strip, but spreading also in some Western countries such as the United States of America, Spain, the United Kingdom, France, Belgium, Germany or Sweden.

In 1981, Hossein Fahmideh, a 13-year-old, fanatical Shiite boy, set the tone for this practice by throwing himself under an Iraqi tank with a grenade in his hand during the war between Iran and Iraq. Ayatollah Ali Khomeini declared him a national hero and, as a result, thousands of young Iranians died slaughtered on mine fields, while trying to ensure a clear passage for their soldiers [1].

Two years later, in 1983, the first attack of this kind took place against a Western target, when a suicide attacker drove a vehicle filled with explosives in the lobby of the American Embassy in Beirut killing 63 people: 32 Lebanese, 17 Americans and 14 visitors [2]. Iranian authorities have denied any involvement in the attack, but Hezbollah claimed the bombing shortly after, proving that the executions were approved and financed by Iranian officials. Iran's role in the suicide bombings was crucial not only by the officials' attitude, but most notably by reinterpreting Quran, making suicide an act of courage and transforming suicide into martyrdom and killers into heroes.

Suicide bombings involve a paradox within Islam. On the one hand, verses relating to jihad show unequivocally that fighters should not take the lives of non-combatants such as women, children, the sick or the elderly. At the same time, any individual who dies in battle with non-Muslims is considered a martyr, and is guaranteed the highest rank in Paradise [3].

Whether political, religious or derived from hatred, the reasons behind these acts of extreme violence have nothing to do with suicide. To explain this claim we must examine the entire historical, religious, and nationalist context, and also the psychological roots and cultural Islamic interpretation concerning paradise, sexuality, shame and honour.

Those willing to execute such acts, most of them teenagers or young adults are called "martyrs" (*pl.* Shuhada, *sg.* Shahid) or "the ones who sacrifice themselves" (*pl.* Fida'iyun, *sg.* Fida'i). Therefore, they don't commit suicide because suicide is a sin [4], but any violent action, even murder, in order to cause harm to non-Muslims is an act of profound piety. This contradiction has been examined by many experts, who point out that the prohibition of suicide was actually very effective, as shown in Figure 1, which presents information provided by the World Health Organisation [2], showing a small number of suicides in Muslim countries.

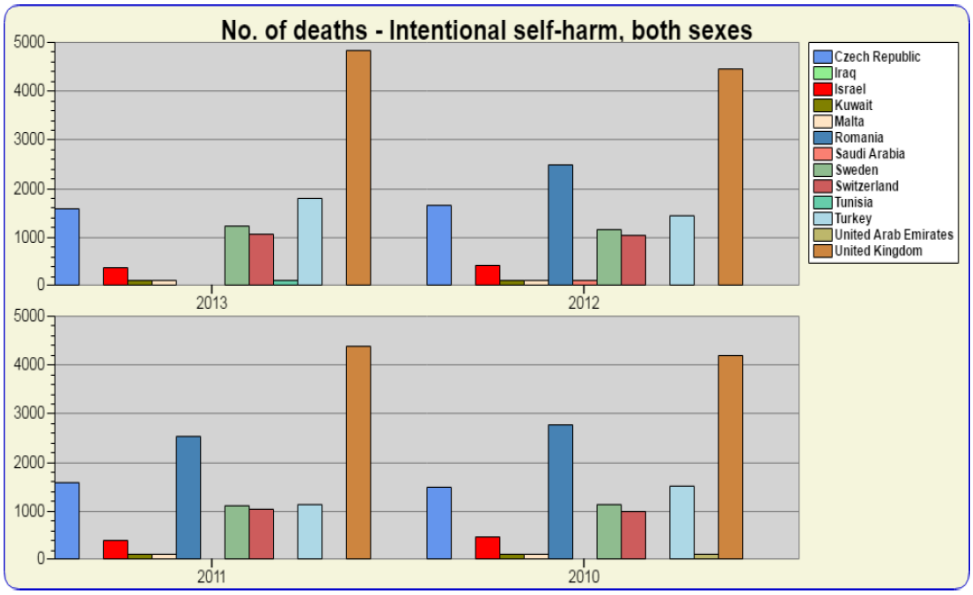


FIG. 1 The number of deaths due to suicide, both sexes, between 2010 and 2013, the selected countries

But when one’s death is done in the name of Jihad, when it promotes the values of Islam, then it raises the individual to the rank of martyr [5], [6].

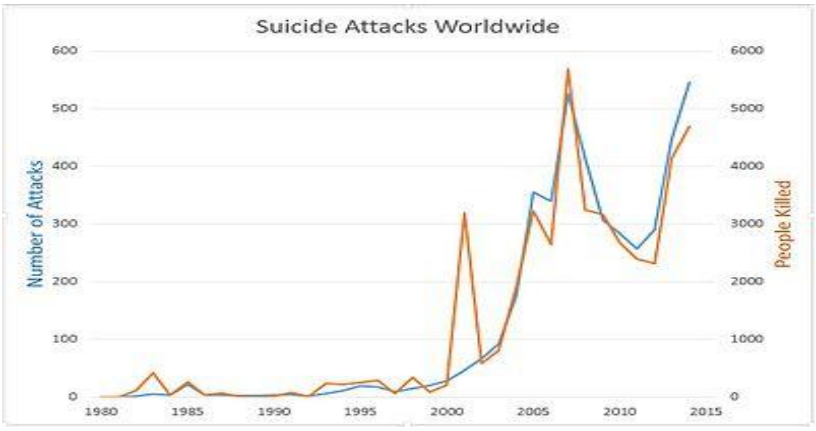


FIG. 2 The number of suicide attacks and the victims of these attacks between 1982-2015

Figure 2 shows the number of suicide attacks and victims of such attacks from1982 to 2015, according to the Chicago Project on Security and Terrorism [6] database, which leads to the conclusion of an alarming increase in both attacks, and number of victims.

The number of martyrs (mujahidin) who die in battle and end up in paradise to enjoy an infinitely greater heavenly reward than that of mere mortals, has increased dramatically in the last 15 years, and the fact that Islamic clergy rarely condemns such practices as being anti-Muslim, offers the possibility to use religion as motivation. Interpreting that Quran is steeped in the blood of the martyrs; leads to the conclusion that murder and suicide are not violations of the law. But, on the contrary, can be regarded as the greatest achievements of Islamic Spirituality, martyrs enjoying unexpected pleasures in Paradise [7].

2. PURPOSE AND METHODS

Our paper offers a review of the literature, with the purpose of examining the profile of psychopathologic suicide bomber. As research methods we use qualitative analysis (literature review/desk research), secondary analysis of quantitative data resulting from scientific research carried out by profile institutes, as well as the comparative analysis method.

We believe that the secondary analysis of quantitative data is an appropriate method, most suitable when the researcher does not have the opportunity to collect their own data, but still aiming to advance beyond the initial results of an empirical research previously carried out.

Our research and findings, which have been obtained as a result of qualitative analysis, comparative analysis, and analysis of secondary data, can be found in the content of this paper.

3. RESULTS

The few studies on terrorists' or suicide attackers' psychopathology presents mixed results.

Some authors who have come to the conclusion that there is no particular psychological typology to describe the personality of the suicide attacker, believe that these perpetrators present a solid mental health, and have no criminal past.

Other authors, who consider that there can be identified a particular psychological typology of the suicide attacker, believe those who sacrifice for the cause of the terrorist organisation they belong to, are at least mentally unstable and materialize in a demonstrative manner their suicidal ideation.

Paradoxically, even research based on interviews of suicide attackers arrested after failed bombings, shows some discrepancies, as some are completely mentally unstable, but others are not. Of course, we can assert that those who exhibit cognitive impairment, as a result of a failed attack, were so close to death that derealisation can be considered normal.

4. SUICIDE AND RELIGION

Although mainstream references are to be avoided, we do not see any risk in stating that in the dogma of all religions suicide is severely condemned and discouraged by any means, each cult within its own gradient.

The literature shows that Judaism leaves some "escape routes" for believers who commit the ultimate sin, deeming suicide as preferable where there is the possibility for the individual to commit certain cardinal sins. Some of these involve murder, sexual deviancy and idolatry. Therefore, rather than kill, rape, or change your religion, in Jewish usage, it is preferable to commit suicide. Suicide victims, however, are buried in a special area in cemetery and are deprived of certain specific rituals.

From the Roman Catholic perspective the commandment "thou shalt not kill!" is translated also on one's own person, but the Catholic Church allows for the suicide victim to have a burial service, recognizing that serious mental disorders can affect judgment, pushing the individual to take his life. This is not an act of accepting suicide, but an act of forgiveness of the suicide victim, considering that God will find the suitable punishment for sinful.

The Orthodox Church forbids any the burial privileges for the suicide victim, although there are always exceptions. Thus, the Orthodox teachings assure us that the souls of the suicidal will spend eternity in the fires of hell, to discourage any intention to commit this spiritual catastrophe and, in this case, does not grant religious assistance to those who take their own life. The exception is that a funeral service can be conducted for those who killed themselves as a result of mental suffering, but a specialist has to confirm. In such cases, the priest can conduct the funeral, but with greater sobriety and temperance.

Protestants see suicide as a crime, and because the last sacrament cannot be administered before death, as required by this religion, the saving of the soul is impossible. Consequently, to deny your soul's salvation is the ultimate sin, in the present case.

In Islam a few sins are more serious than suicide; it is expressly described in the Quran as a capital sin, having as a consequence the fact that the sinner will never escape from hell. In the light of the last decade's events, Islamic clerics have tried in innumerable occasions to explain that "human bombs" do not make an exception, they are considered to be cases of suicide and not martyrs.

The urge is "... do not kill yourself! Allah is merciful [*Rahim*] with you! ", as it is written in the Quran, Surah 4 (An-Nisa), ayat 29.

Religious Idealism cannot fully explain this despair, this intense longing for death, but without such a framework, it is highly unlikely that this phenomenon exists. Although these acts of violence are not part of Islam and are not exclusive to the Muslim world, most are taking place in the Arab countries [8].

We should acknowledge that the martyrs and suicide cases have nothing in common. In the case of suicide, the goal itself is the death of the individual in order to end the suffering. In the case of martyrdom, the goal itself is not the death of the individual. While it is true that one is not a martyr if one is not dead, the act itself is not to commit suicide, but to glorify God, without desire or propose to kill someone, including oneself.

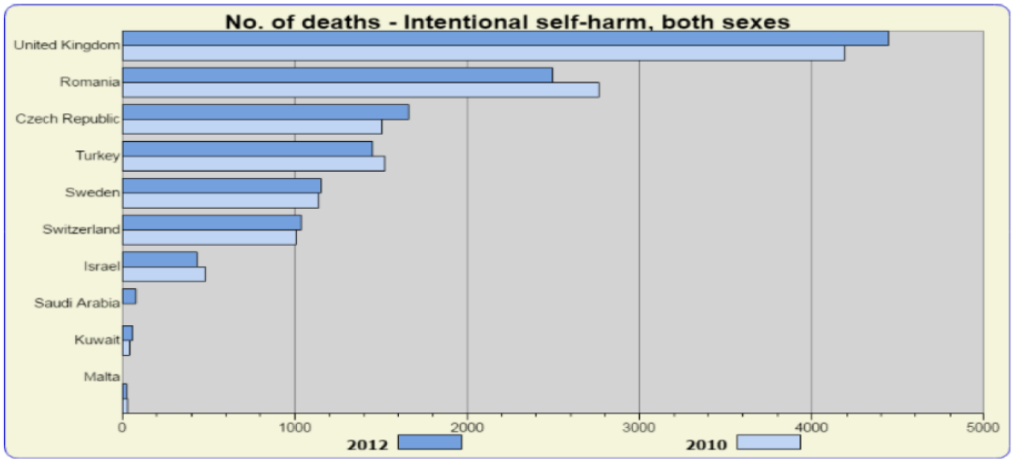
In probably all religions we might discuss a martyr is an individual who wants to transcend death, as this represents a sacrifice of oneself made for the absolute ideal of immortality.

5. SUICIDAL OR CRIMINAL

Although suicide attacks accounted for less than 3% of all terrorist attacks, they amounted to about 22% of all deaths related to terrorism. Even though most of these cases are related to Islam, they are not exclusive Muslim world [9].

Research has highlighted numerous aspects of the general phenomenon of suicide including socio-economic factors, age, sex and marital status, issues that focus on personality characteristics of people with suicidal tendencies, as well as life-experiences that increase the probability of committing suicide. Terrorism-related studies have captivated researchers' attention, and still do, yet a consensus on the personality profile and the common characteristics of suicide bombers, cannot be reached.

To be able to understand if these terrorists have suicidal tendencies, or not, we should compare suicide attackers with other cases of suicide. Emile Durkheim postulated that the act of suicide cannot be understood by ignoring the social or cultural conditions of its occurrence. The French sociologist identified four types of suicide: selfish suicide, anomic suicide, selfless suicide and fatalistic suicide [10], and Alec Roy presents three main categories: anomic suicide, selfish suicide and selfless suicide [11]. With referral to the concept of selfish suicide, Bruce Bongar states that this is most frequently associated with depressive symptoms, loss of hope, mental pain [12] and was the cause of approximately 18,000 deaths between 2010 and 2013 in the United Kingdom and over 10,000, between the same years, in Romania, as shown in Figure 3, according to the data provided by the World Health Organisation [13].



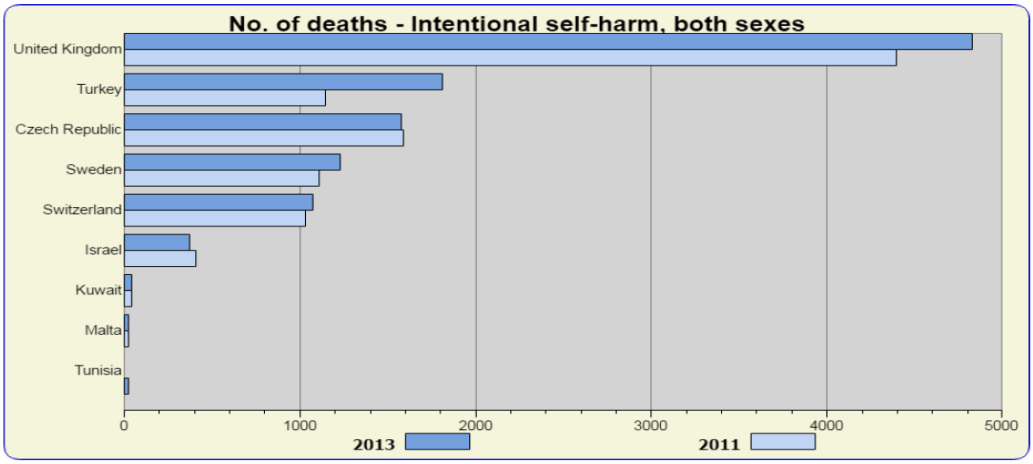


FIG. 3 The number of deaths due to suicide, of both sexes, between 2010-2013, the selected countries

Durkheim differentiates three forms of selfless suicide: mandatory, optional and acute [13]. An example of selfless suicide would be the wives' mandatory suicide after the death of their spouses. We are in the presence of selfless optional suicide when this act is considered a merit, but it is not required, as in "seppuku". Finally, selfless acute the suicide represents the desire of an individual to die in order to unite with divinity, and comes as s conclusive expression of a religious belief.

Loss of control over one's own destiny leads to fatalistic suicide, which can be exemplified by the mass suicides we see within sects.

In order to establish a profile of the suicide bomber it is necessary to ask ourselves whether these terrorists, who sacrifice their lives in order to kill others, are actually suicidal and if their psychological mechanisms are different from those that push the individual towards selfish suicide.

Currently, the literature does not show a consensus regarding the personality factors, or risk factors, which might help determine profiles of potential suicide attackers [14]. This is due, largely, to the fact that the suicide attacks and, especially, the process behind it, is multidimensional and multi-determined [15], as it includes psychological, social, spiritual factors, as well as issues of honour and morality, over which is placed the homogeneous cultural veil.

6. SIMILARITIES AND DIFFERENCES

According to some opinions, there can identified similarities between the suicide bombers and cases of selfless or selfish suicide. Adam Lankford posits that these attackers might have in fact suicidal tendencies, showing some key features of selfish suicide: desire to escape the world; the desire to escape the moral responsibility for their actions; inability to cope with a crisis; feeling of low self-worth [16]. However, individuals overwhelmed by the pain of their own existence do not manifest cruelty against those around them. According to Emile Durkheim, selfishness appears in the state in which the individual self develops in excess in comparison to the social self and to the detriment of the latter [10], but violence manifests itself only against one's own person. Nothing leads us to conclude that there is any factor which turns the selfish suicidal into a murderer.

There are also opinions according to which one can identify similarities between the suicide terrorists and the Japanese kamikaze pilots, who in World War II collapsed with their planes intentionally, as a tactic against the U.S. Navy.

In this note, references were made to these suicide terrorists as "Islamikaze", out of the desire to emphasize the similarity between the kamikaze pilots, and suicide bombers, who, in most cases, are Muslims. However, the kamikaze attacks of the second world war and the terrorist suicide attacks have an essential difference, namely that the Japanese pilots and had directed the attacks only at military targets, while suicide terrorists are largely targeting civilians, and national landmarks, in order to terrify the population.

Even if there can be identified some similarities, they are only apparent, because an in-depth analysis shows significant differences between suicide bombings and other suicide cases. In consequence, the authors suggest that suicide terrorism is really a unique phenomenon [17] [18].

Accordingly, we can identify a number of differences with respect to the act itself, the motives behind it and the author's profile.

6.1. The suicidal act itself

We find, by means of literature, some significant differences between the suicide bomber and selfish suicide, as follows:

- in terrorism, self-destruction is intended to frighten the target population, while in selfish suicide it usually aims to drawing the attention of those closest to the individual. Furthermore, selfish suicide ends only the days of its author, as opposed to suicide terrorism, which aims to commit mass murder;
- suicide terrorism is not perceived by its author as an act of suicide, but rather as an act of martyrdom based on Islamic principles of Jihad [19];
- while through selfish suicide one chooses death as an escape from their miserable existence, suicide terrorists choose death to become immortal [20], thus their sacrifice becoming a continuation of life;
- suicide attackers are most often backed by an organization and, as such, are used as a strategic and tactic weapons [21].

A suicide attack is carried out after intense preparation, which includes several steps:

- the recruitment of the author;
- initiation of the future martyr, which is usually done with the help of a high-ranking member of the organization or community, who represents a spiritual authority;
- isolation and training, which include religious and political indoctrination, training in the use of weapons or explosives involved in the attack, as well as preparing for death;
- preparation of the last days before the attack in which the suicide terrorist disrupts from reality, and focuses on the importance of his action and on purifying their soul through fasting and prayer before becoming immortal [20].

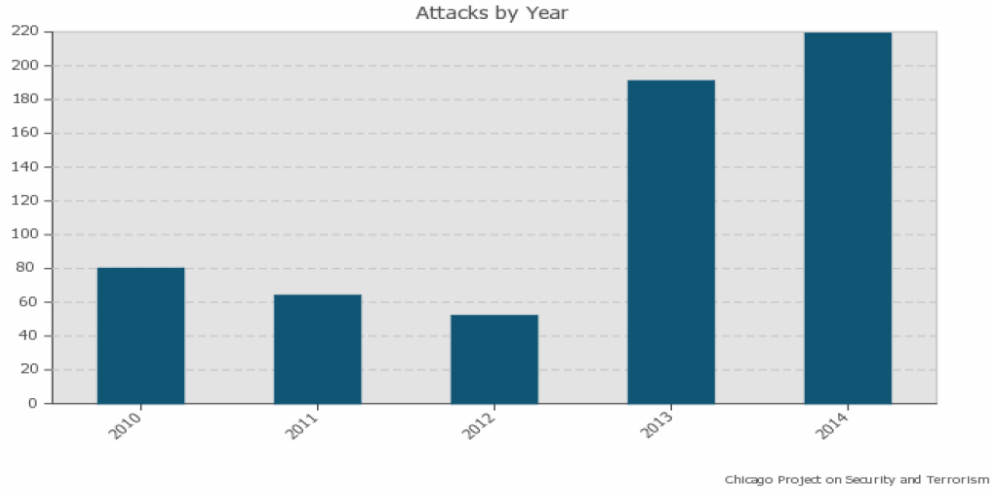


Fig.4 The number of suicide attacks in the period 2010-2014

Fig. 4 shows a graph put together from the data provided by the Chicago Project on Security and Terrorism [6], with regard to the number of suicide attacks in the period 2010-2014, from which we can infer a notable growth in the involvement of terrorist organisations in preparing suicide attacks.

6.2. The reasons for the suicide attacker

The difference between the motivation of selfish suicide and terrorist suicide is clear enough. If, in the first case, the individual's desire focuses on cessation of suffering, in the second case the emphasis is on personal achievements, family, political, emotional and material gains. The main motivation in selfish suicide is to put an end to psychological pain [12], while the suicide attacker's motivation is to create terror [22]. Israel Orbach described the motivation behind suicide attacks as follows: determination and enthusiasm consolidated by the success of previous attacks; the ideological hatred and anger directed against different religious, cultural and ethnic groups, the suicide bombers' martyrdom's glorification and heavenly rewards; recognition of the merits of the author's family [20].

Karen Pittel and Dirk Rübbelke suggest three ideas that underlie the various suicide attacks: post-mortem effects, as well as increasing social and financial status of the attacker's family; the effects of the announcement, as the increasing admiration for the attacker; effects of ceasing, referring to the negative consequences that may occur if the attacker does not carry out the attack [23].

Table 1 The number of suicide attacks and the victims of such attacks during the period 2010-2014,Depending on the location

Attacks and Casualties by Location

Country	Attacks	Killed	Wounded	Lethality
Iraq	597	5751	13879	9.6
Israel	1	2	0	2.0
Kuwait	0	0	0	-
Tunisia	1	0	0	0.0
Turkey	7	16	78	2.3
United Kingdom	0	0	0	-

Table 1 shows the number of suicide attacks and their victims during the period 2010-2014, we can obviously see an increase in the involvement of terrorist organisations in organizing suicide attacks. The data is provided by the Chicago Project on Security and Terrorism [6] database.

6.3. The suicide attacker's profile

So far there is no consensus with regard to the suicide attacker's profile, but what is certain is the fact that this individual's personality differs significantly from the profile of an person who commits selfish suicide [22] [15] [17]. Most terrorists do not show suicide tendencies, have not been diagnosed with any mental disorders, nor conduct self-mutilating behaviour. Most often, the suicide attackers are susceptible to foreign influences, are suggestible and are easily indoctrinated. Therefore, it seems that terrorist organizations are interested in recruiting individuals with dependent/avoidant personality disorder. Moreover, there are important elements in achieving a suicide bombing which are not present in the selfish suicide, such as: indoctrination, culture, ideology and doctrine, a strong belief in the ideals of the group; commitment to the cause of the group; commitment to the leader of the group, and a deeply personal public support.

Therefore, we can say that, in most cases, terrorists who sacrifice their own life to take that of others, do not show suicidal tendencies, having nothing in common with the profile or characteristics of the classical suicidal tendencies.

Taking into account the factors mentioned above, we share the opinion that suicide terrorism belongs to a different subtype of behaviour, being incomparable to any other type of suicide, or to martyrdom.

Suicide attacks cannot be placed without a doubt in mental pathology because the authors, who consciously accept death in order to cause the loss of the enemy, do not do this because they are suffering from a mental illness, but because they ensure their group's survival by doing so. The causes of suicide bombings that are not in individual psychopathology can be identified in the social conditions that favour the existence of this phenomenon, and the understanding and knowledge of these conditions is essential for the development of appropriate policies to stop it, or at least reduce its effects. These attacks are carried out by people motivated by the organizations to which they belong, considering themselves, metaphorically, as the blood that flows through the veins of the terrorist group. In the book *Dying to Win*, Pape argues that 95% of suicide attacks were not carried out for reasons of religious or ideological, but rather as part of clear political strategy [22].

Suicide attacks are a form of extreme violence, a weapon of psychological war having the sole purpose of frightening the target population, the strategy being to eliminate or diminish drastically areas where the public feels safe [21].

Through the horrendous spectacle of dismembered bodies suicide bombings create a horrible scene of destruction of the human face of the enemy, killing him and at the same time depriving him of the right to be buried, thus depriving him of this life and of the afterlife. With regard to the offender, he is convinced that his transformation into a martyr will give him joy without end in the afterlife and the eternal love of the countless maiden.

Table 2 The number of suicide attacks and the victims of such attacks during the period 2010-2014, Depending on the method used

Attacks and Casualties by Weapon

Weapon	Attacks	Killed	Wounded	Lethality
Airplane	0	0	0	0.0
Belt Bomb	222	2641	5824	11.9
Car Bomb	360	2887	7728	8.0
Other	3	5	38	1.7
Unknown	5	69	13	13.8

In table 1, based on data from the Chicago Project on Security and Terrorism [6], with regard to the number of suicide attacks and their victims during the period 2010-2014, we can see the great variety of forms of attack and their lethal effectiveness.

7. CONCLUSIONS

Psychology plays a fundamental role in the understanding of the individual and group processes that favour the occurrence of suicide bombings and the psychological autopsy technique could be an important tool, perhaps the only one, in the psychopathologic study of suicide terrorists, and it may ultimately contribute to the prevention of future attacks.

Currently, psychologists and specialists in counter-terrorism agencies do not have a standardized measure, which could indicate the extent to which an individual fits the profile of a suicide terrorist. In addition, it is becoming increasingly clear that suicide terrorists have a diverse cultural, psychological and economical background, which makes this task even more difficult.

In his findings, Ariel Merari identifies the dependent/avoidant personality type as the most common factor in the psychological structure of suicide terrorists. Thus, the individual is rather shy, socially withdrawn, a doer rather than a leader, not very good at school, at work, feeling like a disappointment for the family [17].

Identification of potential suspects is a difficult but very important task. From existing data, outlining the perpetrators' psychological profile should include the following: potential suicide terrorists are people susceptible to external influences, thus easily falling into the recruiter's net; recruiter who generally is an individual with a great capacity to influence people; a special degree of concern should present the places where individuals may be conscripted by agents of the terrorist organisations, and such locations could include Madrasas, mosques and prisons; two of the most fertile environments for growing suicide terrorists are the refugees camps and custodial environments through the dehumanizing treatment of prisoners; suicide attacks are most often based on organizations, rather than a single individual.

These terror attacks within the Muslim world cannot, unfortunately, be separated from religion because of those who believe that jihad is synonymous with war, and who feel empowered by the Quran to take radical measures.

The ideological basis of such interpretation has deep roots in the Islamic theology. Any attempt to explain suicide terrorist attacks that omits the fact that religion, exploitation by the Western powers, political oppression, poverty and lack of education can constitute grounds for those who decide to blow themselves up in order to kill others, is on the road to failure. And, moreover, virtually all data and information suggest that for the majority of the suicide attackers, Islam is the main motivation. The causes of suicide bombings are not solely in the individual's psychopathology, but in society as a whole.

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THE BALKAN PACT – HISTORY AND MODERNITY

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***Abstract**: The paper is aimed at discussing some of the attempts to form alliances in the Balkan space throughout time, without intending to be exhaustive, and considering especially those including Romania. Mention should be made that the systems of alliances existing during the Balkan Wars and the two world wars are not covered in the paper, as they have been extensively discussed in the literature. Confronted with different threats, generated by the geopolitical and geostrategic context as well as by the divergences between them, the peoples in the Balkans have perceived establishing alliances as necessary, either to prevent or to manage the crises in the region. The conclusion is an invitation to reflection whether it is the commonalities or the divides that have troubled the Balkan space for so many years.*

***Keywords**: Balkan space, Triple Alliance, Triple Entente, Balkan Pact, Warsaw Treaty Organisation, entangled history*

1. INTRODUCTION

Throughout history, the Balkans have been referred to as the powder keg of Europe, the crossroads of civilisations, the land in between, the community of fate, to mention some of the tropes related to this space. Despite the debates on the borders of the region as well as on the peoples inhabiting the area, the majority of scholars have agreed upon at least one aspect, namely its entangled history. It is probably the perception of the mentioned characteristic that has resulted in the numerous attempts to establish different alliances between the entities in the area depending on the circumstances in history. Nowadays, most of the countries in the Balkans or Southeastern Europe are either NATO or EU member states, some of them enjoying the membership of both international organisations that promote cooperation, partnership and mutual assistance, proper to the concept of an alliance.

Confronted with different threats, generated by the geopolitical and geostrategic context as well as by the divergences between them, the peoples in the Balkans have perceived as necessary to establish alliances, either to prevent or to manage the crises the region has had to face. The present paper is aimed at discussing some of the attempts to form alliances in this space, without intending to be exhaustive and considering especially those including Romania. Mention should be made that the systems of alliances existing in the two world wars are not covered in the paper, as they have been the extensively discussed in the literature.

2. ALLIANCES IN INTERNATIONAL RELATIONS THEORY

Alliance formation pertains to international relations, being a topic largely addressed in the literature. The most relevant ideas related to the topic are summarised in what follows as the different systems of alliances established in the Balkan space can be illustrations of one or another of the presented theories. Thus, alliances are formed to oppose a threat, accommodate a threat to a pact of restraint or provide the great powers with a tool of management over weaker states [1]. Alignment may express ideological or ethnic affinities and opportunistic alignments may occur when a state believes that the effort to balance power will fail. Moreover, small powers are forced to play a perilous game, moving quickly from the lighter to the heavier side of the balance [2]. Secondary states, if they are free to choose, flock to the weaker side; for it is the stronger side that threatens them. On the weaker side they are both more appreciated and safer, provided, of course, that the coalition they form achieves enough deterrent strength to dissuade adversaries from attacking [3]. When confronted by a significant external threat, states may either balance or bandwagon. Balancing is defined as allying with others against the prevailing threat; bandwagoning refers to alignment with the source of danger. If balancing is more common than bandwagoning, then states are more secure, because aggressors will face combined opposition. But if bandwagoning is the dominant tendency, then security is scarce, because successful aggressors will attract additional allies, enhancing their power while reducing that of their opponents [4]. Nevertheless, it is important to understand the origins of alliances so that they can be enduring and profitable.

3. BALKAN PACT ATTEMPTS THROUGHOUT HISTORY

Considering the above-mentioned theoretical aspects, some of the attempts and achievements in the field of alliances in the Balkans throughout time will be presented.

It is obvious that we can speak about alliances between independent, sovereign or autonomous entities so, in the case of the Balkan space, most of them emerged following the Russo-Turkish War in 1877-1878, a conflict between the Ottoman Empire and a coalition composed of Bulgaria, Romania, Serbia and Montenegro, led by the Russian Empire. Following the armistice and the end of the war, the Treaty of San Stefano was signed. Its provisions were soon modified by the Treaty of Berlin. The signing of the Treaty of Berlin was dominated by the presence of Otto von Bismarck, the Chancellor of Germany and a fervent promoter of the status quo and the balance of power in Europe, and especially in the Balkans, as a modality to maintain peace. However, the provisions of the treaty failed to lead to the settlement of the crises the entities in the region were confronted with, as their aspirations were not taken into consideration, the period of time between 1898 and 1908 being marked by the European policy realignment because of imperialism, which resulted in deepening the crises in the Balkans. The realist way of maintaining peace entailed the establishment of political-military alliances to prevent one power, independent or in coalition, from taking control over another state or alliance. Nevertheless, the struggle for power, in the context of the balance of power, was to influence, sometimes dramatically, the policy, especially the foreign one, promoted by the newly-established or newly-independent states in the Balkans, which proved to be a highly destabilising factor in the region.

One of the first expressions of the destabilising potential was the war Serbia declared on Bulgaria in 1885. Romania remained neuter although not passive.

Against the background of the rumours related to the possible participation of Romania in the war, Cîmpineanu, the foreign minister, sent a telegram to all the Romanian legations abroad, except the ones in Belgrade and Athens, reading: Deny as formally as possible any alliance or understanding with Greece or Serbia. The rumours spread by Havas agency are obviously ill intended [5]. In this context, on 14/26 October 1885, Prince Alexander of Battenberg expressed his gratitude towards the Romanian government for the correct attitude adopted during the Balkan crisis, considering that the Serbian government suggested a Serbian and Romanian joint military action against Bulgaria, and the occupation of Silistra and possibly of a larger area including Sumla-Varna by the Romanian troops, offer that was not accepted by the Romanian government. Moreover, Alexander of Battenberg visited Romania, in 1886, suggesting King Carol I the establishment of a Romanian-Bulgarian Federation, having separate governments and enjoying internal autonomy, in order to free Macedonia from the Ottoman yoke and to counter the interference of Tsarist diplomacy in the Balkan Peninsula, proposal that was not accepted [6]. In the same vein, a less common attempt to form an alliance was that in 1887, following the military coup that resulted in forcing Alexander of Battenberg to abdicate. Stambolov, the main regent, came to the Romanian agency declaring that Bulgarian regents truly intended to elect King Carol I as the successor of Alexander of Battenberg but they did not make that official request considering the King of Romania would refuse the offer as he did not want to expose his country for Bulgaria [7]. Mention should be made that Romania became party to the Triple Alliance in 1883 by signing a secret treaty with Austria-Hungary.

The Triple Alliance was a secret agreement between Germany, Austria-Hungary and Italy established in 1882 and renewed periodically until the First World War. The renewal of the treaty in 1901 seriously considered the territorial claims related to Bulgarian nationalism. That is why, in April 1901, the Minister of Romania in Berlin submitted a request to the German Chancellor, Bernhard von Bülow, to extend casus foederis to a possible armed conflict with Bulgaria when the alliance between Romania and the Central Powers was to be renewed. Moreover, the Romanian government insisted on the possibility to conclude separate treaties with each and every member of the Triple Alliance, requests that were not admitted. In the same context of alliances, it could be mentioned that, in March 1907, the Ottoman Empire Ambassador in Paris, Munir Paşa, conducted a poll in Bucharest regarding the possibility of concluding a Turkish-Romanian alliance against Bulgaria, but the King and the Romanian government remained committed to maintaining the status quo and not engaging in any alliance against any country in the Balkans [8]. Therefore, it is obvious that the main coordinates of the Romanian foreign policy were to become party to alliances able to guarantee its national security, to tailor its neighbourhood policy in compliance with such alliances, and to maintain the status quo and peace in the region.

The period between 1878 and 1908 was marked by European imperialism, as it has already been mentioned. Between 1908 and 1913 empires still played an important part but national states became increasingly powerful defining the transition and division in Europe, which had consequences on alliance policies, especially as rivalries in the Balkans got stronger. The Ottoman Empire lost much of its power and territories, especially following the war with Italy. Thus the Macedonian question was again at the forefront, and Balkan ambitions were revived. There emerged problems in Austria-Hungary as Hungary intended to become a national state. Russia also faced similar problems, although Pan-Slavism was important. Actually, Russia feared that the Balkan states could not oppose the Ottoman Empire, despite the fact that it was involved in an open conflict with Italy between 1911 and 1912.

Thus, to the end of the mentioned period the Balkan League was established, which represented a major concern for both European governments and Russia. It was an alliance between Greece, Bulgaria, Serbia and Montenegro directed against the Ottoman Empire. However, the problems in the Balkans were not considered to require international negotiations as Russia could not sustain a war, and France and the UK did not intend to support Russia to solve those problems. Moreover, Russia considered that it made too many efforts to back the Slavs in the Balkans and it received too little in exchange, the major concern of Russian diplomacy being to balance the territorial claims of the states in the region – Serbia, Bulgaria, Greece, Romania, Montenegro and even the Ottoman Empire [9]. In addition, when the negotiations between Belgrade and Sofia to establish an alliance were initiated, the Russian diplomacy regarded it as a strictly defensive alliance, although it was almost clear that the Serbs and the Bulgarians intended it to be an offensive one. However, Russia, even confronted with the above-mentioned problems to which poor industrialisation and the discontent of own population were added, promoted an alliance policy with France, which was surprising for many leaders of the time, mainly because the evident differences between the two countries in terms of economy, religion and ideology. Thus the Triple Entente was established.

The Triple Entente was an alliance between Russia, France and the UK, to counterbalance the Triple Alliance between Germany, Austria-Hungary and Italy, to which Romanian was also a party. France initiated the secret defensive alliance in 1891, as a political agreement meant to contribute to maintaining peace, followed by a military convention, in 1894. Nevertheless, up to 1910, France did not consider Russia a valuable military ally, and Russia did not consider France provided it with the expected aid in the difficult years following 1905. In 1912, the two countries concluded a naval agreement and, the same year, France promised to support Russia's interests in the Balkans, which made the alliance more valuable to Russia. Therefore, it can be said that between 1894 and 1914 the Franco-Russian alliance evolved from a defensive secret agreement to a militarily coordinated alliance, defensive only in theory. Moreover, the Entente Cordiale concluded in 1904 consolidated the relations between France and the UK leading to the latter inclusion into the Triple Entente, contrary to the diplomacy promoted by Russia in the 19th century and to the fears of the UK related to the erosion of its position in Asia and especially in India. The Bosnian crisis represented the most critical point in the relations between Russia and France, also affecting the balance Austria-Hungary and Russia succeeded in maintaining in the Balkans since 1897, when Franz Josef and Tsar Nicholas II agreed to cooperate to freeze the conflicts in the region. In contrast to what happened during the Bosnian crisis in 1908-1909, in the case of the Moroccan crisis in 1911, the Triple Entente proved to have learned the lessons of the past, remaining united and succeeding in limiting the aspirations of Germany. Following the Moroccan crisis, the struggle for power moved back to the Balkans. In this context, Russia's policy in the Balkans and Pan-Slavism represented key elements that contributed to the instability in the region. In addition, the states in the Balkans managed to exploit the rivalry between Russia and Austria-Hungary to meet their interests [10], the main consequences being the Balkan wars and the involvement in the First World War alongside different allies.

Following the Balkan wars, the main problem that arose was that the idealised national states that wanted to be ethnically homogenous were confronted with ethnical complexity that generated exacerbated nationalism and conflict [11], a problem that persisted in the region. Thus, after the First World War, the main concern of the governments of the states in the region was still represented by the frontiers.

As far as the Romanian governments were concerned, they intended to protect the frontiers of Greater Romania. Moreover, Romanian diplomacy advocated the principle of collective security and defended the international system resulted from the signing of the Treaty of Paris. France and the UK were thus seen as the main guarantors of post-war international order as the relations with the Soviet Union continued to be strained taking into account the question of Bessarabia. In this context, Romania continued to consider alliances, even regional ones, very important. Thus the Little Entente was established in 1921.

The Little Entente was a mutual defence agreement between Czechoslovakia, Yugoslavia and Romania, supported by France, which was directed against the German and Hungarian domination in the Danube basin. Moreover, it was intended to protect the member states territorial integrity and political independence. A Permanent Secretariat and a Permanent Council were established to discuss foreign policy matters and agree upon a common policy. However, after Germany occupied the Rhineland in 1936, France ceased to be seen as a valuable supporter, and the three states started to adopt different foreign policies. The Little Entente definitely lost its political significance in 1937 when Czechoslovakia, threatened by Germany and considered a victim of aggression, requested aid from Yugoslavia and Romania, which was denied, and collapsed in 1938 when Germany annexed the Sudeten area.

A less common pact that also involved some states in the Balkans was the Kellog-Briand Pact, officially the General Treaty for Renunciation of War as an Instrument of National Policy, which was signed in 1928. The signatory states agreed to not use war to resolve disputes of whatever nature or origin, the pact calling for the peaceful settlement of disputes, provisions further incorporated into the UN Charter. The main signatory states were Germany, France and the USA. Among the countries in the Balkans and adjacent regions, it was signed by Czechoslovakia, Albania, Bulgaria, Romania, the Soviet Union, the Kingdom of the Serbs, Croats and Slovenes, Turkey and Greece [12]. This pact, often ridiculed for its idealism, soon proved to be infective, although still important in terms of conflict legitimacy, especially when it comes to self-defence or collective defence.

The Balkan Pact was a treaty signed by Greece, Turkey, Romania and Yugoslavia in Athens, in 1934. It was aimed at maintaining the status quo in the region following the First World War [13]. Considering the fact that the signatories agreed to suspend all disputed territorial claims, the states in the region that sought territorial expansion such as Italy, Albania, Bulgaria, Hungary and the Soviet Union refused to sign the document. The Balkan Pact should be seen in the larger context provided by the Treaty of Neuilly, the Treaty of Lausanne, and the Agreement in Salonika. The Treaty of Neuilly was signed with Bulgaria, considered a defeated country, in 1919. Among its provisions, which were found outrageous by the Bulgarians, the following can be mentioned: Western Thrace was eventually handed to Greece. Part of western Bulgaria was given to the Kingdom of Serbs, Croats and Slovenes, the Bulgarian armed forces were limited to 20,000 troops, Bulgaria could not be re-armed, and it had to pay war reparations. The Treaty of Lausanne was signed in 1923, officially settling the conflict between the Ottoman Empire and the allies at the onset of the First World War. Among other provisions, it established the boundaries of Greece, Bulgaria and Turkey. The Salonika Agreement was a non-aggression pact between Bulgaria and the Balkan Pact member states signed in 1938. The agreement was initiated by the UK in an attempt to block the increasing influence of Germany and Italy in the Balkans. It also resulted from the improvement of Bulgaria's relations with Belgrade, due to the 1937 Bulgarian-Yugoslav Pact "For Eternal Friendship".

The Salonika Agreement annulled the articles of the 1919 Treaty of Neuilly concerning armament and allowed Bulgaria to again have an army of its own. In exchange, Greece was allowed to remilitarise Western Thrace [14]. The agreement thus allowed Bulgaria to rearm and occupy the demilitarised zones bordering Greece and Turkey, as the members of the Balkan Pact considered that Bulgaria alone did not represent a threat to them united. In fact, it can be said that the Balkan Pact was concluded by states that did not have territorial claims, intended to their collective protection against the states that considered their territorial disputes unsettled. It has been written a lot on this topic. Question arises if it succeeded in striking a balance, in terms of integration, or in awakening the "Balkan ghosts". Considering the position adopted by the states in the region in the Second World War, the latter statement seems more appropriate. Nevertheless, between the Axis hammer and the Soviet anvil, the prospects of getting involved in another war seemed threatening for the countries in the Balkans, thus the attempt in 1939 to harmonise their conflicts by establishing the Balkan Bloc of Neutrals. The plan was launched by Romania, through the voice of its foreign minister, Grigore Gafencu, after preliminary talks with decision-makers in the Balkan countries. The plan was aimed at maintaining the countries neutrality, signing a non-aggression pact with each other, demobilising the military units along common frontiers, and protecting the interests of neutral countries. Moreover, King Carol was considered to hope for a rapprochement between France and Germany to avoid the Soviet Union taking control over Eastern Europe [15]. Unfortunately, as it is well known, it was impossible for the mentioned countries to remain neutral during the Second World War.

