128 - IDENTIFICATION OF RELAXATION TECHNIQUES: STRESS AND HABITS OF MUSCLE EXPANSION

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INTRODUCTION

To study the performance of the Physical Education professional with the approached subject, it is because the importance that is attributed by this category, to the stretching job in the healthful life of these people and, also because of the great use of this technique, without a safe information, gaining with this, the society that will have a better and more efficient professional attendance able to deal with more quality the beneficiaries of his performance.

In this direction, Tojal (1995) says that the professional of Physical Education, needs to integrate with the way of performance, having the chance to develop his knowledge and his psychological and motor capacity, in the social scope, thus being able to realize the valuation system of the society, what will give him individual effectiveness.

Therefore, inside of this context, considering not only the interests of the society for the corporal uses, but also the different possibilities to the action thru the cultural transformation and healthful habits of this society, we were based in literature, concerning the use of the stretching exercises, considering important to present different techniques that its advantages aim to eliminate tensions of different origins.

Composing this scene, is evident that the daily stress process affects all the people, it is generated by tension in the transit, in the familiar, professional and personal scope, causing body pains, being even able to cause many illnesses, interfering on a negative way, in the emotional control.

The stress, known as the evil of the century, has made numerous studious for this part of research and through them we could notice that all we are inclined to stress at any time of our lives. Currently the people are obliged to face new situations in the smaller possible time, imposing to them more numerous choices each time, becoming a huge source of stress.

According to Paulinetti and Machado (1997) the word "stress" was created by Hans Selye in a mental health area, and currently it is part of our life, as a mention to the exhaustion or fatigue, indicating that the individuals participate the work activities beyond their possibilities.

In accordance with Lipp and Rocha (1994), this can be used in two ways; to describe a situation of much tension, and also to characterize our reaction to such situation. They define it as being a reaction unchained by any event that confuses, frightened or even makes the person unhappy. For example, to make a test for the person who needs that result, however the same test can cause no tension, if the person think the test is something positive or harmless.

The life starts with the stress. It is because of it that the life becomes intense. It is because of it that the life finishes. With those affirmations Auriol (1985), distinguishes the two types: the positive, the favorable, that he calls "l-stress", and the negative, the unpleasant, that he calls anguish. All sensation that places our organism in state of alert, that pressures our muscles, that speeds up our breath, our circulation, constitutes stress. In this manner we are ready to enjoy, to fight or to run away.

Taking into consideration Samulski studies (1996), this word refers to a perturbation of the balance between person and environment. In this interaction, it is understood as "concept of the relation", that describes certain problems and processes of adaptation between a system and its environment. When appears an unbalanced between the condition of the individual action and the situation, becomes the "stress".

Trucco (2002), defines it as a cause of tension or requirement of adaptation

For Brandão (2000), when a person answers to the external pressures, as constant requests of the family and the work, and to the own demands, such as obligations, responsibilities, it becomes a cumulative process, where each new situation generates symptoms that join the previous ones.

Therefore, it is possible to realize in this context that stress it is something not so bad to the human organism, because everyone lives facing situations, that can be good or bad and, we reacted to them in a negative way, spending much more energy that we have to answer to a situation, thus reaching the maximum and dangerous point of stress. The ideal it is not to eliminate it completely, therefore it occurs in all people and it is necessary to have a normal life, the important thing is that each person must to elucidate correctly the lived situations, incorporating a positive way to face the life, that makes possible, when facing some type of stress that it does not develop until reaching dangerous consequences (LIPP and ROCHA, 1994).

These authors, they had identified the "stressor agent" as being any situation that brings a break of balance where is necessary to the person to adapt, either it stops better or worse, as a birth of a son. A job promotion can generate stress and unchain many reactions of the nervous system, changing our life, therefore it demands many reactions. An event is by itself stressful by reason of its nature, or because of the interpretation that the person gives itself the same.

