158 - CRONOTRÓPICS RESPONSES IN EVALUATORS DURING AN EVALUATION

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Introduction:

The first concept about body composition was found around 400 b.C. .(Shen, St-Onge, Wang & Heymsfield 2005 apud Schultz 2002) in Greece. Things such as the rain and diseases where considered natural causes. The Greek believed that humans were made out of the same elements that created the Universe, fire, water, air and earth. Food was responsible to create the four body elements like blood, phlegm, yellow and black, from their characteristics (hot, cold, wet and humid).

In modern times, body composition researches have being made for about one century (Shen, St-Onge, Wang & Heymsfield apud Wang et. Al. 1999). Field researches were prepared for scientists like Justus von Liebig(mid 19th century thru the beginning of the 20th). This was one of the main reasons for the advanced concepts about body composition, even not being considered practical or precise, though important for the evolution on the subject. The begging of the 20th century brought more into it, like in 1921 when scientist J. Matiegka, reported an anthropometric model to estimate total muscular mass.

The amount of researchs about body composition increased fast, having the 1930's as the golden times with a lot of new ideas and different nosions brought by the introduction on methabolism and radioactivs structures concepts.

Behnk´s started with hydrostatics weighting with two homologated models, due to its easy application, to measure body composition in the early 1940's (Shen, St-Onge, Wang & Heymsfield 2005 apud Behnke 1942). Most people see in these times with the first body composition symposium in 1963 sponsored by the New York Academy (Brozek et al. 1963).

It's being searched thru laboratories all over the word a better way to evaluate the effects of training thru global physical aptitude, that's made of biological and psycho social factors that are build of different characteristics.

All this is divided in three biological areas: Anthropometry, Neuromuscular and Metabolic. Its possible to diagnosis someone's health or training status with evaluations in all three areas. This is how a Physical Education professional, can set a training section or know its clients conditions.

Cineantropometry is the analyses of different aspects, such as the ones that involve shape, proportionality and body composition.

In anthropometry it's measured the length, perimeter, diameter and body composition. In neuromuscular, indirect and direct strength, speed, agility, flexibility, rhythm, balance and coordination. And metabolic are anaerobic and aerobics powers.

All these previous tests are meant to show the evaluators conditions during the tests. HR is one of the most used parameters for its easy control and a good indicator of the intensity, even if there is no continuous action being done by them. There are still variations under these circumstances, when for example the evaluators' got to check the HR of gym clients every 15 minutes, witch doesn't allow them to do it right do to the amount of students. This research shows HR variations in this evaluator, analyzing it during the time they have to finish their evaluations with the tests showed bellow.

In this research was used the measurements and circumferences tests proposed by Norton & Olds (2005), skin fold by Pollock (1978), diameters by Heymsfield, Lohman, Zimian & Going (2005), and flexibility tests adapted 8 movements by Farinatti (2003), sit and reach by ACSM (2000), dynamometry of superiors muscles by Corbin & col (1978), inferior muscles and torso by indirect strength from superior muscles and 1' push ups by Pollock, Wilmore & Fox (1994) and abdominal 1' by Pollock, Wilmore & Fox (1994).

Objective:

This research is to verify the alterations on the evaluator's HR according to the area that's being measured and the measurement and test.

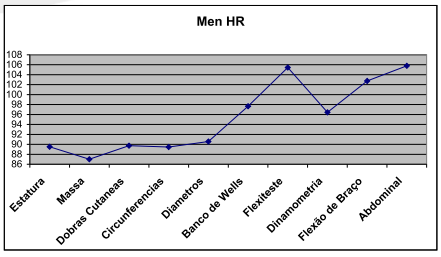
Methods:

It was a descriptive research according to Thomas e Nelson (2002, p. 280), typed data collecting. It was used both genders in the research, and evaluators that knew how to do all measurements and tests and had total knowledge in the testing materials proposed by the authors and volunteers.

The materials used in the research were a POLAR S610 HR monitor (for HR). A SANNY metallic trend with 0.1 cm precision for perimeter, a CESCORF scientific compass with 0,1 mm precision for skin fold, a SANNY paquimeter with 0,1 cm precision for diameters, a FILIZOLA mechanic scale with 0.1kg precision for body mass, a SANNY estadiometer scientific with 0,1 cm precision for height, a SANNY Wells bench with 0,1 cm precision, a JAMAR hand dynamometer with a 2 kgf precision, a KRATOS torso dynamometer and lower muscles with 1 kgf precision, a NIKE digital chronometer wit 0,1 seconds precision.

Results:

Graphic 1: Average Men HR in every evaluation moment



Graphic 2: Average Women HR in every evaluation moment



Conclusions: It's possible to see a lower average in the women graphic than the men, witch doesn't match with the literature that shows that women have averaging 10 bpm higher than men do. It also shows in the anthropometric evaluation the HR average are equal. In the neuromuscular evaluation there is a sudden increase in HR, with the pick being showed during the flexitest where the evaluator needs to hold in an isometric way the other person. In the abdominal test it was thought that would show a higher HR average because of the evaluators in comparison to the evaluated size, but it was showed the opposite, a higher average from the men evaluators. This is due to the technique used in the test being different for each gender, even being standard for the evaluated. It is recommended another study with a higher number of evaluators with other variable such as Borg scale, due to the fact that a few of the evaluators showed sine of tiredness and fatigue.