Following the Second World War, Europe got divided, the so called Iron Curtain separating the West and the East, governed by different ideologies and regimes. Thus the Warsaw Treaty Organisation, a political-military alliance between the Soviet Union, Albania, Bulgaria, Czechoslovakia, Hungary, Poland and Romania, was established in 1955 to counterbalance the North Atlantic Treaty Organisation, a collective security alliance established in 1949 between the USA, Canada and several Western European nations. Mention should be made that, among the countries in the Balkans, Albania stopped participating in the actions of the treaty in 1962, but remained nominally a member until 1968, and Yugoslavia remained neutral. On the other hand, Greece and Turkey became NATO member states in 1952.

The bipolar world resulted following the mentioned division was considered by many experts to be more stable. In this regard, Waltz mentions that the Soviet Union, led by a possibly psychotic Stalin, and the United States, flaccid, isolationist by tradition, and untutored in the ways of international relations might well have been thought unsuited to the task of finding a route to survival. How could either reconcile itself to the coexistence when ideological differences were so great and antithetical interests provided constant occasion for conflict? Yet the bipolar world of the postwar period has shown a remarkable stability. There are four factors conjoined that encourage the limitation of violence in the relations of states within a bipolar system. First, with only two world powers there are no peripheries. Second, the range of factors included in the competition is extended as the intensity of the competition increases, which is exposed in a reluctance to accept small territorial losses. The third factor in the bipolar balance is the nearly constant presence of pressure and the recurrence of crises. Fourth, the consistency of effort of the two major contenders combined with their preponderant power, which makes for a remarkable ability to comprehend and absorb within the bipolar balance the revolutionary, political, military and economic changes that have occurred [16].

In this context, as far as the topic of our paper is concerned, mention should be made that after Turkey and Greece became NATO member states, in 1952, in 1953, in Ankara, the Treaty of Friendship and Collaboration between the Turkish Republic, the Kingdom of Greece, and the Federal People's Republic of Yugoslavia was signed. It was intended to act as a dam against Soviet expansion in the Balkans. The cooperation between the General Staffs of the contracting parties was also stipulated, being even discussed the eventual creation of a joint military staff for the three countries [17]. Thus, Yugoslavia, a non-aligned state, associated itself with NATO indirectly, which could have important consequences for the region. However, the alliance was weak from the very beginning and it increasingly demonstrated its vulnerability considering the different views of Yugoslavia and Turkey, especially related to the situation in Cyprus.

Under the circumstances of the Iron Curtain, the Cold War, the existence of the two mentioned political-military alliances, as well as considering Yugoslavia non-alignment policy, Turkey and Greece NATO membership, and the issues within the Warsaw Treaty Organisation, especially following the de-Stalinisation tendencies, it is interesting to discuss some of the attempts made by the countries in the Balkan space to get united, under different forms, in order to meet their interests.

In this context, it is worth mentioning the agreement signed in Timisoara, in 1955, related to the reconstruction and cleaning of the border line between Romania and Yugoslavia. Taking into account that a strong and expensive military logistic system was built there in 1948, the agreement can be seen as a sign of détente before the meeting between Tito and Khrushchev in order for the relations between Yugoslavia and the USSR to be resumed.

Considering the above mentioned aspects, it is obvious that the Balkan region was the theatre of many exercises conducted by both military organisations in the field or on the map. Their goals were almost similar in nature. To exemplify, we would like to mention a NATO exercise in the '60s to verify the Lower Danube operation plan. Romania was naturally regarded as an enemy country. That is why it was supposed to be attacked by a Turkish armed group and a Greek one, while an US army corps was to occupy Bulgaria and then cross the Danube in Romania [18]. A Warsaw Pact exercise to verify its multilateral coordination regarding reconnaissance and evaluation of NATO large-scale exercises was Wintex-75. Bulgaria was assigned the task of reconnaissance of Greek and Turkish armed forces, Hungary of the Italian ones, Czechoslovakia and the GDR of NATO armed forces in Central Europe, Poland of NATO armed forces in Central and Northern Europe, and the USSR to observe NATO Allied Commands [19]. As it can be seen, the Warsaw Treaty Organisation regional defence policy had an important southwestern direction. It was one of the arguments often invoked by Ceausescu to support the idea of establishing a Balkan Pact in the '70s, which was strongly opposed by Moscow and other allies.

Taking into consideration the recently discovered documents in the archives in Romania, the Russian Federation and Bulgaria, as well as the literature in the field, the concerns raised in Moscow in the '70s and the '80s regarding the Romanian foreign policy related to the Balkan region become obvious. In a study developed by the Institute of Economics of the World Socialist System of the USSR Academy of Sciences, entitled The Role and Place of Romania in the Balkan States Mutual Relations, Romania was considered the most active promoter of cooperation in the Balkans, mention being made that it was in close connection with the Romanian foreign policy that was different from the one of the USSR. In the same document, it was shown that Romania's cooperation with its neighbours, and a possible Balkan alliance led by Romania could support it in opposing the USSR and other Warsaw Treaty Organisation member states.

In this context, Romania's good bilateral relations with Yugoslavia and Albania, as well as with China were mentioned. That is why, it was recommended for the USSR to strengthen its relations with Romania and the states in the region, to provide political support for the development of cooperation, limited to the creation of a nuclear-weapon-free zone in the Balkans, and thus to counter some elements of opposition to the USSR. Following the meeting of socialist heads of state in Yalta, in August 1971, to which Romania was not invited, it was expressed the fear that Romania, Yugoslavia and Albania, together with China, could form a distinct group in the Balkans to weaken the Warsaw Treaty Organisation southern flank, which could become a regional Balkan bloc, an alternative to the Balkan Pact during the interwar period. In this regard, it was also shown that Bulgaria feared isolation, in the context of the presupposed establishment of a Balkan bloc, labelled as the Beijing-Tirana-Belgrade-Bucharest axis. Mention should be made that Romania suggested convening a Balkan summit in 1972 to discuss demilitarisation and cooperation, including the establishment of a special body responsible for economic cooperation. However, important Soviet-Bulgarian naval exercises were conducted in the Black Sea in 1976, which were regarded by Romania as a show of force meant to discourage the initiative of Balkan cooperation. The idea of establishing a stable and peaceful climate in the Balkans continued to be discussed in the '80s, although in slightly different terms [20, 21, 22, 23].

Following the end of the Cold War and the dissolution of the Warsaw Treaty Organisation, the Balkan region came into focus again, especially considering the situation in former Yugoslavia. Of the countries in the region, Albania, Bulgaria, Croatia, Greece, Hungary, Romania, Slovakia, Slovenia and Turkey are currently NATO member states, while Bulgaria, Croatia, Cyprus, Greece, Hungary, Romania, Slovakia and Slovenia are European Union member states, so the paradigm is different.

CONCLUSIONS

All aspects considered, it is obvious that the destiny of the Balkan region is entangled and attempts to different forms of cooperation have been perceived as necessary throughout history. For historians, historical regions may represent something virtual that fluctuates in space and time and is subject to revisions, but in the public realm, regions stand for something real and a frame of reference for current events and processes, yet the two realms cannot be hermetically separates [24]. In this context, it has often been suggested using the term Balkan space, mainly considering the fact that significant aspects of international relations are historically and socially constructed, international organisations being involved in the process of social construction. The term space is not necessarily territorial, as there are symbioses, mixed phenomena, commonalities that are above local differences, having thus a symbolic dimension. That is why "mental maps" and "symbolic geographies" are connected to legacies as perception, often discursively substantiated, which are even more enduring than legacies as continuity [25]. Actually, it has been a tradition to see the Balkans as a legacy of civilisations. One of the most prominent advocates of the idea was Nicolae Iorga, who, as an expression of the conclusion that everything connects the people living this space, sometimes beyond their will, founded the Institute of Southeast European Studies in Bucharest. Actually, grasping the significance of a common heritage, the historian pleaded for the study of great territorial entities defined by specific historical evolution, life forms and culture. In his view, the Greeks, Bulgarians, Serbs, Romanians, Albanians and Turks had been subject to the same great Western, Eastern, racial and religious influences.

Moreover, Iorga invoked the heritage, the commonalities of experience and the fatalities of geography as the main triggers in studying national history on a broader basis that would view the various common Balkan traditions as one whole [26, 27]. Therefore, the idea of getting united in one way or another, even often seen as utopia, gets substantiated in the presented geopolitical construction of space. Thus, the question arises whether it is commonalities or divides that have troubled the Balkan space for so many years.

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EMOTIONAL INTELLIGENCE IN LEADERSHIP

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Abstract: *When you try to describe a "perfect leader", what comes into mind? We could imagine someone that never loses its control regardless of the problem faced, or we could imagine someone who has complete confidence in his team, a team that listens, someone with whom it is easy to communicate and which always takes thoughtful decisions. These are the qualities of a person with a high level of emotional intelligence.*

This paper is the result of my research in the field, in particular on the connection between emotional intelligence and leadership development. I present some of the most widely recognized and prevalent methods to improve emotional intelligence.

Keywords: *emotional intelligence, leadership, leader*

1. INTRODUCTION

How can we explain the fact that sometimes persons with a high level of IQ (cognitive intelligence) of over 140 works for persons with an IQ lower than 100?

Emotional Intelligence (EI) is the ability to understand and control our own emotions and those around us. Persons with a high level of EQ have a better understanding of their emotions and how are affecting the people around them. For a leader this aspect is essential in order to have success in his endeavours. According to Daniel Goleman, an American psychologist who helped very much to promote EQ, there are five main elements of Emotional Intelligence:

1. Self-awareness.
2. Self-regulation.
3. Motivation.
4. Empathy.
5. Social skills.

Developing these five elements for a leader is a key to have a better understanding of his team. The first step for a leader in understanding his team should start with understanding himself, knowing which are his strengths, weaknesses and work on those weaknesses.

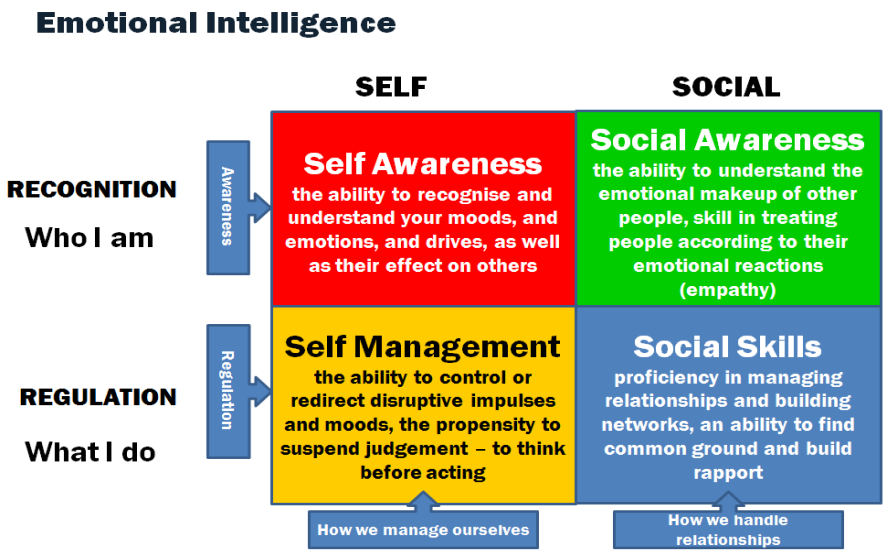

FIG. 1. Daniel Goleman Emotional Intelligence model

This paper focus on the ways we can improve the five main elements of Emotional Intelligence I mentioned above.

2. ELEMENTS OF EMOTIONAL INTELLIGENCE

2.1. Self awareness

Self awareness represents the ability to discern, recognizes own emotions, attitudes, reactions by awareness (internal verbalisation process). By self awareness is performed the direct jump from the biological man to the person who consciously realise his own uniqueness, personality, intuitively and reflectively validated.

Being aware of itself, a leader may better determine to what extent his emotions and its actions affect the people around him. The leader will also have a clearer and more complete picture of his strengths, weaknesses, desires and motivations, personal beliefs and perceptions that can be used in the leadership process.

Many times during different psychological tests I've seen people having trouble naming at least three of their strengths and weaknesses, unfortunately that can be considered a lack of self awareness and introspection. Introspection is a capacity that a future leader needs to develop, even though the principle "know yourself" is centuries old I've noticed that many people don't know exactly what are the steps for an introspection. We understand biases, the halo-effect power, to a certain degree, we apply critical thinking on our decision process as military. But we can't gain self awareness by reading books, knowing psychology without understanding what really drives us, how other people experience us, understanding our past and current self. We see the world, from our experiences we shape it, the question is how does the world shape us?

So what can we do to improve our self awareness? First, I think we should know how to name our emotions when we have an introspection, we can start with the question "How do I feel?" but if the answer is "I feel good/bad" we just reached the surface of our emotions.

Psychologists Joseph Luft and Harrington Ingham have created in 1955 a technique for people to better understand themselves and others which can serve as a heuristic exercise.

The technique is called "The Johari window"[1] and it consists in a list of adjectives that the subjects need to choose in order to describe themselves and others, after the adjectives are chosen they are inserted in a grid made out of four quadrants that represent the aspects that we know about ourself and what is other people's perception of us. I will not go further in the description of this exercise, but I will mention the adjectives from the test to have a better understanding of what "I feel good/bad" can be on a deeper introspection.

Table 1. The Johari window adjectives

Able	Clever	Friendly	Introverted	Observant	Religious	Silly
Accepting	Complex	Giving	Kind	Organized	Responsive	Spontaneous
Adaptable	Confident	Happy	Knowledgeable	Patient	Searching	Sympathetic
Bold	Dependable	Helpful	Logical	Powerful	Self-assertive	Tense
Brave	Dignified	Idealistic	Loving	Proud	Self-conscious	Trustworthy
Calm	Empathetic	Independent	Mature	Quiet	Sensible	Warm
Caring	Energetic	Ingenious	Modest	Reflective	Sentimental	Wise
Cheerful	Extroverted	Intelligent	Nervous	Relaxed	Shy	Witty

Developing self-awareness is not something we can do over night, it requires a lot of effort, practice, attention to one's personality, behaviour and connections to external factors, forces. In this endeavour there are many books and researches that can help this development, but nothing can help if no practical effort is made.

Every development program should start with a deep understanding of the past and current self. In the past years one of the most successful theories about how to obtain a deeper identity understanding is through narrative identity which "postulates that individuals form an identity by integrating their life experiences into an internalized, evolving story of the self that provides the individual with a sense of unity and purpose in life"[1]

Looking at the experiences that had the biggest impact in shaping us, the people and events, asking ourselves, which experience gave us strongest passion for leading and identifying those experiences can bring answers for setting goals and future paths.

Having a mindful habit on a daily basis that can focus attention on self is another step. That habit can be keeping a journal, meditate, running, or any other activity that invites to reflection and focuses attention to what really matters and is important to us.

Seeking a strong feedback is another important step we need to take in order to better understand ourselves and also identify the effect we have on people around us. Receiving honest feedback sometimes put us in a defensive position and we need to understand why "receiving feedback sits at the junction of two conflicting human desires. We do want to learn and grow. And we also want to be accepted just as we are right now."[1]

Becoming self-aware takes time, might take years of reflection, introspection, and difficult conversations. As we follow these kind of practices I mentioned above, we will become more comfortable even being vulnerable, transparent, at the end this will transform us in a more authentic leader.

2.2. Self-regulation

Effective Leaders rarely become verbally aggressive towards anyone, making decisions in a hurry based on the moment impulse, labels and form prejudices towards others or compromise their own values. Self-control can be improved though by practicing self discipline.

- Knowledge of one's own values and principles. A leader will need to know when he will not be able making any compromise, which is one of the most important of its values as its form own code of ethics that can be reported at the time that they are faced with an ethical dilemma and has made a decision.

- Taking responsibility. If you tend to blame someone else when something does not work as it should, assuming the consequences of recognition of some mistakes in front of those involved will lead to an increase in self-esteem.

- Keeping calm. In tense situations, the impulse to react to the situation may lead to mistakes. Induce a state of calm, in which the reactions are rationalised, the decision process can be drastically improved.

2.3. Motivation.

Self-motivated leaders work consistently toward their goals, and they have extremely high standards for the quality of their work.

How can you improve your motivation?

- Re-examine why you're doing your job – It's easy to forget what you really love about your career. So, take some time to remember why you wanted this job. If you're unhappy in your role and you're struggling to remember why you wanted it, try the Five Whys technique to find the root of the problem. Starting at the root often helps you look at your situation in a new way. And make sure that your goal statements are fresh and energizing.

- Know where you stand – Determine how motivated you are to lead.

- Be hopeful and find something good – Motivated leaders are usually optimistic, no matter what problems they face. Adopting this mindset might take practice, but it's well worth the effort. Every time you face a challenge, or even a failure, try to find at least one good thing about the situation. It might be something small, like a new contract, or something with long-term effects, like an important lesson learned. But there's almost always something positive, if you look for it.

The first step in building motivation is to identify what demotivates us and then face the problem straight forward. Now here, we're looking at demotivation on two levels. On one level, we have to look at the fundamental motivation to lead, at a second level, we have to look at the day-to-day irritations that frustrate us and distract from doing a good job. Some of the benefits of leadership are obvious, but what if we find that something is holding us back? What if we find that, deep down, we're not sure that we want to lead a team?

One can challenge himself to set aside for a few minutes to note down the things that steal his motivation, whether these are things that undermine the motivation to lead or are general irritants that are undermining the self-motivation. Making a list with the demotivations may help find the solutions when we identify the cause, a cause which can be circumstantial or habitual. If one demotivation is a recurring habit, we have to acknowledge it as a serious handicap, which may undermine all the good work we want to accomplish. That is when we need to make a concerted effort to bring motivation and passion to the activity. One of the key figures in the development of the theory of motivation was Frederick Herzberg, who closely studied the sources of employee motivation in the 1950s and 1960s. What he discovered was that the things that demotivate people are different from the things that motivate them. Herzberg's "Hygiene Factors"[2] (the things that made people unhappy and demotivated) were obstructive company policy, unhelpful administration, intrusive supervision, bad working relationships, poor conditions, uncompetitive salaries, low status and job insecurity. Just as these things demotivated the people Herzberg studied, they may also be the things that demotivates us in our military environment.

Establishing a clear motive for the actions we undertake is one of the best ways to create motivation. Once we have figured out that the effort we make fulfils a need we have, the effort will automatically become much more worthwhile.

At one level, the very basic level, we make an effort at our job because it gives us the money and helps us fulfil some material needs. At another level, we make an effort because we feel that by performing well, we are helping our team achieve a better goal and this makes us feel good about ourselves.

2.4. Empathy

For leaders, having empathy is critical to managing a successful team or organization. Leaders with empathy have the ability to put themselves in someone else's situation. They help develop the people on their team, challenge others who are acting unfairly, give constructive feedback, and listen to those who need it.

A leader should earn the respect and loyalty of his team, then show them he cares by being empathic.

How can we improve empathy?

- Putting ourselves in someone else's position – It's easy to support our own point of view, but taking the time to look at situations from other people's perspectives is also important and not that easy to perform at all times.
- Paying attention to body language – Perhaps when we listen to someone, we cross our arms, move our feet back and forth. This body language tells others how we really feel about a situation, and the message we're giving isn't always positive. Learning to read body language can be a real asset in a leadership role, because the leader will be better able to determine how someone truly feels. This gives him the opportunity to respond appropriately.
- Respond to the feelings – We sometimes are put in the situation to ask our team members to perform certain task that although they agrees, we can hear the disappointment in their voice. By addressing their feelings, telling them we appreciate their work can improve their performance.

2.5. Social skills

Leaders who do well in the social skills element of emotional intelligence are great communicators and they set an example with their own behaviour.. They're just as open to hearing bad news as good news, and they're expert at getting their team to support them and be excited about a new mission. Leaders with good social skills are also good at managing change and resolving conflicts diplomatically. They're rarely satisfied with leaving things as they are, they don’t sit back and make everyone else do the work, they get involved and lead other from the first line, setting standards and being in control.

Developing social skills require:

- Learning conflict resolution – Leaders must know how to resolve conflicts between their team members. Learning conflict resolution skills are vital if we want to succeed.
- Improving communication skills – How well do you communicate? Asking for feedback from our team or superiors also combined with a constant effort to improve our knowledge about how to control our emotions (delivering a briefing for example) or improve our knowledge about a certain operation can have direct benefits upon our communication skills. First step as usual is identifying where can we improve and what stops us to reach the desired level of skill.
- Learning how to acknowledge and show others merit – A leader can inspire the loyalty of his team, simply by giving praise when it's earned. Learning how to praise others is a skill that is not easy to develop as it requires a very good understanding of someones personality and character in order to have authenticity.

CONCLUSIONS

Emotional intelligence is the ability to recognize emotions, understand what they're telling us, and realize how our emotions affect people around us. It also involves the perception of others: when we understand how they feel, this allows us to manage relationships more effectively.

To be effective, leaders must have a solid understanding of how their emotions and actions affect the people around them. The better a leader relates to and works with others, the more successful he or she will be. Taking the time to work on self-awareness, self-regulation, motivation, empathy, and social skills areas will help us excel.

One of the reasons people with high emotional intelligence are usually successful is because they're the ones that others want on their team. They make others feel good, they go through life much more easily than people who are easily angered or upset.

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THE PILOT TRAINING IN THE "MILITARY ROMANIA" JOURNAL

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Abstract: *The military aviation has always been an essential item on the board of political negotiators. The year 1945 was an unbelievable year for Romania, when the Americans and the British pilots attacking, day and night, the Prahova territory, a county in southern Romania. The best pilots were mobilized for our territorial defense.*

I found some notices about their training into the pages of the journal "Military Romania", edited by the General Staff of the Romanian Armed Forces. It is a study written in October, 1945. The material presents the „problem of the pilot" in terms of social-political conditions existing in those years.

I have selected some important aspects from the point of view of training pilots in the conditions of the emergence of new types of planes.

Keywords: *airplane, military science, theoretical, pilot, training, "Military Romania" Journal*

Motto: „There is no curse in the sky.There, the destinies are fulfilled. The pilots don't live as they fly, but they fly as they are".

Dumitru Berbunschi

1. INTRODUCTION

Since the aircraft built by Aurel Vlaicu to the current tactical drone "Patroller", the military science brought in attend to the commanders a lot of studies about the aircraft types, used in the military confrontations. The war, of any its form, he raised questions and waited some solutions. Over time, the military science has come up with answers. Some of them are positive, beneficial for the victories. The others, unfortunately, they had a discontented ending.

The subject of *the pilot man*, as it is called by a professor at a Romanian aviation school, in 1945 – N.A. Saegiu –, has become fascinating at the same time with the bravery of aviation in the middle of the new conditions of the World War II. In aviation' schools, the students learned about everything that could be learned about the airplane. However, there were many surprises that *"the nature, in its endless creation, can reserve to the pilot"* [2, 43]. The author tells us in his article about these unexpected situations. The article appeared after the end of the World War II. In my opinion, these situations can be considered as lessons that should be learned.

2. „THE MILITARY ROMANIA" – A JOURNAL OF MILITARY SCIENCE

When we refer to the military domain, we think to the ideas, concepts, and theories about the armed forces, about the war, about the military confrontation, and its institutions, that they have a well-defined role in the representation and promotion of national interests in relation with other states. The Romanian army institution is a component of the Romanian society.

There is the opinion that in the nineteenth century, were laid the foundations of a military thinking, as a concept regarding the national army. This was possible by acquiring and capitalizing on the democratic ideas, on the one hand, from the ideas of the revolutionary peacekeepers, from the progressive military reforms during the reign of Alexander Ioan I (Alexandru Ioan Cuza), when it is estimated that the theoretical activity was founded on the military filed. On the other hand, it was a situation like a materialization of the experience gained on the battlefield and its transposition into basic principles of military science.

The Romanian military thinking has appropriated in its own way the fundamental principles of European military science, taking from it what was most relevant and worthy to follow, but which did not ignore our tradition, our history and our indigenous culture. Theoreticians such as C.N. Hârjeu, Al. Averescu, D.I. Cocorascu, N. Alevra have contributed, through their research and studies, to the foundation of the theoretical work in the military field, seeking *"the scientific solutions to the complex problems"* [2, p. XLI] in the "Military Romania" journal.

Many materials appeared into "Military Romania" that were presented the instruction and the technique in the army, starting from models existing in the military organization of other European states.

Thus, *"New Weapons, New People"* is an article about the plane and its utilization during the World War II. Although there was a state of war, people continued to write original materials, many of them were praised as real contributions to the journal's military concerns. In this context, the Editorial Board of "Military Romania" journal has been a real instrument in presenting the instructive and documented military works in order to be a moral support, an intellectual support for the army. There have been published the articles on education, politics, strategy, history, weapons and services, world war chronicles, and military geographic articles.

In the historical and political areal of the years 1945-1947, the functionally structure of the Romanian Army had various transformations, the produce of the *"democratization of the army"*. It was the Soviet period. The publication of the General Staff resisted and even managed to conserve, generally, the line to the editorial. This military body continued to be *"the basic structure of the army for the preparation of its war and its territory, too"* [1, p. 275]. It is being to plan and prepare the war plans as well as general rules among its tasks.

The article that I am referring is a lesson about the pilot's training. The author said: *"On the plane, the man is solitary. The first and most feared enemy of the pilot remains nature and, the same, his opponent. The pilot will have to live, work, feel, judge, in other words, behave as if supervised at every step, under the impetus of real values through which a man can truly be defined"* [2, p. 45].

The use of the plane means science, instruction, patience. A wrong means failure. That is why the author emphasizes the very important role of the pilot man. Inside a pilot, there must be a human being, not a robot. For this, the author believes that man must be trained, master the flight equipment, and know its technical aspects.

3. THE PILOT TRAINING – AN ACTUAL ISSUE

Science is an essential characteristic of our lives. It is what is left after you get to know something. It is an fundamental parts of any human existential process, hence the name *hommo scientificus*.

We can talk about a knowledge society in which we have data, information, values, and representations. In this knowledge society, military science has acquired an integrating character. We can no longer speak about only a coalition or political-military alliance today, a preponderant and explicit study of military science, but its connection with other sciences in the social environment, the switch being shifted from the abrupt study of the principles of the armed struggle On the one of interdisciplinary, the movement of the methods used to the new existing technique, to what is new in the field of military art, regardless of its political, decisional, strategic, operative and tactical levels.

During the 153 years of his existence, the journal of the General Staff remains a page opened to all theoretical and applicative transformations by which the army had passed. The publication was the bearer of army leadership ideas.

Pilot training is a current issue. This was also important during the World War II, when the Romanian aviation had to resists the attack of the American and English pilots in Ploieşti, near to Bucharest, a city rich in petroleum. The author points out that there must be a close relationship between the plane and the man: *"He needs to increase his intuitive acuity so as to cover a sphere of almost 400 meters diameter, which can not be done either on command or spontaneously, and the phenomena being neither voluntary nor usual"* [2, p. 44].

From 1945 to our days, the science has evolved considerably. The military field, too. A study of neurological doctors and engineers from Australia reveals the strong connection between a pilot's mind and his plane. The idea of the researchers is for the pilot to controlling his airplane by a chip inserted into his brain. This will allow him to convey his thoughts through commands. This team believes these will a benefit to hunting pilots, for them efficiency: *"The army seems interested in the possibility for hunting pilots to control their planes directly through their thoughts instead of using their arms. The reaction of time would be reduced to millisecond"*, said Dr. Tom Oxley, the coordinator of this project [4]. Here are the thoughts of the author of the "Military Romania" journal become reality. He said that the society would go to a new man, a man with new ideas, in which the impenetrable could overcome the animal elements.

CONCLUSIONS

The article reveals the necessity to adapt the training of pilots to the new geopolitically and military context. I started from a text appeared in 1945 to show that such a concern was in the journal of the General Staff. The journal provided to readers the useful ideas on the training of officers, theoretical and practical aspects of military life and their education. In addition, it is being considered as a plea for pilots, for their profession, so beautiful, but so dangerous…

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PROBABILITY ASSESSMENT OF POSSIBLE VOLCANIC ASH CONTAMINATION FOR THE BULGARIAN AIRSPACE BY DEVELOPING OF EVENT TREE AND RISK MATRIX FOR HYPOTHETICAL VOLCANIC ERUPTION

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Abstract: *The objective of this study is to explore the risk assessment of potential volcanic ash contamination of Bulgarian airspace using a multi-complex analysis of potential volcanic sources, combined with suitable weather conditions and a detailed analysis of the final outcomes connected with the impact of volcanic ash on airspace management relating to departures, arrivals and en-route flights over Bulgarian airspace. This paper present research of probability assessment of volcanic sources in Italy, which may spread volcanic ash in short time (up to 12hours) to Bulgarian airspace.*

Keywords: *volcanic ash, risk analysis, risk assessment, event tree analysis*

1. INTRODUCTION

The objective of this study is to explore the risk assessment of potential volcanic ash contamination of Bulgarian airspace using a multi-complex analysis of potential volcanic sources, combined with suitable weather conditions and a detailed analysis of the final outcomes connected with the impact of volcanic ash on airspace management relating to departures, arrivals and en-route flights over Bulgarian air space.

The risk assessment of volcanic sources is based on the estimation of probability characteristics relating to the activity of volcanic sources in Europe. The lesson learned from the crisis in 2010 related to volcanic eruption has shown that particular weather conditions have a significant impact on airspace management for many countries in Europe. The prevailing winds during the eruption of Eyjafjallajökull, that advected the volcanic ash to the south and southeast of Iceland, were unusually persistent and unusually common. Indeed, for eruptions in recent decades this eruption is the only one where the ash dispersal is to the south and southeast from Iceland. Although the specific atmospheric circulation in the first and second decade of April 2010 presented only 6% of all weather patterns for atmospheric circulation over Iceland and W Europe this event caused the largest disruption in aviation since Second World War, as airspace over large areas was closed for several days with delays and flights cancelations [1].

That is why, being able to recognize and define the atmospheric circulation in close connection with its statistic distribution based on the monthly and seasonal proportion over Europe and the Balkans has an important value for the assessment concerning the region of interest. The next step for the evaluation is connected with a compilation of risk matrix for each particular source as a component of a complex matrix related to medium and high potential risk of contamination for volcanic ash sources close to the Bulgarian airspace. The sources are grouped based on countries of occurrence.

The method used for the multi-risk assessment is based on an event tree analysis off potential volcanic eruption and provides good opportunities for presenting all the events that should be assessed, the interaction between them and the final probability for their occurrence. . The initial parameters of potential volcanic eruption used are those with the highest conditional probability –VEI and some specific details such as height of eruptive column, volume of volcanic ash, and duration of eruption. So, the complex analysis should be based on a multi-risk assessment of the behavior of volcanic eruption, throw away and spreading of volcanic ash in the atmosphere by prevailing winds and all the aspects of impact to a specific airspace. The special focus is both on spatial and temporal scales and their significant roles for the mitigation measures that should be taken in order to update airspace management for controlled airspace in case of lack of time.

Event tree analysis (ETA) is an analysis technique for identifying and evaluating the sequence of potential accident scenario following the occurrence of an initial event. ETA is represented by graphical logical structure known as an event tree (ET). The ETA may result in many different outcomes from a single initiating event and it provides the capability to obtain a probability for each outcome. The main scope of ET is to determine how an initial event will develop into different scenarios in order to create rulemaking measures for control and successful procedures for the mitigation of final negative outcomes.

This approach is very adequate and easily applicable for risk analysis and assessment of volcanic ash contamination of Bulgarian airspace by spreading ash from volcanoes located close to, and much faraway from, the borders of Bulgarian FIR.

2. DEVELOPING OF AN EVENT TREE FOR A HYPOTHETICAL VOLCANIC ERUPTION

The scope of this study is focused on the research of a domain with ranges within 35°– 55° N latitude and 10°–35° E longitude (Fig. 1) referred to for shortness East Mediterranean and Balkans, (EM&B) for the purpose of this study. This domain contains volcano sources that originate in Italy and which could affect Bulgarian airspace in case of eruption and spreading of volcanic ash.

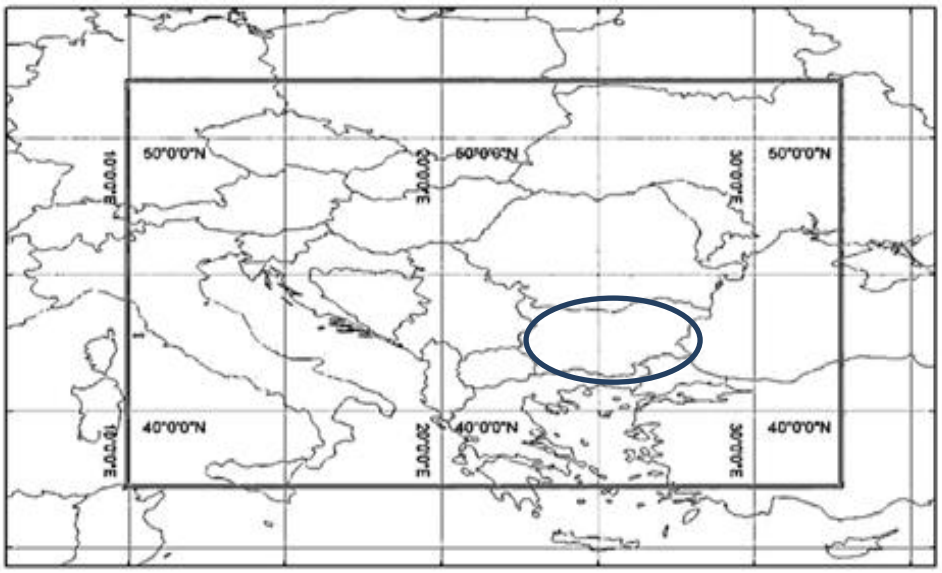


FIG 1. Domain for the research

The risk assessment of volcanic ash contamination of Bulgarian airspace is a fundamental research based on a probabilistic risk assessment of natural hazards such as volcanic eruption, together with an examination of dispersion of volcanic ash in the atmosphere by prevailing winds. Based on the aviation flow management, the impact on the air traffic for the specified region has been assessed.

The attempt of risk assessment of volcanic ash sources is based on statistical methods. The application is an approach borrowed from the assessment of the risk of earthquakes and their consequences [2].

The framework of this is methodology is established on four fundamental tasks associated with:

- Identification of volcanic sources.
- Determining the probabilistic characteristics for each of the volcanic ash sources based on the following dependency: **Volcanic Explosivity Index (VEI)- Volcanic Eruption Frequency**
- The process of modeling stochastic events by using numerical models for volcanic ash dispersion.
- Detailed probabilistic assessment of volcanic ash contamination with respect to the distance and azimuth for the studied area

The most effective method for evaluating the sequence of potential accident scenario is the graphical, tree-like presentation of events in which branches are logical steps from a general prior event through increasingly specific subsequent events (intermediate outcomes) to final outcomes. Constructing event trees for volcanic crises shows the progressive development of different scenarios and possible outcomes from volcanic unrest. An estimation of the rate at which volcanic ash load decays with distance from the source, as a function of magnitude, eruptive column height, duration, dispersal model and wind speed is required for the stochastic set of events under consideration. The dispersal of volcanic ash through the atmosphere and deposition at ground level that diminish gradually in load (kg/m2) with distance from the source but in directions controlled by the wind. Therefore, ash load attenuation and the impact on the region of interest is a complex function of distance and azimuth from the source. And finally, the estimation of probabilities for each event through the tree is a good opportunity for statistical assessment of each outcome.

The conceptual model presents the general steps describing the movement of the system from current conditions through increasingly specific conditions to final outcomes.

The simplified models of a generic tree with progressively specific levels or branches present different possible scenarios for developing an initial event and is presented in Fig.2.

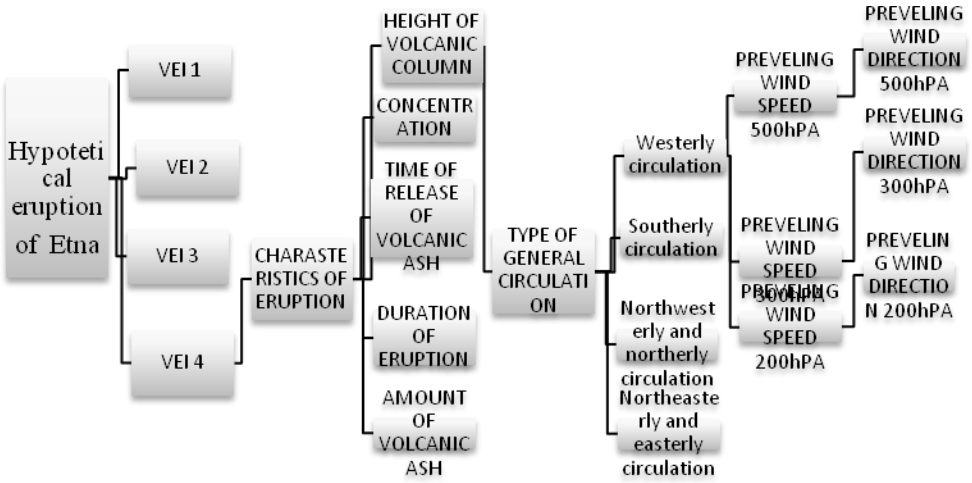


FIG 2. Generic event tree describing possible scenarios for hypothetical eruption of Etna

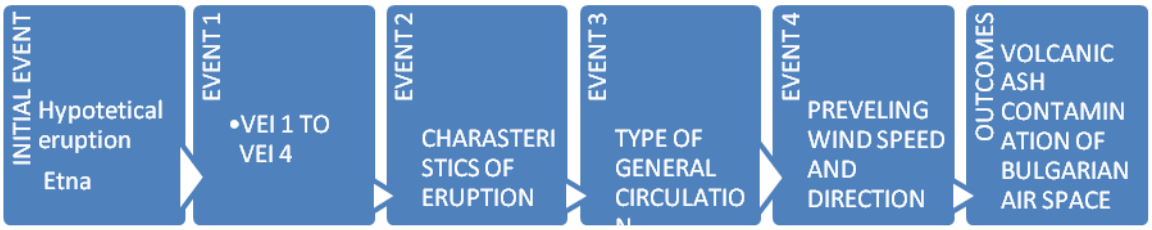


FIG 3. Conceptual model for a hypothetical eruption of Etna and generic event tree describing possible scenarios

3. SOME THEORETICAL BACKGROUND OF STATISTICAL CALCULATION

For environmental and natural issues, risk factors can be conveniently defined as a function of the probability that a certain event will occur and of the extent of the damage caused to man, environment and objects. In many cases risk is considered as

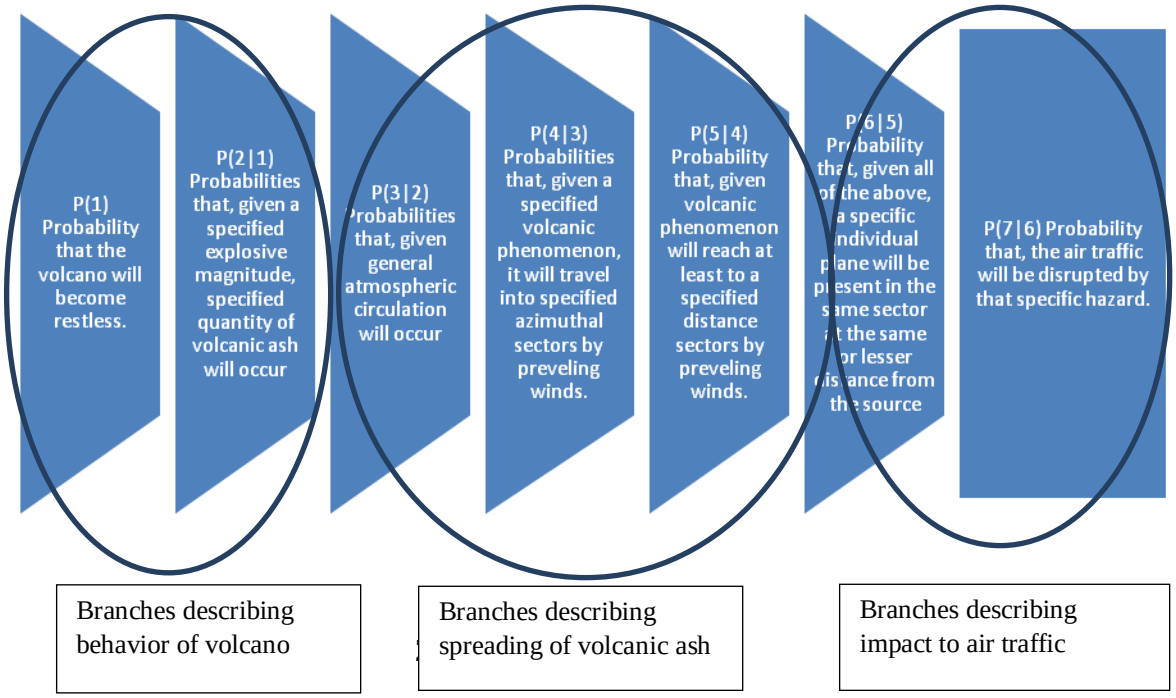
R = **H x L x V** (1)

where **H** is the probabilistic hazard, **L** the value at risk, and **V** the vulnerability,

This definition basically coincides with the one provided by the European Community (EN 1050, 1996) which indicates risk related to a specific source (or hazard) as a function of the magnitude of the potential damage (defined as **D** = **L x V**) that may result from the considered hazard and from the probability that it will occur (also a function of the frequency and duration of the exposure, of the probability it will occur and of the possibility to avoid or limit the damage).

Based on statistical theory a conditional probability, written in the form P (n|n–1), is the probability of event n given that event (n–1) has occurred. The probability of any outcome, P (n), is the product of the probability of an initial event, P (1), and all further conditional probabilities, P(2|1)...P(n|n–1), leading to that outcome.

$$\mathbf{P\ (n)} = P(1).P(2|1).P(3|2) \ldots \ldots P(n|n-1) \quad (2)$$



All probabilities are calculated based on the specific characteristics of any particular condition for each branch of the event tree.

The first two probabilities are connected with volcanic behavior; the following three are associated with the estimation of volcanic ash dispersion according to the general atmospheric circulation, and the final two represent the impact of volcanic ash to the air traffic ini the region of interest - FIR Sofia ant its sectors.

The conditional probabilities for eruption of volcanoes of a particular VEI are calculated based on the definition of probabilistic characteristics [3]. Volcanic ash sources located in Italy are assessed by means of probabilistic characteristics and the results concerning the conditional probability are summarized in table 2.