In accordance with Samulski (1995), Lipp and Rocha (1994) the reaction of "stress" happens in three phases: **First phase - Alert**: characterized for the mobilization of the defense forces of the organism, as its immediate reaction to a super requirement. In this phase the organism is prepared to fight or to run away. It is a period of huge activity of the nervous system, characterized for hyperventilation, tachycardia and increase the blood pressure. To this shock phase, follows the against shock phase in which the mechanisms of defense of the organism are immediately activated. It does not have to make us worry, therefore our organism is prepared to deal with these emergencies, but they can not exceed our ability of adaptation. **Second phase - Resistance**: in this phase the person tries to instinctively adapt to the situation using the reserves of adaptation energy that they have. If they are enough, the symptoms of the alert phase disappear and the person comes back to normal. But in this phase, the stressor continues present for a long period or its dimension is very big, so you have to pay attention: if the stressor continue present, these reserves that are being used can be finished, therefore this energy is limited and change from person to person and, the same energy must be restituted, through the control of the stress. An adaptation like this, to a stressor, it is only possible by the reduction of the capacity of adaptation to other stressors. It means that we become susceptible to burden you add. **Third phase - Exhaustion**: because the stressor continue present for long time, after the consumption of the adaptation energies, the mechanisms of defense and adaptation failure, but the process stops. The exhaustion phase it is associated with a series of illnesses, like hypertension, ulcers, gengivitis, depression, anxiety, sexual problems, heart attack, and under some conditions we arrive to death. In this phase a specialized treatment is necessary, therefore the person hardly will get to leave this situation by itself.

The control of stress that it is considered, involves many stages and it is based on behavior principles. Has the purpose the change of the life style with emphasis in the improvement of quality of life in the follow quadrant: social, affective, health and professional. For the success it depends, mainly, on an adjusted functional analysis of the generating sources of it stress, internal and external. The diverse instruments for the evaluation of the stress, they are basis for the formulation of the plan of each person stress control, being essential the clinical orientation in each phase.

Lipp and Rocha (1994) describe some instruments for the evaluation of the stress, to know: Inventory of symptoms of stress (ISS), Inventory of quality of life, Scale of assertividade. The model of proposed treatment is not one technique or an isolated procedure, but a set of procedures that consist in a functional analysis of the stressors and its objective and direct performance, as regards to the four pillars of the stress control: Relaxation, Feeding, Physical Exercise and modifications in the cognitive area.

In accordance with the studies of Kisner and Colby (1992) were verified that with therapeutic exercise the person may become conscious of its muscular tensions and learn to control or to inhibit those tensions.These authors describe the therapeutic basis of the relaxation exercises, to know: 1) the active contraction of the muscle causes reflected relaxation. At the contraction of a muscle, its antagonist is inhibited (Law of Sherrington of the reciprocal inversion); 2) the conscientious thought can affect the tension in a muscle.

Also they focus the principles for relaxation exercises, where the individual learns to contract and to relax the muscles gradually, generally followed with exercises of deep breath to obtain relax.

Other models are established in relaxation techniques and deep breath to reduce stress, or to oppose to this, where the relaxation consists mainly of integrating and balancing, the physicist and the psychological, and thus revitalize the life. The relaxation makes possible the revitalization through the stimulation and transformation of energy that must flow softly favoring in this way the access to the energies, leaving the mind clear and the body healthful.

A flexibility program, using stretching, it has as the one of its purpose the promotion of the relaxation. From the literary revision, we find studies of Alter (1999) that it observes that the relaxation is the suspension of the muscular tension. A relaxed muscle is less inclined to get many illnesses. The author explains when a muscle is contracted, develops a shortening called “result of contracting” and the chronic muscular tension makes the muscle less flexible, less strong, making impossible to it absorb the shock and stress of many types of movement.

In this direction, works proposing the introduction of relaxation techniques, as demonstrate Tulku, Tarthan, Bernard and Manole apud Auriol (1985); Kisner and Colby (1992) and Souza (1992) they use stretching exercises in order to reduce the day to day muscular tension, physical and psychological stress, providing to the individual a better "corporal conscience”, as we show at the follow several techniques:

- Contraction-Relaxation (Hold-relax): Stretch the musculature in a comfortable position, then, the professor asks to the pupil to contract the prolongated muscle, for 5 to 10 seconds until the muscle starts to tire, without feels pain. After the contraction, relax and then stretch a little more the muscle, passively moving the member through the amplitude it got. The stretch method "3S" (Scientific Stretching for Sports) uses this technique;

- Feldenkrais Method: the person acts in function of the image that has from itself, resultant of the hereditary succession, society influence, auto-education, it has as goal to diminish the effort of the movement, propitiating the sensation;

- Method Rolfing or Structural Integration: consists a project of human body organization. Its global objective is to balance the space relations of the different muscular groups to form a symmetry, a harmony between the left side and the right side, the forebody and the posterior part, the superior part and the inferior part, e also between the internal and external structures. The action mechanism of "Rolfing" is the reversible plasticity of the conjunctive tissue, to obtain a coherence of tensions in harmony with the force of the gravity. Its way of activity is the experience of release of chronic tensions and its consequences;