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CRONOTRÓPICS RESPONSES IN EVALUATORS DURING AN EVALUATION

Abstract: A Physical Education professional's job is to assure a healthy life to others, but most of the times, they don't take care of their own health, fitting under the saying “do what I say, don't do what I do”. One of their working areas is to evaluate people's conditions, using it to diagnosis their body condition and to help to understand if their goals are being achieved with the exercises. One of the problems during an evaluation is the tension in between the evaluator and the person that's being evaluated, that could alter heart rates (HR), do to sympathetic nervous system (SNS) actions and the catecholamine. The SNS is responsible to increase HR, myocardium's contraction strength and the catecholamine liberation, dominating in physical and emotional stress situations.

Powers(2000), relates the SNS actions to Cannon's theory where this all happens to prepare the person to fight or run from a extreme dangerous situation. **Objective:** Verify the HR responses in between evaluators when evaluating the same person. **Methods:** It was a descriptive research with 4 men and 3 women, averaging age of 25,5+/-7,1 e 29,0+/-8,7 .**Results:** It was verified with anthropometric actions the average HR of 91,89+/-6,86 e 89,45+/-6,18, skin fold de 94,36+/-2,41 e 89,72+/-2,10, bone's diameter 94,52+/-7,66, and 90,58+/-6,01 for flexibility neuromuscular components, Wells bench 96,78 +/-7,03 e 97,67+/-68,6 Flexitest, 106,30+/-11,21 and 105,46+/-8,60, for indirect strength for superiors muscles 103,62+/-11,16 e 102,75+/-7,92 , Abdominal 1' 97,80+/-11,34 and 105,80+/-9,34 Dynamometrical 97,50+/-13,85 and 96,44+/-10,63 respectively. **Conclusion:** According to the literature, females are considered to have a higher HR than males, and this research showed that it could varies depending on the area that's evaluated and a difference on the technique when it's requested strength from both genders.

Key-Words: Cronotrópics Responses, Heart Rate, Physical Evaluation

RESPUESTAS DE CRONOTRÓPICS EN EVALUADORES DURANTE UNA EVALUACIÓN

Resumen: El papel principal del profesional de la educación física gira alrededor de mantener una otra persona saludable, en la mayoría de las veces el mismo no cuida de su propia salud, demostrando el tipo de persona que dice: “Haga lo que digo, no hagas lo que hago”. Una de las áreas en que él trabaja es la área de medidas y evaluación, en donde esta tiene como objetivo realizar un diagnostico, sobre como esta ese estudiante y si es posible realizar otras para verificar si los objetivos y sus mejorías fueron alcanzadas. Y durante una evaluación no se sabe como esta el individuo que realiza la evaluación en termos fisiológicos. Por la tensión entre el estudiante y la persona que esta evaluando. Sabe-se que el ritmo sinusal del corazón puede ser alterado por los factores extrínsecos representados por la acción del Sistema Nervioso Autónomo y de las catecolamina. De acuerdo con Costill y Wilmore (2001), la acción del Sistema Nervioso simpático es responsable por aumentar la frecuencia cardiaca, la fuerza de la contracción miocárdica, la liberación de las catecolamina que predomina durante situaciones del estrés físico y emocional. Powers y Howley (2000), relacionan esta acción del Sistema Nervioso simpático a la hipótesis desenvuelta por Cannon, en donde este sistema prepararía el individuo para enfrentar a huir de un peligro eminente. Los mismos autores evidencian la respuesta cardiovascular elevada durante períodos de pré-ejercicio o durante ejercicios submáximos realizados en atmósfera emocionalmente cargada, cuando es comparado al ambiente psicológicamente neutro. **Objetivo:** Verificar las respuestas cronotrópicas que ínter evaluan con los mismos evaluando siempre la misma persona. **Métodos**: La investigación fue descriptiva con levantamiento de datos, la muestra fue compuesta con 4 hombres y 3 mujeres, edad media de 25.5+/-7.1 **Results**: De e 29.0+/-8.7: Fue verificado con acciones antropométricas la hora media de 91.89+/-6.86 e 89.45+/-6.18, doblez de 94.36+/-2.41 e 89.72+/-2.10, diámetro 94.52+/-7.66, y 90.58+/-6.01 de la piel del hueso para los componentes de la flexibilidad, el banco 96.78 de los pozos +-7.03 e 97.67+/-68.6 Flexiteste, 106.30+/-11.21 y 105.46+/-8.60 neuromuscular, para la fuerza indirecta para los músculos 103.62+/-11.16 e 102.75+/-7.92, 1' abdominal 97.80+/-11.34 y 105.80+/-9.34 97.50+/-13.85 y 96.44+/-10.63 dinamométricos de los superiores respectivamente.. **Conclusión**: Acordando a la literatura, consideran a las hembras tener una hora más alta que varones, y esta investigación demostró que podría varía depender del área que evaluó y una diferencia en la técnica cuando solicitó fuerza de ambos géneros.