Table 2. Conditional probabilities for any VEI for active volcanoes in Italy

Active volcanoes that originate in Italy	Conditional probability VEI 1	Conditional probability VEI 2	Conditional probability VEI 3	Conditional probability VEI 4	Conditional probability VEI 5
Etna	0,89	0,92	0,454	0,25	0
Vesuvius	0,065	0,047	0,381	0,75	0,333
Stromboli	0	0,023	0,054	0	0
Vulcano	0	0	0,090	0	0
Pantelleria	0,021	0	0	0	0
Campi Flegrei Mar Sicilia	0,021	0	0	0	0

The Table 3, which represents a risk matrix of volcanic eruptions with VEI specifically for the volcanoes in Italy, is composed of such characteristics as volcano explosivity and distance to the region of interest.

Table 3. Risk matrix of volcanic eruptions with VEI specifically for the each of volcanoes in Italy

No risk | Low risk | Medium risk | Medium to High risk | High risk

Likelihood / Active volcanoes in Italy	Eruption style VEI 1	Eruption style VEI 2	Eruption style VEI 3	Eruption style VEI 4	Eruption style VEI 5
Etna					
Vesuvius					
Stromboli					
Vulcano					
Pantelleria					
Campi Flegrei Mar Sicilia					

4. METHOD FOR IDENTIFICATION OF CONTAMINATED AREAS

Contaminated zones should be precisely defined by using a numerical model such as the HYSPLIT model. The Hybrid Single-Particle Lagrangian Integrated Trajectory model (HYSPLIT), developed by NOAA's Air Resources Laboratory, is one of the most widely used models for atmospheric trajectory and dispersion calculations. It is a complete system for computing simple air parcel trajectories, as well as complex analysis transport, dispersion, chemical transformation, and deposition by simulations. The final results are revealed by means of graphical information about the zones contaminated by volcanic ash both for the different atmospheric layers and flight levels and for the process that has developed in the course of time, and in space.

5. CONCLUSION

When analyzing the presented results, it's possible to make a conclusion for each of the active volcanoes regarding severity of probability and risk for eruption with a specific VEI.

Taking into account the specific features of VEI and the fact that it is described by an exponential function, the presented risk matrix shows that eruption styles with a VEI of 3, VEI 4 and VEI 5 will be more violent and devastating than explosivity of VEI 1 and VEI 2. The volcano with the highest VEI is Vesuvius as it can be seen in table 3. Highly probable is its eruption in a variety of styles, some of them by higher VEI which would be much more devastating. In this case, the impact on the region of research will be more significant due to the concentration of volcanic ash reaching up to the critical limits.

Comparing the eruption mass amount of eruptive volcanic ash into the atmosphere, in such cases of extremely high explosivity, the significant increase of ash, in combination with the prevailing winds, would be dispersed on vast territories and would reach more distant regions from the volcanic ash sources.

Finally, as a result of the eruptions with a VEI of 4 of the Icelandic volcano Eyjafjallajökull, accompanied by the suitable conditions of the atmospheric circulation, the volcanic ash reached all over Europe and blocked the air traffic for a significant period of time. The losses for the aviation sector are calculated to amount to 4.2 billion euros.

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CASE-STUDY FOR A HYPOTHETICAL ERUPTION OF ETNA AND THE APPROPRIATE WEATHER CONDITIONS FOR DISPERSION OF VOLCANIC ASH TO BULGARIAN AIRSPACE

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DOI: 10.19062/2247-3173.2017.19.2.21

Abstract: *The objective of this study is the consequences of a hypothetical eruption of Etna in Italy and the appropriate conditions for dispersion of volcanic ash to Bulgarian air space in a particular situation. The risk assessment of potential volcanic ash contamination in Bulgarian airspace is based on a multi-complex risk analysis of potential volcanic sources, combined with suitable weather conditions and detailed analysis of the final outcomes connected to the impact of volcanic ash on airspace management over Bulgarian airspace.*

Keywords: *volcanic ash, atmospheric circulation, risk analysis, risk assessment*

1. INTRODUCTION

The objective of this study is the consequences of a hypothetical eruption of Etna in Italy and the appropriate conditions for dispersion of volcanic ash to Bulgarian airspace in a particular situation.

In fact, Etna is the most active volcano in Europe. Over the last seventeen years there have been eleven eruptions of Etna, four of them stronger more than VEI 3. Fortunate is the fact that more of eruptions are feeble up to VEI 1. This is the reason why there is no significant dispersion of volcanic ash into the atmosphere, despite the locally contaminated area close to the volcano source.

The risk assessment of potential volcanic ash contamination in Bulgarian airspace is based on a multi-complex risk analysis of potential volcanic sources, combined with suitable weather conditions and detailed analysis of the final outcomes connected to the impact of volcanic ash on airspace management over Bulgarian airspace.

The lesson learned from the crisis in 2010 related to volcanic eruption has shown that particular weather conditions have a significant impact on airspace management for many countries in Europe, although the specific atmospheric circulation in the first and second decade of April 2010 presented only 6% of all weather patterns for atmospheric circulation over Iceland and W Europe. In the light of the above mentioned, being able to recognize and define the atmospheric circulation in close connection with its statistic distribution based on the monthly and seasonal proportion over Europe and the Balkans has an important value for the assessment.

2. DATA AND METHODOLOGY

The scope of this study is focused on the research of a domain with ranges within 35°– 55° N latitude and 10°–35° E longitude (Fig. 1) referred to for shortness East Mediterranean and Balkans, (EM&B) for the purpose of this study. This domain contains volcano sources that originate in Italy and which could affect Bulgarian airspace in case of eruption and spreading of volcanic ash.

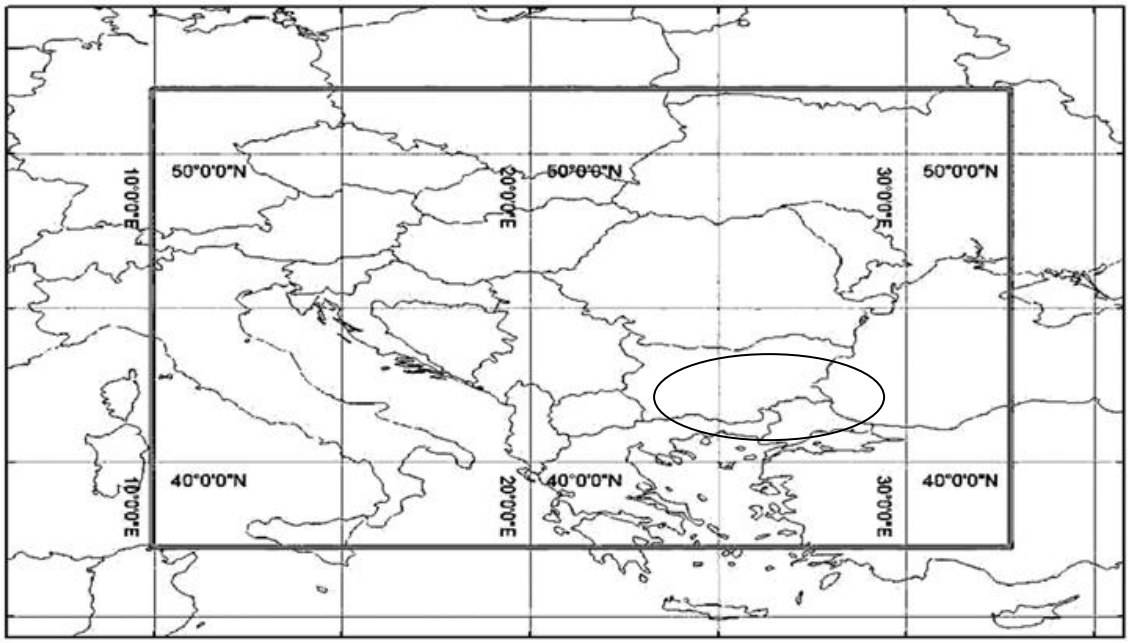

FIG 1. Domain for the research

The methodology presented in this article is based on Atmospheric Physics, risk analysis and risk management regarding event tree analysis and risk matrix and finally the possible impact on the real air traffic.

3. DEFINITION OF GENERAL ATMOSPHERIC CIRCULATION IMPACTED DISPERSION OF VOLCANIC ASH INTO THE UPPER AND LOWER ATMOSPHERE

For the identification of the synoptic weather conditions, a classification is used based on the Objective Grosswetterlagen (GWL) Catalogue adapted from the Hess-Brezowsky (HB) classification of circulation patterns. Based on the mean air pressure distribution (sea level and 500 hPa level) over the North Atlantic Ocean and Europe, the classification initially identifies three groups of circulation types (zonal, mixed and meridional), which are divided into 5 major types (westerly circulation types, southerly circulation types, northwesterly and northerly circulation types, northeasterly and easterly circulation types, main high/low pressure area over Central Europe). The Objective-GWL system is an objective computational version of the 29-type Hess and Brezowsky Grosswetterlagen system of classifying European synoptic regimes developed within the framework of the COST-733 international program. The last years, studies concerning the circulation type classifications were developed within COST Action 733 "Harmonisation and Applications of Weather Types Classifications for European Regions" whose main objective is to: "achieve a general numerical method for assessing, comparing and classifying weather situations in Europe, scalable to any European (sub) region with time scales between 12 h and 3 days and spatial scales from 200 to 2,000 km, applicable for a number of situations".

By applying the same approach and using Bulgaria as a main reference point, the local circulation over the East Mediterranean and Balkans (EM&B) region is classified in sixth anti-cyclonic types and eight cyclonic types described in Appendix 1.

Frequencies for weather circulation have been calculated over the 2014–2016 period. Table 1 simultaneously presents the main types of cyclonic atmospheric circulation with their seasonal relative frequency distribution. Even though this is a very short period from the standpoint of climatology, it has a good representation for the purpose of the current research.

The classification of different types of synopsis situations is focused on the relationship between spreading volcanic ash and synoptic circulation patterns. That is why, circulation types are derived for a specific time and region of interest using different predictor variables (e.g. sea level pressure, upper wind (direction and speed) for standard pressure levels, 500 hPa geopotential heights).

In fact, for the discussed volcano sources in Italy, the main appropriate general weather circulation for dispersion to the EM&B is the cyclonic circulation. All cyclonic sub-types for the EM&B region of interest are classified and presented in Table 1.

The methodology applied for the calculation of cyclone frequency is based on a daily subjective analysis and expertise of GFS numerical model data for the sea level pressure and 500 hPa geopotential heights. All isobars with mean sea level pressure (MSLP) equal to or lower than 1,015 hPa were counted on a daily basis for the present statistics. The 1,015 hPa threshold value was chosen following author expertise in the synoptic meteorology field. The results and conclusions have been made for all seasons. The monthly occurrence frequency was computed by dividing the number of cyclones counted during one month of a certain year by the total number of cyclones from the analyzed interval. Thus, 389 cyclones have been analyzed, the majority of them being of the mesoscale type with lifecycle from 3 to 5 days.

Table 1. Cyclonic circulation types at 500 hPa level over the Balkans, along with a brief description of their synoptic characteristics and the relative frequency of appearance on a seasonal basis during the period 2013-2016

Cyclonic types	Description	Relative frequency (%) number			
Type		Winter (Dec/Jan/ Feb)	Spring (March/Apr/ May)	Summer (June/July/ August)	Autumn (Sept/Oct/Nov)
C	A cyclonic center is located over Bulgaria	11.0	13.0	13.1	13.0
Cs	A cyclonic center is located south of Bulgaria	9.1	9.7	3.9	5.2
Csw	A cyclonic center is located west or southwest of Bulgaria	19.0	14.7	7.0	11.5
Cnw	A cyclonic center is located northwest of Bulgaria	4.2	5.8	3.6	4.0
Cne	A cyclonic center is located northeast of Bulgaria	13.5	10.1	7.9	8.6
Cse	A cyclonic center is located southeast of Bulgaria	1.7	2.6	0.5	0.9
Cn	A cyclonic center is located north of Bulgaria, usually much further north than 50 °N	0.7	0.9	0.2	0.3
Cw	A cyclonic center is located far west (at about 50 °E) or far northeast (at about 50 °N) of Bulgaria	5.5	3.6	1.0	2.9

It should be mentioned that the appropriate weather condition for contamination of Bulgarian airspace by volcanic ash from the volcano Etna is the cyclonic weather type with its center of low pressure to the south-west of Bulgaria (Csw). This type of weather patterns is characterized by significant values of south-west prevailing wind for the upper levels.

The situation is absolutely different in the case of Santorini eruption. The more suitable weather situation is the presence of a cyclone situated south or south-east of Bulgaria (Cs or Cse). Cyclonic circulation favors dispersion of volcanic ash to the region of interest. If Santorini erupts, the contamination for Bulgarian air space will be possible not only for dispersion of volcanic ash into the upper atmosphere but also for deposition of volcanic ash to the surface [1].

The relative frequency values for the weather type Cs are 9% more significant than Cse with 1.7% for both winter and spring time of the year. The frequencies for the summer and autumn are considerably lower.

4. SUMMARY OF SOME RESULTS CONCERNING THE HYPOTHETICAL ERUPTION OF ETNA AND THE SIGNIFICANT VOLCANIC ASH CONTAMINATION OF THE ENTIRE BULGARIAN AND NEIGHBORING AIRSPACE

4.1 INITIAL PARAMETERS FOR SIMULATION

Hypothetical volcanic eruption of Etna was simulated for 15 January 2017 at 00UTC. The HYSPLIT numerical model for dispersion of volcanic ash was started for this eruption. The Hybrid Single-Particle Lagrangian Integrated Trajectory model (HYSPLIT), developed by NOAA's Air Resources Laboratory was used for the assessment and analysis of dispersion of volcanic ash. The investigation of the current situation is based on the following initial parameters:

- Start of eruption on 15 January 2017 00UTC
- Summit elevation 10991FT
- Height of volcanic eruptive column 9000m(FL300)
- Vertical dispersion of ash up to 18000m
- Volcanic explosivity index (VEI) - 3
- Duration of eruption is 48h
- There is wet deposition of volcanic ash

The run of the model produces deterministic dispersion output using a mass eruption rate estimated from the eruption height including an estimate of the mass fraction of fine ash. Assuming a magma density, and a fraction of fine ash that generally remains aloft, we can calculate the mass eruption rate, for input to HYSPLIT, given the eruption height. The best-fit line contains a large amount of scatter due to many factors including uncertainty in estimated ash column height, estimated volumetric eruption rate, temporal variations in eruption height and/or volume, water vapor entrainment, and effect of wind.

Output from the deterministic run is also shown as particle plots, color-coded by height, including a vertical cross section of the plume as viewed perpendicular to the dashed line, time scale for ash dispersion.

There is always uncertainty in forecasting volcanic ash dispersion in real-time. Basic model inputs such as ash column top height and eruption duration (start and stop time) may or may not be known well. The mass of ash in the eruption is uncertain.

The uncertainties of three-dimensional meteorological data (winds, etc.) depend on the meteorological observations used to initialize the model and the numerical analysis and forecast. [2]

4.2 DESCRIPTION OF WEATHER PATTERNS ON 15 JANUARY 2017

The current weather situation is assessed as a general cyclonic circulation (Csw) using HB classification. Regarding the upper level analysis, there is upper trough at 500 Hpa that will move to the east, spreading warm and moist air over the Balkans. At the surface, there is a cyclone centered in the south-eastern part of Italy (Csw type from Table 1), which would be moving to Greece for the next few hours. There are significant southwest winds at 500Hpa, 300Hpa and 200Hpa, which appeared as a major cause for spreading the volcanic ash from the hypothetical eruption of Etna to the region of interest. (fig. 2a, b). In fact, the current weather situation is the most common for the EM&B region with a frequency value of 23.7% for the period from January to May and 13.5% from June to November.

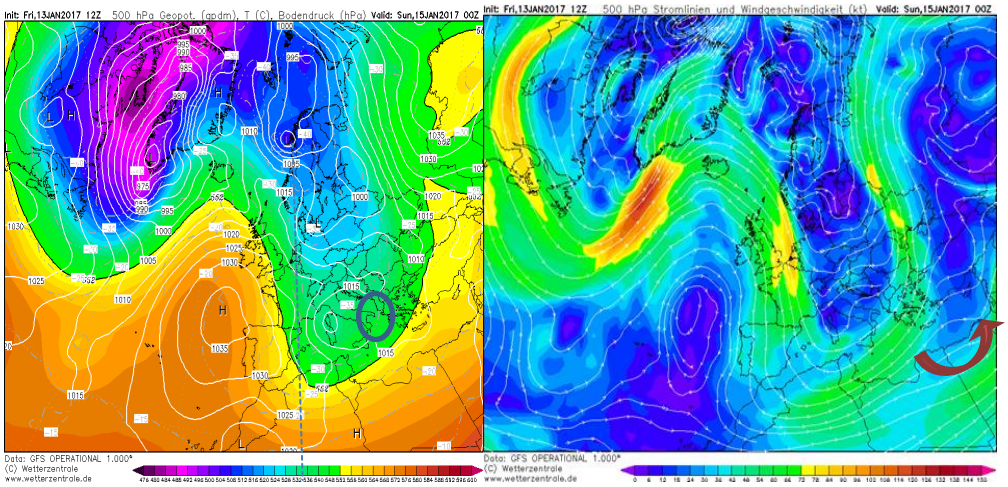

FIG.2.a) Mean sea level pressure and 500 hPa geopotential height chart b) Isotach of upper winds on 500Hpa pressure level

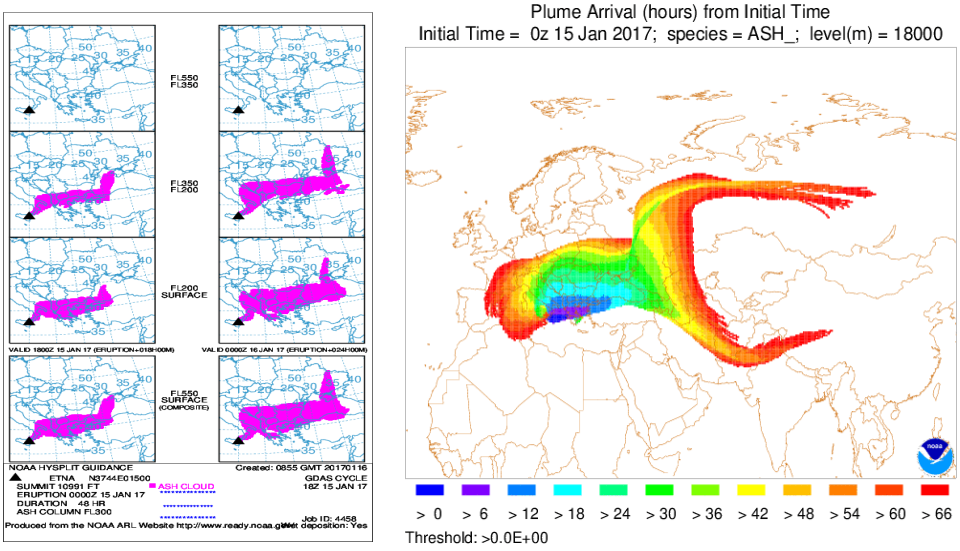

FIG.3.a) Dispersion of volcanic ash for hypothetical eruption of Etna for different flight levels b) Time-scale for plume arrival of dispersion of volcanic ash

The graphic results from fig.3 a, b show that volcanic ash is spreading to the Bulgarian airspace from 12 to 18 hours after eruption. As one can see, spreading by the significant values of upper winds (fig.3 b), the volcanic ash reached the southern part of Bulgarian airspace up to 12 hours after eruption, later on the volcanic ash is spreading to entire FIR for up to 6 hours. Generally, as a result of contamination, the southern parts of LBSF west, LBSF east, as well as LBWN sector would be impacted. There is a significant ash spreading from the surface to the higher layers up to FL350.

5. CONCLUSIONS

The actual distribution of air traffic provided by BULATSA for the period of 15 January 12UTC to 16 January 00UTC is presented in the Fig.3.

Table 2. Actuals flights for Bulgarian airspace on 15 January 2017 provided by BULATSA

	FL	LBSF WEST	LBSF EAST	LBWN
00:00-06:00	<250	10	1	2
	250-350	14	11	55
	350-660	30	27	123
06:00-12:00	<250	21	16	21
	250-350	58	69	75
	350-660	120	98	140
12:00-18:00	<250	20	11	24
	250-350	77	107	133
	350-660	144	115	170
18:00-24:00	<250	14	6	9
	250-350	34	63	75
	350-660	58	51	100

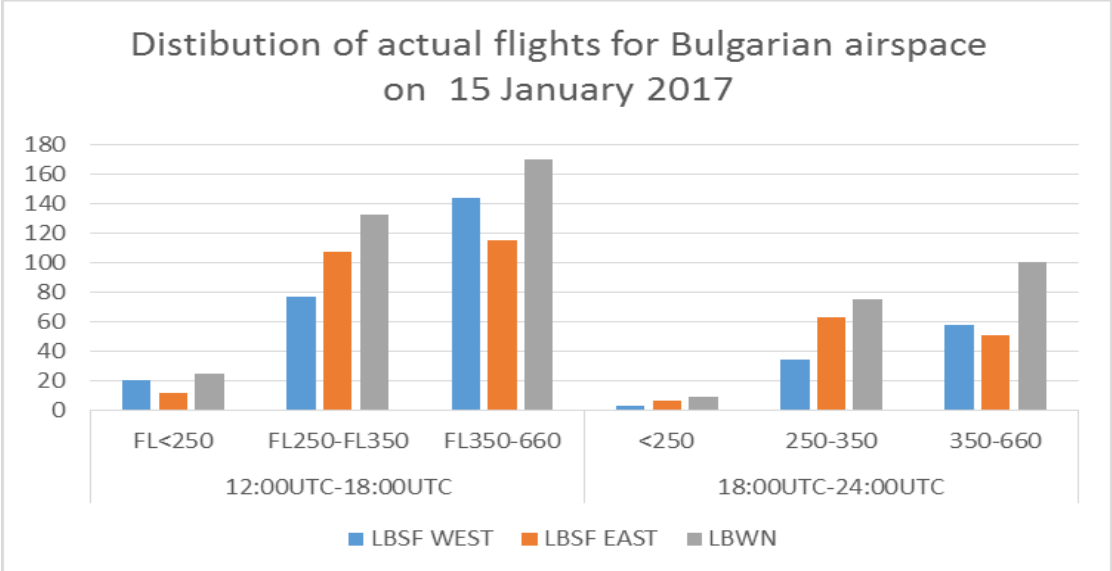

FIG 4. Distribution of actual flights depending of flights levels and time period on 15 January 2017 for the sectors in Bulgarian airspace provided by BULATSA

The analysis of the figures provided by BULATSA may be summarized as follows:

The affected flights for the period of maximum volcanic ash contamination will be 1043.

In general, the number for the lower flight levels (from the surface to the FL250), basically flights associated with landing and departures, is 84.

For the en-route air traffic the whole number is 959 including flights level from 350 to 550, which will also be impacted by a significant disruption in lower levels.

Another interesting fact when carefully looking at fir.3 a, b is that not only Bulgarian airspace may be impacted but also the neighboring airspaces. In this case, it is very important to take into account the appropriate measures for the air traffic and flow management regarding the possible ways of flights reorganization on a multinational level.

After the biggest crisis in aviation industry in 2010 connected with volcanic eruption and dispersion of volcanic ash to all over the Europe, EUROCONTROL has developed a tool for emergency situations in the presence of volcanic ash into the atmosphere. The main purpose of EVITA (European crisis Visualization Interactive Tool for ATFCM) is to provide collaborative online tool which allows users to visualize the impact of a crisis on air traffic and on the available air traffic network capacity in Europe. This visualization tool supports decision making in times of crisis and is the principal communications channel for airlines operating in Europe during major crisis situations.

In conclusion, - EVITA will be a suitable platform for solving the similar problems.

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APPENDIX 1

ANTI-CYCLONIC AND CYCLONIC TYPES CLASSIFICATION FOR THE EAST MEDITERRANEAN AND BALCANS (EM&B) REGION

Anticyclonic types	Description	Relative frequency (%) number			
Type		Winter (Dec/Jan/ Feb)	Spring (March/ Apr/ May)	Summer (June/July/ August)	Autumn (Sept/Oct /Nov)
A1	An anticyclonic centre is located to the west or northwest of the Bulgaria, usually over west, central or northern Europe	3.8	7.0	13.5	8.8
A2	An anticyclonic centre is located to the northeast of the Bulgaria	4.6	4.5	8.2	6.1
A3	An anticyclonic centre is located over the Bulgaria and the Balkans	5.8	6.7	12.0	12.0
A4	An anticyclonic centre is located to the west or southwest of the Bulgaria, over central or western Mediterranean or North Africa	11.2	8.7	11.7	13.9
A5	An anticyclonic centre is located to the south or southeast of the Bulgaria.	6.1	8.3	11.3	9.0
A6	An anticyclonic centre is located to the east or northeast of the Bulgaria	3.6	4.3	6.3	3.8

Cyclonic types	Description	Relative frequency (%) number			
Type		Winter (Dec/Jan/ Feb)	Spring (March/Apr/ May)	Summer (June/July/ August)	Autumn (Sept/Oct/ Nov)
C	A cyclonic centre is located over the Bulgaria	11.0	13.0	13.1	13.0
Cs	A cyclonic centre is located south of the Bulgaria	9.1	9.7	3.9	5.2
Csw	A cyclonic centre is located west or southwest of the Bulgaria	19.0	14.7	7.0	11.5
Cnw	A cyclonic centre is located northwest of the Bulgaria	4.2	5.8	3.6	4.0
Cne	A cyclonic centre is located northeast of the Bulgaria	13.5	10.1	7.9	8.6
Cse	A cyclonic centre is located southeast of the Bulgaria	1.7	2.6	0.5	0.9
Cn	A cyclonic centre is located north of the Bulgaria, usually much further north than 50 °N	0.7	0.9	0.2	0.3
Cw	A cyclonic centre is located far west (at about 50 °E) or far northeast (at about 50 °N) of the Bulgaria	5.5	3.6	1.0	2.9

THE IMPACT OF ALTERNATIVE ASSESSMENT STRATEGIES ON STUDENTS

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Abstract: *Alternative assessment strategies are action strategies alternative to the traditional ones, through which students are driven to knowledge from a modern perspective. Students are helped to develop their competencies, to express their feelings and emotions, to become responsible in relation to the provision or setting up a response to proposed themes or to proposed examination to identify criteria for self-assessment and assessment, to self-regulate.*

Through evaluations by alternative assessment students are activated to provide their own answers, to be original, to be innovative in thinking, action and facts, to participate in activities organized and carried out in an alternative manner, that provides an alternative vision of what will be taught and evaluated (Potolea, 2005).

Herman says that when we are talking about the assessment as „an alternative to the conventional, means multiple choice test" then will be brought into question several terms: alternative assessment, authentic assessment and assessment based on performance. These terms are used as „synonymous" to „variants of performances assessment" for students where they are asked „to generate responses, rather than give an answer" (Herman, 1992, p. 3-7).

The present study is a part of a more extended research, this being an exploratory session, performed in order to analyse: students' preference for alternative assessment strategies, alternative assessment methods, traditional assessment strategies, traditional assessment methods; the opportunities for the practical application of the skills and knowledge learned through assessments using alternative methods and strategies or traditional methods and strategies.

We have discover that students prefer as alternative assessment strategies the following: portfolios and projects, and they prefer as traditional methods the following: written work and quizzes. We also discovered that the project is the alternative assessments strategy which gives to students the opportunities for using the application in the practice of the skills and knowledge learned.

Keywords: *alternative assessment strategies, students preferences for alternative assessment strategies, continuous/ formative assessment, students.*

1. THEORETICAL BACKGROUND

Through alternative assessment strategies students are encouraged to provide their own responses to the issues being assessed, rather than selecting from a specific list of options (characteristic of traditional evaluation strategies). Alternative assessment strategies are the set of alternative assessment methods, alternative assessment procedures and techniques, alternative means of assessment in education and alternative forms of organization of the assessment activities.

Through alternative assessment strategies we understand an action strategy, alternative to traditional, through which students are led to knowledge from a modern perspective, are helped to develop their skills. Students are led to express their feelings and emotions, to become responsible to offering or to creating a response to a proposed theme or subject or to a proposed examination, to identify self-assessment and inter-evaluation criteria, and self-regulation.

Alternative assessment is a classification form of student performances that allows a full approach of their assessment. Through alternative assessments students are encouraged to provide their own responses, to be original, to be innovative in thinking, action and facts, to participate in organized and conducted activities in an alternative way, that provide an alternative view of what will be taught and evaluated. (Potolea, 2005)

Herman says that when we talk about evaluation as "a conventional alternative to multiple choice testing", several terms will be brought into question: alternative assessment, authentic assessment and assessment based performance. These terms are used as "synonyms" to "variants of performance assessments" where students are asked to "generate answers rather than choose an answer" (Herman, 1992, pp. 3-7).

We will refer to alternative assessment strategies as modern assessment strategies, used as an alternative to traditional assessment strategies. Through alternative assessment strategies students will be activated throughout the teaching-learning and evaluation process so they will be innovative, original, they will receive and they will provide constant and continuous feedback, they will receive a qualitative feedback through which they can self-regulate.

2. GOALS AND RESEARCH METHODOLOGY

2.1. Goals. The research is aimed to investigate the impact of the alternative assessment strategies for assessing growth motivation for learning in students.

2.2. Hypotheses. I started from the hypotheses that if teachers from university use more alternative assessment strategies then students' academic results will be improved. Another hypotheses that I propose for this study is that in university education there are used mostly traditional or classical strategies for assessment contrasting with the use of alternative assessment strategies. Also I supposed that teachers from universities just declare that they use more alternative assessment strategies in academic evaluation of students than they actually do.

2.3. Sample. In the present research there were included 162 subjects, students from University of Transilvania from Brasov from the Faculty of Psychology and Educational Sciences, Primary and Pre-school Pedagogy Education specializations (PIPP) and students from teacher training module from specializations Psychology and Mathematics-Informatics.

2.4. Instruments used. The ISEÎS questionnaire was used. It is a questionnaire built for students for identifying assessment strategies used predominantly in university education. The questionnaire for identifying assessment strategies used predominantly in higher education- ISEÎS was developed to identify, from the students' perspective, the evaluation strategies used predominantly in university education.

The questionnaire include 28 closed-ended items, measured using a five-step Likert scale: 1- never, 2- very rare, 3- sometimes, 4-often, 5- always.

Through this questionnaire I wanted to identify the assessment strategies used predominantly in higher education through three scales: traditional methods, alternative methods and feedback.

In this article I will present the results obtained by using the traditional methods scale and the alternative methods scale, through which I aimed to identify: 1. students' preference for the two types of methods, comparative 2. opportunities for the use of that two types of strategies and methods (used in real practice). In order to identify the internal consistency of the ISEÎS questionnaire (the questionnaire for identifying assessment strategies used predominantly in university education - addressed to students) the Cronbach Alpha coefficient was calculated. The Cronbach Alpha internal consistency coefficient is .77 which shows that the full scale of ISEÎS has a good level of fidelity.

3. RESULTS

The analysis of the data collected following the application of the ISEÎS questionnaire goes to the following directions:

- on the analysis of the students' preference for the traditional assessment strategies, the traditional assessment methods, the alternative assessment strategies, the alternative assessment methods;

- on the analysis of the opportunities (real opportunities used in real practice) for use and application in practice of the developed skills and the acquired knowledge through the assessment through traditional strategies and alternative strategies.

3.1. Analysis of the students' preference for the traditional assessment strategies, the traditional assessment methods, the alternative assessment strategies, the alternative assessment methods

Traditional assessment methods that have achieved the highest scores on different stages of student preference are: written work - "sometimes" - 42.6%; quizzes - "often" - 40.1%; oral evaluation - "very rarely" - 38.9%. So we can say that students prefer very rarely to be evaluated through oral assessments, sometimes to be evaluated through written works and often to be evaluated through quizzes. These datacould be interpreted as follows: oral assessments are not preferred by shy students; written works are preferred only occasionally because they "consume" a lot of thinking and students must be able to remember certain information, to do a systematisation of the information, to transfer information; the quiz is often preferred as a traditional assessment method because it is easy for them to make item choices in these tests even when they do not control the subject matter under evaluation.

The alternative assessment methods that have obtained the highest scores on different stages of student preference are: portfolio - "often" - 28.4% and "sometimes" - 29%; investigation - very rarely - 26.5%; the project - "sometimes" - 33.3% and "often" - 34.6%; reflexive diary - "very rarely" - 26.5%; self-evaluation - "sometimes" 34% and "often" - 29.6%. The investigation and reflexive diary are rarely preferred as alternative assessment methods because they are very little used by teachers and so they are very little known by students.

The portfolio, project and self-evaluation are often preferred by students, but also often with high scores because they bring changes in the way we assessed students through new tasks.

These new tasks are creative, innovative because they have a motivating role, because they are supposed to be used as different and unusual teaching resources, because there are different organizational forms used throughout the evaluations, thanks to the feedback received from the professor - constantly, continuously and qualitatively. Students need authentic, dynamic, innovative, creative tasks, transfer tasks that open up multiple perspectives on education and lead to an increase in motivation for learning.

The quizzes, projects and portfolios are the preferred traditional and alternative assessment methods because these methods offers two different types of results: quantitative, by notes and qualitative, through constant appreciation and feedback. They are also preferred because each student has his or her personal preferences and they can identify with one of the assessment methods (table 1).

Table 1. Analysis of student preference for traditional and alternative assessment methods

Stages/ Methods	**Written paper**	**Quiz**	**Portfolio**	**Project**	**Self-evaluation**
Often	29,6%	**40,1%**	**28,4%**	**34,6%**	29,6%
Always	14,8%	**29,6**	**24,7 %**	13%	5,6%

3.2. Analysis of the opportunities (real opportunities used in real practice) for use and application in practice of the developed skills and of the acquired knowledge through the assessment through traditional strategies and alternative strategies

Analysing the data obtained on the evaluation methods that the students have placed in the "always" category we found that: the written paper and the quiz (traditional evaluation methods) and the portfolio and the project (alternative methods of evaluation) are the types of evaluation

methods which are always preferred by students and which they always consider as able to offer them opportunities to apply the skills and knowledge acquired in practice (Table 2).

Table 2. Comparison of "always" frequencies for student preference for certain alternative assessment methods and opportunities offered by certain alternative assessment methods

	Stages	**Written paper**	**Quiz**	**Portfolio**	**Project**
Preference for...	**„Always”**	14,8 %	29,6	24,7 %	13%
Opportunities for practice application	**„Always”**	18,5 %	17,9%	21 %	23,5%

These results were obtained because each student has an unique learning style, each student is motivated or demotivated by certain types of assessment, types of learning, each student can "give" more as practical skills, applied skills, in different assessment situations, in different learning activities, in solving algorithmic tasks or innovative tasks, etc.

Table 3. Analysis of the opportunities to use and apply in practice (practical and real) for the skills developed and for the knowledge gained from the assessment by traditional and alternative methods

Stages/ Methods	**Written paper**	**Oral assessment**	**Grid test**	**Portofolio**	**Investigation**	**Project**	**Reflexive diary**	**Self-evaluation**
Often	34%	**37,7%**	32,1%	**37,7%**	30,9%	**45,1%**	19,1%	27,2%
Always	18,5 %	11,7%	17,9%	**21 %**	16,7%	**23,5%**	6,2%	**22,8%**

Students consider that projects and portfolios are the two most important assessment methods that offer opportunities for the application in practice of the formed competences and for the acquired knowledge. In the real practice these two assessment methods are actually used by teachers in theirs courses and seminars.

4. CONCLUSIONS

This was only a small part of a bigger research on the impact of the alternative assessment strategies for motivating student learning. Through this part of research we hope to open university teachers' eyes on the necessity of using many different strategies and methods for teaching and for assessing the students, combining traditional strategies with alternative strategies for better results.

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THE ROLE OF CONSTANT AND CONTINUOUS FEEDBACK ON STUDENTS' LEARNING MOTIVATION

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Abstract: *The concept of students' learning motivation refers to identifying the effects of learning on students who successfully participate in the activities proposed in the instructive-educational process. Motivation influence students to self-encourage, self-identify and aspire to performance in learning, to self- regulated. (Hamjah, 2010).*

The concept of constant and continuous feedback, in this research, is an important element of the continuous or formative assessment, offered by the teacher to the students; constant and continuous feedback is a conscious and deliberate reaction of teachers to offer students qualitative assessments aimed at maintaining a balance in the teaching- learning- evaluation process and to lead to an increased student learning motivation.

The present study is a part of a more extended research, this being an exploratory session, performed in order to investigate the role of constant and continuous feedback on students' learning motivation.

We have discover that students do not make a real correlation between immediate feedback and the assessment method through which such feedback can be provided. Through oral assessments students can receive the "clearest" feedback right away that could be a qualitative and quantitative feedback. Through the quiz, immediate feedback can be given in the sense of quantitative feedback.

We investigate students' motivation from the scale of the intrinsic motivation, with the secondary scale of pleasure and challenge, and from the scale of the extrinsic motivation, with the secondary scale of recognition and reward.

Keywords: *constant and continuous feedback, motivation for learning, students learning motivation.*

1. THEORETICAL BACKGROUND

In order to identify the role of constant and continuous feedback on students' learning motivation we first had to describe and operationalize the concepts on which we conducted this research: the concept of students' learning motivation and the concept of constant and continuous feedback.

The concept of students' learning motivation refers to identifying the effects of learning on students who successfully participate in the activities proposed in the instructive-educational process. When we say "motivation for learning," we ask ourselves: "Why do students learn?", so we think about the measurable level of active involvement in learning and the reasons why it happens.

Motivation plays an important role in determining student acquisitions and can influence students to self-encourage, self-identify and aspire to performance in learning. Motivation helps students to adjust themselves.

The learning process can be difficult if there is no motivation, because "it takes effort and striving to be able to achieve their goals." (Hamjah, 2010, p. 147)

According to Ryan (2000, p. 54- 67) ”to be motivated" means to be "moved to do something"; the person who is "fueled or activated for a purpose is considered to be motivated".

In the academic context, "motivation refers to a learner's inclination, need, desire and compulsion to participate and to be successful in the process of learning" (Moenikia and Zahed-Babelan, 2010, p. 1540-1541).

Piccione, Burns, and Sinfield (2015) says that the "learning motivation" (from a pedagogical point of view) can be described as a "technical point of view", as follows: "motivations without a specific purpose" - learning for the pleasure of doing this and "motivations with a specific purpose and with different variables" - I teach in order to achieve the concrete objectives, professionally, personally and socially, to anticipate a success regarded as an essential goal in order to avoid a failure.

Thus, by motivating students to learn, we will determine students to participate in the proposed teaching activities by theirs own desires and needs and to be successful in learning throughout the teaching- learning- evaluation process.

The concept of constant and continuous feedback, in this research, is an important element of the continuous or formative assessment, offered by the teacher to the students; constant and continuous feedback is a conscious and deliberate reaction of teachers to offer students qualitative assessments aimed at maintaining a balance in the teaching-learning- evaluation process and to lead to an increased student learning motivation.

In the continuous assessments, the constant and continuous feedback provided by the teacher will lead to improving student behavior, generating effective attitudes towards learning, stimulating motivation for learning and mobilizing the student's learning effort.

The concept of constant and continuous feedback refers to feedback provided by the teacher to students, in a constant and uninterrupted manner throughout the teaching-learning process and throughout the evaluation process.

In general, the feedback given to students by the teacher will increase their awareness of what they learn, how they learn and how they should learn, what they can learn, so there will be changes in the style of learning of the student. Throughout the given feedback there will be improvements in existing competencies and will enhance the self-assessment competence and inter-appraisal competence.

In this study we are mostly interested in researching the constant and continuous feedback provided by the teacher to the students in the continuous evaluation activities.

Constant and continuous feedback is the feedback provided in the continuous assessment that has the role of regulating students’ learning and assessment activities and will be constructive when it produces a positive change on the motivation of student learning.

2. GOALS AND RESEARCH METHODOLOGY

2.1. Goals. The research is aimed to investigate the role of constant and continuous feedback on students’ learning motivation. The main question from which I started was: What is the relationship between the students’ learning motivation and the constant and continuous feedback given by the teacher to the students in the continuous assessment activities.

2.2. Hypotheses. We assume that learning motivation for students who are given constant and continuous feedback when they are evaluated through alternative assessment strategies is higher than for those who receive quantitative feedback when they are assessed through traditional strategies.

2.3. Sample. In the present research there were included 162 subjects, students from University of Transilvania from Brasov from the Faculty of Psychology and Educational Sciences, Primary and Pre-school Pedagogy Education specializations (PIPP) and students from teacher training module from specializations Psychology and Mathematics-Informatics.

2.4. Instruments used. I used the ISEÎS questionnaire for identifying the assessment strategies from the students' perspective, used in higher education and the PM questionnaire of Teresa Amabile (1994), with the original designation WPI- questionnaire for identifying the work preferences, aiming at assessing individual differences on the intrinsic and extrinsic dimensions of motivation.

The questionnaire includes 28 closed-ended items, measured using a five-step Likert scale: 1- none, 2- very rare, 3- sometimes, 4-often, 5- always. Through this questionnaire I wanted to identify the assessment strategies used predominantly in higher education through three scales: traditional methods, alternative methods and feedback. In this article I will present the results obtained through the third scale from the ISEÎS questionnaire- the scale of feedback.

Through the feedback scale I aimed: to identify the level of student preference to choose together with the teacher the assessment strategies to be used in the courses or seminars; identifying student learning needs by choosing assessment strategies for the courses or seminars with teacher; identifying aspects of student's desire or preference for the type of feedback they can get from the teacher (immediate feedback, constant and continuous feedback, quantitative feedback, qualitative feedback); identifying the level of changes that students experienced as a result of assessment through alternative strategies and through the received feedback; identifying the level of improvement in student performance through alternative assessment strategies. The Cronbach Alpha internal consistency coefficient is .77 for the full scale.

The motivation questionnaire PM (originals: WPI) is built by Teresa Amabile, Hill KG, Hennessey BA, Tighe EM (1994) as a tool for identifying work preferences, aiming at assessing individual differences on the intrinsic and extrinsic dimensions of motivation. The questionnaire contains 30 items that represent statements that the subject will rank on a four step scale (indicating the frequency with which a certain behavior occurs: never, sometimes, often, always).

The questionnaire was adapted to the purposes of the present study. This PM questionnaire was adapted to the academic environment and was used as a tool for determining the dominant type of motivation for student learning - intrinsic and extrinsic, as well as for evaluating the level of motivation for student learning.

The PM questionnaire evaluates students' motivational tendencies through two main scales - intrinsic and extrinsic, and two secondary scales - "pleasure" and "challenge" for intrinsic and "recognition" and "reward" for extrinsic (Amabile et al., 1994).