- Local Relaxation: application of heat through hot water stock markets or others techniques as exercises, it increases the tissues elasticity, in order to provide a circulation increase and then an increase of the body temperature, preparing for the activity;

- Gradual Relaxation of R.B. Jacobson: considers the relaxation of the each muscle separately, thru an effort and conscientious thought. The person will have to contract each member during some seconds, and then actively relax the musculature, initiating with the distant members of the trunk and then the nearest ones, after instruct the person so that it feels a sensation of weight and heat through the stretched member and after all body;

- Shiatsu: it is a therapy of physical and energetic balance that acts through pressures in special areas of the body. Its objective is illnesses prevention;

- Eutonia, (Gerda Alexander): it is a therapy to restore the balance, to acquire economy, harmony. It teaches to discover and to regulate muscle force in the gestures and acts, to find the exact degree of tension in the execution of the movement. The person learns to have conscience of its position, and to perceive the sensation of pleasure or pain. It treats to verify the muscular capacity of relaxation through an alternation of contractions and relaxes;

- Bioenergética: all the psychic and somatic processes are based on energetic processes of the body, the muscular harnesses, impregnated into the body hinder the free circulation of the energy, the objective of this method is to dissolve those harnesses and to free the potential of the biological energy.

Another proposal analyzed with bigger depth is the one from Souchard (1986), the Global Postural Re-Education, it is a re-education method that is based on positions of active muscular stretching. It has for goal to place all the body in maximum stretching, evidencing tensions that become related, so that way the man comes back to itself balance.

It focuses the therapeutic side of its method, relating the illness to the inheritances, life conditions, verifying to be indispensable to see it in its physical and psychic totality in its context. For example, from a physical aggression a somatic symptom can happen, as the physical harm can bring psychological consequences. It also emphasizes, to look globally to the person. Its Method (RPG) treats globally the muscle articulate problems, using stretching exercises based on the normalization of the morphology. It acts on the neuro-muscular tensions using an essentially active work, more global. The Souchard method is somatic-psychic. It uses stretching with intention to alleviate or to prevent deflections of posture, the deformities and pains caused for these, from flat foot, column problems, to pain after-immobilization.

The treatment is directed to the posterior muscles, responsible for the static and dynamic position, in constant tension. Souchard (1986) considers that the extended position restitutes the active force, allowing a better stretching.

According to the author, the stretch of the muscle is directly proportional to the snatch time and answers to the following formula:

$$\text{Residual stretch due to traction} = \frac{\text{force} \times \text{time}}{\text{Coefficient of elasticity}}$$

It means that a stretching muscle for a long time becomes long, flexible and strong. With snatch force being applied in a longer time, an excellent stretch is gotten, therefore to stimulate the organs promoting the relaxation, it is necessary 6 seconds and three or four repetitions in 30 seconds.

The point of the global postural re-education method is to promote the relaxation of the posterior chain, respiratory release and postural balance.

About the job of corporal awareness through the movement, Ehrenfried (1991), aims, mainly, the education of the body, undertaking an integral re-education of the physical behavior, not through a voluntary attitude, therefore this is full of consequences caused by the unconscious habits, but trying to become perceivable the sensation of what is wrong in the movements and attitudes executed by them.

The acquired experiences through an intensified sensitivity remain alive, not being necessary to hold back them, because they will not be forgotten, substituting unconscious consequences, for new consequences, more adjusted.

To the author, it is necessary to try the sensations and take it to the level of the conscience so it can be remembered many times, being variable from person to person. The job of re-education of the author is based on three sources: behavior and breath, balance and force; using techniques based on the breath, in the relaxation and flexibility. For her, flexibility when worked, allows through a bigger elasticity the continuous adaptation to the necessities of the moment, to facilitate the alternation of the different muscular groups preventing the local overload that cause premature fatigue.

The author also says about the necessity that the person has to do by itself, out of the sessions, the true work, the re-education, in the daily life.

She does criticizes to the gradual relaxation method of Dr. Jacobson, that considers the relaxation of each muscle separately, what she considers very unilateral to bring a real change to the person behavior.

Using the stretch as a technique to promote the relaxation, the proposal of Bertherat (1977) tells natural methods that consider the body as indissolvable unit, using movements that are born inside of the body. She defines them as “antigymnastics", adding that it always can be only understood by the body, through the lived experience. The biggest objective in this in case it is to become the person independent, owner of its body, through the awareness of the proper movements organization, with conscience of the proper muscular blockades, through respiratory and stretching exercises.

According to author is better to improve your own image of itself because of the "elasticity" of the muscles and gestures, of that to count just with the effect provoked for the accessories.

