THE PSYCHOPHYSIOLOGICAL PROFILE AND ASYMMETRY OF THE OUTLYING TEMPERATURE OF SPORTSMEN OF COMPETITION

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Introduction

Diverse investigations mention that the changes in the temperature of the skin allow to infer about emotional/several states, for example that a threatening situation produces cold in the hands and that]{referring to the tension or anxiety (Estrada, 2002; Karavidas, Tsai, Yuch, McGrady & Lehrer, 2006; Yuch, Tsai, Calderon & Tian, 2005; Estrada & Perez, 2008). An asymmetry is also identified in the outlying temperature, that is to say, one of the hands ends up having a smaller temperature, it is generally the left hand (Rimm-Kaufman & Kagan, 1996).

Investigators as Guirado, et al. (1995) they mention that the Heart Frequency is used as measure for the evaluation of the anxiety. The women can have bigger Heart Frequency in answer to stress (Moya & Salvador, 2002; Estrada & Perez, 2008).

In the interventions with Biofeedback, it is frequent the obtaining of Evaluation or Profile of Psychophysiological Reactivity of the subject (Carrillas & Godoy, 1987, Labrador, Cruzado & Munoz, 1995; Perez, 1997; Estrada, 2002).

Method

Equipment

• Digital thermometers of outlying temperature
• Pulsometer marks Polar RS 200

Equipment

Subjects

Non probabilistic sample of 60 sportmen of the city of Seville that were training and competing regularly. With a 21,6 year-old age. Of the total of the sample they were divided the half in team sports and the other half in singular, in turn in men and women; that is to say they were 4 groups of 15 subjects each one. All the participants had experience in competition that it went from the regional championships to the national and international.

Procedures

The design of investigation of the mixed type with repeated measures (2 X 2 X 5). With 2 variables inter-subject: Sex and sport Type

1 variable intra-subject: 5 conditions of the Psychophysiological Profile (open eyes, closed eyes, memory of sport anxiety, spoken memory of anxiety and natural relaxation) with the signs of outlying temperature of the left hand, right and heart pulse. Each one of the conditions had a duration of 2 minutes for their registration. For the statistical analysis of the data of the investigation it was used the program SPSS 14.0 for Windows and as statistical proof it was employed the analysis of variance of repeated measures with the approach statistical Greenhouse-geiser and ρ: 0,05.

Results

The results of the comparison of the different conditions of the profile shows the following thing:

In the profile of the heart pulse there are significant differences F (4,224) = 65,802 p = 0,000. In the heart pulse in combination with the variable Sex, it shows that the women present a bigger heart frequency that the men and this difference is statistically significant F (4,224) = 4,948 p = 0,003.

Discussions / Conclusions

With regard to the decrease of the outlying temperature of the hands left and right under the conditions of activation of the Psychophysiological Profile (condition of Sport Anxiety Memory and Spoken Anxiety Memory) allows to observe a significant decrement. In the comparison of the outlying temperature of the left hand and right they were differences statistically significant, that is to say an asymmetry of the outlying temperature exists.

In the results of the Psychophysiological Profile of Heart Pulse, the increase before the activation (condition of Sport Anxiety Memory and Spoken Anxiety Memory) conditions is bigger in comparison to the conditions of rest or base line. Being higher the pulse in the condition of Spoken Anxiety Memory. Also, in the heart pulse the variable sex showed an influence that had significant differences, since the women had a bigger heart frequency that the men.

In conclusion the Psychophysiological Profile is an useful tool and it can adapt to the evaluation of the anxiety in competition sportmen, as measure alternative to other options or evaluation instruments. It has allowed a psychophysiological description of sportmen of competitive good level with two signs as the outlying temperature and the heart pulse.

References