Palabras-Clave: Frecuencia Cardiaca; Respuesta a Estrés; Evaluación

RÉPONSES CRONOTRÓPICAS DES ÉVALUATEURS, PENDANT UNE ÉVALUATION

Résumé : Le rôle principal du professionnel d'éducation physique tourne autour maintenir d'une autre personne saine, beaucoup des fois ce ne soigne même pas de la santé elle-même, en démontrant ce type de personne qui dit « fasse ce que je dis, ne fasse pas ce je fais . Un des secteurs où il travaille et dans le secteur d'évaluation, où celle-ci a objectif réaliser un diagnostique, sur comme celle-ci cet élève et si c'est possible de réaliser varies autres pour vérifier si les objectifs ont été atteints, leurs améliorations, etc. Et pendant une évaluation il ne se sait pas comme celle-ci la personne qui réalise l'évaluation dans des termes physiologiques. Par la tension entre l'élève et l'évaluateur. Sabe que le rythme sinusal du coeur peut être modifié par des facteurs extrinsèques représentés par l'action du Système Nerveux Indépendant et des catecolamines. L'action du Système Nerveux sympathique est responsable d'augmenter la fréquence cardiaque, la force de contraction du myocarde et la libération des catecolaminas et prédomine pendant des situations de estresse physique et émotionnel. Powers (2000), rapporte cette action du Système Nerveux sympathique à l'hypothèse développée par Cannon, où ce système préparerait la personne pour affronter ou fuir d'un danger imminent. **Méthodes** : C'était une recherche descriptive avec 4 hommes et 3 femmes, âge moyen de 25.5+/-7.1 e 29.0+/-8.7. **Résultats** : On l'a vérifié avec des actions anthropométriques l'heure moyenne de 91.89+/-6.86 e 89.45+/-6.18, le pli De 94.36+/-2.41 e 89.72+/-2.10, le diamètre 94.52+/-7.66 de peau de l'os, et 90.58+/-6.01 pour les composants neuromusculaires de flexibilité, des puits mettent hors jeu 96.78 +-7.03 e 97.67+/-68.6 Flexiteste, 106.30+/-11.21 et 105.46+/-8.60, pour la force indirecte pour les muscles 103.62+/-11.16 e 102.75+/-7.92, 1'abdominal 97.80+/-11.34 et 105.80+/-9.34 97.50+/-13.85 et 96.44+/-10.63 dynamométriques de supérieurs respectivement. Conclusion : S'accordant à la littérature, des femelles sont considérées comme avoires une heure plus élevée que des mâles, et cette recherche a prouvé qu'elle pourrait change dépendre du secteur qui a évalué et une différence sur la technique quand il a demandé la force des deux genres.

RESPOSTAS CRONOTRÓPICAS DOS AVALIADORES, DURANTE UMA AVALIAÇÃO

Resumo:O papel principal do profissional de educação física gira em torno de manter uma outra pessoa saudável, muitas das vezes este mesmo não cuida da própria saúde, demonstrando aquele tipo de pessoa que diz "faça o que eu digo,não faça o que eu faço". Uma das áreas em que ele trabalha e na área de avaliação,onde esta tem por objetivo realizar um diagnostico,sobre como esta esse aluno e se for possível realizar varias outras para verificar se os objetivos foram atingidos,suas melhoras,etc. E durante uma avaliação não se sabe como esta o individuo que realiza a avaliação em termos fisiológicos. Pela tensão entre o aluno e o avaliador. **Objetivo:**Verificar as respostas cronotrópicas interavaliadores com os mesmos avaliando sempre o mesmo sujeito. **Metodologia:** O estudo foi descritivo tipo levantamento de dados, a amostra foi composta 7 indivíduos sendo 4 do gênero feminino e 3 do masculino com media de idade de 25,5+/-7,1 e 29,0+/-8,7. **Resultados:** Verificou-se que na aferição dos componentes antropométricos a FC cardíaca media nos perímetros foi de 91,89+/-6,86 e 89,45+/-6,18 nas dobras cutâneas de 94,36+/-2,41 e 89,72+/-2,10 nos diâmetros ósseos de 94,52+/-7,66 e 90,58+/-6,01 para os componentes neuromusculares de flexibilidade,Banco de Wells foi de 96,78 +/-7,03 e 97,67+/-68,6 Flexiteste foi de 106,30+/-11,21 e 105,46+/-8,60 para força indireta de MMSS foi de 103,62+/-11,16 e 102,75+/-7,92 , Abdominal 1 ´foi de 97,80+/-11,34 e 105,80+/-9,34 Dinamometria foi de 97,50+/-13,85 e 96,44+/-10,63 respectivamente. **Conclusões:** Pelo gênero feminino na literatura apresentar uma maior FC que o gênero masculino o estudo demonstra que dependendo da área avaliada o sujeito apresenta uma maior ou menor freqüência como também se nota a diferença de técnica quando necessário realizar força entre os gêneros.

Palavra-Chave: Respostas Cronotrópicas, Freqüência Cardíaca, Avaliação Física

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