For Bertherat, the antigymnastics is opposite to the traditional gymnastics, never executing mechanics repetition of a movement. In this method becomes perceivable the sensation, what is defective in the attitudes and movements executed habitually.

Many considerations of these cited authors had been reviewed searching agreement for this study, and of the set of final considerations to this respect I found that Zimmermann (1992) in the maters degree thesis, developed through a clinical study of Analytical Psychology, wich used a group work with practical experience, of two expressives specific techniques: Meditating Dance and Free Drawing, as well as the attendance in doctor's office. In the experience with movement exercises, the objective was to make possible a bigger state of tunning with the proper body, as well as the balance of tensions and a corporal experience.

In this direction, affirms the author:

The body has a long memory and, in a certain direction, it is rigid. It is like an animal that no longer unlearn what was printed in it; as, for example an elephant that after years, still signals a collision that once was suffered. The body long loads the affective vestige of experiences and states. Thus, the job of corporal conscience can be a progress in the way of auto-experience (ZIMMERMANN, 1992, p.47).

BIBLIOGRAPHICAL REFERENCES

ALTER, M. J. Science of flexibility. Porto Alegre: Art Med, 1999.

AURIOL, B. Introduction to the relaxation methods. São Paulo: Manole, 1985.

BERTHERAT, T. The body has its reasons: antigymnastics and conscience of itself. São Paulo: Martins Sources, 1977.

BRANDÃO, M.R.F. Factors of stress in professional football players.2000. (doutorado Thesis of) - College of Physical Education, State university of Campinas, Campinas, 2000.

EHRENFRIED, L. The education of the body to the balance of the spirit. São Paulo: Summus, 1991.

FELDENKRAIS, M. Conscience of the movement. São Paulo: Summus, 1977.

KISNER, C.; COLBY, L. Therapeutical exercises: beddings and techniques. São Paulo: Manole, 1992.

LIPP, M. N., ROCK, J. C. Stress, hypertension and quality of life: Guide of treatment for hypertension. Campinas: Papirus, 1994.

PAULINETTI, . P.; AXE, . . Psychology of the sport: emergent subjects I Jundiaí: Apex, 1997.

SAMULSKI, D. Psychology of the sport: theory and practical application. Belo Horizonte: Ed. of the UFMG, 1995.

_____. CHAGAS, H. M. ; NITSCH, R. J. Stress: basic theories. Belo Horizonte: Ed. of the UFMG, 1996.

SOUCHARD, E. Global postural gymnastics. São Paulo: Martins Sources, 1986.

SOUZA, E. P. M. The search of the self-knowledge through the corporal conscience: a new trend. 1992. 88f. Thesis (Master degree in Physical Education) - College of Physical

Education, State university of Campinas, Campinas, 1992.

TOJAL, J. B. The G. Motor education: what to form a professional. In: LANDMARK, . (Org). Thinking the motor education. Campinas: Papirus, 1995.

TRUCCO, M. Estrés y upheavals mentales: neurobiológicos aspects psicosociales. Rev.chil.neuro-psiquiatr. n. 40, v. 2, p. 8-19, 2002.

TULKU, KUM NYE. Techniques of relaxation. São Paulo: Thought, 1978.

ZIMMERMAN, E. B. Integration of interior processes in the development of the

personality. 1992. Thesis (Masters degree) - College of Medical Sciences, State university of Campinas.

Key-word: muscular prolongation, stress, professional formation

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IDENTIFICATION OF RELAXATION TECHNIQUES: STRESS AND HABITS OF MUSCLE EXPANSION

SUMMARY

This assignment is part of the research carried through in doctorate level, through which we investigate if the students from graduation of Physical Education of three universities on the region of Campinas, has scientific knowledge about prolongation techniques, seen the importance of this subject matter in the intervention of the professional. At the present work we focus the study made concerning the phenomenon: Stress/Relaxation/Stretching, constituting first the concept, process and control of the stress, where we approach diverse relaxation techniques that use muscular stretch, for relief tensions generated for daily stress. Different considerations had been reviewed searching agreement for this study and about the set of final considerations to this respect, we find that the experience of stretch exercises, makes possible a bigger state of tunning with the own body, as well as the balance of tensions, related to the reduction of stress, propitiating a general welfare of the body. As conclusion, about the professional qualification of the student to take care of a great parcel of the society, front to the development of the prolongation exercises, it is necessary to be considering the existence of this subject, in a specific and scientific way, in the professional preparation in Physical Education.

