

## The Use of Biofeedback to Increase Resilience and Mental Health of Supersonic Pilots

**Authors :** G. Kloudova, S. Kozlova, M. Stehlik

**Abstract :** Pilots are operating in a high-risk environment rich in potential stressors, which negatively affect aviation safety and the mental health of pilots. In the research conducted, the pilots were offered mental training biofeedback therapy. Biofeedback is an objective tool to measure physiological responses to stress. After only six sessions, all of the pilots tested showed significant differences between their initial condition and their condition after therapy. The biggest improvement was found in decreased heart rate (in 83.3% of tested pilots) and respiration rate (66.7%), which are the best indicators of anxiety states and panic attacks. To incorporate all of the variables, we correlated the measured physiological state of the pilots with their personality traits. Surprisingly, we found a high correlation with peripheral temperature and confidence (0.98) and with heart rate and aggressiveness (0.97). A retest made after a one-year interval showed that in majority of the subjects tested their acquired self-regulation ability had been internalized.

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