The main elements of the intrinsic motivation captured through the questionnaire are: self-determination, competence, engagement in the task, curiosity, joy, and interest (Amabile, 1994).

The main elements of extrinsic motivation captured through the questionnaire are: competition concerns, valuation, recognition, money or other tangible incentives, the constraints imposed by others (Amabile, 1994).

3. RESULTS

3.1. The analysis of the data collected through the application of the ISEÎS questionnaire goes to the following directions: the analysis of some aspects of student feedback such as identifying students' wishes or preferences regarding feedback from the teacher. The feedback received from the teacher could be: immediate feedback, constant and continuous feedback, quantitative feedback, qualitative feedback.

Analysing the data obtained about the responses to the feedback items, it emerged that students always "prefer", the following situations obtaining the highest scores: 59.3% of students would like to choose assessment strategies with the teacher from the course/ seminar (Q9); 58% of students prefer the choice of strategies used to evaluate courses/ seminars to be determined by their learning needs (Q10); 56.8% of students prefer to receive feedback immediately after being evaluated (Q11); 54.3% of students want to receive qualitative feedback (Q14); 44.4% of students prefer to be evaluated through assessment strategies that offer them the opportunity to be creative and innovative (Q15); 38.9% of students prefer to receive constant and continuous feedback (Q12).

Analysing the data we found out that 18.5% of the students do not prefer to be evaluated through assessment strategies that provide them algorithmic assessment tasks ("never"). Likewise, 43.8% of students "often" consider that the results obtained from the application of alternative assessment strategies offer them opportunities to apply the skills and knowledge acquired in practice. A percentage of 42.6 of the students consider that there are "often" changes, changes that they experience as a result of assessment through alternative strategies and feedback provided by the teacher. 42% of students "often" feel that there are improvements in their performance as a result of assessment through alternative strategies and feedback from the teacher.

Through the feedback scale we aimed at the following: identifying the student's preference for the assessment strategies used in the courses/ seminars; identifying opportunities for further use of competences formed by assessment through different alternative/traditional strategies; identifying aspects of student desire or preference for the feedback received from the teacher, that could be: immediate feedback, constant and continuous feedback, quantitative feedback, qualitative feedback.

Students "always" prefer, with a score of 19.1%, to receive a quantitative feedback (Q13) and, with a score of 54.3%, they also "always" prefer to receive qualitative feedback (Q14). The preference for quantitative or qualitative feedback comes from student's different learning needs, from the type of motivation involved in learning, from the interest they have in the results of the assessment. Qualitative feedback requires a greater effort on the teacher's part because it is assumed that he/ she has to offer quality assessments that are time consuming.

By analysing the students' responses we can see that the distribution of student preference to receive immediately feedback after being evaluated is an increasing one, starting at "never" with a score of 2.5% up to the "always" with a score of 56.8%. That means that students want most often to receive a feedback as soon as they have been assessed. 56.8% of students prefer to receive feedback immediately after they have been evaluated, although the assessment methods that can provide immediate feedback have not been ranked too high: 5.6% of students "always" prefer oral assessments and 29.6% of students "always" prefer quizzes.

By comparing these results, we realize that students do not make a real correlation between immediate feedback and the assessment method through which such feedback can be provided.

Oral assessments are traditional assessment methods through which students can receive the "clearest" feedback right away, and there can also be a qualitative feedback and a quantitative feedback. Through the quiz, immediate feedback can be given in the sense of quantitative feedback, but this "immediate" may actually be the time when all students have handed in the test which then it is corrected using response templates. 38.9% of students "always" prefer to receive a constant and continuous feedback, which means that the assessment must be made through continuous assessments throughout the semester, and the teacher must offer the students the opportunity to be evaluated accordingly.

3.2. The analysis of the data obtained from the PM questionnaire goes in two directions: the intrinsic motivation, with the scales of pleasure and challenge, and the extrinsic motivation, with recognition and reward scales.

Analysis of the data shows that students “always” prefer, with the highest scores, the tasks that give them "pleasure": 85.2% of students want what they learn to offer them opportunities to enrich their knowledge and skills (PM5); 53.1% of students prefer to plan their own affairs (PM7); 57.4% of students say they feel good when they can figure out themselves what they have to do (PM17); 64.2% of students prefer to do some exciting activity to forget everything (PM23); 78.4% of students say that it most matters to them to like what they do (PM30).

The "pleasure" factor is a subset of intrinsic motivation and represents students who are highly motivated to learn to participate in the proposed teaching activities; they find great pleasure in working and expressing themselves through what they do; they can be so absorbed in the work they do, they can forget everything; they generally prefer to establish by themselves what they have to do; they seek to learn from what they do and enjoy the work they carry out.

Students often prefer tasks that "provoke" them, this being a subscale of intrinsic motivation; there were obtained the following results: 53.7% of students "sometimes" prefer relatively simple, not too complicated tasks (PM9); 42.6% of students "often" prefer to personally deal with completely new problems for their own person (PM13); 50% of students say it's "always" important for them to do the job as they feel they have to do it (PM27); 45.7% of students "always" prefer tasks like: do I want to try? How good can I be in my school work? (PM28);

The "challenge" factor is a subset of intrinsic motivation which defines students strongly motivated by new situations and tasks to solve, by difficult and complex tasks; these students prefer activities that require their intellectual abilities or motor skills; they prefer poorly structured tasks and prefer to decide themselves what will be the working strategy.

Extrinsic motivation is another element that leads students to learn and an important factor in extrinsic motivation is "recognition," which has achieved the highest scores in the following stages: 61.1% of students say "never" prefers tasks like "I'm sure it's not worth doing your job well, unless someone else sees it "(PM18); 45.1% of students say that "sometimes" they are not so concerned about what others think about their work and school results (PM1); 50% of students say they "always" prefer recognition (appreciation) from the others because it stimulates them (PM24).

The "recognition" factor defines students who are strongly motivated by the recognition offered by others (teachers, colleagues, parents, friends, etc.), sensitive to the assessments of colleagues, teachers; these students tend to appreciate successes in comparison with others; they prefers activities where the teacher is the one who clearly sets goals and working sets.

"Reward" as an important factor in extrinsic motivation has achieved the following high scores: 48.1% of students say "sometimes" prefer the following situation - "I often think of notes and prizes" (PM16); 45,1% of students say that "always" prefer to solve tasks that have clearly formulated instructions (PM21); 41,4% of students say they "sometimes" need to feel rewarded for what they do (PM25).

The "reward" factor defines those students who are strongly motivated by the grade, qualification, appreciation reward they will receive for their work; these students always have in mind objectives as grades or prizes and are capable of a sustained effort to get them; rewarding students prefer clear work tasks.

3.3. Analysis and interpretation of data resulting from the calculation of Pearson correlation coefficients. After analysing the collected data and calculating the Pearson correlation coefficients, we can state that there is a statistically significant positive association between the feedback variable and the motivation for learning variable.

The feedback given to students in the assessment strongly correlates with pleasure (intrinsic motivation): r = 0,392 where p <0,001; with the challenge intrinsic motivation): r = 0.291 where p <0.001.

Feedback offered to students in assessment correlates statistically significantly with recognition (extrinsic motivation): r = 0.165 where p <0.036; with reward (extrinsic motivation): r = 0.161 where p <0.041.

The constant and continuous feedback given by the teacher to student correlates statistically significantly very strongly with pleasure because students like to receive qualitative appreciation for their activity, because through the feedback they will manage to self-regulate their learning activity, they will succeed in self-evaluation, they will enjoy what they receive as a payment of his success.

The constant and continuous feedback provided by the teacher to students correlates very strongly with the challenge because it determines the student to look for new solutions to overcome certain problems, to seek solutions to correct mistakes, to identify new ways to solve situations, to be innovative, creative, to seek new leverage of self-evaluation and inter- evaluation.

4.CONCLUSIONS

This was only a small part of a bigger research on the impact of the alternative assessment strategies for motivating students for learning. Through this part of research we hope to open higher education teachers' eyes on the required necessity to offer a constant and continuous feedback to students which will lead to an increased motivation for learning. Teacher must offer a feedback to students both in summative assessment, but also in the continuous assessment.

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EVOLVING NORMS OF MILITARY INTERVENTION: BETWEEN LEGITIMIZING ACTIONS AND SHAPING STATE BEHAVIOUR

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Abstract: *This paper analyses the evolution of norms of military intervention in the post-Cold War era from the perspective of international relations theory, wishing to offer a new understanding to the international interactions in which states decide to use military action and the extent to which they use legal, moral or normative arguments to justify and legitimize their intervention. From this perspective, the paper is trying to assess whether norms and principles such as "pre-emptive war","responsibility to protect" and "intervention by invitation" have emerged as a response to the legal inability of the international law system to answer and to solve crisis such as those that have required military intervention in the post-Cold War era, or whether they were shaped by state interests and interactions.*

Keywords: *military intervention, sovereignty, responsibility to protect, humanitarian war, international law*

1. INTRODUCTION

The aftermath of World War II has left the international community in search of a new world order, in complete recognition of the horrors and costs of war, and with a declared purpose of preventing such atrocities from happening again. International institutions and an integrated body of international law were put in place in order to make sure that the use of military force by one state against another was strictly regulated, as well as how one state could treat its own citizens. Therefore, military intervention in the international society was confined to self protection and humanitarian purposes only, and it was to be allowed only under special conditions.

Although the legal framework of the United Nations (UN) had as a primary goal to maintain international peace and security, based on the assumed and declared intention of all its members to do so, military interventions that were outside of this framework still occurred in the world after 1945, leading to a generally accepted opinion that this institutional model of monopolizing the use of force in international relations has proven to be largely ineffective [1]. This has also entailed, in time, a series of variations in the process of legitimizing interventions in other state's internal affairs.

This paper is an attempt to look at the evolutions in state practice regarding military intervention as a reflection of the way in which norms and international law principles have evolved in order to effectively regulate the use of force in international relations. It is divided into three parts, with the first part focusing on the evolution of the norms of military intervention, both from a normative and from an ethical perspective.

The second part explores the evolution of state behaviour and their attitude towards military intervention, as well as the principles that have been used to legitimize this behaviour. Finally, the third part of the paper assesses the unfolding of events in the Syrian crisis up to date, as an eloquent example of the way in which norms and interests, as well as previous experiences, shape state behaviour in relation to military intervention on serving different grounds, be it humanitarian crisis or the fight against terrorism.

For the purpose of this analysis, military intervention is described as the use of military means to alter the internal context of one state (which can be either civil war, popular revolt, ethnic strife, separatist movements or terrorist haven) through unilateral or multilateral intervention by other states. The time span covered by this analysis concentrates on the post-Cold War evolutions, as these seem to have caused a division in the way the use of force has been legitimized. Distinct approaches have emerged, some emphasizing a legal narrative, concerned with the rules and procedures needed to maintain peaceful relations among the states, while others focused on the moral arguments, stressing the protection of liberal values and human rights, and showing willingness towards extending the goals of legitimate use of force such as to include humanitarian intervention or regime change.

Although military intervention has acted with some success on some cases such as the 1991 Iraqi war, there have also been numerous cases when international intervention has not been authorised or the intervention came too late, or simply some states used military intervention without the explicit approval of the United Nations Security Council (UNSC). Such events have largely been viewed as a failure of international norms, and requests to reform the functioning of the UNSC have had these specific cases as motivation. In reality, the behaviour of states regarding foreign intervention has seen various waves of development, ranging from the enthusiasm of the 1970s to the relative reticence that we see today to intervene in humanitarian crises, and different doctrines and norms have been used to acquire legitimacy.

At this point, three caveats need to be considered. First, in discussing military intervention it is important to distinguish between cases of self-defence and cases where the intervention was carried out by third parties, using different legal and ethical arguments for legitimizing their actions. Second, military intervention is understood here as a normative concept rather than a strictly legal one, as the purpose of this paper is to emphasize the causal relationship between state practice and the evolution of the norms legitimizing intervention. Finally, the purpose of this article is to shed light on the evolving norms and principles of military intervention from the perspective of international relations theory, thus emphasizing the importance of such norms and principles in understanding and predicting state practice, without going into the complexity of the legal debate regarding such instruments of international relations.

2. USING NORMS TO LEGITIMIZE MILITARY INTERVENTION

The international law system that was constructed within the framework of the UN Charter was based on several principles that had their origin in the Westphalian system of states. They put forward ideas such as the sovereign equality and independence of all member states, emphasized by the non-interference in the domestic jurisdiction of one state's affairs, the prohibition of the use of force of one state against another and the respect for human rights.

The United Nations Charter contains one specific provision which explicitly prohibits "the threat or use of force [of a state] against the territorial integrity or political independence of any state" - Article 2(4).

There are two exceptions admitted to this provision outlawing the use of force. The first one is individual and collective self-defence, while the second one is the enforcement action authorized by the United Nations Security Council (UNSC) under Chapter VII of the Charter. Therefore, one of the functions of the UNSC is to determine whether a certain situation required the use of military force and to authorize such foreign interventions on a case-by-case basis. The UNSC also decides whether to impose economic or other type of sanctions, such as travel bans, financial restrictions, airspace limitations or arms embargo. As a last resort, the use of force is authorized, provided that the situation complies with a series of "criteria of legitimacy" that refer to the seriousness of the threat, the existence of a humanitarian motive, the exhaustion of every non-military option, proportional means and a reasonable chance of success [1].

But subsequent evolutions in the international system and the tragedies that they produced brought forward a systemic flaw of this system, raising the question whether states had the ability and the willingness to protect the human rights of their own citizens. These evolutions challenged the status of the doctrine of sovereignty, and although in formal terms there is still no higher authority than the state, the classical view of this concept has changed.

Developments such as the emergence of other international actors that share power with states and the acceptance of international legal norms that constrain state power and subsequent damages that a state has to pay for conduct that is in breach of international law have been combined with the formulation and implementation of international standards for the protection of human rights, advancing the option for "humanitarian intervention" when a state mistreats its population. Also, the fact that interdependence has replaced independence as a characteristic of the global system of states has had an even greater impact on the erosion of the notion of sovereignty [2].

This has entailed, as a consequence, a distinctive way in which legitimization of foreign intervention has been conducted, and, combined with the contradictions in intervention norms and their implications for state practice, it has produced extended normative discussions. Over time, some claims have become less powerful or they have disappeared completely, with others, such as claims about human rights, becoming increasingly powerful, challenging the long-affirmed assertions about sovereignty and self-determination that dominated the international system [3].

In the post-Cold War era, one of the first arguments brought forward in legitimising military interaction was the concept of preemption, which gained renewed reputation after being used by the Bush administration for motivating the US invasion of Iraq in 2003 [4]. The doctrine has spurred numerous academic debates about the legitimacy of such an approach to international relations, as well as the clear opposition of the then-Secretary General of the UN, Kofi Annan, who advanced the idea that such actions could set precedents that may result in a "proliferation of the unilateral and lawless use of force, with or without justification". The proponents of such an approach, that the use of preemptive force is permissible in the exercise of anticipatory self-defence because it makes for the case when threats are completely unanticipated in the traditional international law system (such as terrorism and WMD), argue that the law must be reinterpreted to allow for a new standard for preemption [5].

Following further evolutions in the international system, a series of normative concepts emerged within the UN framework. The 1999 NATO military intervention in Kosovo, deemed illegal but legitimate, pushed the international society to search for meaningful ways to address grave human rights.

As such, the doctrine of "responsibility to protect" has emerged from a 2001 document issued by the International Commission on Intervention and State Sovereignty, following 'The Millennium Report of 2000' put forward by the UN Secretary General. The principle found unanimous endorsement at the 2005 World Summit, and it has been invoked numerous times ever since. However, this did not translate into tangible action inside the UN framework or it raised questions about the unlawful use of the principle, where a reaction legitimized by the R2P principle might be, in fact, the result of inherent interests of the states involved rather than primarily a genuine expression of this international norm [6]. Its most prominent use was the UN-authorized intervention in Libya in 2011, which, in the view of some analysts, is a clear example of a well-intention intervention that backfired by exacerbating civilian suffering [7].

Another argument invoked in the recent history of military intervention as a legal basis for external intervention is the argument of invitation or consent [8], as it was the case for Saudi-led military intervention in Yemen, which has started in March 2015. In overwhelming majority of cases, states using such an legitimizing argument try to either minimize the purpose of their action (claiming to protect their nationals or to fight against terrorism) or to maximize it (stating that there was an external aggression against the inviting state). For it to be legally accepted, however, the "intervention by invitation" argument needs to confine the intervention within a purpose-based approach, that is, to not challenge the rule of prohibition of military assistance to governments in civil war [8].

3. MILITARY INTERVENTION AS A TOOL FOR UNDERSTANDING STATE PRACTICE

The evolution of a legal and normative framework that had as objective the strict regulation of force in the international system has encountered numerous setbacks, mainly because some of the evolutions of the world affairs have proven hard to anticipate. Having in mind the general claim that rules and norms both constrain and enable actors in the international society [1], it becomes obvious that analyzing the actors' justifications in using force might lead to a better understanding of the reasons that states believe they can legitimately invoke to justify their actions.

The end of Cold War was hailed by many analysts as the beginning of a "golden era" for the international human rights [9] and the prospects for humanitarian intervention were very promising. Leaving behind the power politics of the Cold War, the UNSC embarked upon a period of activism having as objective the worldwide protection and promotion of human rights. The general recognition and the endorsement by the UN member states of the R2P doctrine in 2005 was viewed by the idealist proponents of the international politics as the "golden rule" in how the international community should deal with cases of human rights abuses. This also meant, however, the erosion of the norms of sovereignty and non-intervention that were the foundation the UN system was built upon [1], perspective which was not favoured by some of the UN SC permanent members and it led them to veto some of the resolutions that had invoked R2P as a legitimizing principle. The operational challenges the R2P was confronted to in Libya, coupled with the difficulties of the interactions in the UN SC, makes it less likely to be applied in future conflicts [10].

Military interventions are sometimes conducted outside the legal framework of the UN or other regional organisations, based on a principle called "intervention by invitation", in which the government of one state asks for help from the international community.

Most of the times, the operations are conducted multilaterally, thus raising the legitimacy of the action and also sharing the burden of the costs involved [11]. Previous studies have shown that the legal argument of invitation by consent is becoming more and more encountered in justifying military interventions, being invoked almost as common as self-defence [8]. This argument has been brought forward in order to legitimize actions in recent interventions such as the intervention of France in Mali, the US drone strikes in Pakistan and Afghanistan, Saudi-led military coalition in Yemen and multilateral strikes against the Islamic State in Syria. Military intervention legitimized by the "intervention by invitation" argument is generally devised under the form of "coalition of the willing", which experts on international law consider to have many faults [2]. These cases point to the fact that the use of such an argument raises important problems, not only in relation to the legitimacy of the inviting government or the validity of consent, but also regarding the influence of such practices on the evolution of legal principles related to the use of force in international relations.

Drawing a conclusion regarding the evolution of the norms of military intervention means, therefore, understanding that the structural change that came about is not related to the increased capabilities of waging war or the technological advances in the field, but rather to the form and meaning and the intervention [3]. The realist theory of international relations advances the hypothesis that states seek to maximize their interests and they decide whether to intervene militarily or not based on the perceived advantage that they can obtain. Realpolitik supporters believe that strong states will intervene in weak ones when the intervention serves their geostrategic or/and economic interests. But these terms of analysis of state behaviour in relation to military action were not able to explain interventions in humanitarian cases such as Somalia (2004). From a constructivist point of view, states create and construct the rules that are then applied in their interactions, and these rules are in direct connection with their interests. When it comes to the use of force, the rules are strongly if not entirely designed by the actions of the powerful states that actually have the capacity to intervene [3]. Furthermore, once established, norms will serve to constrain even the most powerful states in the international system [1].

4. CASE STUDY: MILITARY INTERVENTION IN THE CASE OF THE SYRIAN CRISIS

One of the most controversial debates in the international community regarding the necessity of military intervention and the best response to the massive human rights violations that are currently taking place has spurred as a consequence of the evolution of the conflict in Syria. The complexity and the rapidly evolving situation in Syria, expanding also to Libya and Iraq, has posed some important limitations to the possibility of analysing the interactions between all the actors involved, as well as to the decision-making process within the UN framework. It is important to mention that, although since the start of the crisis in 2011 the UN SC has held several meetings on the subject and resolutions that advanced the need for authorizing intervention have been initiated, none of them has resulted in a UN authorized military action [12].

The current military operations in Syria are conducted from two different sides. The first one, the US-led international coalition, has invoked the "war on terrorism" as its arguments for intervention. The intervening states advance, in their letters to the UNSC, the legal basis of 'self-defence', either individual and/or collective [8]. The second one is the coalition formed by Russia, Iran, Syria and Iraq, who have used the principle of "intervention by invitation", relying on the legal argument of consent by the Syrian government.

Regarding Iraq, most of the military interventions took place at the request of the Iraqi government and, although the operations took place without the explicit authorisation of the UN SC, they were endorsed by the declarations of its President. This brings forward the importance of consent as a legal basis for military intervention, as the argument invoked for the intervention in Iraq was the invitation and the consent of the Iraqi government, although there were cases were such invitation had not been extended. The Turkish actions of deploying military forces near Mosul were harshly criticized by the Iraqi government, who strongly protested against, calling this a "flagrant violation of the provisions and principles of the Charter of the United Nations. They also violate the territorial integrity and sovereignty of the Iraqi State". Another point of debate regarding the legality of intervention in Iraq spurred as a consequence to the prohibition of the international law to offer military assistance in case of civil war.

The legal argument of intervention by invitation was also invoked by Egypt in the case of Libya, who has also called for the creation of an international coalition in order to help the Libyan people fight terrorism, but the existence of the civil war that has torn the country apart since 2011 has determined the international community to be reluctant to such a proposal and to advance the idea that a prerequisite for such a military intervention would be finding a solution to the political crisis and the establishment of a national unity government. US intervention in Libya (an airstrike in November 2015) had no legal justification, the only comment of the Department of Defense being that US will 'go after ISIL leaders wherever they operate'.The rhetoric of speeches used to legitimize intervention may prove useful in enhancing our understanding of emergent military conflicts which first manifest themselves in language as increasing verbal aggression [10], and which are only later on correlated with specific norms to legitimize intervention.

The Syrian conflict, touching also the neighbouring countries, is proving to be an important case study for the analysis of the use of force in contemporary international relations. The complexity of the situation, combined with the numerous actors involved, is increasing the usefulness of observing changes in the pattern of global behaviour related to military intervention. Undoubtedly, the Syrian crisis demonstrates that it remains difficult for the UN members to find agreement between themselves regarding the necessity to intervene militarily in humanitarian crises, showing reluctance to authorizing international action such as in the Libyan case, which sheds some pessimistic light on the future of UN-commisioned norms such a R2P. At the same time, a general legitimizing principle of self-defense and, consequently, the fight against terrorism, as opposed to the argument of invitation or consent by the legitimate government of the state in which the intervention takes place, shows that state practice in the case of Syria provides a compelling illustration of different perspectives of international justice and multilateralism [13]. These perspectives will undoubtly shape the ongoing debate about the new challenges to global security and the revision of the legal provisions that address the use of military force.

CONCLUSIONS

Although strictly regulated by the UN Charter in a manner that has been formally accepted and endorsed by all UN member states, in the period following World War II the use of force has, in numerous cases, been employed outside this framework, with different legal, ethical and normative arguments being invoked by the actors involved.

This paper has focused on the evolution of such arguments, trying to assess the extent to which the norms and principles that regulate military intervention appeared in response to events in international politics that were unsought of before, or they were simply shaped by the interests and motives of the intervening states, who have used these norms to legitimize their actions.

By putting under scrutiny the norms and principles that were invoked in the military interventions in the post-Cold War period (the doctrine of "pre-emptive war", the "responsibility to protect" principle and the "intervention by invitation or consent" argument), this paper shows that the evolution of such norms is influenced by the interests and actions of the states, but, at the same time, they serve as a normative constraint for shaping future actions and decisions in relation to the use of force in international relations. Some of these norms have a more powerful influence than others, being consolidated by the endorsement of the majority of international society, while others fade away and lose their influence. The debate around the grave ambiguities in terms of specific normative content of the norms currently employed to legitimize the use of military force point out to the deficiencies in the current legal structures and the need for reframing these structures.

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STREAMLINING THE WORK OF SOCIAL WORKERS THROUGH THE OPTIMIZATION OF CERTAIN CHARACTERISTICS OF EMOTIONAL INTELLIGENCE

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Abstract: *Social and emotional learning develops, at the jobs with a social impact, certain characteristics that are essential for work fulfilment and personal efficiency. The study starts from a few of the facets of social intelligence and, through the application of a training, proposes different ways to optimize the work of social workers. The study had 37 participants with the average age range of 36,6 years. The group meetings were realized in a constant manner can be constituted as a non-invasive method of operation with the contents that were potentially existent for each participant, but also to activate each of their resources.*

Key words: social intelligence, social worker, personal efficiency

1. INTRODUCTION

Each behavioural act is based on a certain thing that incites and a certain direction and a certain goal; even if the objective or goal is missing, the cause is always present. Inevitably, one can wonder „why did this behaviour occur?". The answer to this question must be searched for beyond motivation. Motivation represents „a specific form of reflection through which one signals the command mechanisms – control of the personality system, an oscillation from the initial balanced state, to an energetic deficit – informational or a necessity that needs to be satisfied" [1]

Motivation is a general law for the organisation and functioning of the human psyche, i.e. she subordinates the other psychic processes: perception, thinking, memory, will, character and aptitudes. They disclose the significance and the motivational valences of the objectives and phenomena around us. Motivation is „the first chronological element to conduit" [2]. Any conduit act is motivated, even though sometimes it is not acquiesced.

Along with persistence, the intensity of the behaviour, the direction and the objectives are valuable indicators for the study of motivation, from a quantitative and respectively qualitative point of view. The intensity of the behaviour grows in proportion with our degree of implication. Depending on the complexity of the situation, or on the importance of the objective followed, we mobilize ourselves more or less, we dive deeper in action or we only go in superficially. The direction is the one that focuses us on the given goal, it is the finality which gives a measurement of our success or failure. The importance to establish the direction and objectives comes out clearly from Johns definition: „motivation represents the measure in which a persistent effort is taken towards the realisation of a goal" [3].

The motivational dimension is given by the „intensity of the needs which determine, from the person in cause, the adaptive employment to the demands of a given role, to which extent he or she wants to interpret the role, if the role convenes and corresponds to the needs to realise, how attracted is he or she to the interactional reality that he or she will be satisfying; in a word, in which measure is the role suitable and if it corresponds to his or her aspirations" [4]. In the context of work, motivation can be defined as the „degree of the employee's availability and to put a sustained effort in order to attain certain professional objectives, defined individually or organisationally." [5].

Besides the career motivation in being a social worker, empathy is very important, and this has special valence in all social domains. It is a basis project in the social interactions, inserting itself with necessity in the process of knowing other people, and to having the adequate reactions to other people's behaviour. Social workers are the people who give support the the categories found in need and thus, their empathy and he empathic endeavour represent one of the central conduits on the collaborative model spiral. The intra-aiding issue refers already to being in a relationship, to establish contacts, point of departure, to be empathic. The understanding of the client makes the next intervention be guided with success towards getting positive results. The efficiency of the job of the social worker depends in grand terms by his or her persona, by variables that partake in his or her personality – self-confidence, empathical understanding, expressive communication, coherence, emotional balance, openness, social intelligence, flexibility in adapting to the reality of each client [6]. The existence of a communication channel between a social brain and another shows the existence of an emotional context in each of our interactions. [7]. The notion of social brain being introduced by Siegel, with reference to that part of the brain that includes a multitude of existent circuits to connect with those of another brain, or another person. The present study starts from initial data gathered on social workers, data referring to empathy, motivation, self-respect, for later to have an intervention in the social intelligence proposed exactly to streamline their work.

2. OBJECTIVES

The general objective of this study is streamlining the work of social workers through a durable training.

3. GENERAL HYPOTHESIS

The streamlining of social intelligences leads to the augmentation of the level of empathy, motivation, self-respect and personal efficiency to social workers.

Hypothesis 1. *We assume that the level of motivation, empathy and self-respect is constituted on start data that contributes to the building of a training to optimise social intelligence.*

Hypothesis 2. *We assume that the participation to the training build on the social intelligence model will determine an augmentation of the social, emotional intelligence and of self-respect to social workers.*

4. DATA ON THE PARTICIPANT GROUPS

The given research was realised on a number of 37 students, social workers, out of which 26 females, and 9 males, with ages between 27-59 years old, having an age average of 36,6 years. The selection of the subjects was random, (in liking of its definition according to [8], [9]) in the frame of the services that belong to the Child Protection services.

5. TOOLS USED IN RESEARCH

1. Inherent motivation questionnaire (IMI, Ryan, Koestner and Deci, 1991); inventory with 22 items in which one can subscribe 4 subscales that have as common objective the measurement of the inherent motivation of an individual in terms of his or her activity.

2. The questionnaire that measures the emotional empathy (Mehrabian, Epstein, 1972); shows the phenomenon of activating the capacity to emotionally substitute which offers the general tendency to be activated in different situations, measuring empathy as potential. This comprises 33 affirmations in which the subject can or cannot be in agreement with. These affirmations represent interconnected subscales which measure the relational aspects of emotional empathy. The subscales refer to: the susceptibility to emotional contagion, the appreciation of emotions of unknown or far-away persons, extreme emotional reactivity, the tendency to be impressed by the negative experiences of other people, the tendency to sympathise, the wish to be in contact with the people who have problems. The answers to each affirmation can be given on a scale that varies from a Strong agreement (+4) to a Strong disagreement (-4).

3. *Self-esteem scale (Rosenberg)*

The Rosenberg self-esteem scale (The Rosenberg Self-Esteem Scale, 1965) is an instrument used to evaluate self-esteem, used in psychology. The scale comprises 10 items to which the subjects can answer by choosing one of the 4 answer options, which include: true, rarely true, sometimes true, false. The global level of self-esteem influences the choices in the lives of individuals, but also their existential style. The conveying of the test is realised from Băban, 1998.

6. THE PROCESSING AND INTERPRETATION OF DATA

Hypothesis 1.

Results obtained when applying the inherent motivation scale

In terms of the global score of the *Inherent Motivation,* results taken from this data gathering from the group of social workers, has demonstrated an average score of 68,44 – score that situates itself in the average level for the presentation of the scores specific to motivation.

The subscale called interest for the given task showed the fact that the subjects have obtained an average score of 19,85. This score situates itself in the average zone of declaration of the interest for the given task. In terms of the competency subscale, the subjects have obtained an average score of 18,92 – score that situates itself in the average zone to declare the perception towards competence. In terms if the subscale Tension/Pressure, the subjects have reported an average score of 20,67 – score that situates them in the average zone of the tension felt.

Results obtained to the questionnaire to measure emotional empathy

For the scale that measures the level of emotional empathy in the subjects from the social workers group, the score obtained was 59,68, value that describes an average empathy level.

Results obtained for the self-esteem scale

The results of the subjects from the social worker group show an average value of the score at 25,72.

The social intelligence model has as facets self-esteem, inherent motivation and emotional empathy, and thus the data obtained can be constituted as a starting point for building a training to stimulate it.

Hypothesis 2

All the study participants took part in the training, which took place at the end of 8 work sessions for a duration of 2 months. The subjects were interested in the study's development and in the possibilities to ameliorate certain necessary abilities to optimise work performance. Following the realisation of this type of intervention, one can ascertain that the level of emotional empathy and self-esteem significantly grows. The group made of these subjects' auto-evaluated themselves also through completing an analogous scale (of auto-evaluation) of their personal efficiency before and after the participation in the aforementioned program. For the efficiency variable one took into consideration the results auto-evaluated by the subjects before and after going through the optimisation training based on social intelligence. Thus, each of the subjects socred themselves on a scale of 1 to 10 in liaison with the activity shown before and after the optimisation program. The efficiency scale was built as follows: the score for very high efficiency was noted with 10, while at the opposite pole one could find the 1 efficiency score, weak efficiency. The results communicated by the subjects to this scale were as follows: for the first auto-evaluation, 15 subjects have catalogues their personal efficiency with an 8; 5 subjects have reported an indicator of 7; seven have reported an indicator of 6, and the last ones remaining have appreciated themselves at a 5. The results communicated for the second auto-evaluation were as follow: 17 subjects have appreciated themselves at a very good efficiency score of 9; 10 subjects have reported an indicator of 8; three subjects have appreciated their efficiency with an indicator of 7 and the last seven subjects have appreciated their efficiency with a 6.

7. CONCLUSIONS

The data obtained from the initial testing constitutes in data to build a training to streamline certain facets of social intelligence. Following the intervention, the progress obtained is monitored through re-testing with the inherent motivation, empathy and self-esteem tests, but also with an auto-evaluation scale for personal efficiency. From the point of view of the second hypothesis, the final data draw attention to a significant amelioration of the numerical results in terms of empathy, self-esteem and the evaluation of personal efficiency.

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UAVs AND THE MILITARY LEADERSHIP

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Abstract *Basic and applied research of our days result in the emergence and development of technologies like drones and their recent development require further changes and improvement in the skills, abilities, capabilities and know-how of their users. Technological development affects therefore also changes of those competencies of the military leader that are needed in 21st century operations.*

By describing some of the presently known top military technologies and their potential in combat use, the author outlines of the ongoing change in military arts and the nature of combat, in order to assess what competencies the new generations of military leaders will need to be able to remain personally responsible for the operations of their units.

Key words: *drones, nanorobots, artificial intelligence, competencies of military leaders, commanders*

1. INTRODUCTION

Based on the ongoing research we can say that autonomous systems (i.e. drones) will be the most widely used tools in the wars of the future as well as in civilian organizations. Nowadays due to the continuing information revolution the cost of operating unmanned devices are becoming cheaper and more widely used. Technological progress has allowed the mass proliferation of smaller drones with improved data processors. The implementation of high-speed data transfer options, accurate navigation capabilities, and compact digital sensors has allowed UAVs to a become effective weapons systems. The appearance of drones on the scene of military and non-military areas, but the same purposes as operations (e.g. an urban environment, information theatre, digital battlefield) is not fiction, but unquestionable fact. Today implementation of armed kinetic operations and other functions of developed robots are part of military weapons systems for all branches. [1][2]

The appearance of new technology development of information and decision making systems requires the preparation of decisions and adoption of accessibility, availability, and security issues of today and the needs are intertwined with each other fully in the implementation of military tasks as well as in military thinking. Military commanders and their subordinates evaluate the environment in order to meet assigned military objectives, knowledge of the objective area is indispensable for leading military operations. Commanders must be knowledgeable of potential modern technology options and they must possess the skills required for their application. The commander must be a person who can perform various tasks efficiently and dynamically by coordinating the available resources at their disposal, whether those are drones, autonomous machines, or living, sentient human beings. [3][4]

2. THE CHANGED OPERATIONAL ENVIRONMENT

Due to today's dynamic environment, military operations planning must provide options for unforeseen situations, including operations in large battlefields with large traditional forces and special forces operators, operations with only a few soldiers, or drone only operations. The design should take into account the full spectrum of climate and terrain features.

Urban warfare has caused the disappearance of traditional demarcated front lines, the location of the position or protected areas are not the sole measure of success. The availability of resources in a minor or non-state opponents cannot compete with the modern well-equipped military forces. The linear battlefield will be replaced by a 360-degree dynamic front, utilizing new high-tech weapons and non-conventional forces. The 360-degree dynamic front will be applied using a unique combination of technology and uses of power. Such military operations are carried out with complex operations that use various military professionals and various specialists in design and implementation. The objectives of today's military operations (political target) are not designed to completely destroy the area as one of the paramilitary occupation. The complete destruction enemy infrastructure (manpower, roads, etc.) as determinant of success is not advisable if the desired end state is to create a safe and liveable environment. Military planners should not completely destroy the buildings and population, instead, planners must be provided with the skills necessary to influence cultures and limit civilian casualties. The strategy of cultural influence can be successful by military influence. New approaches and models are needed that can also be applied to the changed security environment, including one as the effects-based operations, which seek to control all aspects of the conflict including the time line. The concept of the effects-based operations is not new. The theory of the concept is based on placing the measurability of the effectiveness of military operations in the forefront of the design process. This process will require the use of military and non-military forces utilizing old and new equipment (e.g.: Robots) to achieve the strategic end goal or effect. [13][14][21]

The new strategy concentrates on identified and weak points of the enemy (focal points) chosen for destruction by concentrating available forces and capabilities to eliminate them or at least to put them out of action. Also, it emphasises the use of more precise forms of targeting, so that it can execute, in the final stage, a powerful strike by using both high-precision kinetic and non-kinetic means to reach their goals. The effects-based operations by linking a political end in itself with military and non-military operations (i.e. reinterpreting the "how to act" logic by asking "why to do it?") are changing the military focal points and concepts. These changes are due to the force-structure and expanding diversity of operating procedures. The purpose is to create and use an effects-based approach to network-centric warfare in order to reach effectiveness and success under the conditions of decision superiority. To do this, the armed forces and the collaborators should form an integrated network operations centre which requires the combined use of manpower, robots, UAVs, and the appropriate permissions defined by the size of the operation. Success depends on carrying out tasks and functions efficiently, information sharing, quick decision-making, and the appropriate instrument is used at the correct time for use in operations between the assigned forces. [19]

The physical and psychological effects, which is the result from the activity of the subsystems (like drone systems) and behaviour of the individuals, expand for a whole system's status (political, military, economic, social, infrastructure and information etc) and also a wide variety of possible areas. Consequences may be direct or primary, secondary, tertiary, or even multiple. [15][16]

The effects-based approach requires a comprehensive reflection from the battlefield commander and the military operation planners. All commanders staff wherever they are in the leadership hierarchy, must know and understand the strategic final state. Also, they need to keep in mind who are the operation participants, stakeholders, and caused effects by the activities impacts (it is important that not only the primary effects). [16][17]

The implementation of the military operations are based on forces and resources, which have to provide for the following:

- intelligence professionals who can quickly and accurately assess information and provide it to planners for cause and effect analysis, and the key decision makers in a system (E.g.: includes the sensors into only one integrated system, the decision makers and the kinetic and non-kinetic "weapons systems");
- network-oriented, effects-based operational planning capabilities (current situation, constant adaptation, and the ability of selective strikes, etc.).
- the decision-making agility, accuracy, and consistency on the battlefield, the transformation of combat capability and mission effectiveness information;
- the personnel with the right skills and prepare and equip them for rapid execution of assigned duties. [13]

In conclusion, in the effects-based operations, commanders and soldiers should know, understand and use the connections in the war, its art, and the capabilities and effectiveness of assigned resources. They must have knowledge of old and new technologies, methods, devices, systems and the opposing party's resources.

3. UAVS IN MILITARY OPERATIONS

One of the most important research projects are the development of robots, unmanned vehicles (air, ground, water). As technology advances, the drones take over those tasks quickly, which were operated by direct human-powered solutions and help for humans to solve tasks associated with excessive risks. Their tasks are carried out direct human supervision (not necessary for the employer and the device to be in the place, but to be there timely is a necessary condition).

Nowadays because of the information revolution, the unmanned devices are becoming more common and cheap. The development made possible the increasingly smaller size and weight, but more and more data processing capability. The use of high-speed data transmission capabilities, accurate navigation capabilities, the compact digital sensors (sensor systems), automated systems prevalent at the end of the 20th century. By the use of nanotechnology it is possible to make tools (e.g.: electronic and information technology, mechatronical equipments, etc.) smaller and smaller, and in addition to getting faster and faster data processing capability with less and less energy using. [3][5]

The execution of military operations the mini, micro and nano-sized robots, robotic systems, including biotechnology hybrids, may cause even further changes. The development outcomes can be predicted spread in many areas in the not too distant future (e.g.: intelligence, information gathering, target destruction, logistics, etc.).

As technology advances, the drones take over the activities, which were solving by the soldiers or the direct human-operated power tools. [3]

The IT capabilities for researching towards the creation of robots with artificial intelligence is available. The widespread use of fast data transfer and punctual navigational capabilities and small digital sensors (transducers) lay a foundation for technological advancement of the end of the 20th century.

Scientific developments in the last decades made it possible for robots (autonomous, semi-autonomous, remote-controlled, etc.) to be effective weapon systems. [1][3]

Nanotechnology (0.1 - 100 nanometre, NT) provides the possibility for the improvement of technical parameters of the current electric and IT equipment (sensors, actuators, etc.) and the border between physics, chemistry and biology will fade away. The spectrum of NT researches spreads from electronics to biology, however nowadays most researches have only the basics, but the examination of the military use of these technologies have started. [9]

Cost effective mass production capabilities will provide the massive appearance of drones. The application of military robots will further improve if they are used as a system, whether reusable or single use equipments, like:

- large number of nano drones are deployed on logistical roads, e.g.: they block the air-intake of vehicles, making them unable to move or fight;
- a similar sized drone squad deployed in the air as a platform or as a dense cloud can damage or even destroy airplanes;
- deployed on land or in water, linked together a huge number of drones can make biological, chemical or nuclear reconnaissance;
- miniature weapons, intelligent target-searching robotic weapons can damage infrastructure, objects or persons, can pollute (or clean) the environment. [1]

These new weapon types can change the place for settling of conflicts for traditional battlefields to new battlegrounds, and can provide real-time information to the commander about the effects on the soldiers. [10]

On the other hand using proteomics research it is possible to develop weapons able to select the target (e.g.: according to genetical marks). Numerous imaginable concepts can signal the implanted systems, which firstly can do bio-medical analysis. [11][12]

We must also mention robot (NT, artificial intelligence) applications in space. The satellites, their carrier and launcher vehicles can be smaller and their production can be cheaper, which increases their availability for example to observe Earth in swarms (information gathering) or attack satellites. They can be used as kinetic space weapons too (destroying smaller satellites by colliding with them). [3][10]

We must calculate with the presence of artificial intelligence, robots, automatic or autonomous equipments in future wars, so in the current security environment we can't forget about their abilities and their various application fields. It is already visible, for example that nano-sized robots can be injected into the body of the soldiers, which constantly monitors their life functions, and give these informations to their commanders about their combat abilities. The appearance of three or more dimensional semi-autonomous weapon systems is an unquestionable fact. [6][9]

In future wars everything will be controlled and monitord, and the situation will require fast and exact decision-making, and precise, effective execution.

The change toward autonomous warfare can be caused by for example that machines are cheaper than human lives, their data-processing capabilities are faster, their capacity if bigger, their reaction time is shorter, they don't suffer from environmental effects, they are tireless, fearless and can withstand monotonic works. [7][8]

The ever changing security environment means the appearance of newer and newer challenges. An effective military organization has to constantly maintain and upgrade its defensive mechanism and learn to adapt to both the old and new requirements.