Key-word: muscular prolongation, stress, professional formation

IDENTIFICATION DE TECHNIQUES DE RELAXATION : STRESS ET HABITUDES D'ALLONGEMENT MUSCULAIRE

RÉSUMÉ

Ce travail est partie de la recherche réalisée en niveau doctoral, à travers laquelle nous enquêtons si les élèves de la graduation du cours d'Éducation Physique à trois universités de la région de Campinas ont connaissance scientifique des techniques d'allongement, vu l'importance de cette thématique dans l'intervention du professionnel. Dans le présent travail nous nous sommes focalisés sur l'étude qui concerne le phénomène suivant: Stress/Relaxation/Allongement, en constituant premièrement le concept, le processus et le contrôle du stress, où nous avons envisagés des diverses techniques de relaxation qui s'utilisent d'allongement musculaire à fin de soulager certaines tensions produites par le stress quotidien. Plusieurs considérations ont été révisées en cherchant accord pour cette étude et de l'ensemble des considérations finales à ce propos, nous avons trouvés que l'expérience d'exercices d'allongement rend possible un état plus harmonieux avec le corps lui-même, ainsi que l'équilibre de tensions, rapporté à la diminution du stress, en rendant propice un bien-être général du corps. En conclusion, en ce qui concerne la qualification professionnelle de l'élève pour assister une grande parcelle de la société, en face du développement des exercices d'allongement, il est necessaire qu'on propose l'existence de ce sujet, de forme spécifique et scientifique, dans la préparation professionnelle en Éducation Physique.

Mot-clé : allongement musculaire, stress, formation professionnelle

IDENTIFICACIÓN DE TÉCNICAS DE RELAJAMIENTO: ESTRÉS Y HÁBITOS DE ESTIRAMIENTO MUSCULAR

RESUMEN

Este trabajo es parte de la investigación realizada en nivel de doctorado, a través de la cual investigamos si los alumnos de la graduación de Educación Física de tres universidades de la región de Campinas, tiene conocimiento científico sobre la técnica de estiramientos, visto la importancia de esta temática en la intervención del profesional. En el presente trabajo enfocamos el estudio hecho acerca del fenómeno|: Estrés/Relajamiento/Estiramiento, constituyendo de entrada el concepto, proceso y control de estrés, donde abordamos diversas técnicas de relajamiento que utilizan estiramiento muscular, para alivio de tensiones generadas por el estrés diario. Diversas consideraciones fueron vueltas a ver recogiendo comprensión para ese estudio y del conjunto de consideraciones finales a ese respeto, encontramos que la vivencia de ejercicios de estiramientos, posibilita un estado mayor de sintonía con el propio cuerpo, así como el equilibrio de tensiones, relacionados a la disminución del estrés, propiciando un solaz general del cuerpo. Como conclusión, en lo que concierne a la capacitación profesional del alumno para atender la una gran parte de la sociedad, frente al desarrollo de los ejercicios de estiramiento, es necesario estar proponiendo la existencia del tema, de forma específica y científica, en la preparación profesional en Educación Física.

Palabras-llave: estiramiento muscular, estrés, formación profesional

IDENTIFICAÇÃO DE TÉCNICAS DE RELAXAMENTO: ESTRESSE E HÁBITOS DE ALONGAMENTO MUSCULAR

RESUMO

Este trabalho é parte da pesquisa realizada em nível de doutorado, através da qual investigamos se os alunos da graduação de Educação Física de três universidades da região de Campinas, tem conhecimento científico sobre a técnica de alongamentos, visto a importância desta temática na intervenção do profissional. No presente trabalho enfocamos o estudo feito acerca do fenômeno|: Estresse/Relaxamento/Alongamento, constituindo primeiramente o conceito, processo e controle de estresse, onde abordamos diversas técnicas de relaxamento que utilizam alongamento muscular, para alívio de tensões geradas pelo estresse diário. Diversas considerações foram revistas buscando entendimento para esse estudo e do conjunto de considerações finais a esse respeito, encontramos que a vivência de exercícios de alongamentos, possibilita um estado maior de sintonia com o próprio corpo, bem como o equilíbrio de tensões, relacionados à diminuição do estresse, propiciando um bem estar geral do corpo. Como conclusão, no que diz respeito à capacitação profissional do aluno para atender a uma grande parcela da sociedade, frente ao desenvolvimento dos exercícios de alongamento, é necessário estar propondo a existência deste tema, de forma específica e científica, na preparação profissional em Educação Física.

Palavras-chave: alongamento muscular, estresse, formação profissional.