

Somatic anxiety reduction in elite athletes through biofeedback training. Results of a pilot study

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Abstract

Background. Scientific research has shown many arguments regarding the utilisation of biofeedback devices for amelioration stress related diseases and conditions. Most of these studies used equipment based on the modification of heart rate variability (HRV) and respiratory sinus arrhythmia (RSA).

Aims. Our study tried to assess the impact of portable heart rate variability (HRV) biofeedback device on somatic anxiety in a sample of 12 elite athletes.

Methods. Using a experimental design with repeated measures we found a significant decrease in the level of somatic anxiety for athletes following a biofeedback training. The assessment of somatic anxiety was made through Competitive State Anxiety Inventory-2 (CSAI-2R). Participants found the device more helpful than other relaxation techniques such as mediation, yoga and unassisted breathing techniques.

Results. These preliminary results suggest that a portable respiratory sinus arrhythmia biofeedback appears to be a promising treatment in sport and is easily integrated.

Conclusions. Results also appear to replicate earlier studies using HRV biofeedback that found by creating an autonomic balance through resonant frequency breathing and cognitive focus, leading to increased levels of RSA, proved to be an effective means to induce relaxation. Results support the need for further investigation with more rigorous experimental designs.

Keywords: biofeedback, heart rate variability (HRV), respiratory sinus arrhythmia, somatic anxiety, relaxation.