We can say about the future of an organization, that it's highly regulated by their past capabilities, which doesn't mean that we have to toss away the past, instead that it should be constantly re-evaluated. This adaptation must include the change in the leaders' point of view. The military answer to the present challenges can be only effective and successful if the organization can forget old routines, (but also keep good traditions) and the disappearance of these bad habits can be the hardest point in the process.[26][27][28][29]

The use of equipment already present and the understanding of new technologies is not only the jog of engineers. The commanders and lawmakers both have to understand the limits of their applications. They need further knowledge than to know the application fields of robots, robotic systems, they also have to understand direct and further consequences of their use.

4. MILITARY LEADERSHIP AND THE COMMANDER

Management science is the system of knowledge that helps the work of leaders. It is the complex system of knowledge areas that helps building together, on the basis of the philosophical and systemic foundations of human thinking, the rational tools and methodologies of managers as well as the results of various areas of natural and social sciences in order to make individual work and organizational operations, as well as their management easier.

Management science like all sciences, are based on a systemic approach. All the knowledge, that can help the work of the leader, so the operation of organizations (groups, individuals) takes the foundation of the philosophical-systematics thinking and builds the system into the various disciplines.

Leadership with Taylorist, task-oriented views is present, even determinant in most military organizations, and it leaves less independence for subordinates, forming such organizations a command-driven leadership systems. This requires the automatic accomplishment of the tasks given by the commander. The resources of a mass army can be led by this philosophy, but changes in military leadership since require constant improvement.

Opposed to this, leadership in the USA since World War 2 is becoming more and more objective-driven due to the fast changes in production technologies and structures, as well as the change in society Creativity and innovation as a main feature in the leaders' way of thinking have gained primary importance probably only in the course of the second half of the century. [22]

The changed and expanded operational environment makes it necessary to re-evaluate the earlier specified tasks and features of the leaders. Leadership is not only about the exercise of power, there must be ways to make decisions which can be reversed, and empathy must be important during the decision-making. [24]

The goal of improving the organization is the increase effectiveness. The criteria in effectiveness can be divided into two groups: human factors (behaviour, communication, etc.), and material factors (structure, technology, etc.).

The efficiency of the leader is governed by personal traits (creativity, analytic skills, networking skills, practical skills, etc.). [32][33]

Managing organizations in an international environment can only be accomplished with smart and practical leaders and experts. [34] Their efficiency heavily depends on the abilities of the maintained equipment and systems.

The present technological advancement is faster than ever, and it is getting even faster. The accusation and maintenance of the required qualified workforce is necessary, their constant improvement is almost unimaginable. The current level of available resources the reliable knowledge and the focus on unused functions of current systems can produce results.

Due to the rate of amortization of present technologies, and the difficulties with ongoing modernization, one may think that most of our complex systems consist of the modernest parts as well as outdated ones having only a use-value and we have to maintain and operate them together.

The only way to success may be the improvement of operative knowledge about these "multigenerational" systems and the creation of a different operational strategy for their application. [29]

Centralized organizations tend to neglect knowledge care, because it is against the principles of centralization. This can completely ruin innovation, inner motivation, professional or personal development, and even the foundations of the improvement and renewal of the organization. The neglected, unimproved knowledge, skill loses its relevance, applicability very fast. To overcome this trend advanced professional and leadership knowledge, attention and work is required. [27][28]

New knowledge is made of the combination of different areas, and it is important for the group in the process to have diversity, motivation and coordination. The goal of management is for the commander to realise the values and motivations of his subordinates and his own. How can he summarize this and act according to this, because this activity is inseparable from the needs of both the organization and the people working in it. [23]

Military leadership is a community act, which makes the military leader (commander) affect his subordinates to fulfil tasks in a way it is specified by the superiors [25]. So the commander is a person, who can make his subordinates do assignments effectively and dynamically. Military leadership is, however, also a cooperative, situational styled activity, which is based on knowledge, behavior and self-developing techniques that makes the commander able to help with his work the strategic development of the organization by his status in the organization. Management in carrier, talent, time and performance all connected to the numerous requirements in the fulfilment of leadership can provide quality solution. [25]

Any good solution must combine such elements as a career and talent management scheme combined with the use of time and quality management systems, all matching the complexity of present and future tasks.

In the decision making process the professional arguments and teamwork must be in focus. The successful task requires the collective thinking, analysis of effects and evaluation. Good networking is able to organize different expertises, abilities, and potentials together, and the leader in a coordinating position can provide cooperation.

The leader must give real values for the task, by drawing up possibilities, guides and goals, which provides the experts in the organization to do their parts creatively and effectively, like:

- the conscious formation of working environment;
- the creation and regulation of communication channels;
- maximizing the suitable, dynamical changing task oriented performance;
- optimal time-management;
- helping the implicit knowledge become organizational knowledge;
- leading by example;
- motivating, personal improvement, management of carrier.

According to the American and English authors [18][20] the most basic type of element of any organization are the people, who have suitable skills, and are able to form groups within them. The quality of the organizations is set by the competence and commitment of the people working in it. Leadership, like all other skills, need experience, particular competences and knowledge. The "right person for the right place" principle can only be applied successfully, if it is exactly specified, what factors are indispensable in the position in question. The competence as a concept contains that leader's behavior, personality, skills, motivation and with what type of knowledge will he accomplish his goals.

Behavior and activity for the success of the task is essential, but it also contains personal traits. The success of the leaders activity is influenced by competences specifically in the execution of tasks in the given environment, so the behavior patterns have to be specified, and the results constantly measured. [35]

Commanders therefore must be able to adapt their behaviour and competencies to the task as well as to other factors of the command environment, such as the motivation, capabilities and readiness of their people, the features of the organization they form a part of, not forgetting its culture, the decision environment, etc. [36]

Military leaders have to be able to control and lead their subordinates (systems) and reach the goals. The competencies practical utility has to be defined with forms of behaviour, and improve and measure them. With the appearance of the robotic systems and artificial intelligence the measurement and inspection of these views are becoming more and more actual.

On of the most important task of the commander (even the engineer commander) is the preservation of the own forces (both human and technical), preparation, maintenance, handling of current situations, the execution and enforcement of orders. [29] The leader is a specialist, a skilled communicator, networker and has implicit knowledge that helps to suitably operate, and if needed, improve on the one hand the communication between the subordinates, the cooperation, the effective task setting, and on the other hand the task orientation of the organization, the mission performance, so to improve chances for the organization to experience not only short-, but also long-term survival.

The measurement of the leader's activity should contain the implementation of the best possible decisions and the best and most efficient time management. [22] A commander culture, leader attitude and mentality is needed, where the leader's introspection and self-education is accepted and natural. The more a leader understands himself, the better and more successful decisions he can make. [30] A commander with these abilities can implement his knowledge in both the everyday routine and in the solving of unexpected situations, has to make intuitive and rational decisions. The leader has to reflect the operational and special knowledge and understanding of the guided process systems, explanation provided by the related theory and its limit, as well as human nature. [31]

A unique personality, the creative use of experience and analogical thinking, the ongoing internalization of new knowledge inputs and the constant re-creation of one's own mental complex are as necessary for a commander as the ongoing improvement of risk management skills, including the capability of purposeful risk searching. Without such leaders, I believe, there can exist no successful and effective innovative organization in the 21st century. The mixing of various soft and hard methods and approaches will improve our military organizations, if we let it. Versatile thinking is one of the fundamental principles of modern military leadership.

CONCLUSION

Nowadays armed conflicts contain all equipments and theories that a given side will use in order to effect the other side. In the 21th century there are very few equipments or methods that cannot be used as weapons in order to achieve military or non-military goals.

One of the most important security development can be experienced in the field of robotics, unmanned vehicles, and the elaboration of the laws and doctrines for their application.

The equipment and robots currently employed or under development are not intelligent, sentient beings with human values, but the advanced (silicon-based or more advanced) IT capabilities provide opportunities, which can improve their situation awareness, adaptability and decision-making skills.

Engineering creativity and know-how opens new areas of opportunities for decision-makers that make it possible to improve decision processes and knowledge management of our learning organizations. To make the best possible use of them is a prime responsibility of present-day managers. [3]

Using new technologies in itself brings not only the development of new competencies, but also new responsibilities. Legislation may have to face a constant challenge of continuously developing technology in need of legal network of regulation. Such a situation will request openness and continuous learning from the lawmaker as well.

In the choice and improvement of leaders it is advised and justifiable to examine those personal traits which are related to the understanding of modern technologies and personal adaptation. The new operational environments and the examination of the elements make it necessary to re-evaluate the earlier specified tasks and competitions of the leaders, because the success of any mission, in the end, depends on the commander.

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CONSIDERATIONS UPON THE METHODS OF TEACHING MATHEMATICS IN PRIMARY SCHOOL

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Abstract: *The Mathematical science was born out of practical necessities and then was transformed into an open type of science, since then being in a continuous development. Mathematical principles could and should always be applied in resolving numerous problems in various domains: informatics, physics, chemestry, medicine, architecture and finances.*

This paper analyzes modern approaches of mathematics (in primary school) by means of interdisciplinary approaches, and affects the various aspects of the students daily life.

The positive attitude towards Mathematics is a primordial condition in overcoming problems and having success in school, and therefore, the teacher in primary school has many responsabilities in creating mathematical competence.

In the final part of the paper we draw conclusions upon the above studied matters.

Keywords: *scholar success, interdisciplinarity, didactic games, positive attitude, practical tests*

1. INTRODUCTION

"Mathematics are studied and learned not only for knowledge purposes, but for applicational purposes, creating a meaning for learning math. It is said that Math is the most operative science, having multiple complex connexions with life itself" (quoted from N. Oprescu).

The culture of Mathematics has to be integrated more and more in our general knowledge, even beginning with the primary classes. The stimulation of intelect, creating a logical way of thinking, and applying correct judgements in real life situations for students must transform Math in a pleaseant scholar discipline, one that is attractive and develops correct reasoning, creativity, and stimulates independent work.

In primary classes love or repulsion are born towards mathematics, and since this period in a students life is the one where a base of the transfer between an abstract notion and the practical applications of this abstract notion is accomplished, joy must be brought in studying mathematics.

Even at the beginning of elementary school, the student is conducted to learn to appreciate every aspect of school related matter, therefore games and toys are combined actively and consciously with the study of Math, so that the student should remain interested in this domain.

The Swiss psychologist Jean Piaget used to mention that "a game is a functional exercise, that has the role of extending perceptions of surrounding environment, transforming what is perceived as real, by assimilating and adapting with every new condition". [2]

Out of all the types of games presented to students at small ages, the most important role in the development of our youth is assigned to the "didactic game".

The didactic game was defined as "an ansamble of actions and activities, based on good moods and deconcentration from stress, that realises the objectives of intellectual, moral, and physical education". [2]

Besides the didactic game, modern methods such as: the cube, the R.A.I. dials, "Știu, vreau să știu, am învățat", and other effective methods such as: "Learning by discovery (Guilford)", and "Learning by doing (John Dewey)" should be taken into consideration.

The professor's didactical activity eficiency is determined by his personality, the quality and quantity of the information transmitted, as well as the degree of reception coming from the students.

In order to manifest his good practices in his domain, and demonstrate one's good professional preparation, the teacher involved in activities at primary school may always have an enormous influence on students, using the clarity and precision of the concepts presented in the classroom, and maintaining a permanent interdisciplinary relationship with other sciences, and being informed constantly upon other related fields of work.

2. LEARNING BY DISCOVERING. LEARNING BY DOING

2.1. The process of learning by discovering (Guilford)

„The process of learning by discovering (Guilford)" – is the process of involving the student in practical situations, determining his abilities to discover, process new information in order for him to obtain preocupations and skills of intellectual work.

In teaching activities it is also used the method of *inductive discovery* – that relates to the concept of analizing and structuring ideas followed by generalization. For example, settting the necessary elements for acomplishing a mathematical or arithmetical problem solving plan, or finding a term in a string by a rule discovered within the terms given initially (to answer questions like: who, with who, when, where how?). [4]

The deductive discovery is the process that determins the student to start his learning from a general case, in over to become able to individualise for the concerned matter only. For example, such methods are: writing the terms in a numeric string of a recurrence formula, given by general terms assigned to particular cases of "n" (the third, the seventh), or by using the mathematical language in various domains.

2.2. Learning by doing (John Dewey)

"Learning by doing (John Dewey)" is an active method, used preponderently in modern pedagogy, and it consists of the total engagement of the student in the process of learning. [4]

We may propose the students some learning tasks, such as:

- measuring with the palm of their hand the length of the desk, or the length of their belts, or the classroom black board, afterwards mentioning the result in a table;
- analizing which of the three afore-mentioned objects is the longest;
- comparing results with other classmates.
- water filling a recipient of 5 litres using a tea-cup; counting how many cups are needed to fill the entire 5 litre bottle? Repeating the same action by filling the bottle with another bottle of ½ litre.

- Filling the same 5 litre bottle with a small glass. What are the observations upon this actions? Which of the three options should be faster when trying to fill a 5 litre bottle? A tea cup, a bottle of ½ litre, or a small glass? These three actions should be mentioned in a table, that should contain: the used intrument, the no. of tries, and the necessary time for filling.

Another example could be: Using which unit of measurement can the result of measuring the following distances be given: A) the distance between the different classroooms, B) the distance between home and your school, C) the distance between two buttons of your jacket.

Using this type of learning, the student is determined to consciously understand the efficiency and the necessity of making exact measurements, working with the appropiate working tools, the required measuring unit, the appropiate mathematical language when making divisions/ multiplications, comparisons, analisys, applications with elements of geometry.

Making primary school students more aquainted with the practical side of math is considered to be very useful, especially by the teachers in Romania, since results such as a 48th place in the Pissa competition for Romania this year is considered not a triumph, but a constant need of development on this matter (out of 70 participating countries).

"The nature of the true teacher is characterized by the simultaneous movement of his mind along with the minds of his students, and by the way he perceives the difficulties and the victories of each and every one of them" (John Dewey).

Teaching math in primary school takes on the future learning activities, therefore, the instrumental function along with the accumulation of general culture elements determines the information function of the primary cycle of students. [3]

3. THE INFLUENCE OF PRACTICAL-APPLICATIONAL METHODS IN THE TRAINING OF THE COMPETENCY TO APPLY MATHEMATICS IN DIFFERENT ASPECTS OF LIFE

Every child enters school with some previous mathematical experiences, this way prooving the natural curiosity upon the mathematical field, and therefore becomes capable of discovering the surrounding reality through a mathematical point of view (I am taller than …? How much is …? When is … ending? How much until we reach …?). The teachers must take advantage of this curiousity and give a meaning to mathematical information. Moreover, they must capitalize on children's mathematical related experiences, and set bonds between the math concepts and the children's known reality.

In teaching math three main tendencies are distinguished, mainly determined by the preponderance of the learning process factors.

Therefore, the verbal method of teaching is strongly affected by the use of words, symbols and is manifested by mechanical learning or formal learning based on the mechanical application of rules.

Intuitive learning of mathematics is considering the aknowledgement of first arithmetical and geometrical calculations by direct contact with objects and pictures of object, without the use of mathematical rationing. The role of intuition with children is a major one, but if the children are not to create logical connections with the concepts created, they risk to remain at a lower stage of intellectual development.

Learning by doing is offering intuition a primordial role, thus emphasizing on the child's action on objects themselves. The manipulation of objects leads faster to the formation of perceptions, thus speeding up the formation of the operating structures of thinking.

The manipulation of the objects leads to the manipulation of their image, and finally to the drawing of graphic schemes followed by symbols.

By manipulating different objects (geometric elements, chopsticks, natural materials, objects used by the student in everyday life, measuring instruments such as clock, scale, or the meter) the student easily explores mathematical concepts. The teacher has the role of establishing the materials needed to understand the content, their role, the necessary quantity, and also to make sure that the pupils become familiar with them and understand how to use them.

An effective learning of mathematics also requires an efficient collaboration with other study disciplines. The interaction and complementarity of different learning activities allows the realization of interdisciplinary and transdisciplinary approaches to the content, and the use of active and participatory didactic strategies to maximize the potential of pupils.

Interdisciplinary treatment will be a major task of learning from the perspective of understanding reality because a school content designed, developed and used in an interdisciplinary manner corresponds much better to the presented reality, leading to a better understanding of the students.

Through the transdisciplinary approach, the pedagogical value of the lessons increases because students can express themselves freely, every student's daily experience is valued, and each student is placed in the middle of the action, reserving an active and main role, able to translate into practice and to manifest himself in the fields in which he has obvious ability, provides an effective learning, offers the chance to plan his / her own activities, assuring them order in later thinking. These activities leave more freedom of expression and action for both the student and the teacher.

The primary school teacher has to organize various activities for all pupils, depending on their own pace and level of development, to achieve in the classroom a stimulating and diversified environment so as to provide the student with a sustained and favorable motivation in learning mathematics and the acquired knowledge to be effectively used and applied in everyday life.

One of the active-participatory methods used with great success in mathematical activities is the use of educational software. Exercises in these softwares are present in an attractive graphical form with animation and sound elements. Thus, animation enhances the individual ability of children to properly view the concepts.

The images allow restructuring, which is easier to process by the visual and perceptual system of students, enhancing their ability to understand more difficult phenomena. Also, most exercises incorporate narrative segments that allow students to develop appropriate work strategies.

All of these exercises contain many challenging elements of the game, trigger curiosity, keep the attention for a long time and develop students' fantasies, while providing an intrinsic motivation that is particularly important for improving school performance. Children like to learn through educational software rather than traditional methods, helping to develop positive attitudes toward learning and improving the results.

Positive attitude towards mathematics can be cultivated and can be easily achieved through activities with and for the student, but it is necessary to elevate prejudices, fear of using new ways of working, lack of boldness and imagination, routine.

Below we will exemplify the above through an “Autumn perfume” theme.

After the establishment of a favorable climate for the activity, the word "mathematics" will be written on the board and students will be asked to say all the words that come to mind when hearing this word (exercises, problems, division, play, creativity, sum, term unknown, product, team, fairness, etc.). We will complete the brainstorming with all the words proposed by students.

Each student will have an autumn flower petal in his hand, on which an exercise will be written, and the result will correspond to a letter and a number that will be given on the board by the title of the lesson.

We will then continue with the updating of knowledge, with oral computing exercises, where the RAI method is successfully applied, and then continue with the "magic tree" game, which transmits in lyrics to the children a message with the work tasks. In the classroom, autumn fruits are brought, and each fruit is associated with a mathematical task (children choose the favorite fruit they describe and solve the math problem) and pick up the chosen fruit in the magic tree.

Obtaining results will be done by using the "I want to know, I know, I have learned" method, and the other issues will be solved by the "quadrants" method.

After the ordering of the results, an environmental message will be obtained.

The class time can be completed with a fall fair or a personal development game called "if I were a fruit (or a flower) I would like to be ... because ...". With the materials which the "autumn fair" was organized with - fruits, vegetables - chestnuts, pumpkins, leaves, etc. (Elements that encompass the theme) children will pose problems with intuitive support, thus proving a lot of creativity, imagination and active participation, cooperation and dynamism.

During such activities it can be seen that successful forms of individual work can be combined with work in pairs, classical methods with active methods, thus capitalizing on the specific didactic material.

By participating with interest and responsiveness of the students to such forms of education, this type of experience of assimilation and understanding processes has capitalized the potential of each child, resulting in the development of attitudes, behaviors, flexibility of thinking, curiosity and complex motivation.

CONCLUSIONS

Numerical, mathematical and digital skills and understanding of the sciences are also vital for active participation in the knowledge society and the competitiveness of modern economies. Children's first experiences are essential, but students often have the fear of learning math and therefore some of them are trying to avoid this discipline. Different didactic strategies can change this attitude, improve the level of achievement, and open up to new learning opportunities.

The curriculum of mathematical discipline is developed on the basis of a new model of curricular design, centered on competencies. Through its structure, it contributes to the development of the pupil's primary education profile. From the perspective of the subject of study, the orientation of the didactic approach starting from competencies allows to emphasize the purpose for which it is learned and the importance of the dimensional action in forming the pupil's personality.

In the drafting process, the authors took into account the European recommendations on key competences, the results of national and international tests on primary education in recent years as well as the requirements of the TIMMS Reference Framework 2011. From this perspective, students are helped to critically think about problems, identify solutions and solve problems using various methods.

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SPECIFIC ASPECTS OF THE DIFFERENTIATED ASSESSMENT IN MATHEMATICS LESSONS IN SECONDARY SCHOOL

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Abstract: *The purpose of the present paper is to highlight some specific aspects of the differentiated assessment in Mathematics lessons in secondary school where have been chosen different education strategies. It is analyzed and exemplified differentiated assessment through didactical game, using the interactive methods: "Gallery tour", "R.A.I." "Brainstorming", "Cube", "Jigsaw" and practical tests. At the end of the paper they drawn conclusions from the survey.*

Keywords: *assessment, differentiation, didactical game, interactive methods, practical tests*

1. INTRODUCTION

"The roles of teachers today are more and more complex. Some roles are being extended (for example the classic role of teaching is today very rich: to teach means more than transmitting information. To teach means to create an adequate learning context, to use ICT, to monitor students' learning, to help students become active participants in learning etc.)". [9]

„Differentiation and individualization of training is an old, but current pedagogical problem, since people have been different from each other not only regarding their way of thinking and being, but by the ability and pace of learning, by the attitude toward it. " [4] Differentiated work is the main way to improve school performance in mathematics. A differentiated work with students in mathematics classes involves choosing the scientific content, the teaching strategies appropriate teaching - learning-assess them according to the possibilities and particularities of students. "Individualized work is different from individual work, it involves adaptation of the volume of information and teaching methods to fit the skills of each student. "[7]

Individualized work lies not in individual performing of the same work by all, but choose the specific work adapted to each individual. " [3] Differentiation and individualisation of the strategies is closely related to differentiation of assessment strategies.

"The behavior of the teacher assessment plays a key role in giving students feedback on Their Performance Enhancing learning and motivation". [2]

"In recent decades assessment has become one of the major problems in education and teaching. The changes of social, political, economic, etc. conceptions determine transformations also in assessment ". [8]

"By diversifying and differentiated application of assessment forms, the school progress may be significantly affected." [5] This can be done in various ways, knowing that "there are no patterns , recipes to be compulsory but will be needed instead of talent and desire to discover the call-vocation for being a math teacher." [7]

2.PROCEDURES OF DIFFERENTIATED ASSESSMENT IN MATHEMATICS

The success of mathematics lessons is in direct dependence with the assessment made by the teacher. It is natural that when surrender of mathematical notions is made using differentiated scientific contents and differentiated teaching strategies the assessment to be also done differentiated. It is not appropriate that the grades obtained by differentiated assessment to be always written in the catalog.

Sharing pupils into groups of level can be done in several ways.Thus, in the case of acquisition of new classes, as happens especially in the fifth grade it is good at the beginning of the school year to give 2-3 tests to establish the level of knowledge of the pupils in relation to the level of their demands. A differentiation of tests on different indicators, such as: knowledge, calculation, of perspicacity helps to a first classification which will be confirmed or invalidated subsequently in current activities. [1]

"Slipping" pupils of a group level to another depending on the marks obtained in each assessment may be considered a criterion for sharing that stimulate pupils in learning, in getting better grades.

Applying the assessment methods differentiated in the lessons of mathematics in which were chosen differentiated instruction strategies, can be done in several ways, all with the idea to get feedback more closely, allowing the teacher to intervene promptly in helping to progress both the pupils which have a high level of knowledge in mathematics, and those with lower levels. We present in the following some of them, specifying that the differentiated assessment in mathematics lessons can be designed in many other ways, than those analyzed below, which are dictated by the existing needs in the classroom.

a) In order to achieve a differentiated assessments the teacher can apply a didactical game.

b) In order to achieve a differentiated assessments the teacher can apply an interactive method.

c) In order to achieve a differentiated assessments the teacher can apply practical tests.

d) Most common differentiated assessments is performed using written tests given to groups level.

As a result of the differentiated assessment the teacher will apply ameliorative measures. Thus, he can take recap and systematization of knowledges lessons in which, through a differentiated work to solve recovery exercises for pupils with poor results, and difficult exercises for those with very good results.

It is analyze and exemplify forwards some of the ways of differentiated assessment listed above.

3. DIFFERENTIATED ASSESSMENT THROUGH DIDACTICAL GAME

If in the mathematics lessons, it is intended that the assessment to achieve differentiated by using the didactical game, this can be done in several ways, one of them will be described below.

It can be used a single didactical game, to whom will be composed one or two complications. The competition is individual. Each pupil, depending on his level of knowledge in mathematics, will be directed by the teacher to participate in a setting. Thus, pupils with lower level in mathematics, participating in the basic version of the game, while pupils with a higher level in mathematics, participate to the complications of the game. This variant of differentiated assessment is exemplified in the following.

Example of differentiated summative assessment of pupils (having three levels of difficulty) through didactical game: "Find the correct result"-for the eighth grade - (The exercises of the worksheets for this example are taken from [6]).

Are assessed the formation to pupils the specific competence: 2.1. Using in exercises of the definition of intervals of real numbers and their representation on the axis of numbers.

Purpose: Assessment of knowledge acquired in the learning unit: Intervals of real numbers.

Didactic task: To solve exercises / problems on the worksheet received.

Teaching materials: Worksheets containing exercises / problems on three levels of difficulty.

Game elements: applause.

The gameplay. The teacher tells pupils that the average of grades obtained by them after solving exercises on the worksheet will be counted in the contest weekly organized at school between eighth grade. Then share sheets to each pupil, depending on his mathematics level of knowledge as follows: sheet A, those low achievers, sheet B, those with medium level, and sheet C, those with high level.

Thereafter the pupils working independently write on the worksheets the solving of exercises / problems.

All pupils who obtain correct results will be stand up and applauded by classmates who made mistakes during solving. For pupils who had difficulty in assimilating of knowledge will be given worksheets to eliminate gaps recovery.

Worksheet A (Low level)

1.Determine the sets:

$A=\{x\in R\,|\,x\in(-5;2]\vee x\in(-2;5]\};C=\{x\in R\,|\,x\in(-4;3]\wedge x\in[-3;4)\}.$

2.Let the sets: $A=\{x\in R\,|-\sqrt{3}<x\le 2\};B=\{x\in R\,|\,\sqrt{5}\le x<4\}.$

a) Write the sets A and B as an interval.

b) Determine the sets: $C=\{x\in R\,|\,x\in A\wedge x\in B\};D=\{x\in R\,|\,x\in A\vee x\in B\}.$

Worksheet B (Intermediate)

1.Determine $a\in Z$ in the following situations:

$(-2;2)\cap[a;5]=[-1;2)\quad(-\infty;1]\cup[-1;a]=[-\infty;3]$

2.Let the sets:

$A=\{x\in R\|\,2x-6\,|=0\};\quad B=\{x\in Z\|x\,|\le 3\}.$

a)Determine the elements of the sets A and B.

b)Calculate : $A\cup B;A\cap B;A-B;B-A;A\times B;B\times A.$

Worksheet C (High level)

1.Determine:

$A\cup B\cup C\cup D;A\cap B;A-B;B-A;A\times B;B\times A;C\cup D;C\cap D;C-D;D-C;C\times D,$

where:

$A=\{x\in R\|x-3\,|>2\};\ B=\{x\in Z\,|\,1\le\frac{3x+7}{4}\le 7\};\ C=\{x\in R\|\,4x^2-36\,|+|\,2x-6\,|=0\};$

and $D=\{x\in Z\,\|x-1|\leq 2\}$.

2.If $x\in[-3;2]$ and $y=\frac{x+3}{5}$, than the expression:

$E=\sqrt{x^2+y^2+6x+9}+\sqrt{x^2+y^2-4x-2y+5}$ is constant.

3. DIFFERENTIATED ASSESSMENT THROUGH INTERACTIVE METHODS

By using the interactive methods in order to do a differentiated assessment in some mathematics lessons, there are removed some obstacles of progress, both for pupils with special needs and for other pupils because in this way it can discover more accurately their gaps in mathematics.

Other than the solutions presented below, there are also ways to achieve the differentiation in the assessment process using versions of the known interactive methods which will be chosen according to the needs found in the classroom, and to the learning style of each student.

In the following we want to adapt some of the interactive methods in order to do a differentiated assessment of pupils' knowledge, of those with reduced learning abilities, of those who achieve a medium level and for pupils with performance in mathematics.

3.1. "Gallery tour" is an interactive method, which aids in the formative assessment in mathematics work, carried out by groups of pupils.

A variant of differentiated usage, in order to assess pupils' knowledge in mathematics lessons, of the method "Gallery tour" could be:

The teacher prepares three worksheets: one having problems with low level of difficulty, another having mid-level and third with high level. Then he shares them to the pupils according to their level of knowledge in mathematics, and ask them to group themselves after the number of the sheet received.

It is thus formed a group of pupils of low mathematics level, another group of pupils of middle and a third of those very good at mathematics.The pupils collaborate to solve the problems on the worksheet received and write down the solution that they founded. After the work timeis up, one representative of each group present the founded solution, then the groups analyzes and corrects if necessary these solutions, following that in the end each group have to read the comments they received. This differentiated assessment version is exemplified further.

Example of differentiated assessment of pupils (on three levels of difficulty) through the "Gallery tour" method.

With this sample is checked formation to the pupils of the following specific competences: 5.2. Determination of the solutions of some equations, inequations and systems of equations; 6.2. Identification of some problems that are solved using equations, inequalities and systems of equations, solving them and interpreting the outcome.

The eighth grade

Learning unit: Equations and inequations

The lesson's subject: equations and systems of equations. Recap.

The lesson's type: Assessment lesson.

Stages:

It formed 3 groups of pupils according to their level of knowledge in algebra.

II. Each group receives one worksheet corresponding to the level of the group, as follows:

Worksheet A (Low level)

1.Solve in N the following equation : $-x-4=4x+1.$

2. Solve in RxR the following system of equations: $\begin{cases} x+y=5 \\ x-y=3. \end{cases}$

3.Compose a problem which leads you to the equation: $x+5=0.$

Worksheet B (Intermediate)

1.Solve in N and in Z the equation: $\frac{4x}{3}=\frac{x-2}{2}+\frac{x+3}{6}$

2. In a building are apartments with 1 and 4 rooms. If the total are 30 apartments and 90 rooms, how many apartments are 1 and how are 4 rooms in the building?

3.Compose a problem that lead you to the system of equations: $\begin{cases} 3x-2y=7 \\ 5x+3y=37. \end{cases}$

Worksheet C (High level)

1.Solve in RxR the system of equations: $\begin{cases} 11|x|-2|y|=31 \\ 5|x|+7|y|=22. \end{cases}$

2. A child arrange his stamps in a stamp collectig book. If he placed on a page 50-stamps, then 10 stamps do not occur, and if he puts on a page 60, then 4 pages are empty. How many stamps have the child and how many pages has the stamp collectig book?

3. Compose a problem which leads you to the system of equations: $\begin{cases} 5x+y=55 \\ (x-1)(y+1)=xy+10. \end{cases}$

III. The activities' products of the groups of pupils: 3 sheets with exercises / problems solved on each sheet, they put themselves on the classroom walls.

IV. At the teacher' signal, the pupils groups pass at each sheet by turn, examine the solutions given by their classmates and on a separate sheet placed under the exposed sheet write under the number of their team their critical comments, questions, comments.

V. After the "Gallery tour" ends, groups return to their places and read the opinions from their classmates about what they worked and then review and make the corrections.

3.2. „R.A.I." method could also be used in order to do pupils' differentiated assessment of their knowledge in mathematics lessons. A variant of this method could be: each student is asked to bring to the chair on a note a question formulated by him. When a student throw the ball another student, the teacher will read him a question, of those formulated of the classmates, corresponding to his level of preparation in math.After applying this variant of „R.A.I.", will get two or three sets of questions of varying difficulty.

Example of oral differentiated assessment of pupils (on three levels of difficulty) through the "R.A.I." method- to the eighth grade.

With this sample is checked formation to the pupils of the following specific competence:1.8. The recognition and description of the elements of a circle in a given geometrical configuration.

The lesson's subject: Circle: definition; elements in a circle; angle to the center.

The lesson's type: Assessment lesson.

Variants of questions with varying degrees of difficulty:

1.What is the circle, the radius and the diameter, etc. (Low level)

2.What is the measure of an angle to the center? (Low level)
3.What is the link between radius and diameter? (Low level)
4.What is meant by congruent circles? (Low level)
5. What is the chord of a circle? (Low level)
6. What is a circular arc? (Low level)
7.What is an angle to the center ? (Intermediate)
8.What is meant by inside the circle? But by his outside? (Intermediate)
9.What is meant by disk of center O and radius R? (Intermediate)
10.What is the unit of measure of arches? (Intermediate)
11. What theorem about congruent arcs in a circle do you know? (High level)
12. What theorem about the diameter orthogonal to a chord do you know? (High level)
13. What theorem about arcs equally spaced from the center do you know? (High level)
14. What theorem about arcs comprised between parallel chords do you know? (High level)

3.3. Variants of the "Brainstorming" method used differentially in order to assess pupils knowledge, stimulate imagination and thinking skills, especially its fluidity for all pupils not just for those very good at mathematics.

A variant of „Brainstorming" method could be: the teacher form 2 or 3 groups of pupils according to their level of knowledge (for example the teacher will give each student the class, depending on the level his knowledge in mathematics, a badge, on which he will find written the name of the team he will belong to) and in each group, in which work tasks are appropriate to the level of the group applies this method. This suggestion of differentiated assessment by means of a "Brainstorming'" variant is shown below.

Example of differentiated assessment of pupils (on three levels of difficulty) through the " Brainstorming" method- to the sixth grade.

With this sample is checked formation to the pupils of the following specific competence: 4.3. Applying the rules for calculating and using parentheses in performing operations with integers.

The teacher performs three questions, respectively having three levels of difficulty. Divide one sheet containing one of three questions, to each student depending on his level of knowledge in mathematics. Pupils on the same sheet are grouped together and compose during 10 minutes as many problems. After time runs out, they will discuss all matters composed by pupils. Will be written on the blackboard and notebooks most original compositions at each level.Worksheet 1 (Low level)

Compose problems whose solutions leads to the calculation of the expression:

$1000-1500-800\cdot 5:4.$

Worksheet 2 (Intermediate)

Compose problems whose solutions leads to the calculation of the expression:

$[10000-(1500-80\cdot 5)]:10.$

Worksheet 3 (High level)

Compose problems whose solutions leads to the calculation of the expression:

$[(10000-1500-800)\cdot 5-100]:3.$

3.4. The ,,Cube"method could be applied differentiated to the assessment lessons for algebra but especially for geometry, in which there are more theoretical concepts available due to its adaptability to different subjects but also its positive impact on pupils.

Its use as a method of differentiated assessment in mathematics could be made in several ways.

a) Using a variant of this interactive method, depending on theme, you could assess differentiated in mathematics, as follows: for each face of the cube, the teacher will perform two or three worksheets with two or three difficulty levels. The pupils will be dealt with delicately in two or three homogeneous groups (eg teacher will give each student a card, depending on the level his knowledge in mathematics, to which find written the name or number of the team which he would belong to), and to each group will apply the method of "Cube" with topics appropriate level group.

b) Another way of differentiated assessment using a variant of this method could be: worksheets corresponding to two of verbs contain mild exercises, the other two verbs contain exercises or problems of medium difficulty, and for the last two , difficult issues. They will be dealt pupils into three homogeneous groups and each group will receive two verbs containing exercises having a level appropriate to the level of group.
Depending on the specific situation of the class, they can find other versions of differentiated assessment with this interactive method.
Variant b) is exemplified further.

Example of differentiated assessment of pupils (on three levels of difficulty) through the " Cube" method- to the sixth grade.

With this sample is checked formation to the pupils of the following specific competence: 1.1. Identification of characteristics of natural numbers and of writing form of a natural number in various contexts; 2.1. Use of arithmetical operations and their properties in calculations with natural numbers.

The fifth grade

The lesson's subject:

Recap from the fourth grade: Natural numbers less than or equal to 1 000 000
-the teacher introduce the didactic material for pupils: a cube that will be attached to each face one worksheet;
-it will work differentiated: for low level will be the faces of the cube:,, apply "and "describe,," for medium level:,, associate "and ,, analyze" and for the high level:,, argue "and "compares,, ".
-the teacher will organize pupils on 3 levels, each group receiving its level corresponding tasks.

Low level:

1. "Apply":

Apply the learned algorithms in order to effect the following exercices:

a. $2^4 \times 1000 + 4^2 \times 100 + 2^2 \times 10^2 + 6 =$
b. $65091 - (5076 + 1225) =$

2. "Describe":

Describe how formed the following numbers:

Model: $22468 = 2 \times 10000 + 2 \times 1000 + 4 \times 100 + 6 \times 10 + 8$

a. $45137750 =$
b. $6710104 =$

Intermediate:

3. "Associate ":

Associate, through an arrow, an element from column A with an element from column B:

A		B
1.	986053	a. Thirty-one thousand eight hundred and seventy-fiv
2.	31875	b. Eight thousand eight hundred and eighty-five
		c. Nine hundred eighty-six thousand and fifty-three

,, Analyze":

Analize the rule and continue the strings with more 4 numbers.

a) 2016; 1205; 2016; 1207; …….;
b) 769963; 769 972; 769 981; 769 992; ……..;

High level:

4. "Argue":

Argue the truth value of following statements:

1. The natural numbers written in increasing order: 0, 1, 2, 3, 4 , ……, n, n + 1,..., form the string of natural numbers.

2.134484, 134486, 134489 and 134490 are consecutive even natural numbers.

5. "Compare":

Compare the pairs of numbers:

a) 310104 and 32414
237711 and 237711
b) 375739 and 37839
19344 and 19434

3.5. „Jigsaw" method could also be used in order to do pupils' differentiated assessment of their knowledge in mathematics lessons. Variants of this method could be:

a) Subthemes corresponding the expert-sheet to be chosen so that everyone has different degree of difficulty, ie will be assessed homogeneous groups of pupils.

b) The differentiated assessment activity in Mathematics, can be carried out using this method, as follows: sub-themes corresponding the expert-sheet to be similar in difficulty, but the requirements for each sub-themes to be projected on two or three levels of difficulty, so any pupil from each group be able to contribute to solving it, ie assessment will be done on heterogeneous groups of pupils.

Depending on the needs of the class, you may experience other ways of applying differentiated this interactive methods in order to assess pupils' knowledge.

Variants of differentiated application of this method can be used both in algebra classes and in the geometry.

Variant b) is further exemplified.

Example of differentiated assessment of pupils through the " Jigsaw" method- the seventh grade.

With this sample is checked formation to the pupils of the following specific competence: 5.8. Deduction some properties of circle and regular polygons using geometric representations and concepts studied.

The lesson's subject: Calculation of the side and apotema in regular polygons

The type of lesson:Acquisition of new knowledge

The lesson's event:Feedback

A variant of differentiated assessment performed using the " Jigsaw" method could be: pupils are divided into three teams heterogeneous. The expert sheet contains the sub-themes:

1. The equilateral triangle. 2. The regular hexagon. 3.The square.

The evaluation sheet for each sub-theme contains items of increasing difficulty, so that pupils with a lower level of knowledge in mathematics can contribute to its achieving.

Sub-theme 1.The equilateral triangle.

1. Calculate depending on equilateral triangle side l, the perimeter and apotema of the equilateral triangle. (Low level)
2. On consider an equilateral triangle with side l and R the circumradius. Determine R and equilateral triangle area depending on l, and equilateral triangle apotema depending on R. (Intermediate)

Sub-theme 2. The regular hexagon.

1. Calculate depending on regular hexagon side-l, the perimeter and apotema of the regular hexagon. (Low level)
2. On consider a regular hexagon with side l and R the circumradius. Determine R and regular hexagon area depending on l, and regular hexagon apotema depending on R. (Intermediate)

Sub-theme 3. The square.

1. Calculate depending on square side-l, the perimeter and apotema of the square. (Low level)
2. On consider a square with side l and R the circumradius. Determine R and square area depending on l, and square apotema depending on R. (Intermediate)

Pupils collaborate in each team in order to solve their tasks and then choose one representative to the blackboard to show the results. The teacher observe the entire activity and intervenes to make any clarifications or corrections.

4. DIFFERENTIATED ASSESSMENT THROUGH PRACTICAL TESTS

The practical tests are rarely used in differentiated pupils'assessment in mathematics, but it is good to be used for faster understanding of mathematical concepts. The assessment through the practical tests consists in assessing pupils' capacity of application for certain theoretical knowledge, practical skills and abilities in solving problems.Variants of differentiated assessment using this method could be shown below.

1.It can be assessed simultaneously by two practical tests having different difficulty, applied to two groups of pupils with different levels.

2.It can be assessed by a single practical test with increasing workloads difficulty, applied to the pairs of pupils homogeneous or not, who are deskmates. For the pairs that solve tasks quickly the teacher make available additional sheets of exercises while he can work with pupils who experience difficulties.

Case 1. Example of differentiated assessment of pupils by two practical tests of varying difficulty, applied to two groups of pupils with different level of knowledge –the seventh grade,

Learning unit: Similar triangles.

Assessed sub-capacities:

-Identification of the similarity of triangles in a given configuration and recognizing of the concept of similarity report.

- Association of learned theorems with encountered concrete situations for practical problem solving.

- Transposition of the drawing of pairs of triangles that verifies a criterion of similarity.

Type test: Practical test

Working time: 15 minutes

Performance of the test:

Pupils are divided into two groups according to their knowledge level in geometry and each group gets one sheet whoose items correspond to the level of the group: Practical test 1(Intermediate)

With a pantograph build a triangle similar with the triangle ABC of the model, knowing that the similarity report is $\frac{2}{3}$. After building, knowing that AB = 0,4 dm, AC = 100mm and CB = 8cm, calculate the report of the perimeters of the given triangle and the built one. What do you notice?

Practical test 2 (High level)

Determine the height of a tree using the shadow, considering that at a time of sunny day the sun rays form with the ground congruent angles. It is known the shade of the tree (6m), the height of the observer - pupil (1m and 50cm) and its shadow (1m).

Case 2. Example of differentiated assessment of pupils by a practical test having unique work tasks with increasing difficulty, applied to pairs of pupils who are bank fellow.

Assessment through practical test –the fifth grade

Learning unit: Ordinary fractions.

Specific competence assessed:

2.1.Recognition of equivalent fractions, irreducible fractions and forms of writing a rational number.

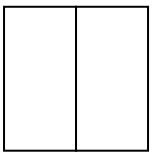
Assessed sub-capacitiy:Use the fractional numbers to express subdivisions of the whole.

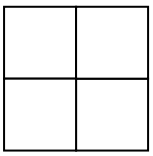
Teaching materials: paper, scissors, circles, rectangles, squares.

