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PYLYPCHUK, Roman
VOSTROKNUTOV, Leonid

H.S. Skovoroda Kharkiv National Pedagogical University, Ukraine

BREATHING EXERCISES AS AN EFFECTIVE MEANS OF DEVELOPING STRESS RESILIENCE IN BOXERS

Boxing is a sport characterized by high levels of stress for athletes. When entering the ring, a boxer experiences significant psychological pressure, manifested in an increased heart rate, elevated adrenaline levels, and unstable breathing. In such a state, the athlete must also gather physical strength to demonstrate their technical skills and tactical abilities at the highest level during the match. In our opinion, mastering specific breathing techniques can improve the pre-competition condition of boxers and enhance their stress resilience.

Purpose of the study – to reveal the potential of breathing exercises for improving stress resilience in boxers.

Results. Breathing exercises have long been used in various fields of human activity. Scientific studies have confirmed the positive effects of breathing techniques on self-regulation of emotional states, concentration, self-control, and recovery. For example, slow rhythmic breathing can reduce heart rate, normalize blood pressure, and lower the level of the stress hormone cortisol. Such a positive physiological influence can be effectively applied in the training process of boxers.

Breathing exercises can be beneficial during training sessions – for enhancing concentration and mental readiness before intense workloads in the preparatory and main parts of the session, as well as for recovery during the final phase. However, the greatest benefit, in our view, breathing techniques can provide during competitions. They help athletes focus, reduce pre-start anxiety, control breathing during intensive rounds, and recover between them.

Among the most effective breathing techniques for improving boxers' stress resilience are "Box breathing," diaphragmatic (abdominal) breathing, and contrast breathing. "Box breathing," also known as square breathing, is widely practiced by U.S. special forces. Its essence lies in maintaining equal durations of all breathing phases – inhale, hold, exhale, hold – for four seconds each. This method helps calm the mind, reduce stress and anxiety, and improve concentration.

Diaphragmatic breathing, also known as abdominal breathing, is another effective method for ensuring high stress resilience. This technique involves a slow inhale through the nose and exhale through the mouth, focusing on relaxation. A key feature is that air fills the diaphragm and abdomen rather than the chest during inhalation.

To reduce sympathetic nervous activity, contrast breathing (2–4–8) is recommended. The technique includes a 2-second inhale, a 4-second hold, and an 8-second exhale – inhaling through the nose and exhaling through the mouth. Other ratios may be used, but the exhale should always be approximately twice as long as the inhale.

Conclusions. Breathing exercises incorporating various techniques – such as "Box breathing," diaphragmatic, and contrast breathing – can serve as effective tools for self-regulation of the nervous system and for increasing stress resilience in boxing.