Sample content and technology of the deployment:

1.At the beginning of the acquire of new knowledge lesson, entitled "Equivalent Fractions" pupils will be asked to obtain (by cutting) a half of the first sheet and two quarters of the second sheet.

Compare overlapping the half with the two quarters and say what you observed.

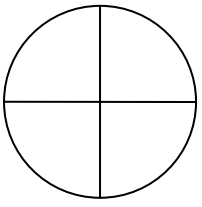


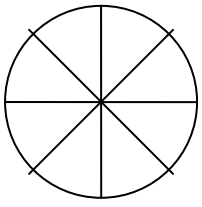


(Low level)

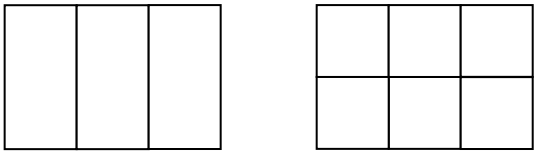
$$\frac{1}{2} = \frac{2}{4}$$

2.Same will apply with circles and rectangles.





$$\frac{1}{4} = \frac{2}{8}$$



(Low level)

$\frac{2}{3}=\frac{4}{6}$.

3.Perform the following operations with the help of didactical materials:

$\frac{5}{6}+\frac{4}{6}$

$\frac{3}{8}+\frac{2}{8}$ (Intermediate)

Work time: 10 minutes

Sheet with additional exercises for pupils who finish the race faster:

1. Get (cut) $\frac{3}{4}$ from the first sheet and $\frac{6}{8}$ from the second sheet. Compare by overlapping the 3 quarters with the 6 eighths and say what have you noticed.

2. Get (cut) $\frac{1}{5}$ from the first sheet and $\frac{2}{10}$ from the second sheet. Compare by overlapping 1 fifth with two tenths and say what have you observed.

3. Perform the following operations with the help of didactical materials: $\frac{2}{3}+\frac{3}{6}$; $\frac{3}{6}+\frac{7}{6}$.

CONCLUSIONS

The assessment of pupils knowledge in math in middle school, used as a strategy of differentiated instruction can be achieved both through teaching math game, and through interactive methods or practical tests, but more often through assessment tests. Assessment can not be made permanently differentiated, because on one hand nor teaching - learning is not made permanently or using differentiated teaching- learning methods, or the didactical means, and on the other hand, noting the low level sample assessment with the high level presents certain inconveniences certain limits that could lead to the demobilization of pupils who have strong knowledge in mathematics. Didactical math game, interactive methods, and practical tests organized differentiated may serve as oral or written assessment methods in algebra or geometry lessons.

There are more variants of the differentiation in the assessment process, using versions of the known interactive methods which will be chosen according to the needs found in the classroom, and to the learning style of each pupil.

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ADAPTATION TO THE STUDENTS' EDUCATIVE REQUIREMENTS BY DEVELOPING TEACHER'S CREATIVITY

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Abstract: *Most times the cultivation of creativity in education has been seen as a unilateral process by which they have sought to develop pupils' creativity by using different methods and techniques. This article emphasizes the importance of developing teacher's creativity as part of a bilateral process, in which both student and teacher must adapt to new socio-cultural requirements*

Keywords: *creativity, personality, knowledge, creative teaching*

1. INTRODUCTION

Over the years, at the society level numerous and diverse changes have occurred as a reaction to the development of new technologies which has generated the need to change perspectives on the content and the educational process. Adapting to the new socio-cultural requirements is a challenge, both for teachers and pupils, because it involves changes in the methodological aspect, of the content, but also in the psychological one. Research in recent years have shown that classic teaching-learning-assessment methods are not sufficient, or appropriate, and they do not demonstrate the same efficiency as in the previous years, thus emphasizing the need to modify the learning process towards a better adaptation to the changes and requests coming from the socio-cultural environment.

2. CREATIVITY IN THE NEW SOCIO-CULTURAL CONTEXT

In the past years the concept of creative training is more increasingly emphasized, creativity is seen as a prerequisite and an essential component of the educational process. Although there are various attempts to define the creative training, from the connection with certain features, characteristics, behaviors, techniques, methods and arrangements of the class [6], to the effective training meaning instrumental aspects or tasks there has not been reached at a consensus but on what "is not": traditional, focused on teacher [5]. Trow (1997), referring to the teacher's creative behavior, claimed that "not even originality is important, but only by thinking through the key ideas in the text or lesson and identifying the alternative ways of presenting them to students" [5].

Sometimes students' and teachers' educational journey is characterized by different perceptions about what matters in the learning process [3]. This makes the appearance of certain differences between the two partners of the educational act, each of them aiming to meet targets set by the content of the educational process and requirements coming from the socio-cultural environment.

In this respect, most studies emphasize the role and importance of assuring a creative training, which allows the possibility of training and development of complex representations upon the educational process by which it is provided a proper and common vision suitable for both students and teacher's needs.

Recent studies and observations made on the education system have shown the existence of a difficult situation which is faced by a majority of teachers. They are encountering significant difficulties in maintaining attention and gaining student interest [4], they representing one of the desiderata of the learning process. The causes underlying the loss of student's attention and interest are of many and various kinds, from science and technology development to psychological and behavior features and professional expertise.

Many times, the teacher is in a situation, in which the information he presents to students is already known and they lose interest and do not pay attention anymore to the lessons. The new technology resources give students great opportunities in terms of information and knowledge acquisition both in and outside the school areas. Thus, one of the main sources of information is the Internet, and in that way the student has access to knowledge that were previously available only by means of school represented by teachers or libraries and bookshops. We believe that with the emergence of new sources of information and technology were launched a challenge for teachers: to change and to adapt their lessons or not to handle the new educational demands from the part of the students.

Vygotsky (1963) said that "everything that exceeds the limits of routine in daily life and includes at least a touch of novelty can be called creative process" [2]. Creativity is thus a feature of any person, differing the extent in which it describes the specific behavior of the individual. The creative process cannot be separated from the other mental processes, especially the intellectual and aptitude factors, a particularly important role is played by the motivational, emotional or attitudinal factors providing the necessary support for the development and cultivation of creativity by exploiting all psychosocial resources.

Psychological researches in educational field have shown that an important role in the formation and development of teaching skills is played by the personality traits which hallmark teacher's behavior and attitude. Although many studies refer to the ideal teacher, creative training should not be limited to this.

Observations and experience emphasized some differences between teachers in as far as attracting and retaining students' attention and interest, [4] they wanting a more creative approach of the learning process. It is known that certain personality types and individual styles are geared more towards creativity, but if this part of the personality is seen from the perspective of a methodological approach, it becomes a resource and a feature of any educational approach.

One of the basic requirements of any changes is the manifestation of the desire for change. That is why, in order to adopt a more creative style in the learning process teacher must first be motivated to adopt an appropriate attitude to change his approach, to adjust his perspective on learning in relation to partners' requests concerning the educational act and then to identify the efficient ways by means of which he can accomplish the methodological approaches, of content or of any other kind, necessary to his approach.

A strong influence on the educational process and the methods used therein has shown teachers conformism, that desire or need "to adjust the values and representations of others" [2] to avoid suspicion, disapproval or even exclusion from other members.

This form of social blockage [1] is reflected not only in the behavior of experienced teachers but it has been identified even in the case of novice teachers. It appears the trend to be implemented only certain teaching strategies, they often are those learned during their own years of study, those taught in special programs for teachers or the usual ones, applied within the educational institution or system.

Professional development itself determines by increasing the expertise and knowledge in the respective domain the improvement of communication skills, forms of educational objectives and teaching so that teaching and learning and interacting with students should become more efficient. In this way, teachers can provide full information in terms of their networking needs and students' knowledge, adapted to students' educational needs, creating the possibility of forming and developing a more complex understanding of the information content.

New and creative approaches of the learning process requires a whole change in how the lessons are seen and perceived, regardless of discipline, profile or level of study.

Being creative is not simply a behavioral change, here and now, but a continuous transformation, to continuously adapt to the socio-cultural environment and to the requirements coming from it. Any change requires some effort, especially when it is sought to be permanent, regardless of field or nature of the change.

To implement innovative and exciting approaches countless hours of study, planning and organization are required, only through previous intensive and extensive preparation the teacher will be able to bring those elements in his work to ensure the students' attention and interest elicitation.

A creative training involves different learning methods, strategies and approaches tailored to specific students or areas. Sometimes the creative process of learning has been understood only as the development of the teaching component, other components are ignored. But creativity stimulation through the educational process is not just a single aspect of it, but all factors and processes involved in the educational act. If in as far as the teaching is concerned remarkable progress has been made changing it in a more complex and interactive one thus, learning process becoming easier. But the need to change the evaluation instruments and the criteria must be emphasized so that they should reflect and stimulate thinking and learning that promotes understanding, establishing connections between knowledge and daily life, creativity and continuous development.

Moreover, application of inappropriate methods of assessing current conditions for the development of socio-cultural environment and students' educational requirements strengthens the classic relationship already established between school performances and creativity although there are numberless scientific evidences that proved the lack of a predictive value of the school marks in as far as the creative behavior and the students' future contributions in specific fields of activity are concerned. Some scientists' remarkable results against their negative school appreciation are examples of the failure of the assessing classical methods and of the decisive role of a correct adequate education adapted to the students, in other words of a learning system focused upon the student.

Although the education system shows a growing tendency for creativity and innovation, analyses concerning the implementation ways have shown that when training innovative methods and strategies are applied they are used many times without fully understanding its optimal mechanism which can lead to failures in both the sending and receiving adequate knowledge and the personal level, being felt on a psychological level.

To prevent such situations that can cause avoidance of the application of some creative teaching methods it is necessary a fully complete understanding and an adequate knowledge from the part of the teacher.

Also, the mere use of new technologies is not a change in a creative meaning of the training process, but a change in the form of disclosure, which does not stimulate students' interest and do not contribute constructively to the learning process.

CONCLUSIONS

By the attitude and the relationship with students, by including creative strategies and new methods, by promoting a favorable environment and creating new opportunities of expressing ideas, the teacher can significantly influence the development of the student's creative and educational potential. The school, viewed as a whole, should not be limited to the transmission of certain information, knowledge assessment and the marks progress; it must take the student's psychosocial development and the accomplishment of his potential.

The cultivation of creative thinking is one of the desiderata of contemporary education, regardless of factors, the level or the participants at the learning and education activity. Thus, to have creative students is necessary, first, developing the creativity of teachers and, last but not least, implementing an education system which promotes a creative training.

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PEER VICTIMIZATION: FROM PRESCHOOL TO ADULTHOOD

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Abstract: *In recent years it can be noted an intensive study on school bullying and peer victimization. The majorities of psychological and pedagogical studies have illustrated the effects of socio-cultural factors (e.g., school climate, peer pressure, parental education, cultural beliefs) on children's involvement in aggressive behavior, and the significant distress related to ongoing peer victimization in children, regardless of they age. The researchers found that victimization is related with social and psychological maladjustment, reduced physical well-being, at all ages*

Keywords: *peer victimization, school bullying, distress, educational policies, prevention and intervention program*

1. INTRODUCTION

Although, at international level, bullying among children and youth is not new, in Romania, however, studying it is only in the beginning stage. Bullying is a significant global problem, on the rise, which affects a great number of students attending all types of education institutions, no matter their size or the financing status. During the last few years, because of its devastating effects on students (starting as early as pre-school age), this phenomenon has drawn the attention of professors, politicians, professionals of the mental health domain and of the medical system, and mass-media.

A recent study (2016), conducted by the Save the Children in Romania organization, which researched the perception of parents and children on bullying, as well as their attitudes and behavior towards this phenomenon, revealed the fact that 1 out of 4 children is repeatedly humiliated by his/her peer-group, 3 out of 10 students is repeatedly excluded from his group of colleagues, and 4 out of 10 children were hurt as a result of other children's repeatedly violent behavior. By analyzing this information, we may draw the conclusion that more than 30% of the students have been in the position to witness/participate in such an event at least once. Similar results were obtained by Robers, Kemp, & Truman (2013) [33] as well, who emphasized the fact that 33% of the students had reported having been bullied during school.

No matter the form of its manifestation, violence has a devastating impact on children at all evolution levels (cognitive, emotional, social, behavioral), irrespective of the age, sex, or other criteria.

2. CONCEPTUAL FRAMEWORK

Bullying represents a form of manifesting violence in school, which threatens the child's process of development and learning. Various definitions of this concept have been provided over the years, most researchers considering it a sub-type of aggressive behavior, by means of which one intends to gain/exercise control or power over a victim perceived as weaker (physically, socially, or from any other point of view), by resorting to diverse methods, repeated over time [44]. Studies in this respect mention three main characteristics of bullying: 1. there is clear intention to inflict suffering to harm the other(s); 2. the relationship between the bully and the victim is unequal from the perspective of power balance; 3. aggressive behavior is repeated [5, 19, 29, 40]. The empirical observations recorded so far suggest a fourth characteristic: aggressive behavior is not manifested overtly, but in spaces that authority has no control over (in spaces where the adults are not present).

Bullying is an umbrella concept for a series of varied attitudes and behavior, relatively stable in time (Save the Children, 2016), which may come in different forms, from using words (ironizing, teasing, labeling, threatening, blackmailing, slandering) [29] to physical actions (bumping, shoving) or to more subtle actions such as social exclusion (by spreading rumors, manipulating friendships, prohibiting speech to or about certain colleagues or prohibiting playing with someone or that somebody may play with them) [14, 25, 29, 36].

Another classification distinguishes between the psychological and the physical aspect, the former being most often considered less important than the latter, particularly because of the difficulty in identifying certain forms it takes [2]. Psychological bullying refers to social and relational aggressions such as verbal manifestations, threatening gestures, malevolent phone calls, slandering rumors, social exclusion, etc. As we recorded the evolution of technology, communication media, and, especially, the internet and social networks, a new phenomenon emerged, called cyber-bullying, and bullying behavior gained a larger area of manifestation, thus increasing the impact on the victim, who finds it sometimes impossible to defend herself/himself (anonymous posts/messages, areas where the victim has no access to/no possibility to retaliate).

Considering the manner in which the victim experiences the aggressor's attack, bullying behavior may be direct or indirect. Direct bullying includes physical or verbal attacks on the victim, whereas indirect bullying is represented by the attempts to isolate/marginalize the victim by means of subtle attacks on social relations, social status, which makes it more difficult to identify.

We notice that there are several things that put their mark upon the way in which bullying is perceived, defined and described, such as age (younger children focusing more on physical aspects than on psychological or indirect ones), cultural differences (the interpreting of, the degree of accepting or even encouraging bullying-type behavior), or the work place (e.g. where status is synonymous with authoritarianism) [9, 41].

With respect to bullying patterns, research has revealed differences in point of gender and age in manifesting one form of bullying or another, Crick & Nelson (2002) [8] emphasizing the fact that girls tend to resort more often to verbal or indirect forms of bullying, whereas boys particularly employ direct, physical strategies. Craig & Pepler's study (2003) [7] suggests an evolution of bullying strategies as the individual develops, predominantly physical in early childhood, verbal and physical towards adolescence.

The bullying situation involves and forces, at the same time, all participants to assume one of the three types of roles, according to the behavior adopted: conformist – the by-stander, being victimized – the victim, aggressive – the bully [28].

Over the years, certain dynamics of children's involvement in such roles has been noticed, the students taking on different roles in the bullying process.

Thus, as an individual, you may find yourself in various social situations related to bullying: you may be an observer (by-stander), you may be undergoing aggression (victim), or you may be the one perpetuating this behavior (bully)[35].

Studies conducted on the by-stander's role have proved the fact that it plays an essential role in positive encouraging or diminishing/eradicating bullying behavior, with four types of the by-stander's attitude being identified: 1. "assistants" – the ones who get directly and actively involved in bullying behavior, supporting he bully; 2. "reinforcers" – the ones who consider the situation funny and laugh, having fun at the victim's expense or making fun of the situation, or they just look on silently; 3. "outsiders" – who do not take anyone's side and most often leave the group; 4. "defenders" – who intervene and comfort the victim [16; 28; 37]. Because of the by-standers' role in maintaining, perpetuating, diminishing, and even eradicating bullying behavior, utmost importance should be given to elaborating and implementing some educational programs that would match the entire school, all the roles that could be taken on in the bullying process, with a view to preventing or intervening in cases when there are manifestations of such behavior within the educational environment.

Many adults, no matter the role they play in a child's life (parents, grandparents, teachers, counselors), still have wrong beliefs regarding bullying, considering bullying either as a stage, as "normal" strategy in the child's development, in his/her adapting process, or as a "character strengthening" process or "man" building process. Wrong beliefs are also related to verbal bullying, considered harmless, as "words cannot harm anybody." The very victims are sometimes considered guilty because of their attitude, their vulnerability or by "telling on other people." The importance of these myths derives from the fact that their presence prevents the development of efficient intervention strategies that would support transforming, diminishing and even eradicating this type of behavior among children.

3. THE IMPACT AND PERVASIVENESS OF BULLYING

Numerous studies conducted so far have proved the fact that peer victimization, no matter the age when it happens, is associated with psycho-social difficulties, often affecting the victim's physical health [e.g. 4; 17; 32; 43]. Thus, pupils subjected to systematic peer victimization, have problems related to psycho-social adaptation, with a high risk of depression and suicide ideation, low self-esteem, shyness, loneliness, social anxiety, feelings of isolation and helplessness, lack of hope, distortions of self-image [e.g. 3; 6; 34]. Studies in this respect emphasize the fact that, with pupils who had been victims of bullying in school, there is higher probability of them undergoing bullying in the professional environment as well than with those who did not experience such interactions in school [38].

Bullying also determines the emergence of some barriers in the learning process both from the perspective of the students involved, and from the point of view of the educational institution. Bullying has a remarkably strong negative impact on academic achievements, victims displaying a high tendency towards missing school, low academic achievements, and diminished trust in oneself academically and in one's academic future. [e.g. 21; 20; 10; 31; 39]. One experiences and develops negative attitude towards school, low motivation as to the studying activity, low confidence in one's capability of adapting to the school environment.

Emotional distress caused by negative interactions with other people, experiencing daily humiliation, anxiety, sadness and fury, negative cognition related to the educational environment ("I don't belong here"), difficulties in making friends negatively impact on the student's involvement in the learning process [19; 26; 39].

The impact of bullying is also experienced somatically, the most frequent symptoms being headaches (migraines) and stomachaches, back pains, sleep disorder, night enuresis [45; 15].

Bullying represents a vicious circle, a cyclic, conflicting interaction, which becomes a significant source of chronic stress, with profound consequences on social, emotional, academic and physical development of students, no matter what age they are.

The negative effects of bullying may be noticed with all participants, no matter the role they play. Thus, distress symptoms have been found with bystanders as well, anxiety (the fear that they might become targets themselves), feeling helpless and beyond help, the vulnerability when confronted with aggressors requiring, many times, the intervention of professionals.

Although bullies are usually popular people, feared in class or school, yet, from a psycho-social perspective, one cannot neglect the negative effects that bullying has on the bullies. In their cases, there was recorded higher tendency towards alcoholism than with their peers, other types of antisocial behavior, low results and adapting to school, dropping out of school [17; 22; 27; 29].

To summarize, getting involved in bullying behavior, no matter the role a student plays, has a significant impact on all aspects of life, resulting in negative consequences at academic, social and psychological level.

4. CAUSES AND FACTORS THAT ARISE IN THE BULLYING PROCESS

Although it is a form of interpersonal aggression, bullying is not, however, a simple dyadic process between aggressor and victim, but a complex one, which manifests itself in different social contexts, taking various forms and involving diverse actors. The complexity of this umbrella-concept also relies on the existence of various factors which cause, promote, preserve or eradicate this behavior. Nowadays, bullying is considered to be a social phenomenon resulting from the interaction of the individual and the social environment, the relationships that the individual establishes with family, school, community, group of friends, the media (Bronfenbrenner's socio-ecological theory) [11; 12; 18; 42], aggressive actions representing, in fact, the result of imitating some models, of being subjected to violent contents (Bandura's social study theory, 1973).

Which are the characteristics of target children? What makes them vulnerable? Studies have shown that these children are generally suffering from anxiety, they are afraid, they cry very quickly, they do not possess coping mechanisms and strategies that would help them deal with other people's aggressive behavior [24].

Olweus (1993) includes, among individual risk factors in adopting bullying behavior, impulsiveness, the desire to dominate, underdevelopment or lack of empathy, physical strength.

The family environment is one of the most important factors of bullying behavior. The lack of positive parent models, physical punishments, violence within the family, lack of affection or insecure affection during early childhood, the lack of clear behavior rules, an overprotective and intrusive parenting style may constitute predictors of bullying and of roles within this phenomenon [1; 13; 29; 30]. The negative influence of the peers also presents a factor of getting involved in bullying behavior [13; 29], such people being able to initiate, maintain and encourage such behavior and attitudes

The way in which school, as the main educational milieu of the child, is perceived with regard to personal safety and that of others, of social relations and interactions, the importance granted to the family-school-community partnership, particularly influences students' behavior. A positive climate, based on positive values (respect, communication, getting involved, social support, security and safety, is related to positive behavior regarding both academic results and social interaction among students.

4. CONCLUSIONS

Prevention and intervention programs concerning bullying must address all these factors simultaneously. Not taking one into account diminishes or even cancels the positive effects of actions performed so far. A first step is awareness and accepting the existence of such behavior and of the extremely negative consequences for all parties involved (directly or indirectly), no matter the form of bullying. Each program must address both victims and by-standers and aggressors, as, behind each of them, there are numerous other factors motivating one to resort to such a type of behavior.

Due to its complexity, bullying behavior represents genuine risk factors for the psycho-social development of children, as they require attention and action from adults, institutions and community members.

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PRACTICAL GUIDELINES FOR PRACTICING PSYCHOMOTRICITY

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Abstract: *First steps in speech disorders therapy after screening is to assess students with disabilities complex language.*

A complex examination of each student is done in order to knowledge the psycho-somatic particularities, establish differential diagnosis, and elaborate collective and individual work programs.

It is evaluated the development of vocabulary, pronunciation of sounds, language psychological age, integrating phono -articulatory organs along with their motility.

Folllowing the implementation of therapy language disorders programs – focusing in breathing practice, phonemic hearing, the general mobolity and articulations, while issuing sounds and dropping them into sylables, words, phrases – respectively adapted to each student, each group

Particularly important is the introduction of a series of assessments after each sequence work upon which to continue or change the ways of the programs of therapy language disorders, focusing on securing and strengthening the sounds in words, sentences, phrases, both in current speech and in reading, recitation,singing, writing.

Periodic evaluation performed after going through each working sequence will have a formative role regarding both the volume and the quality of language acquisitions reflected at an individual level as well as the communication skills at a social level.

Practicing Psychomotricity involves exercises: breathing, developing hearing phonemic, the general motricity and articulations, complex intellectual stimulation, reading - writing as well as psychotherapeutic activities to educate students personalities will be permanent, weighting them in daily activities will be determined differently, in groups and individually, depending on each case pending in therapy. After therapeutic educational objective, psychomotor education complex can be achieved through:

1.EXERCISES TO DEVELOP GENERAL MOBILITY

a. Arms movements, legs, neck, body;

b. It will interchage tension exercises with muscle relaxation;

2. BREATHING EXERCISES EDUCATION

a. Concomitantly or separately with the general gymnastics, will perform breathing exercises;

b. Students will be trained to selfcontrol their breathing properly, by puttin hands on abdomen and thorax, associated with looking in the mirror to avoid lifting shoulders during inspiration;

c. Will be performed, in the form of a game, wind exercise with the help of some objects to control its strenght and direction of expiration;

d. Breathing exercises associated with issuing sounds and general gymnastic enforced in a rhythmic way;

3.DEVELOPMENT EXERCISES OF THE FACIAL MOTILITY

a. Raising and lowering brows;
b. Alternative closure of the eyes;
c. Simultaneously and alternately blinking;
d. Alternation: smile-frowning;
e. Alternative facial grimacing;

4.EXERCISES FOR DEVELOPING THE MOBILITY OF CHEEKS AND LIPS

a. Swell simultaneously cheeks with closed lips; then gently lapping cheeks for expelling air;
b. Alternative cheeks swell by passing air from right to left and vice versa
c. The cheeks are sucked inside the mouth;
d. Making movements that mimic sucking;
e. Alternately, lift lip corners;
f. Alternate smiley face with kissy face;
g. Catch a piece of paper between lips keeping the lips tight and moves up and down and then returns to the normal voltage of the lips;
h. With the lips held in normal tension blow gently pieces of paper, flakes, balloon etc;
i. Blow down balls in a trough, ratchet, whistle, in a bowl of water (to make waves or with the straw to make bubbles) , inflate a balloon, etc;
j. Induce vibrating lips separately, or in combination with vibration of the tongue

5.LINGUAL MOTOR SKILLS DEVELOPMENT EXERCISES:

a. For driveability language can be made classic exercises: arrow, shovel, small cup, trough, originally performed outside the mouth then withdraw slightly tongue in his mouth, holding the position previously made; Repeat 1-2 times;
b. Push tongue on one cheek ("candy", "swollen tooth"), and then on the other one;
c. "Clean" teeth with the tongue on both the outside and inside of the dental arch upper / lower;
d. Pass the tip of the tongue on the upper lip and then on the bottom, alternate between left - right, and / or rotary ("snout wiping");
e. Rises tip of the tongue trying to reach the nose;
f. Remove tongue outside as a “shovel” and leave it on the chin;
g. It raises the tip of the tongue and "pat" palate;
h. " Lick honey " from the hard palate;
i. Place the tongue on the vault palate behind the teeth and get lower with noise;
j. Alternatively corner of the lips are achieved with the tip of the tongue, with different mouth openings;
k. It rises and descends tongue under different opening angles of the mandible;
l. Pass the tip of his tongue on teeth top / bottom, from left to right and vice versa;
m. It raises the tip of the tongue on / under the upper lip and retracts with a splash;
n. Bonds tongue "shovel" to the surface of the palate and opens with a plash ("champagne cork");

o. It sits tongue "shovel" between teeth, supported by the lower lip and pronounce "drink" or "my'';

p. With tongue "shovel" wipe the vault palate;

q. Place tongue "shovel" between lips and blow strongly achieving with and then without concomitant vibration of the lips;

r. With the index finger placed under the tongue between the teeth, causes mechanical vibration of the tip of the tongue;

s. Rise root tongue to palate, with opened jaw at first, then they closed (this phase requires students to touch the neck speech therapist to feel as up and down the back of the tongue, then practice alone with self-check of own neck , it can be used a candy if it fails by imitation);

t. With the top of the tongue supported on the alveoli behind the lower teeth, make a strong movement pushing the back of the tongue towards the outside of the mouth, which was wide open;

u. The same movement with the upper teeth scraping tongue;

6.MANDIBLE MOTOR SKILLS DEVELOPMENT EXERCISES*:*

a. Get your head slightly on the back and open mouth, the jaw located in the seating position and then slowly return to the initial position; is repeated 1-2 times;

b. Alternately opens and closes the mouth, opening angles ranging from high to low and vice versa;

c. The lower jaw moves left - right separately, and alternatively;

d. Mimic the cud in both directions;

e. Jaw moves back and forth;

f. Tongue is pressed on the lower wells and mandible movement is conducted by pressing the tongue;

7.UVULAR MOTOR SKILLS DEVELOPMENT EXERCISES

a. Raising and lowering the uvula in mouth breathing and nose: both nostrils / nostril with a finger pressed;

b. Raising and lowering the uvula in weevils, yawning, snoring, etc.

c. Massage uvula with a spatula or finger;

d. "Swallowing the sec";

e. Self massage of the uvula with the root tongue , the tongue movements being controlled by the subject by grabbing the neck with palm raised to chin;

8.EXERCISES DEVELOP AUDITORY ATTENTION:

a. Students are trained to respond to various beeps: whistling, jingle bell, beating hands, imitation of animals, etc. by certain movements agreed: footwork, arm lifts, choice of objects, toys, pictures, etc;

b. Are exercises recognizing various objects known by hitting them with a pencil or falling;

c. Students should determine the direction of sound or noise objects;

d. With Eyes closed, children should specify how many balls are left by speech therapist to fall in a box;

e. Students are back to a speech therapist and clap their hands: once if you hear the sound of the whistle, twice if a bell three times if a drum, etc;

Exercise can be varied with other instruments

f. Speech therapist claps in different rhythms then the student has to repeated keeping the same rhythm beats heard;

g. Beat in the table with the palm or other object (toy) a number of times then the student repeat the same number of beats in the same way;

h. Executing the rhythmic movements of arms, legs, head, body, producing the pace given by the speech therapist;

i. Run by a speech therapist rhythmic songs or recitations associated with rhythmic movements of the limbs or whole body then students repeat song or lyrics heard - initially alone with the speech therapist, speech therapist model;

9.CAPACITY DEVELOPMENT EXERCISES OF VISUAL DISCRIMINATION AND VISUAL MEMORY:

a. Geometric figures, after various sorties criteria: size, colour, asperity (smooth/rough)

b. Make up the pairs of images;

c. Sort images after certain criteria: size, colour (e.g. Dwarf: large, medium, small, or with clothes: green, red, yellow, blue, etc.);

d. Place some objects on the table. Students observe, recognize them, call them, then close my eyes ("sleep") and speech therapists hide an object. Children have to guess what object has been taken off the table;

e. Same game but it adds an object and students discover;

f. Same game but it is replaced an object with another;

g. Can complicate the game by increasing the number of hidden objects, added or replaced;

h. Student looks at incomplete drawings , names the parties presented in the drawing,
then those who are missing, after which draw the missing parts.

i. It presents students three or more drawings of which two are identical. They must discover the two identical designs;

j. Exercises for the recognition and naming of colours on different objects, then the geometric figures, combining two characteristics: size and colour (large square, red);
students must choose between several geometrical figures shown by the speech therapist and to specify the characteristics: large square, red;

k. The same exercise in the form: "I take a big, red square, you give me a small red square;

l. The same exercise but modifying the colour : (large square, large square red, green);

m. It drills in points): d, e, f, g, and can be executed with geometric figures in order to reinforce concepts learned;

10.CAPACITY DEVELOPMENT EXERCISES OF SPATIAL STRUCTURING:

a. It starts with the students forming an Indian string and it learns the position in space of each: the first, second, third, ..., last;

b. Ditto first point but with the students seated in a line;

c. Playing different games;

d. To play simple games with the supports then clipped the same way but of different sizes;

e. To make replicas of multiple construction plans;

f. Learning exercises: left-right order; top-down; per-sub-near; in the front-back; left, top-right, bottom, middle, etc., carried out initially with different objects, then the worksheets: the upper-left corner, in the middle on the right side, up the Middle, in the lower-right corner, etc;

11.EXERCISES TO DEVELOP THE CAPACITY TO DISCRIMINATE TACTILE-KINAESTHETIC:

a. Recognition exercises to certain objects based on a sense of tactile-kinaesthetic, with and without visual inspection;

b. Place various objects in "Dress with surprises"; students, in turn, seeks an object, it touches him, without looking, tell what object has chosen, then it removes from the frock; the game can diversify: specify what uses that object, what colour, shape, size, features, etc;

c. Student or speech therapists say/read a riddle and other student looking into "the dress with surprises," the answer to the riddle;

d. Recognition exercises various materials: wood, metal, cloth, fabric, glass, etc;

e. Recognition of the various exercises qualities: coarse-fine, bumpy-smooth, warm-cold, soft-hard, etc;

f. Exercises to recognition of different geometrical figures or object size, shape, the qualities of the previous point, based on tactile kinaesthetic sense-with and without visual inspection;

g. Exercises in recognition of peers with eyes closed, only a sense of tactile-kinaesthetic;

h. Playing games with your eyes closed, supports only tactile kinaesthetic sense-in the beginning with intermittent eye opening and/or verbally by the route the speech therapist, then without visual or verbal aid;

12.CAPACITY DEVELOPMENT EXERCISES SPATIAL ORIENTATION AND RECOGNITION OF BODY SCHEME:

a. Students follow different running movements with the trunk, hands or feet in response to verbal commands given by the speech therapist, and model;

b. For recognition of their own bodily scheme are named different parts of body, starting

with the big ones: head, torso, and then details: eyes, nose, mouth, ears, eyebrows, shoulder, elbow, knee, fingers, etc;

c. The same exercise but by specifying position: left-right (right hand, left foot, right eye, etc.);

d. For recognition of body schema is done same exercise executed with puppet or another person: speech therapist or another student;

e. It is presented to students pictures or drawings with people and is needed to recognise parts of the body;

f. On worksheets with drawings depicting the human body, the children draw those parts indicated by the speech therapist (right hand, left eye, etc.)

g. Specify the missing element in an incomplete drawing representing a human being, then students has to draw the missing part;

h. Are presented images in different positions. Students need to imitate the positions of the various components of those tangible in images; Students draw people in orthostatic position, or in certain positions, with or without either intentionally omitting a model element, either putting the elements of the human body in different positions after the indication has been received;

13. EXERCISES TO DEVELOP THE CAPACITY OF UNDERSTANDING OF TEMPORAL RELATIONS:

a. The recognition of exercises) seasons after their characteristic traits: rain (warm, cold), snow, cold, Frost, nice weather, sunshine, hot, after their effects on nature (full of trees, with leaves, yellowed leaves, naked), or as people dress, what activities are carried out in the fieldor in gardens, orchards, school activities, etc.;

b. Accurate of the four seasons and repetition;

c. Knowledge of each of the months of the season;

d. Knowledge of the months of the year;

e. Getting students used with the use of the calendar;

f. Knowledge the days of the week;

g. Ball games are: Catch - bird associated with naming the days of the week or months of the year;

h. Knowledge and use of the clock;

i. Make assessment exercises and games to evaluate seconds and minutes by checking on the clock or stopwatch to time assessments made by students;

j. Exercises (games) for the evaluation of a certain period of time after the events took place in that period (e.g.: human transition from infant stage to becoming old, the life of a flower, etc.)

k. Are presented drawings with images after stories like: "Giant Radish", "The three bears", etc., and students must place them in the chronological order of events illustrated;

14.STATIC BALANCE EXERCISES AND DYNAMIC EDUCATION AND SUPERVISION OF THE MOVEMENT GENERALLY:

a. Standing on one leg with and without supporting arms;

b. Walking in straight line on the carpet, on a plank, bench gym;

c. Movements of the feet: (Gymnastics: lifting, flexing, stretching, dancing, cycling, climbing / descending stairs, stair chair / scale etc.);

d. Movements of the arms and alternating-synchronized using sticks or sticks with ribbons;

e. Movements of the arms and alternating-synchronized using balls or balloons;

f. Use “Diabolo” game;

g. Movements of the torso with keeping the same position for some time ("Santa," "The Balance", "The Bridge");

h. Running short distances with stop command;

i. Jumping into one foot with and without support;

j. The game "Hopscotch" with or without movement of the "stone’’

k. Maintaining balance with and without assistance, on a rubber wheel;

l. Keeping balance with and without assistance, on a plank placed on a cylinder;

m. "Fight for stick" (while the child recites a poem he has to pull with both hands a stick);

Note: most of the exercises may be associated with verbalization;

15. CAPACITY DEVELOPMENT EXERCISES COORDINATION OCULAR - MOTOR:

a. Balloons and balls games: grip, throwing, tightening fist, kneading, etc.;
b. The Introduction of needles of different sizes;
c. Needle Prick into paper or cardboard, randomly;
d. Needle-Prick in paper or cardboard, respecting a given contour;
e. Winding wire, thread on spool; Skein of wool;
f. Sewing buttons;
g. Use in various forms of safety pin;
h. Catching paper stapled sheets;
i. Catching, pushing, dragging of objects activities;
j. Joining and assembling, screwing-construction, etc., using cubes, chopsticks, games, construction games;
k. Settlement and arranging exercises of different objects: cubes, slices, toothpicks, matches, bearings, balls, beads, geometric figures, toys, etc.;
l. Catching and handling of small objects with tweezers;
m. Stringing beads, buttons, pasta, etc., wires, wire, nylon thread;
n. Making nodes of different materials on the wires;
o. Simple braids from string, wool, etc.;
p. Deformation of wire;
r. Modeling of dough: geometric figures, letters, etc.
s. Projection of sunlight reflected from a small mirror on the various points set out by the speech therapist;
t. Beating with the fingers in table mimics: rain, clatter of horses, playing the piano, writing at the computer, etc.
u. Type using the toy typewriter;
v. Dressing, undressing a doll;
x. Activities of folding or bending different materials: paper, glazed paper, cardboard, textiles;
y. Paper jams;
z. Implementations of geometric figures and games "puzzles";
v. Cut-outs, seams, (collages with different materials);
- Outline of letters after the given contour;
- Colouring exercises respecting the stroke;
Use the template in the drawing the stroke;
-Writing letters, words, sentences, texts-with or without the help of the speech therapist:
-Copying of texts;
-Transcription of texts;
-Writing after dictation;
-Compositions on topics;

Note: Exercises developmental coordination ocular - hand may be associated with manually executed verbalization related activity or related activity therapy of speech disorders. At fixing sound in words activity, speech therapist says the practiced word and child repeats the word as color, strung beads, screw, etc.)

16. EXERCISES OF VOCABULARY DEVELOPMENT

a. Watching movies or filmstrips followed by discussing those watched;
b. Auditions for songs, poems, riddles, stories-followed by discussing those heard;
c. Repetition (learning) of songs, poems, stories;
d. Recording cassette of songs, poems, stories to be learned;
e. Naming objects or images of objects;
f. Composition of demand by images representing various actions;
g. Exercises screening action in to a image;
h. Composition of sentences after pictures representing various actions ("What does it do?" game);
i. Classification exercises of certain objects;
j. Exercises description of objects after different criteria;
k. Comparing object exercises specifying the defining characteristics;
l. Detection of objects that do not belong in a particular category (the game: "What doesn't fit?")
m. The game "Themed Crosswords," in which a student describes subject matter (vegetables, fruits, pupil, furniture), while the other students guess the word and entered it in the rebus);
n. Game "Who/What am I?" -a student mimics an animal, a profession, etc., while the other students must guess what it was feigned;
o. Word Association to the image ("Read and match!");
p. Arranging words in sentences (Tangled sentences);
r. Identifying and learning words that are not in active vocabulary;
s. Completing sentences with particular words learned by students;
t. Reading quizzes and writing the correct response;
u. Reading texts, while respecting the expression of punctuation signs;
v. Role games;
-Psychodrama;
-Any educational game aimed at developing vocabulary;
-Counting exercises, addition, subtraction, etc., made with concrete objects and then, if possible, shall be in writing, specifying the terms of these operations;

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METHODOLOGICAL QUESTIONS OF COST–BENEFIT ANALYSIS FOR PROJECTS CONNECTED WITH APPLICATION OF ALTERNATIVE FUELS IN PUBLIC AVIATION

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Abstract:. *Since the energy crisis of the 1970s, almost all of, aircraft, and engine companies, as well as government entities, have been investigating the practicality of using alternative fuels in aircraft. Because of price and environmental pressures, interest in alternative jet fuels derived from nonpetroleum sources is growing in the commercial , but on the public aviation also. Economic estimation connected with the social investment is an important viewpoint for the decision makers at choosing between the individual alternatives. Significantly the economic analysis is standing out against principles and from methods adapted in case of the private investments. The divergence applies in the traditional cost-benefit analysis , as well as the term of project, and at definition of the social discount rate. In our time researches related, with the alternative fuels became important task in public aviation whose part are analysis of the economic impact of different facilities. The present search is aiming so that we set up an undivided model , to which economic analyses are can be accomplished with its use. The article wishes methodological demands of elements of the model to introduce , which composed basis of the future research.*

Keywords: *alternative fuel, cost benefit analysis, social discount rate, scenario analysis, modelling*

1. INTRODUCTION

In recent years, there has been an increasing interest in application of alternative fuels in commercial and public aviation as well. There were significant technical achievements over the last three years for sustainable alternative fuels for aviation. While the technological feasibility for alternative jet fuels is proven, in moving forward, there is a need for investment in biorefineries, and the development of new generations of biofuel and its production technologies[1].

At decisions related hereby the distinguished importance economic viewpoint analysis and valuation of the application. The decision at the public aviation means choosing between alternatives, in contradistinction to the profit maximization at the commercial aviation.

In our study, we will examine the decision backgrounds of public projects where decisions regarding the allocation of public funds were made on the basis of financial-economic aspects.

The goal of public projects is to create value for the narrower or broader community. In general we say that the objective is to increase social utility and welfare.

The difference of the application of basic method in private and public projects is provided by the fact that in many respects public projects concern different fields and time-spans and different social classes [2].

The main differences of public and private projects is the complex approach to the effects of public projects. The evaluation of public projects stands for the consideration of community, environmental and natural values.

The other basis difference is that the public projects have a positive effect on social utility which is typically felt in the long-term as well, for instance through environmental-natural effects.

2. COST–BENEFIT ANALYSIS

The incorporation of the intergenerational equity objective has rendered the traditional Cost–Benefit Analysis (CBA) approach obsolete for the evaluation of projects presenting an important number of environmental externalities and for those whose impacts extend throughout a long period of time.

Cost–Benefit Analysis (CBA) approach into an obsolete tool for the evaluation of certain types of projects, particularly those exhibiting many environmental externalities and those whose effects extend throughout a long period of time. A series of changes in the CBA is being proposed in the literature, in order to adapt the analytical context to the demand for sustainability, resulting in what is alternatively denominated Extended or Environmental Costs Benefits Analysis (ECBA). [1]

In case of the long-term analyses has to take into consideration, that almost every factors of analysed process can be changed. The scenario technique is allowed to spin the solution. As example we are allowed to set the following scenarios:

Scenario 1. Baseline scenario including technological developments.

Scenario 2. Scenario with energy security constraints and increase in petroleum price over the next 15 years (or more).

Scenario 3. Low petroleum price: scenario with energy security constraints and low petroleum price. As the price of petroleum is uncertain, this study develops a sensitivity analysis to improve the understanding of petroleum's influence on portfolio results. Recent developments in the global market have resulted in a dramatic decrease in petroleum prices for this reason, a low-petroleum-price scenario is being investigated.

Scenario 4. Decrease the price of biofuels because of development of its production technology , and the mass production .

In our time the entire life-cycle approach gains ground on cost-benefit analysis . Life-cycle analysis (LCA) includes all stages in a product’s life — from the extraction of law materials through the materials’ processing, manufacture, distribution, use, and disposal or recycling. For this analysis, we have to account for all the stages in the life cycle of aviation fuels, including feedstock recovery and transportation, fuel production and transportation, and fuel consumption in an aircraft.

The exploration and recovery activities from the well to fuel production and the subsequent transportation to the pump constitute the well-to-pump (WTP) stage. The combustion of fuel during aircraft operation constitutes the pump-to-wake (PTWa) stage. These two stages combined comprise the well-to-wake (WTWa) fuel cycle [3].

As shown in Fig. 1, the WTWa analysis system boundary includes feedstock recovery and extraction of mineral oil(e.g., crude recovery, corn farming and harvesting, and corn stover harvesting), feedstock transport, fuel production (e.g.,petroleum refining to jet, ethanol production, ETJ production,) , fuel transportation and distribution, and aircraft fuel combustion.

The jet fuel combustion stage is also referred to as the pump-to-wake (PTWa) stage, while the rest of the stages together (socalled the upstream stages) are the well-to-pump stage.

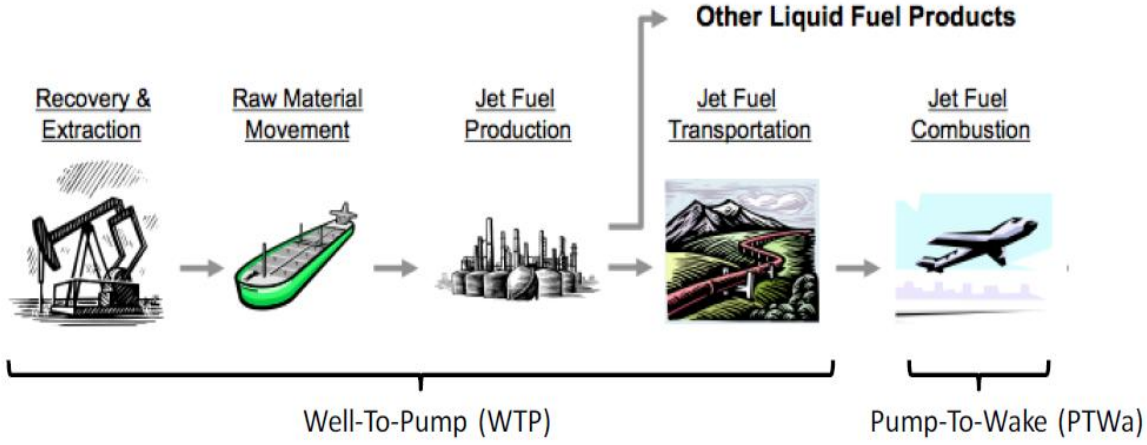

Fig. 1. WTWa Pathway for Conventional Jet Fuel [3]

With the alternative fuels refer in Fig 2. we present as example the „Well to Wake" model of ethanol-to-jet fuel.

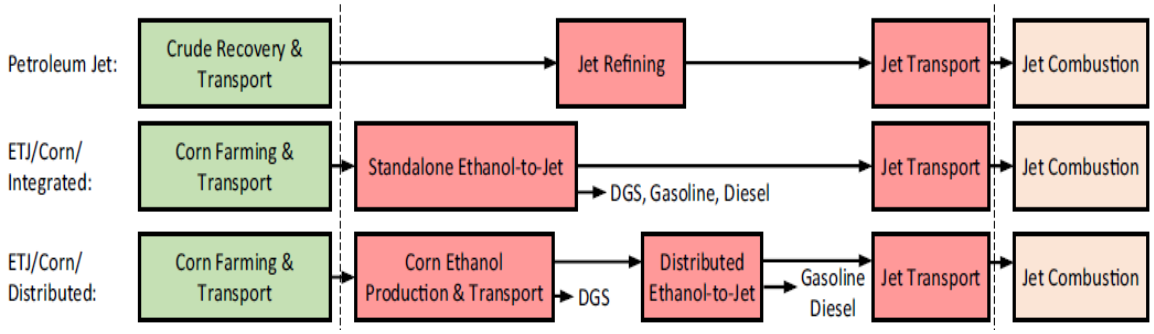

Fig. 2 WTWa analysis system boundary (*ETJ* ethanol-to-jet) [4]

Among alternative fuels one solution can be the use of biofuels, which can be produced from various kinds of biomass, like photosynthetic microorganisms, that is, algae. Oil produced by them may be the appropriate source material for producing biodiesel, moreover, for this process the carbon dioxide from the atmosphere is used. [4] Nowdays the biodiesel is keeping his spread within limits more factor, featuredly high cost of his production. It can be told , that more and more research are in this topic on large part of the world , and increases the number of the companies, what consider with fuel analysis, development of the biodiesel, or with its establishment [5].

3.SOCIAL DISCOUNT RATE

The discount rate is considered as a critical element in cost-benefit analysis when the costs and the benefits differ in their distribution over time, this usually occurs when the project that is being studied is over a long period of time.

Net Present Value (NPV) is the difference between the present value of cash inflows and the present value of cash outflows. NPV is used in capital budgeting to analyze the profitability of a projected investment or project.

The following is the formula for calculating NPV:

$$\mathrm{NPV} = \sum_{t=1}^{T} \frac{\mathrm{C_t}}{(1+r)^t} - C_0 \qquad (1)$$

where
C_t – net cash inflow during the period *t*,
C_0 – total initial investment costs,
r – discount rate, and
t – number of time periods.

Internal Rate of Return (IRR) is a profitability measure, expressed as a percentage, that is analogous to an average rate of return from an investment. IRR is the discount rate that will yield a net present value of zero for a given stream of cash flows. This method allows a comparison between the IRR of a project and a company's self-determined discount rate.

To calculate IRR using the formula, one would set NPV equal to zero and solve for the discount rate r, which is here the IRR. Because of the nature of the formula, however, IRR cannot be calculated analytically, and must instead be calculated either through trial-and-error or using software programmed to calculate IRR.

In case of public projects the largest difficulty means the determination of discount rate, because the CAPM (the Capital Asset Pricing Modell) is inapplicable. As solution of this problem in our time the experts are applying the Social Discount Rate (SDR)

Social discount rate is the discount rate used in computing the value of funds spent on social projects. Determining this rate is not always easy and can be the subject of discrepancies in the true net benefit to certain projects, plans and policies.

The generally accepted method of calculating is the so-called Ramsey formula which represents constant discount rate application and is derived from the growth model [2,3].

The Ramsey formula:

$$S=\rho + \mu\, g \qquad (2)$$

Where:
S – social discount rate,
ρ – pure rate of time preference; the rate at which the individual discounts future utility/welfare,
μ – the elasticity of the marginal utility of consumption (the indicator of the change of utility in light of income/consumption),
g – the expected rate of growth of per capita income/consumption

Calculating the true social marginal cost can be a lot easier than measuring the social marginal benefit. Because of the uncertainty involved with calculating benefits, problems may arise e.g., should a dollar amount be put on time based on average wages, contingent valuations or revealed preferences? One of the big problems today is putting a value on a life. While some might say that a life is priceless, economists usually state the value to be somewhere between three and ten million dollars. Another problem is that because the current generation will often be paying for most of the costs while future generations will be reaping most of the benefit, whether current and future benefits ought to be weighed differently.

The parameters for the approach, releasing the closed frameworks of utility models, now only connect to the theory as theoretical starting points and for the most part do not form a consistent system. Research concerning the social discount rate has today been given new meaning by environmental protection and energy-saving considerations, which at the same time have raised new questions [2].

The proper discount rate should represent the opportunity cost of what else the firm could accomplish with those same funds.

If that means that the money could be instead used to invest in the private sector that would yield 5% and that is the next best alternative for using that money then 5 and 5.5 percent would be the social discount rate when projects realized through EU tenders. The government uses a variety of discount rates but something around seven percent is what the US Office of Management and Budget (OMB) recommends for a pretax rate of return on private investments [2].

CONCLUSIONS

Establishment of a holistic view embracing model , which affords a valid base in decisions with application of the alternative fuels , encountering into serious difficulties. One of this, that the generation of the model always contains as conditions implying, validity of the model, what are querying the strength and reliability. At the same an important question is the punctuality and measurability of facts and figures used in modell. Particularly relevant question in case of consideration of externalities , which appears at economic analisys of the “Well to Wake” processes of different alternative jet fuels.

At modelling of the cost benefit analisys on beyond the estimation of the individual cashflows serious difficulty appers the setting of the social discount rate.

By our guess , solution would be also the adoption of a GREET modell (The Greenhouse Gases, Regulated Emissions, and Energy use in Transportation Model) [6], and it also defining our prospective investigational tasks.

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THE BODY INTELLIGENCE - DESCRIPTION AND MEASUREMENT

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Abstract: *This paper aims to present the first part of a study on body intelligence, a relatively new concept that comes together with the most consecrated terms in the field such as cognitive intelligence, emotional intelligence, or spiritual intelligence. The theoretical framework of the paper is based on well known approaches such as Gardner's multiple intelligence theory, but also on more recent neurological and psychological studies on the human body. This is a form of knowledge that, although it is the first one to emerge in human ontogenesis, has not been much studied and promoted and opposes rational or iconic knowledge.*

In the research part, there is presented a first version of a questionnaire that measures the level of body intelligence. This first variation of the questionnaire was based on the testing of a group of 52 adult subjects. The item analysis revealed a good internal consistency given by an alpha coefficient of 0.805.

The paper is a good starting point for continuing the study in order to establish the external consistency of the questionnaire and to develop possible new variants.

Keywords: *body intelligence, kinesthetic intelligence, questionnaire.*

1. INTRODUCTION

This paper aims to present the first part of a study on the concept of body intelligence. This is a relatively new term that starts to take an important place alongside more established terms such as cognitive intelligence, emotional intelligence, spiritual intelligence. In the research part, there is a first attempt to define a questionnaire measuring the level of bodily intelligence.

2. KINESTHETIC INTELLIGENCE AND WHOLE BODY INTELLIGENCE

The Theory of Multiple Intelligences, developed in 1983 by Harvard University professor PhD. Howard Gardner, presents eight different types of intelligence that cover a much wider aria of the human intellect. The eight fundamental dimensions of the concept of multiple intelligence, according to Gardner's theory, are: verbal / linguistic, logic-mathematical, spatial, kinesthetic, musical, intrapersonal, interpersonal and naturalistic. He then introduced the type of existential intelligence.

Kinesthetic intelligence takes into account the abilities of expression with the help of the body, the very good coordination between the parts of the body, and solving of the problems through physical activities. It is the intelligence specific to athletes, actors, dancers, ballet dancers, surgeons, those who have jobs where the fineness of movements is important. People with a developed kinesthetic intelligence have a very good eye-to-hand coordination, a great ability to express emotions with movement and are talented in sports.

Thus, kinesthetic intelligence presupposes expression with the help of the body, the ability to use the whole body or parts of the body to do different activities, to learn or solve problems in everyday life.

The term "body intelligence" (or somatic intelligence) is newer and requires something more than the kinesthetic intelligence it embodies. Body intelligence is based not only on the kinesthetic sense but also on the inner sense. The information we receive from the internal environment, even when the body is not moving, is a profound and complex source of knowledge based on which we can make better decisions in life.

3. THE CORPORAL INTELLIGENCE AND THE SENSORY SYSTEM

The receptive part of body intelligence is the interceptive sensory system.

The sensory system has two main components: the exteroceptive system and the interceptor system. The external system receives external information through sensory organs: visual, auditory, taste, olfactory and tactile. The interceptor system receives information coming from within the body, from the organs, muscles and connective tissues. The latter is composed of sensory nerves that react to stimuli coming from within the body and has two components: proprioception and vestibular sensation. Proprioception, in turn, is composed of kinesthetic sense and inner sense. The vestibular sensation helps the man maintain a balanced body posture and a comfortable relationship with gravity.

The kinesthetic sense helps the person to locate all parts of the body in space and thus to coordinate all movements. Information is taken from the muscle and from the connective system. This sense monitors how and where we move our hands, fingers, legs and trunk to perform different tasks such as writing, walking, dancing, skiing, etc. The inner sense gives us information about different body conditions such as heart rate, breathing, temperature, muscle tension, visceral sensations. It helps identify emotions.

4. THE BODY INTELLIGENCE

Body intelligence is a capacity that we have, which involves first and foremost focus on the body and on the signals from the interceptive sensory system, and use to know the environment and the relationship we have with it. Secondly, it involves a form of continuous dynamic processing of this information through the locomotor system for better adaptation. It is the oldest form of intelligence because somatic experience is the first language of the human being. Knowledge through the body called *embedded cognition* is opposite to mental knowledge and is the first form of cognition that the human being resorts to. Before speaking and before assimilating the ability to reason and analyze, attributes of mental knowledge, man relies on bodily sensations and adapts through movement.

The approaches to "embodied cognition" and "enaction" promote the theory that human behavior is born from the real-time interaction between the nervous system and the environment that offers opportunities and information. "Enactive" is the adjectival term introduced by Varela, Thompson and Rosch (1991) to name what they perceived as the third orientation in cognition (neither fundamental objectivist nor fundamental subjectivist). This term was introduced to emphasize the idea that cognition is not the representation of a world given by a given mind, but rather the reproduction of a world and a mind based on all the actions that a human being has done and does in the world.

The term "enaction" is used to describe a third way to organize knowledge and one of the forms of interaction with the world. The first definition of enaction was introduced by psychologist Jerome Bruner in connection with the structure of the other two ways of knowing: Iconic and Symbolic. Active knowledge is the knowledge that comes from action and which is built on motor skills, such as manipulating objects, cycling, or practicing a sport. It is more natural than symbolic or iconic knowledge (imaging) both in terms of learning process and how it is applied in the world. Such knowledge is inherently multimodal because it requires the coordination of the various senses. Symbolic knowledge uses mathematical words or symbols, and iconic knowledge uses images.

The approach to body intelligence, supported by studies and theories on "embodied cognition" and "enactive", demonstrates that the human organism is not only a passive receptor of the impulse of the environment but also an actor in this environment so that what he experiences is modeled by the way he acts. Body intelligence, as a scientific concept, is proposed by numerous studies and researches. We recall here studies conducted in 2009 by Alejando Lleras, Ph.D. in Psychology at the University of Illinois, and Laura Thomas, Ph.D. in Psychology at Vanderbilt University, on how to solve problems through body movements. The results showed that body movement influences deep thoughts and the ability to solve difficult problems. Lleras and Thomas have shown that "People are inclined to believe that their mind lives in the brain and that they deal with abstract aspects that have no connection with the body." and "This innovative study is fascinating because it demonstrates how the body is a part of our minds in an overwhelming way. The way we think is affected by our body and, in fact, we can use our body to help us think." (Sisgold, 2016, 68)

5. RESEARCH DESIGN AND METHOD

The purpose of this first research is to define a questionnaire that measures the level of body intelligence. The research is statistical, quantitative.

Objectives:

O.1. Identifying the dimensions to capture body intelligence.

O.2. Defining the questionnaire by selecting items and testing the subjects.

O.3. Checking the validity of the questionnaire by internal consistency of items.

General hypothesis

In defining the questionnaire, we started from the premise that body intelligence is a capacity for human adaptation.

The target

The research was initially done by applying the rough version of the items on a group of 30 adults who gave feedback on their understanding. The final testing, after correcting the items, was performed on 52 adult subjects aged between 18 and 58, belonging to different work areas. The gender distribution of the batch was: 50% male, 50% female.

Defining the questionnaire, setting dimensions and items

The operational definition is: Body Intelligence is the ability of the body to adapt to new challenges of the inner / outer environment by perceiving and becoming aware of body signals and by specific response modalities.

The three established dimensions were:

- The ability to sense and decode the inner signals in the case of the challenges coming from the internal environment (inner awareness).
- The ability to sense and decode the inner signals in the case of challenges coming from the external environment (external body-related awareness).
- The kinesthetic interaction capacity with the environment (body response).

For each of the three dimensions, 7 items were set, resulting in 21 items.

Research results on the internal validity of the questionnaire

The chart of the body intelligence frequencies are shown in fig. 1.

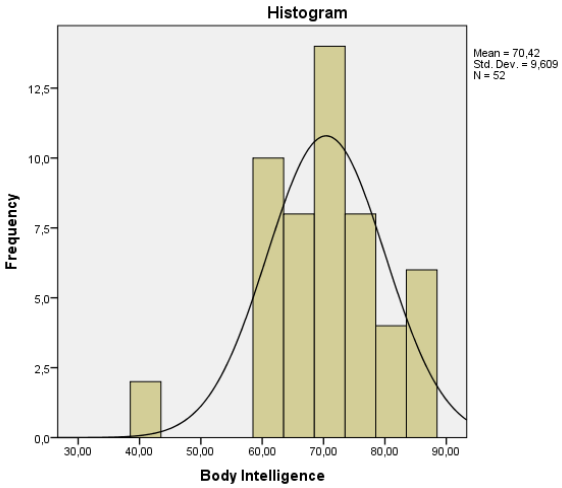

FIG. 1 The chart of the body intelligence frequencies

Internal validity analysis was performed by item analysis, as a result of which, as can be seen below (Table 1), it was obtained a good alpha coefficient of 0.805. Therefore, we can say that this first version of the questionnaire proves to be of good internal validity.

Table. 1 Internal validity analysis

Reliability Statistics

Cronbach's Alpha	N of Items
,805	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
inner awareness	47,5385	31,704	,718	,714
external body-related awareness	46,8077	46,747	,721	,674
body response	46,5000	56,647	,612	,794

6. CONCLUSIONS AND DISCUSSIONS

This paper is a good starting point for a broader study on the relatively new scientific concept of body intelligence.

This opens up a few perspectives to study, explore and deepen the human capacity that we use in life just before we turn to other forms of intelligence. The research part was completed with a first version of a questionnaire measuring the level of body intelligence, consisting of 21 items. Analysis of internal consistency by statistical method showed a good alpha coefficient of 0.805, which validates this questionnaire. A first future step concerning the questionnaire is to establish external validity.

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PSYCHOLOGICAL MATURITY AND INTEGRATIVE THREE-DIMENSIONAL STRUCTURE ANXIETY- DEPRESSION-SELF-DISSATISFACTION

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Abstract: *The present paper is a study of the symptomatological triad consisting of anxiety, depression and self-dissatisfaction, which can be linked to the psychological maturation process. At the confluence of psychological health and psychological disorder, we find a field where the individual is confronted with the issue of personal growth. This process has been called either individualization (individuation), actualization, self-realization, or psychological maturation. According to humanistic and transpersonal psychology, this process leads the individual to become a genuine, mature, unified person, capable of expressing its major potentials. The research done with a 180-subject study group shows highly significant positive correlations between the three components of the triad on the one hand and highly significant negative correlations between each of these components and the level of psychological maturity. These results show that we can speak of an integrative three-dimensional anxiety-depression-self-dissatisfaction stricter structure that indirectly reflects the extent to which an individual has reached certain levels of psychological maturity. In this sense, the symptoms expressed through anxiety, depression, self-dissatisfaction, unrelated to disorders corresponding to the other psychological functions, actually express a blockage of the process of psychological maturation. From a psychotherapeutic point of view this conclusion shows the importance of focusing the intervention on the different aspects of the individuation process rather than reducing those symptoms.*

Keywords: *anxiety, depression, self-dissatisfaction, psychological maturity.*

1. INTRODUCTION

Depression and anxiety are the main negative affective states that are experienced as psychological sufferings in varying degrees of intensity. Sometimes they are also associated with somatic sufferings. Most of the time they occur together, even if one of them is predominant. Depressive or anxious dispositions are reactive states considered "normal" and they are associated with moments and circumstances of life with a high psychic weight. The intensity and persistence of these states differentiates their "normal" character from the pathological one.

Over the years, since psychology has been accepted among modern sciences, have been highlighted two ways to address these conditions. Behavioral Psychology and Cognitive Behavioral Psychotherapies consider that anxiety and depression are major psychological symptoms that need to be addressed directly and annihilated. On the other hand, depth psychologies by psychodynamic nature, humanistic and transpersonal psychologies refer to anxiety and depression as signs of deeper psychological issues such as different internal conflicts, individuation deficit, existential or spiritual crises, etc.

The present paper aims to address anxiety and depression as signs of a deficiency in psychological maturity. In this study, we have introduced yet another psychological component to complement the two mentioned above. This is self-dissatisfaction. They form together a triad that can be a mirror of the blocked process of psychological maturation. In the context of this paper, psychological maturation does not represent the maturation of the different psychological components but the process by which the person becomes an independent, autonomous individuality, capable of harmonious relations with those around him, able to make their own way through life aware of its meaning by updating the potential it has.

2. DEPRESSION, ANXIETY AND SELF-DISSATISFACTION

Depression. As shown in the introduction, the present paper addresses the depressive disorder in the second direction, and more precisely the depression that occurs in relation to the process of psychological maturation, of self-realization. In this respect, in the literature we find so far three points of view that are closer to this subject. They were synthesized by Dietmar Stiemerling, psychologist, psychotherapist and psychoanalyst in the paper *10 Psychotherapeutic Approaches to Depression* (Stiemerling, 1995). A fourth point of view comes from M. Bowen's transgenerational theory. They have been presented more extensively in a previous paper (Vancea, 2008). Here's a brief introduction.

Anxiety. In this study, anxiety is viewed and investigated according to the factorial theory of Raymond B. Cattell, author of the questionnaire that was used for this research. For Cattell, anxiety is "a feeling of uncomfortable expectation," a "fear without object" that occurs in the anticipation of an event, and it is a subjective experience that can be subjected to voluntary control by developing self-awareness. We remind the five factors of the questionnaire: *Ideal social ego, Ego Force, Insecurity, paranoid tendency, Insecurity in the direction of guilt, Ergic tension*.

Self-dissatisfaction. In previous research we used a tool to measure the general state of the individual resulting from a set of emotions, feelings and attitudes towards oneself that gives him an evolving inner balance. Evolving balance is the one that allows growth, development, and it is associated with a high level of personal resource unblocking, which is different from that defensive balance that occurs for the purpose of destruction of the self and which is associated with a high level of personal resource blocking. This general state we called *"self-satisfaction."*

Self-satisfaction is different from self-acceptance, and its experience has an even greater impact on the individual. Self-acceptance implies a certain self-awareness, self-knowledge, recognition and reconciliation with what it is and what the person does. In contrast, self-satisfaction seems to predominantly focus not only on the individual and his characteristics but more on his relationship to the environment and the way it corresponds to his expectations. We could say that the distinction between self-acceptance and self-satisfaction is that of what the individual is and what he gets. More precisely, the difference between recognizing and being reconciled with what you are, on one hand, and experiencing a state of pleasure and self-esteem over the achievements obtained in relation to the environment, on the other. In self-satisfaction we can notice a nuance of self-motivation and self-reliance. Thus, self-satisfaction involves more the sense of pleasure, that aspect that corresponds, according to psychoanalytic theories, to a vital energy and tendency (of life).

It also implies the ideal of the self, because the cognitive aspect of self-satisfaction aims at a cognitive analysis of the achievements obtained, having elements of it. However, it is true that the two terms discussed, self-satisfaction and self-acceptance, are quite close, the difference being in hue and this can be ascertained by analyzing the correlation between the scores obtained at the self-satisfaction scale and the scores obtained in the dimension "self-acceptance and others" of the SLP scale.

The ten dimensions we have chosen cover in a certain way the four worlds or basic dimensions of human existence in the existentialist vision. D. Polkinghorne (apud. Mitrofan, 2000) proposes that the client explores his own self by analyzing these four dimensions: the natural world, the public world, the private world and the ideal world. Each individual builds his inner world (psychosphere) by reference to the outer world (the sociosphere), guided more or less consciously by a sense of his life. The result of this connection is expressed by feelings and attitudes of self-satisfaction or self-dissatisfaction. The scale allows the subject itself to evaluate the ten dimensions presented in the form of polar statements corresponding to a scale from 1 to 6.

3. PSYCHOLOGICAL MATURITY

Representatives of human psychology have studied for a long time the aspects of psychological maturity.

Abraham Maslow outlined a psychology of becoming. It is based on an understanding of motivation. The spectrum of human motivation has at the top the need to achieve the Self, the highest form of motivation that drives the man to the last stage of personality development: the fulfillment of all potentials. Maslow proposes the term "Self-actualization". Through this concept he understands "A continuous process of updating potentials, capacities and talents, fulfilling the mission (fate, destiny or vocation), full knowledge and acceptance of intrinsic nature, a permanent tendency towards unity, integration or synergy" (Maslow, 1968). This tendency towards actualization is found in every man and it leads him to his own way in life. ”*Mature, self-made, integrated personality”* has the following characteristics: a superior perception of reality; greater acceptance of others, of nature and of himself; spontaneity, sympathy and naturalness; focusing on issues and not on oneself; the need for intimacy and independence; increased abundance of emotional reactions; experiencing peak or mystical experiences; increased "identification" with humanity, social interests; balanced interpersonal relationships; democratic structure of character; great creativity; resistance to enculturation.

In his theory Carl Ransom Rogers shows that each person has a strong tendency to become a mature person, called the "tendency of actualization". The actualization or realizing the Self is a process, a tendency and not a finished product. Rogers uses the term *„a person in process of actualization of the Self” (Self-actualizing)*. Personality development is therefore a continuous process of becoming, by which the person becomes itself. At the end of this process of perpetual change is a fully living person, *„the fully functioning person”*. This person can only be described by positive terms: happy, thankful, though often they can be attributed. It combines also the opposite side, realizes the harmonizing of the opposites inside, accepting both polarities of life.

Also in the sense of personal development of the man, Mitrofan Iolanda (2004), the author of the current called Experiential Psychotherapy of Unification, uses the term *integrated person*. An integrated person (unified, transformed) is centered in the present moment, on Self and on transconscious.

According to the author, „an integrated being is prepared at any time to cope to changes, with external and internal stressors, with minimal effort and maximum efficiency, taking advantage of every opportunity to grow" (Mitrofan, 2004). The main attributes of this person would be: flexibility, transformative power, the power of sacrifice, dedication, the power to forgive, the dynamism and the creative adaptation to the environment. Conscious attitudes and creative behaviors, self-acceptance, self-respect, and self-love are the means that every person has and can use them to live effectively and to be happy.

To measure the level of psychological maturity in this study, we used the Styles of Living Preferences (SLP) personality inventory that was been developed in 1983 by psychologists Gail Maul of Riverside City College and Terry Maul of San Bernadino Valley College to capture the features mentioned above, set by Carl Rogers and Abraham Maslow for an optimal, integrated person. The scale can reflect the process of self-actualization and integration of the Self by studying how people react to different living situations.

4. RESEARCH DESIGN AND METHOD

The research aims to capture the relationship between the three components of the symptomatological anxiety triad, depression and self-dissatisfaction in relation with the psychological maturation process.

Research hypotheses:

- H.1. There is a positive correlation between anxiety, depression, self-dissatisfaction.
- H.2. The higher the level of psychological maturity, the lower the levels of anxiety, depression and self-dissatisfaction.

The study lot. The research was carried out with the help of a study group of 180 subjects, students at different faculties (psychology, accounting, management, law). The age of the subjects ranged from 18 to 53 years, averaging 30.61 years. In terms of gender, the distribution was as follows: 25% male and 75% female.

The tools used.

a. The Styles of Living Preferences (SLP) scale for measuring the level of maturity and integration of the Self;

b. The Cattell Anxiety Questionnaire for measuring general anxiety level;

c. Beck's Depression Inventory (BDI) for measuring the depression level;

d. Bipolar self-satisfaction assessment scale, own instrument.

5. OBTAINED RESULTS

According to the purpose and the objectives of the research, we aimed to capture the effects of the level of psychic maturity on the intimate structure of the psychic. The starting hypothesis was that the factorial triad consisting of anxiety, depression and self-dissatisfaction is sensitive to this level of maturity. To prove this we have analyzed the correlation between these phenomena.

The bivariate correlation analysis returned the following results:

- The correlations between the three components of the triad are positive and highly significant. They are represented in fig. 1. Hypothesis no. 1 is confirmed.

- The level of "total anxiety" correlates negatively with the level of psychological maturity ($r = -0.776$, $p < 0.001$);
- The level of "depression" correlates negatively with the level of psychological maturity ($r = -0.791$, $p < 0.001$);
- The level of "self-dissatisfaction" correlates negatively with the level of psychological maturity ($r = 0.795$, $p < 0.001$).

Hypothesis no. 2 is also confirmed. Correlations of the trifactorial model with the level of psychological maturity are shown graphically in fig. 2.

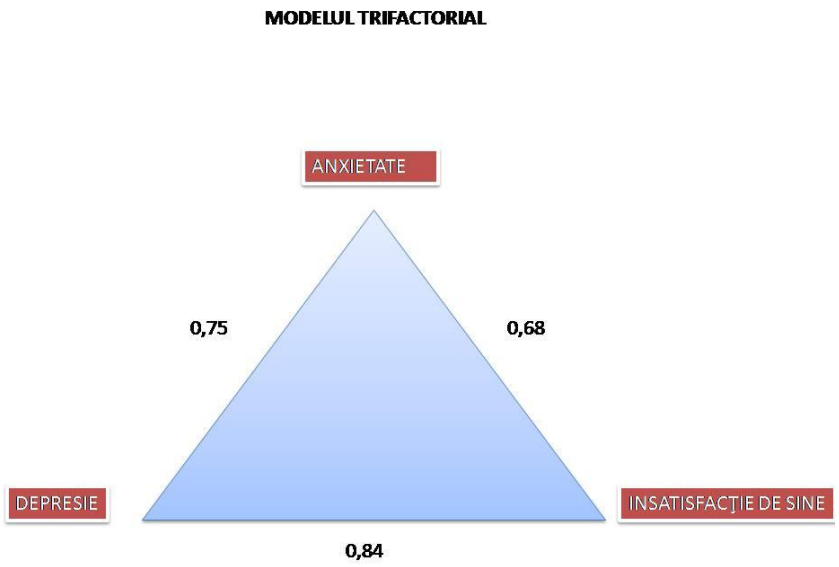

FIG. 1. The trifactorial model

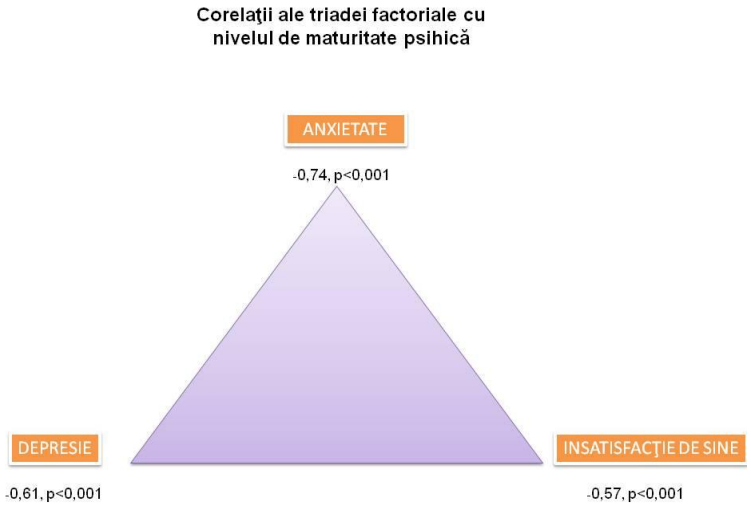

FIG 2. Correlations of the factorial triad with the level of psychological maturity

6. CONCLUSIONS AND DISCUSSIONS

This paper demonstrates the strong relationship that exists between the psychological maturation process, seen from the perspective of humanist psychology, and negative emotional states of anxiety, depression and self-dissatisfaction. The maturation process can be blocked for many reasons, leaving the individual at a lower level of psychological maturity. Psychological maturation does not refer to the maturation of different functions and psychological mechanisms but represents the path of human becoming or, in other words, the process of integrating the ego into the Self. This practical research on a group of 180 subjects led to the following results: there are highly significant positive correlations between the three components of the triad on the one hand and highly significant negative correlations between each of these components and the level of psychological maturity. These results show that we can speak of an integrative tridimensional structure anxiety-depression-self-dissatisfaction that indirectly reflects the extent to which an individual has reached certain levels of psychological maturity. In this regard, the symptomatology expressed through anxiety, depression, self-dissatisfaction, that is not associated with disorders of other psychological functions, can be considered as actually blocking the psychological maturation process. From a psychotherapeutic point of view this conclusion shows the importance of focusing the intervention on the different aspects of the individuation process rather than reducing those symptoms.

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DETERMINING PERSONALITY PROFILE THROUGH INFERENTIAL METHOD BY EDA NEUROSIGNALS

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Abstract: *The work shows an original psychophysiological approach in establishing a psychological profile by using an inferential fractal method of access to the neocortex by stimulating the phasic stage of epidermis. The mathematical model used in analysing the functions of psychophysiological inference may show the specifics of some behavioural styles associated with psychological typologies.*

Keywords: fractal model, psychophysiological inference, neurostimulation, specificity.

1. INTRODUCTION

Human personality has been continuously investigated as a configuration of traits that reflect an individual's way of acting, feeling, thinking and adjusting to the environment. The continuous process of understanding human nature and nurture is vital for predicting an individual's way of acting in specific contexts and in different life areas such as work field, social interactions, family functioning or attitudes towards health. Psychological research is making progress in linking personality traits with specific actions and behaviors (e.g. Eysenck, 1991; Gray, 1987, 1991; Watson & Clark, 1992), looking for individual differences in brain anatomy and physiology, in bodily functions and selfregulation processes, in sensation and perception, in information processing and thinking styles, in behavior and emotion regulation, in interpersonal interaction and so on (e.g. Bandura, 2006; Block, 2002). Using biological (e.g. Nebylitsyn & Gray, 1972) and physiological data (e.g. Fowles, 1980; Carver & White, 1994; Crider, 2008), the connection between human personality traits and behavior is currently investigated through individual differences in brain functioning (Canli, 2006). A recent cybernetic model of global personality traitsis examining how specific personality traits exert control over human behavior (Van Egeren, 2009; Wiener, 1948). These traits are seen as self-regulatory controls that underlie behavior patterns rather than manifest behavior itself (Crider, 2008). It seems that human beings mentally incorporate propensities of action into personality traits (Carver, 2005; Robins et al., 1996; Schneirla, 1959). These traits encode all the actions and controls necessary for a person to achieve a goal.

Although research in the field has made significant progress in explaining how personality and individual differences impact a person's behavior and adjustment to specific contexts, measuring these aspects of personality is far more complicated. Almost every field of applied psychology requires psychological assessment tools. In order for psychologists and specialists to play their key part in improving individual and group functioning, at almost every level, they need to rigorously assess the individual, the group of people or the organization they are working with.

The development of mathematical models and advanced processing methods based on neural networks, especially those used in cognitive systems psychology 1 , or other advanced methods of real time analysis for functions with several variables, has led to the increasingly visible affirmation of the important role that engineering plays in psychological research. To highlight this reality, it is interesting to follow the implementation aspects of medicine, which provide instruments for diagnosis and 1 The cognitive system is a neuromimetic network where information flows between processing units as activation values (D.A. Norman). treatment, or development and therapy, respectively. In this regard, implementation involves the transposition of phenomenology in a method or tool, a definite appeal to engineering, because medical engineering, for example (also called bioengineering or biomedical engineering), interdisciplinary integrates professional activities of engineering with basic medical knowledge on the human body, as well as an understanding of how it works when healthy, sick or injured.

When studying the processes of perception, sensation, thinking, learning, cognition, emotion, motivation, personality, behavior, interaction between individuals and interaction with the environment, psychology will have allied disciplines such as anthropology and sociology (when studying social and environment influences on behavior), physics (in addressing vision, hearing and touch), or biology (in the study of the physiological bases of behavior).

Diagnosis in psychology is circumscribed to psychometrics as a field concerned with theory and technique of psychological measurement. Psychometrics is one of the main branches of psychological cybernetics. Being focused on measuring the results of scientific activity, it deals with the quantification of mental phenomena and intellectual capacities, using standardized and calibrated experimental methods. Therefore, it builds measurement tools and procedures, it develops and refines theoretical approaches of measurement, necessarily relying on extensive implementing activity that makes the evaluation technologies available to the psychometrician psychologist and beyond. The connection between a specific technology and the way to turn it into a testing instrument involves much more than psychology.

Just like in medicine, in psychology, implementation of a phenomenon in order to use it in a testing equipment involves the interdisciplinary integration of basic psychological knowledge regarding the human being, with professional engineering activities and an understanding of the difference between normality and pathology. This is the role of psychological engineering, concerned with studying the phenomenon, analyzing its relationship with the psychometric purpose of testing, establishing the type of model approach, establishing the relationship between the dependent and independent variables (in the case of statistical models), and creating an algorithm which will then be implemented in a specific and advanced testing equipment. Therefore, psychological engineering appeals to cybernetic modelling by formalizing a part or a whole psychological system and by developing theoretical models that treat it as a cybernetic system, thus resolving the functional relationship that involves understanding and applying a manifest mental phenomenon, and approaching specific mental aspects through quantification and assessment, which is provided by psychometrics. As the concrete result of a complex engineering endeavor in the field of psychology, e.g. the psychometric system MindMi^{TM} combines sensitive aspects of recent theories on personality and behavior analyzed from a biological model perspective, using the benefits of an inventive implementation based on the electrodermal response technique, solving the inferential equation all the way with experimentally confirmed results.

2. EDA PHENOMENOLOGY IN THEORIES OF PERSONALITY AND BEHAVIOR

The Autonomic Nervous System is part of the Peripherical Nervous System and serves primarily as a regulatory function, helping the body to adapt to internal and environmental requirements, thereby maintaining homeostasis. There are a variety of measurements that can be used to assess changes in the activity of the Autonomic Nervous System. Electrodermal activity (EDA) is a method frequently used to evaluate the activity of the autonomic nervous system, with a long history in psychological research. Different personality traits were investigated using psychophysiological measurements (Cacioppo & Tassinary, 1990), such as electrodermal activity. the electrodermal response is seen as a peripheral manifestation of neural activation (Crider, 2008), driven by requirements of cognitive capacity (Murray & Kochanski, 2002).

The measurement of the electrodermal response takes place on the eccrine sweat glands, which are scattered over a large area of the body, but concentrated mainly on the palms and soles. The sympathetic branch of the autonomic nervous system innervates these sweat glands, where, unlike in most responses of the autonomic nervous system, the main neurotransmitter involved in changes is acetylcholine and not epinephrine (Mendes, 2009 in HarmonJones & Beer, 2009). Placing electrodes on the skin, especially in the palmar surface of the hands, is an ideal way to monitor the autonomic nervous system (Öhman, Hamm, & Hugdahl, 2000) through the sweat glands, controlled by the sympathetic nervous activity. In this case, neurosignals are collected in direct current (DC), using two electrodes subjected to a very small electrical potential difference, a measurable electric current is set between them, and the defined sizes are the phasic and tonic conductance. SCL (Skin Conductance Level) represents the tonic or basal skin conductance, a conductance level that is manifest in the absence of any external stimulus. SCL is expressed in microSiemens and falls generally in the range of 10-50 microSiemens. Phasic conductance or SCR (Skin Conductance Response) arises in the presence of an external stimulus (visual, auditory, tactile, etc.) and represents an increase in skin conductance, which can last up to 10-20 seconds, followed by a return to SCL. In the literature (Edelberg, 1968), it is mentioned that these SCR responses can occur spontaneously, without any external stimulus, with a frequency of 1-3/min, considering that there are so called electrodermally labile persons, who have a high frequency of SCR and a slow adaptation to simple stimuli repetition, and electrodermally stable persons, with rare spontaneous reactions and fast habituation. These differences are considered to be related with a number of psychophysiological variables, epidermal lability and stability representing fundamental differences in the characteristics of individuals.

Using peripheral measurements in the context of emotion, motivation and attention has revealed important empirical evidence for social and personality psychology (Pennebaker, Hughes, & O'Heeron 1987; Wegner, Broome, & Blumberg, 1997; Murphy, Steele, & Gross, 2007; Olsson et al., 2005). Changes in skin conductance can index emotional responses even before awareness of the emotion. An example of the fact that physiology can provide information on emotional and motivational responses before their awareness is provided by Bechara and colleagues (Bechara et al., 1997, apud. Mendes, 2009).

According to Crider (2008), electrodermal activity increases when the behavioral inhibition system is activated. Also, studies show an inverse relationship between electrodermal lability and expression of emotional and antagonistic impulses.

An increased EDR lability is associated with an undemonstrative and agreeable disposition, while high EDR stability is associated with an expressive and antagonistic disposition (Crider, 2008; Fowles, 1980). This is consistent with Block's distinction between undercontrolled and overcontrolled personality types (Block, 2002), with overcontrolled people being described as emotionally undemonstrative, shy and agreeable, and undercontrolled people being described as expressive and antagonistic (Robins et al., 1996).

The distinction between undemonstrative and agreeable EDR labiles versus expressive and antagonistic EDR stabiles contradicts the general expectation of a positive relationship between behavioral intensity and sympathetic nervous system activation. Jones (1950) proposed a distinction between an internalized, versus externalized model of emotional expression. Specifically, when behavioral expression is blocked due to social pressure or other reasons, emotional impulses could be expressed by a high sympathetic activation. Therefore, electrodermal lability may be interpreted as an internalized way of emotional expression when the externalized expression is inhibited. Electrodermal lability can act as a psychophysiological marker for individual differences in the effortful control of emotional expression and antagonistic behavior (Crider, 2008). According to the effortful control hypothesis, people with high EDR lability invest greater cognitive effort to inhibit their expression (Crider, 2008; Carver, 2005; Nigg, 2003).

The effortful control differs from the behavioral inhibition, which is a more automated and less reflective kind of inhibition and which is triggered by the approach-avoidance motivation (Fowles, 2000; Gray & McNaughton, 2000). Murray and Kochanska (2002) have defined effortful control as an ability to inhibit a dominant response and to initiate a subdominant response which is consistent with situational requirements. The effortful control hypothesis derives from Öhman's information processing approach to the EDR component of the orienting response. In Öhman's analysis, specific EDR is seen as a peripheral manifestation of neural activation, driven by demands on cognitive capacity (Crider, 2008; Murray & Kochanski, 2002). Specific EDR seems to reflect a requirement for resources when the current capacity is insufficient to meet the needs for immediate processing. Studies show that phasic electrodermal activity is sensitive to demanding tasks, electrodermally labiles showing less capacity available in the face of cognitive tasks. The demand for resources that is signaled by EDR activity may not be satisfied if a limited cognitive capacity is currently allocated to competitive and cognitively demanding tasks. Therefore, the relationship between EDR activity and processing efficiency varies according to the degree of concurrent competition for a limited processing capacity (Crider, 2008; Öhman, 1979; Öhman et al., 2000).

3. ELECTRODERMAL POTENTIAL IN ALTERNATING CURRENT (AC)

According to Edelberg's exocrine model, one of the most widely accepted theoretical models of skin conductance, the phasic changes of skin conductance occur when the skin glands fill, and the skin conductance returns to baseline when this moisture is reabsorbed in the glands. In this model, in fact, the exocrine glands are seen as resistors. The conductance increases (the resistance decreases) when these glands are filled. The amplitude of conductance modification derives from the amount of solution contained in the glands, but also from the number of exocrine glands that are simultaneously activated. The activation of exocrine glands is neurally regulated, being controlled by the brainstem. This is part of the phenomenology of exodermal manifestations of the brain, the electrodermal activity being a projection of the activity of reticular formation of the brainstem, the hypothalamus, the limbic system and the motor cortex (Bloch et al., 2006).

It is also known that the electrical activity of the skin is linked with the blood flow in the peripheral areas, depending directly on the heart rate.

It is known, however, that in the case of conductive media, the charge carriers can be electrons (in metals) or free ions in suspension (in solution), in the case of biological tissues. When a DC passes through an ionized solution, the phenomenon of polarization occurs, which can cause tissue heating or, in extreme cases, tissue destruction. Gildemeister (1920) was among the first to overcome this drawback by using an alternating current (AC) and measuring the total opposition to its passage through a tissue (Lawler, Davis, & Griffith, 1960). In his research on brain electrical activity between the years 1955-1960, A. L. Thomasset used AC instead of DC, considering that the body is an ionic and inhomogenous conductor (Thomasset, 1962, 2002). In this case, the manifest characteristic that is connected to the physiological activity of the tissue being subjected to an AC is the impedance. The measurement of impedance (Z) on a biological tissue involves both the 7 electrical resistance of the tissue (R) and its capacitive reactance (Xc), according to the formula $Z^2 = R^2 + Xc^2$. Physically, the resistance is the opposition of a conductor to an AC, being essentially the same in biological tissues as in nonbiological conductive materials (Kay, Bothwell, & Foltz, 1954; Nyboer, 1959), while the capacitive reactance of a biological tissue is caused by the additional oposition to an AC through the capacitive (storing) effect of bilipid cell membranes, of tissue interfaces and of structural characteristics (Baker, 1989; Barnett & Bagno, 1936; Schwan & Kay, 1956, apud. Chumlea & Guo, 1997). The membranes act as a dielectric or insulator that separates the extracellular and intracellular fluid, behaving like valves of the biological capacitor. Even in the case of AC, epidermal humidity is a determinant factor for penetration into the body. It is worth noting that low frequencies below 5.000 Hz are conveyed only through the connective tissue of the body (Ivorra & Aguiló, 2001; Ivorra & Rubinsky, 2007), while higher frequencies penetrate the outer layers of the cell (in referring to sinusoidal signals, using rectangular signals creates higher frequency harmonics that can enter the cell, even if the base frequency is low).

Authors like Boucsein, Schaefer, and Neijenhuis (1989) argue that exosomatic electrodermal recording techniques primarily focus on the tonic measurement, rather than phasic measurement. However, the measuring methods for phasic AC are the most useful in testing electric models of electrodermal response. For this, concepts of appropriate measurement are being developed for continuous recording of the impedance and phase angle (the second measurement that characterizes physiological parameters, besides impedance) (Chumlea & Guo, 1997; Baumgartner, Chumlea, & Roche, 1988; Lukaski & Bolonchuk, 1987; Subramanyan et al., 1980). The phase angle is expressed in degrees, as the arctangent of the ratio Xc/R, depending on the frequency of the current used.

In addition, the literature records the existence of two different types of "human electrical impedance" (Sutherland, Dorr, & Gomatom, 2005), namely an impedance of the surface (of the skin), and an internal impedance (of the whole body), which is basically resistive. The epidermal surface layer, that contains dead cells deposited on a living, heterogeneous and non-isotropic layer, shows both resistance and capacitance (Sălceanu, Iacobescu, & Anghel, 2013). The capacitive impedance decreases with frequency at higher resistances. According to some authors (Fowles et al., 1981), a drawback of using AC in electrodermal measurements is that capacitive properties of the skin are added to conductance values, resulting in too high conductance values. Since, as we previously mentioned, the skin capacitance is directly proportional to the frequency of measurement, by using a low frequency, below 40 Hz, with a phasic-sensitive correction, the skin capacitance may become negligible.

The cited authors have experimentally demonstrated that the electrodermal potential is a stronger parameter than conductance, being much less dependent on the constancy of skin contact area with the electrode, which causes the artifacts to be more pronounced in skin conductance curves than in potential curves. The method that Fowles used in 1981 requires a DC and cannot separate conductance and electrodermal potential waveforms. In order to study the electrodermal generating mechanisms, the electrodermal potential must be measured without the DC and compared with the conductance results in AC. This is possible by phasic-sensitive correction, by real time signal processing and by variable conversion (Grimnes, Jabbari, Martinsen, & Tronstad, 2011).

The advantages of using the DC conductance are supported by the simple fact that there is no skin capacitance there, and by a large number of references that exist in the literature. The disadvantages may include: the limit of 50mA/cm2, the intervention by changing the electromotive force that is generated in the circuit on the electrodes and in the skin (electro-osmosis, the filling of the sweat channels, the membrane potentials, the electrolysis of the skin and the irritation), the use of bipolar electrodes, that involves data coming from two different places of the skin, with unequal measurement areas, which is why conductance in DC is not suitable for physiological research (Grimnes et al., 2011). Although the measurement system in AC is far more complicated, requiring a greater number of parameters to follow, AC conductance however, enables measurement of electrodermal potentials, simultaneously, in the same place on the skin. Also, the absence of DC power leads to less stringent requirements for the electrode technique, so the monitoring of their potential error or polarization during use becomes unnecessary. Lastly, the sensors do not irritate the skin as in DC, and AC conductance is not affected by changes of electromotive force. Therefore, the electrodermal potential becomes a valuable indicator of autonomous and somatomotor aspects of cognitive functioning, of emotion, motivation and attention. It is manifest in the absence of DC, with the possibility of collecting (by using unipolar sensors) these following two aspects: the skin potential level (SPL) and the skin potential response (SPR).

4. NEUROSTIMULATION OF PHASIC RESPONSE OF THE ELECTRODERMAL POTENTIAL IN AC

The studies performed with the phasic neurostimulation system (Grigore D., patent RO127615 published in BOPI no. 11/ 29.11.2013), confirms the assumption that the simultaneous stimulation of the phasic stage of epidermis with a step signal and an alternative voltage signal shows with high accuracy the level of epidermal lability and stability, but also the electrodermal potential response in alternative voltage, a response loaded with information of psychological significance in the normality or pathology area.

The stimulation of the phasic stage of the epidermis consists in maintaining it under excitation for a calibrated time range on the phase conductance base. Due to this manner of stimulation, self-adjustability by reverse connection installed between the system outputs and the sensitive input area, the response in phase conductance perceived through the epidermis will be in a projective correspondence with the bioelectric events taking place in the body, generated in the self-adjustment processes whereby the psychophysiological functions are manifested.

The opening of a neurostimulating channel will align the measurement area with the targeted mental-physiological function, and the neurosignals collected from the sensors will contain the information on the response pattern for the applied stimulus.

The neurostimulation process will be tackled in terms of the assembly of applied signals: the *excitation* step signal, the response step signal and the *bearing*, sinusoidal signal.

The *excitation* signal is a step signal (Fig. 1), of which form can be written as follows:

$$u_1(t) = \sum_{k=1}^{N} A_k \left[\sigma\left(t - kT\right) - \sigma\left(t - \left(k+1\right)T\right)\right] \tag{1}$$

Where $\sigma(x - x_0) = 1$; $x \geq x_0$; $\sigma(x - x_0) = 0$; $x \leq x_0$ is the Heaviside function;

A - is the amplitude of the step signal;

T - is the duration of the step signal;

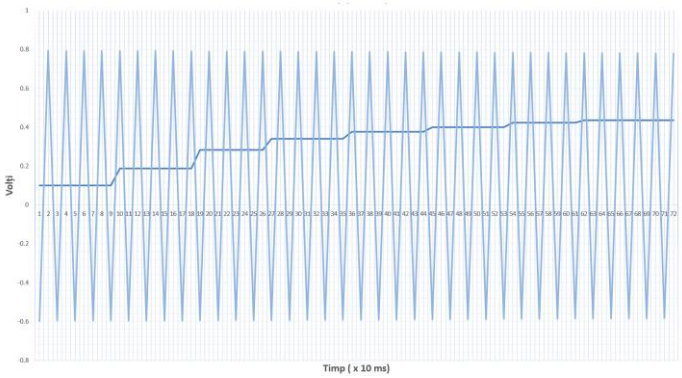

FIG. 1 Excitation signal

The *bearing* signal can also be written as follows:

$$u_2(t) = A_S \cos\left(\frac{2\pi t}{T_0}\right) \tag{2}$$

where A_S is the signal amplitude and T_0 is its duration.

The response signal. Fig. 2 shows all the three signals involved in the phase neurostimulation of the epidermis.

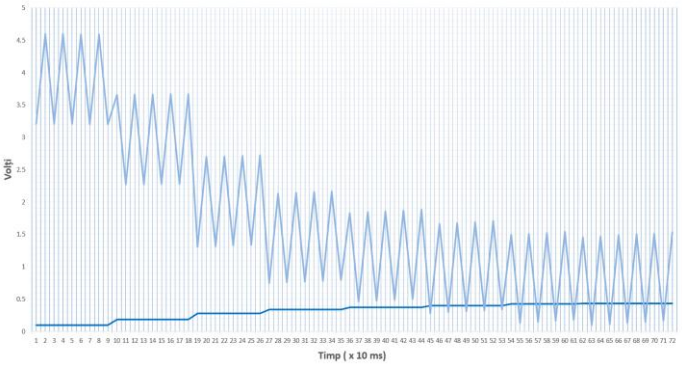

FIG. 2 Diagram of the signals involved in phase neurostimulation on a single step impulse

By composing the step excitation signal and the alternative voltage signal on the epidermis surface, the following signal results:

$$u_{Total}(t) = A_S \cos\left(\frac{2\pi t}{T_0}\right) + A_t \sum_{k=1}^{N} k\left[\sigma\left(t - 3kT\right) - \sigma\left(t - 3\left(k+1\right)T\right)\right] \tag{3}$$

which will be correlated with the phasic response of the electrodermal potential in alternative current. The envelope (marked in red) contains essential information about the psychophysiological processes on which we intend to apply an inference.

The third variable is the function □□□□□as an expression in time of electrodermal lability and its size will be an input parameter in the frequency and adjustment loop of the amplitude of the alternative excitation signal. Its evolution in time depends on the intensity of the SPR responses recorded in the measurement cycle, hence representing, on a high densit, a high level of lability, while on a low density, a low level thereof.

GSR patterns

By extending the diagram form at the level of *i* pulses for a stimulation cycle, we obtain:

$$u_1(t) = A_{S_1}\cos\left(\frac{2\pi t}{T_0}\right) + A_{t_1}\sum_{k=1}^{N} k\left[\sigma(t-3kT) - \sigma(t-3(k+1)T)\right]$$

$$u_2(t) = A_{S_2}\cos\left(\frac{2\pi t}{T_0}\right) + A_{t_2}\sum_{k=1}^{N} k\left[\sigma(t-3kT) - \sigma(t-3(k+1)T)\right] \quad (4)$$

.

$$u_i(t) = A_{S_i}\cos\left(\frac{2\pi t}{T_0}\right) + A_{t_i}\sum_{k=1}^{N} k\left[\sigma(t-3kT) - \sigma(t-3(k+1)T)\right]$$

5. THE INFERENTIAL MODEL

In approaching the mathematic form of expression of the electrodermal potential stimulated in alternative current, Fig. 3 represents the transition of the function *u(t)* from point A, where it acquires the value of the *electrodermal potential level (SPL)* to point B, where it acquires the value of the *electrodermal potential response (SPR).*

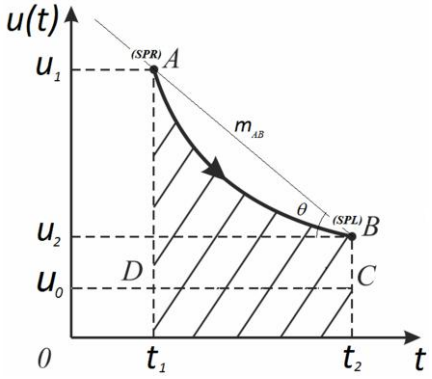

FIG. 3: The electrodermal potential stimulated under AC

a. Allocated energy

The neurostimulation of the phasic base of epidermis under alternative current is made for the same person for several channels simultaneously. The effect that the transition of the electrodermal potential may cause will be assessed under power. For each stimulated channel *i*, the form of the allocated power is:

$$P_i(t) = I_i \cdot u_i(t) \quad (5)$$

where I_i is considered constant (a facility ensured by the construction of the neurostimulation hardware) so that the energy consumed in transition can be represented by the area from under the curve. This area can be determined by integrating the ratio (5):

$$S_i(t) = I_i \int_{t_1}^{t_2} u_i(t)dt \quad (6)$$

S_i having the significance of *allocated energy* on the channel i in the neurostimulation process. For the entire process, on i channels of stimulation i, $(\forall)i = \overline{1,n}$ the allocated energy is represented as a matrix:

$$S = \begin{pmatrix} S_1(t) \\ S_2(t) \\ \cdot \\ \cdot \\ S_i(t) \end{pmatrix} \quad (7)$$

b. The inference level

According to the theory of psychophysiological inference (Cacioppo & Tassinary, 1990), it is established that every source of neurostimulation related to a channel i achieves a specific inference for a band *j*, $(\forall)j = \overline{1,n}$. In other words, one will seek by which manner the allocated energy *Si* manifeφsts in a physiologicaγl potential will *p*roduce the inference o*n* a channel *i* of measurement and a band *j* of inference. The relationship between φ and γ is:

$$\gamma = \beta \cdot \varphi \quad (8)$$

where β is a scale factor under the form □/(u_{max}-u_0), u_{max} is the maximum potential on the used scale and u_0 is a minimum value of the response potential to which a psychophysiological inference can be intercepted.

The indicator characterizing the transition through neurostimulation of the electrodermal potential under alternative current is the parameter m_{AB}, defined as the slope of the line containing the segment AB (Fig. 3). The form of m_{AB} for a channel i of neurostimulation can be written as follows:

$$m_{AB_i} = \frac{u_{1i} - u_{2i}}{|t_1 - t_2|} \quad (9)$$

The significance of the slope m_{AB_i} pertains to the level of electrodermal response (SPR), its position being a function directly proportional with the psychophysiological *inference level*. The variation of the parameter m_{AB_i} can be monitored $u_{1i} = u_{2i}$, in which case $m_{AB_{MIN}} = 0$, or for $u_{2i} = u_0$, in which case $m_{AB_{MAX}} = \frac{u_{1i} - u_0}{|t_1 - t_2|}$.

Considering that every transition from a channel i produces a specific inference on a band j, the form of the slope m_{ABj} related to a band j for a minimum value u_0 of the potential is written:

$$m_{AB\,j} = \frac{u_{1j} - u_0}{|t_1 - t_2|} \quad (10)$$

It is defined the physiological component Φ_{ij} from the inferential relationship between channel i and band j as a product between the SPL potential measured on the stimulation channel and the ratio between the slope related to the *stimulation channel* and the slope of the *inference band*. The form of this *potential* will be:

$$\phi_{ij}(u) = u_{1i}\frac{m_{AB_j}}{m_{AB_i}} \tag{11}$$

a ratio by means of which (8) becomes:

$$\gamma_{ij} = \frac{\tau u_{1i}\left(u_{1j} - u_0\right)}{\left(u_{\max} - u_0\right)\left(u_{1i} - u_{2i}\right)} \tag{12}$$

c. The psychological indicator

To establish the form of the psychological indicator Ψ_{ij} we will consider the transition of the electrodermal potential for a channel i, the way that it causes inferences and the average response of the electrodermal potential at the level of all the i channels of neurostimulation. The output of the neurostimulation process on a channel i is defined as the ratio between the energy allocated to that channel and the average of the energies allocated on all the channels.

By means of the ratio (6) it is established the form of the average energy allocated on all the i channels of neurostimulation:

$$\overline{S} = \frac{I}{i}\int_{t_1}^{t_2}\left(u_1(t) + u_2(t) + \cdots + u_i(t)\right)dt \tag{13}$$

considering that $I_1 = I_2 = \cdots = I_i = I$, a condition ensured by the construction of the neurostimulation hardware.

Hence, from (6) and (15) we deduce the output for every i channel:

$$\rho_i = \frac{I\int_{t_1}^{t_2} u_i(t)dt}{\frac{I}{i}\int_{t_1}^{t_2}\left(u_1(t) + u_2(t) + \cdots + u_i(t)\right)dt} = i\frac{\int_{t_1}^{t_2} u_i(t)dt}{\int_{t_1}^{t_2}\left(u_1(t) + u_2(t) + \cdots + u_i(t)\right)dt} \tag{14}$$

On the other hand, considering that the psychophysiological inference ratio assumes an inferential reproduction of the entire panel of psychological indicators Ψ_{ij}, it is established that, in order to make it, the inferential relationship between elements will be as follows:

$$\psi_{ij} = \rho_i\gamma_{ij} \tag{15}$$

with the significance of psychological indicators, components by means of which, considering (13), we can write the final form of the psychophysiological tensor Ψ_{ij}:

$$\Psi_{ij} = \frac{\tau}{u_{\max} - u_0}\begin{pmatrix} \rho_1 u_{11}\dfrac{u_{11} - u_0}{u_{11} - u_{21}} & \rho_1 u_{11}\dfrac{u_{12} - u_0}{u_{11} - u_{21}} & \cdots & \rho_1 u_{11}\dfrac{u_{1j} - u_0}{u_{11} - u_{21}} \\ \rho_2 u_{12}\dfrac{u_{11} - u_0}{u_{12} - u_{22}} & \rho_2 u_{12}\dfrac{u_{12} - u_0}{u_{12} - u_{22}} & \cdots & \rho_2 u_{12}\dfrac{u_{1j} - u_0}{u_{12} - u_{22}} \\ \vdots & \vdots & \cdots & \vdots \\ \rho_i u_{1i}\dfrac{u_{11} - u_0}{u_{1i} - u_{2i}} & \rho_i u_{1i}\dfrac{u_{12} - u_0}{u_{1i} - u_{2i}} & \cdots & \rho_i u_{1i}\dfrac{u_{1j} - u_0}{u_{1i} - u_{2i}} \end{pmatrix} \tag{16}$$

where we identify and re-written the form of a psychological indicator ψ_{ij} :

$$\psi_{ij} = \frac{u_{1i}\pi i}{u_{\max} - u_0} \frac{u_{1j} - u_0}{u_{1i} - u_{2i}} \frac{\int_{t_1}^{t_2} u_i(t)dt}{\int_{t_1}^{t_2} (u_1(t) + u_2(t) + \cdots + u_i(t))dt} \tag{17}$$

d. The behavioural function

The matters of concern in diagnosis are those regarding the way that the psychological indicators reflect in behaviour. The entire panel of psychological indicators will reflect in the personality profile through a set of *behavioural functions*, of which form is as follows:

$$c = \alpha \cdot \psi \tag{18}$$

where □□is a share, as a measure of the manifestation level in the behavioural function of the psychological indicator. The tensor of the behavioural functions will be made of the product between the matrix of the shares and the matrix of psychological indicators:

$$C_{ij} = \begin{pmatrix} \alpha_{11} & \alpha_{12} & \cdot & \cdot & \alpha_{1i} \\ \alpha_{21} & \alpha_{12} & \cdot & \cdot & \alpha_{2i} \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ \alpha_{k1} & \alpha_{k2} & \cdot & \cdot & \alpha_{ki} \end{pmatrix} \cdot \begin{pmatrix} \psi_{11} & \psi_{12} & \cdot & \cdot & \psi_{1j} \\ \psi_{21} & \psi_{12} & \cdot & \cdot & \psi_{2j} \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ \psi_{i1} & \psi_{i2} & \cdot & \cdot & \psi_{ij} \end{pmatrix} \tag{19}$$

which becomes:

$$C_{ij} = \sum_{i-1}^{n} \alpha_{ki}\psi_{ij}, (\forall)k = \overline{1,n}; (\forall)j = \overline{1,n} \tag{20}$$

e. The behavioural style, the personality typology

To identify the personality typologies, the elements of the matrix C_{ij} will be grouped based on a number *m* of polarity criteria, in pairs, hence obtaining a set of *behavioural styles* under the form:

$$S_{pq} = \left| \left(\sum_{i-1}^{n} \alpha_{ki}\psi_{ij} \right)_p \left(\sum_{i-1}^{n} \alpha_{ki}\psi_{ij} \right)_q \right|, (\forall)p = \overline{1,m}; (\forall)q = \overline{1,m} \tag{21}$$

The combination of the behavioural styles leads to identifying a number t = *m*(*m*-1) personality typologies under the form:

$$V_{xy} = (S_{pq})_x + (S_{pq})_y, (\forall)x = \overline{1,t}; (\forall)y = \overline{1,t} \tag{22}$$

which on their turn will be grouped in the *m criteria classes.*The selection of the s The selection of the share of the highest value of the sum (22) leads to obtaining the *personality typology*.

6. MINDMI™ - THE SYSTEM THAT IMPLEMENTS NEUROSTIMULATION OF EDA PHASIC RESPONSE PRINCIPLE

Performing the cybernetic modeling of personality traits, temperament types, and propensities to regulate goaloriented actions, and approaching the input variables related to electrodermal activity, the MindMi™ System (Fig. 4), identified emotional and cognitive measurable dimensions that can be determined by behavioral inhibition or activation, depending on the electrodermal response and its lability.

Thus, according to the theories presented above, we considered the association of EDR lability (through λ(t) function, which is perfectly determinable by direct measurement, as the density of the skin potential response to a stimulation cycle) with the regulatory function of AC excitation (by controlling the frequency and amplitude of the signal), in order to determine the level of psychophysiological activity, by linking skin potential response with the degree of inference of this activity in each area of measurement.

FIG. 4. MindMi™ System (https://www.mindmisystem.com)

To complete the algorithm that implements the new cibernetic model, the following aspects were considered, which were previously described:

- the electrodermal activity increases when the behavioral inhibition system is activated;
- an increased EDR lability is associated with an undemonstrative and agreeable disposition; a high EDR stability is associated with an expressive and antagonistic disposition (Crider, 2008; Fowles, 1980);
- overcontrolled people are described as emotionally undemonstrative, shy and agreeable, while undercontrolled people are described as expressive and antagonistic (Robins et al., 1996);
- when behavioral expression is blocked due to social pressure or other reasons, emotional impulses can be expressed by a high sympathetic activation (Jones, 1950); electrodermal lability can be interpreted as an internalized way of emotional expression when the externalized expression is inhibited;
- the electrodermal lability can act as a psychophysiological marker for individual differences in the effortful control of emotional expression and antagonistic behavior (Crider, 2008). Corelating this with the skin potential response in AC (limited evaluative context) proves specificity and generality, transforming this marker from a concomitance into an invariant, which meets the condition for a strong inference (Cacioppo & Tassinary, 1990); - according to the effortful control hypothesis, people with high EDR lability invest greater cognitive effort to inhibit their expression (Crider, 2008; Carver, 2005; Nigg, 2003). - the effortful control hypothesis derives from Öhman's information processing approach to the EDR component of the orienting response: specific EDR is seen as a peripheral manifestation of neural activation, driven by demands on cognitive capacity (Crider, 2008; Murray & Kochanski, 2002);
- specific EDR seems to reflect a requirement for resources when the current capacity is insufficient to meet the needs for immediate processing;

- electrodermally labile people are showing less capacity available in the face of cognitive tasks;

- the relationship between EDR activity and processing efficiency varies according to the degree of concurrent competition for a limited processing capacity (Öhman, 1979; Öhman et al., 2000);

- empirical associations between personality and behavior can be derived from individual differences in brain functioning parameters (Matthews & Gilliland, 1999);

- the level of arousal (physiological activation) can be related to a scale of introversion - extraversion (Eysenck) in order to describe individual personality types and their corresponding behavioral patterns;

- extraversion has been empirically associated with motivational reactivity to rewards (Depue & Collins, 1999);

- neuroticism has been empirically associated with strong reactivity to punishments (Gray, 1987; Watson & Clark, 1984), and conscientiousness with the regulation of these two reactive trends (Rothbart, Ahadi, & Evans, 2000);

- the behavioral inhibition system (Gray, 1982, 1985a,b) has its neural bases in the septal area of the limbic system and in the hippocampus (the septo-hippocampal system and its interconnected structures);

- the behavioral inhibition system is a neuropsychological system related to sensitivity to punishment and aversive (avoidance-related) motivation, which inhibits motor behavior (Fowles, 1980);

- the behavioral activation system corresponds to sensitivity to rewards and appetitive (approach-related) motivation, being related to the individual's disposition of pursuing and achieving his goals;

- multiple interactions have been found between main personality traits, as a response to internal and external stimuli (inputs), such as stressors or feedback (Bogg & Vo, 2014; Van Egeren, 2009);

- the cybernetic theory (Wiener, 1948) describes how a mechanism exerts control over its own functioning, as a response to inputs, in order to achieve its self-regulation goals. The central idea of cybernetic models is that the unmet part of the goals (e.g. the remaining part of the way to the point X) is the engine of all self-regulated actions (Wiener, 1948);

- a cybernetic model, correlated with an adaptation system of personality, can describe independent and interdependent functioning of trait groups in order to facilitate goal-oriented actions;

- from a cybernetic perspective, the purpose of the adaptive response in a system of personality (whether it is independent or interdependent) is to support the carrying out of goal-oriented actions;

- from an interdependent perspective, different levels of traits, as well as different levels of different combinations of traits may correspond to different levels of the same responses, or even divergent responses (Bogg & Vo, 2014);

- the cybernetic feedback control theory (Powers, 1973a,b; Wiener, 1948) specifies the minimal set of commands that self-regulatory systems (e.g. a space heating system) require to meet a preset goal, providing a useful metaphor for how personality traits exert control over behavior;

- human beings differ greatly in how they control their actions (some impulsively, others prudently etc.). The way they do this gives each individual distinct characteristics that can be composed into an integrating theory of personality;

- according to Van Egeren's hypothesis (2009), human beings mentally incorporate control propensities of actions in global personality traits, these traits being responsible for encoding all major types of control necessary to achieve a goal;
- the descriptive terms that compose a trait and its functioning pattern can indicate, by themselves, specific self-regulatory operations that function through that trait;
- from a temperamental view (the temperament theory) any adaptation of an organism to its environment, its very survival, depends on the way it approaches rewards and avoids punishments (Schneirla, 1959);
- the theory of human agency (Bandura, 2006) assumes that human responsiveness to external stimuli has an active component, according to personal needs and goals, that are followed actively and proactively rather than reactively (Carver & Scheier, 1990; Emmons, 1995; Little, 1989; Pervin, 1983);
- personality traits are associated with self-regulatory controls that underlie behavioral patterns, rather than manifest behavioral patterns themselves (Van Egeren, 2009);
- there is a set of four functions, named here "behavioral functions", which regard the understanding, organization (in terms of control of actions), decision and networking. These have antagonistic nominal values and by combining them, a number of behavioral types can be linearly identified (Grigore et al., 2013).

According to the effortful control hypothesis, people with high EDR lability invest greater cognitive effort to inhibit their expression (Crider, 2008; Carver, 2005; Nigg, 2003). The effortful control hypothesis derives from Öhman's information processing approach to the EDR component of the orienting response: specific EDR is seen as a peripheral manifestation of neural activation, driven by demands on cognitive capacity (Crider, 2008; Murray & Kochanski, 2002).

The algorithm developed based on the above mentioned criteria subjects the acquisition data (collected from the palm surface of the hands) to a sequence of preliminary processing, in order to identify the neurophysiological activity level (Cx) in each area of measurement. This is associated with the skin potential response (SPR) obtained by neurostimulation AC, and with the level of inference8 (Fy) of the neurophysiological activity in psychological aspects, which corresponds to each area of measurement correlated with the degree of electrodermal stability. The value of several indicators (Ipxy) with psychological significance is further calculated. These reflect the neurophysiological activity and the corresponding inference in each area of measurement, expressing the activity level of cognitive, affective or volitional functions they projectively represent. Using these indicators of psychological significance, a programmable platform is provided, where the user can customize, in a user-interface, any other psychological construct, in addition to the predetermined ones.

7. CONCLUSIONS AND IMPLICATIONS

After a continuous process of modelling, developing and refinement of the MindMi^{TM} patented system, which we partially described in this material, a number of psychological traits and indicators have become measurable through a non-invasive hand scanning device, using the Inference is the degree to which a neurophysiological activity can express one or more psychological aspects active principle of sweat gland activity as a peripheral manifestation of neural activation.

The device measures biopotentials from the skin surface (skin potential response and skin potential level) through a dual hand scanner with monopolar electrodes that gather all the necessary data in 5 minutes. After the scan, the system uses the collected data to acquire psychological information through an innovative algorithmic procedure.

The algorithm combines multiple variables of key relevance for their corresponding personality traits (e.g. the amplitude, the lability of the electrodermal response, the level of cortical arousal, and others). This core set of variables goes through a cybernetic modelling process, resulting in a numerous set of psychological indicators that reflect cognitive, emotional and social abilities, but also specific aptitudes and tendencies. The psychological indicators obtained are further used to create extensive psychological reports that comprise information about an examinee's personality, cognitive intelligence, emotional intelligence, cognitive pattern, and interpersonal or group compatibility.

These results can be used as an extensive source of information, having a key relevance for psychological assessment processes. The reports provided by the MindMi^{TM} System, along with results from other assessment tools, thus become pieces of a puzzle that a specialist is assembling on behalf of the examinee.

MindMi^{TM} facilitates more comprehensive data gathering and it can act as a decision support technology. It is important to note that MindMi^{TM} reports do not treat or diagnose, but the information obtained with the system can be successfully integrated with other sources (e.g. interview, other psychological tests, practical activities or assessment centers).

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DEVELOPMENT OF THE INFORMATION MANAGEMENT WITHIN THE ROMANIAN MILTARY ENTITIES PARTICIPATING IN JOINT OPERATIONS

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Abstract: *Operational elements designed to carry out their activity in various missions abroad, have to possess specific management, information and execution systems that are capable to operate downrange. Information sharing is also vital to the success of multinational military, counterterrorism and humanitarian operations. In order to achieve this, in the stage of rendering operational this new structure, a series of principles, design and shaping methods of these systems, will be applied, but also systemic analysis will be employed.*

Keywords *Information, resources, sharing, cooperation, management, security*

1. INTRODUCTION

Information has become one of the main categories of resources of modern warfare, information technology and modern communications systems, the means of providing real-time information, influencing public opinion, shaping the action of politics and military art. Our personal experience in collecting, checking, evaluating, integrating, interpreting and providing information to political and military decision-makers to make decisions about defending national interests and countering the threats of current opponents made me understand the importance and complexity of this area of information resources. Also, the studies and courses in the field of information resources followed within the accredited institutions strengthened our conviction that in order to ensure interoperability with the troops from the other NATO member states, with which the Romanian troops participate in the multinational operations, it is necessary to align the concepts and synthases including the field of information resources. Within the defence resources, the information resource is one of the most important and in many moments of the preparation of the war and the post-conflict period becomes the most important. Defense Resources Management, which includes the information resource, can only be an integrated management that places the information resource within each of the other resources and analyzes the implications of other resources on information resources.

2. INFORMATION RESOURCES MANAGEMENT

Since the Integrated Defense Resources Management is a major part of Defense Resources Management and the informational resource cannot be treated only as a defense resource, it is found in all the compartments of society, it can be appreciated that on a certain channel we can consider it as a Part of Integrated Management of Defense.

Taking into account the theoretical depth studies in the field of management, we propose a definition for its particularization - Information Resources Management, established at the level of the operational unit, consists of the entire process and management relations that aim at the creation, application and improvement of some systems, methods, techniques and modalities Leadership to provide information and intelligence to decision-makers with low resource consumption (human, material, financial, time, etc.). Information Resources Management within the operational units has a strong practical and applicative character due to the fact that, maintained at the state of the art, cannot achieve its central objective: obtaining competitive intelligence products using as small as possible and even limited resources. The practical-applicative character is manifested in the design of new systems, methods, techniques, procedures. This creates a set of tools that can be used by information structures to streamline their work. Information Management Relations in the Operational Units can be defined as the relations established between the components of the structures involved in the management of the information resource and the relations between them and the components of other systems that constitute a Romanian Task Force in the processes of forecasting, training, control and evaluation of the information system activities of the operational units. The characteristics of information resource management relations are influenced by two factors: - human factor: the quality of the military in the information structures influences all the processes, the relationships and the products with which they interact. That is why it is necessary to apply selection to the constitution of the human component of this system so as to identify personnel with a solid foundation of theoretical knowledge and practical skills. Ideally it would be that at least some of the staff had previous experience in a theater of operations, similar to that in which the Romanian operational force would act. A rigorous selection means an informational system that will have decision-makers with managerial skills, professional executives and high-level management relationships. It is the human factor that ultimately can differentiate between the information systems of the national contingents involved in a multinational operation; - the technical-material factor: it is given by the level of technical and material endowment. The information system organized within the operational units can be simpler or more complex, it can use only one type of information sources or more, and the particularities of the exploitation of the sources in which will be involved in a specific technique, will be reflected in management relationships. Exploiting sources and using different types of techniques will have certain features that will influence and be reflected in management relationships. Overall, management relationships within the information system of a Romanian Task Force are influenced by:

- national military specificity;
- size of the information system;
- complexity and diversity of information products obtained;
- types of information sources that the information system uses;
- locations of the information system components;
- continuous nature of the activity carried out;
- software features used to manage the database and process information;
- quality of the staff;
- managerial training of the decision-makers within the information system;
- legislative framework in which it acts (SOFA, the provisions of international humanitarian law, etc.).
- objectives, restructurings, resizing, etc.

Development directions: Ensuring essential operational capabilities for structures made available to NATO Information in a multinational operation is channelled into providing strategic assessments and warning about possible security risks. With decentralized, dynamic and efficient information, but with centralized synthesis and dissemination, the results may be superior. The information activity in the future area of action must produce assessments prior to the issuance of the Initiation Directive to enable commanders to carry out the planning of the operation on a concrete and as far as possible basis. The factors that decisively influence the mission are: geographical, cultural and ethnic environment, political and civilian history and objectives. The basic requirement of the structures made available to NATO is to ensure the achievement of essential operational capabilities to meet the full range of military missions within the Alliance.

Military capabilities required for NATO forces and commanders, enabling them to be made available, at the right time and place, to carry out effective and sustained operations in the most arduous environments and involving the existence of force protection components. The following operational capabilities are considered essential to ensure the level of operability established for each structure made available to NATO in order to accomplish the missions:

a) Timely availability of Forces: Ensure the establishment and sustaining of a sufficient and effective military presence at the right time, including the ability to build forces by increasing their level of operability accordingly and gradually so as to meet the requirements arising from a change in the strategic environment, and Ability to rotate forces engaged in operations;

b) Effective Information: To provide effective information support, military intelligence structures within the NATO forces as well as surveillance and recognition means must be designed to provide flexible "mission-friendly". Within NATO, intelligence is based on the contribution of nations and must focus on both military issues and political and socio-economic factors. The information should provide ongoing support to the political and military authorities for the entire spectrum of operations in times of peace, crisis or war to identify instability, crisis and conflict trends, as well as support for the identification of prevention and response measures of a political nature and military. To be effective, information support should include, but is not limited to, the following elements:

• Information on geopolitical, political, military, economic, sociological and cultural factors;

• Information on areas of interest outside the NATO Member States;

• Information on areas with potential impact on national and NATO security and interests;

• Information on the proliferation of weapons of mass destruction and technologies with military applications that can be used against NATO member states, their interests or forces.

In order to increase the effectiveness of structures made available to NATO, under the conditions of crisis and conflict, the architecture of the information system, technologies, structures and doctrines must be harmonized with their capability requirements. The quality and timeliness of providing data and information are key tools for making an efficient information system in peace, crisis or conflict. Counterintelligence is an important requirement in ensuring effective operations in the theatre of operations. The flow of strategic, operational and tactical information from NATO and national control and intelligence elements to NATO decision-makers, commanders and forces, must be timely and secure.

c) Dislocation capability and mobility: ensures the concentration and engagement of forces in place and at the desired time (dislocation capability) in order to be able to move quickly once they have been deployed (mobility);

d) Effective engagement in combat: ensures efficient use of forces, especially weapon systems, in all types of operations;

e) Effective command, control and communication (C3): provides the force management system to fulfil missions received;

F) Logistic support capability: Provides efficient and timely logistic support for any type of action to fulfil the mission;

G) Survival capability and force protection: it ensures the limitation of the effects of the opponent's actions, including the effects of weapons of mass destruction, while ensuring the freedom of action and the efficiency of combat use of their own forces.

The essential operational capabilities mentioned above are not mutually exclusive, being interrelated and interdependent.

3. INTEROPERABILITY AND FLEXIBILITY

Achieving interoperability and flexibility, a prerequisite for ensuring the achievement of key operational capabilities with a view to involving NATO structures at multi-national and joint operations within the Alliance.

A) Interoperability and standardization - is the ability of allied forces to train, carry out exercises and operate effectively together to accomplish their tasks and missions, and ensure through the development and implementation of NATO concepts, doctrines of tactics and procedures;

B) Flexibility - is the ability to execute a broad spectrum of operations and is ensured by structuring military capabilities and by selectively, timely and efficient use of them. The structures made available to NATO with a high level of operability (Very High Readiness Task Force – VJTF) should be able to quickly start, if necessary, collective defense or crisis response operations.

Participation of multiple nations under a single command to achieve the objective of a multinational operation involves interoperability issues on several levels: action, procedural, doctrinal, technical and so on In the information plan, the above is materialized in the need to provide information to the forces of the various nations involved but also to receive information from them. Information will not only circulate between military structures, but also between them and non-governmental organizations. The conclusion is that a set of information procedures and criteria for the dissemination of information for each multinational operation must be established. One way to solve the issue of standardization in the information plan is to use existing agreements (for example NATO STANAGs). These will form the basis for defining a common point in information interoperability. Because each multinational operation is unique, these standards will be modified to adapt to the concrete action situation.

Information interoperability will be created based on the issuance of procedures and agreements containing clear dissemination criteria, limiting the dissemination of information, defining specific terms, classifications and other guides in the field.

C) Implementation of specific management, information and execution systems, capable of operating under the operating theatre conditions.

Operational units designed for different external missions must have specific management, information and execution systems capable of operating under the operating theatre conditions.

For this, at the stage of operationalization of the new structure will be used a series of principles, methods of system design and sizing, as well as system analysis. Management of Information Resources in the management of multinational operations is a process of knowledge, direction, command and control, influence and action, able to establish the directions of effort and to support the planning of actions in the fields of: information, command, communications, psychological environment operations, information actions and public relations. From these areas, the first two involve collecting, processing and capitalizing on information, adopting strategies for influencing, cryptology, and exploiting information, providing predictive elements, simulation, and forecasting.

In order to provide effective information support, the military intelligence elements within the structures made available to NATO as well as the means of surveillance and recognition must be designed in such a way as to provide flexible "mission-friendly" support. Within NATO, intelligence is based on the contribution of nations and must focus on both military issues and political and socio-economic factors. The information should provide ongoing support to the political and military authorities for the entire spectrum of operations in times of peace, crisis or war to identify instability, crisis and conflict trends, as well as support for the identification of prevention and response measures of a political nature And military. In order to increase the effectiveness of structures made available to NATO, under the conditions of crisis and conflict, the architecture of the information system, technologies, structures and doctrines must be harmonized with their capability requirements. The quality and timeliness of providing data and information are key tools for achieving an effective information system in peace, crisis or conflict situations. Counterintelligence is an important requirement in ensuring efficient operations in the theatre of operations. The flow of strategic, operational and tactical information from NATO and national control and intelligence elements to NATO decision-makers, commanders and forces, must be timely and secure. Information superintendence is provided to the commandments of the operationalized structures that perform external missions of the data and information capacities (forces and means) combined with the annihilation of the opponent's (counter) information to collect information about his own forces. The information is intended to support the work of commanders and commanders on:

• Knowing the enemy's military and other capabilities and their evolution in time and space;

• knowing the opponent's device and its activities at a certain time;

• identifying the centre of gravity of opponent's actions, vulnerable and critical points and likely intentions;

• knowing the characteristics of the action space and its influence on the actions;

• misleading your opponent;

• Influencing non-combatants and neutral people to support their actions or resist resistance.

The data and information gathered and processed must lead to the knowledge of the current state and the prognosis of the next one, constantly taking into consideration the necessity of overcoming the opponent in terms of informational activity. During operations, the commanders of the operational units will have access to a great deal of information covering every aspect of the theatre of operations, the battlefield. The available information will cover a wide range of domains, both about your own strengths and your opponent: number, identity, equipment, location, refuelling status, losses, recovery status, fuel reserve, available ammunition, and much more.

There will also be an equal amount of information on the area where the actions take place, the climate, the state of the weather, the state of the land, the socio-political influences and other aspects of the battlefield. Particular attention must be paid to selecting the information that must reach the commanders; if they are suffocated with non-essential information they will not be able to appreciate the real value of the threats on the battlefield and will not be able to make the right decision. One of the basic requirements in the planning of the action is that any commander will identify, from the outset, why information on the forces of the opponent and the allied forces is needed to make the decision and, finally, to draw up the Operation order (OPORD). The questions that he needs answers make up the Commander's Critical Information Requirements (CCIR). The commander can formulate the respective questions from the time of the assignment of the new assignment, during the mission analysis, and later on during the planning of the action. Starting from the CCIR, information planners form the Commanders Priority Intelligence Requirements (PIR). These are key information questions to which the commander must have answers in order to be able to prepare and conduct a military action.

4. CONCLUSIONS

One of the conclusions we reached in our research is that the power of information changes the way war moves, forcing the armed forces to consider the relationship between the power of information and the action taken. Depending on how they can get and use and share the information, command structures can plan, organize, coordinate, and control subordinate forces so that missions are executed successfully, consuming as little resources as possible and eliminating, as much as possible, human losses. Within some operations, commanders will have access to a great deal of information. Fields of interest are varied and involve diverse information, focusing on the knowledge of the opponent and the confrontation environment, but also on creating a real picture of the situation and capabilities of their own forces. Information products can be of great magnitude and may suffocate the command and control system of force. Careful attention will be given to selecting the information that must reach the commanders. If they are saturated with non-essential information, they will not be able to appreciate the real threats in the area of responsibility and will not be able to make the right decisions. That is why each leader have to, within the authority of his command, dispose of a science-based information system capable of providing him with the necessary information in a timely manner. We have presented in this paper some of the development directions that should be taken into account by the command structures for the most effective information management within operational units participating in multinational operations.

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