



EFFECT OF AEROBIC CIRCUIT TRAINING ON STRESS LEVEL AMONG TUMKUR UNIVERSITY ATHLETES IN KARNATAKA

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Abstract:

The present study aims to examine the effect of aerobic circuit training on stress levels among Tumkur University athletes in Karnataka. Forty male athletes were recruited at random as subjects for the current study from Tumkur University in Karnataka state. They were between the ages of 18 and 25. The participants were separated into two equal groups at random. The control and experimental groups (aerobic circuit training) were created. The study group did aerobic circuit training three days a week for twelve weeks in addition to their routine activities. The control group received no experimental instruction. Prior to the training, both groups took a Perceived Stress questionnaire to measure their stress level. A post-test was conducted after the experimental phase. The ANCOVA test was used, and the significance amount was set at 0.05. It was observed that the twelve weeks of aerobic circuit training have significantly reduced the stress level of athletes.

Key Words: Aerobic Circuit Training, Stress Level, Athletes.

Introduction:

Stress is a common psychological condition experienced by athletes due to factors such as competitive pressure, intensive training, and academic responsibilities. Excessive stress can negatively influence athletes' mental health, concentration, and sports performance. Therefore, managing stress is an important aspect of sports training and athletic development (Salmon, 2001). Regular physical activity has been widely recognized as an effective strategy for reducing stress and improving psychological well-being. Exercise helps regulate stress hormones such as cortisol and promotes the release of endorphins, which improve mood and create a sense of relaxation and well-being (Stults-Kolehmainen & Sinha, 2014). Aerobic exercise, which involves rhythmic and continuous physical movements, plays a significant role in enhancing cardiovascular fitness and mental health. Activities such as running, cycling, and aerobic circuit training are commonly used in sports conditioning programs to improve both physical fitness and psychological balance among athletes (American College of Sports Medicine, 2018).

Aerobic circuit training combines aerobic exercises with circuit training methods, where several exercises are performed consecutively with minimal rest between stations. This training approach improves cardiovascular endurance, muscular endurance, and overall fitness while also contributing to stress reduction among athletes (Weinberg & Gould, 2019). University athletes often face stress related to competition, academic workload, and performance expectations. Therefore, implementing structured aerobic circuit training may help in reducing stress levels and improving the overall well-being of athletes. Hence, the present study aims to examine the effect of aerobic circuit training on stress levels among Tumkur University athletes in Karnataka.

Methodology:

Forty male athletes were recruited at random as subjects for the current study from Tumkur University in Karnataka state. They were between the ages of 18 and 25. The participants were separated into two equal groups at random. The control and experimental groups (aerobic circuit training) were created. The study group did aerobic circuit training three days a week for twelve weeks in addition to their routine activities. The control group received no experimental instruction. Prior to the training, both groups took a Perceived Stress questionnaire to measure their stress level. A post-test was conducted after the experimental phase. The ANCOVA test was used, and the significance amount was set at 0.05.

Results:

Table 1: Computation of mean and analysis of covariance on stress level of experimental and control groups

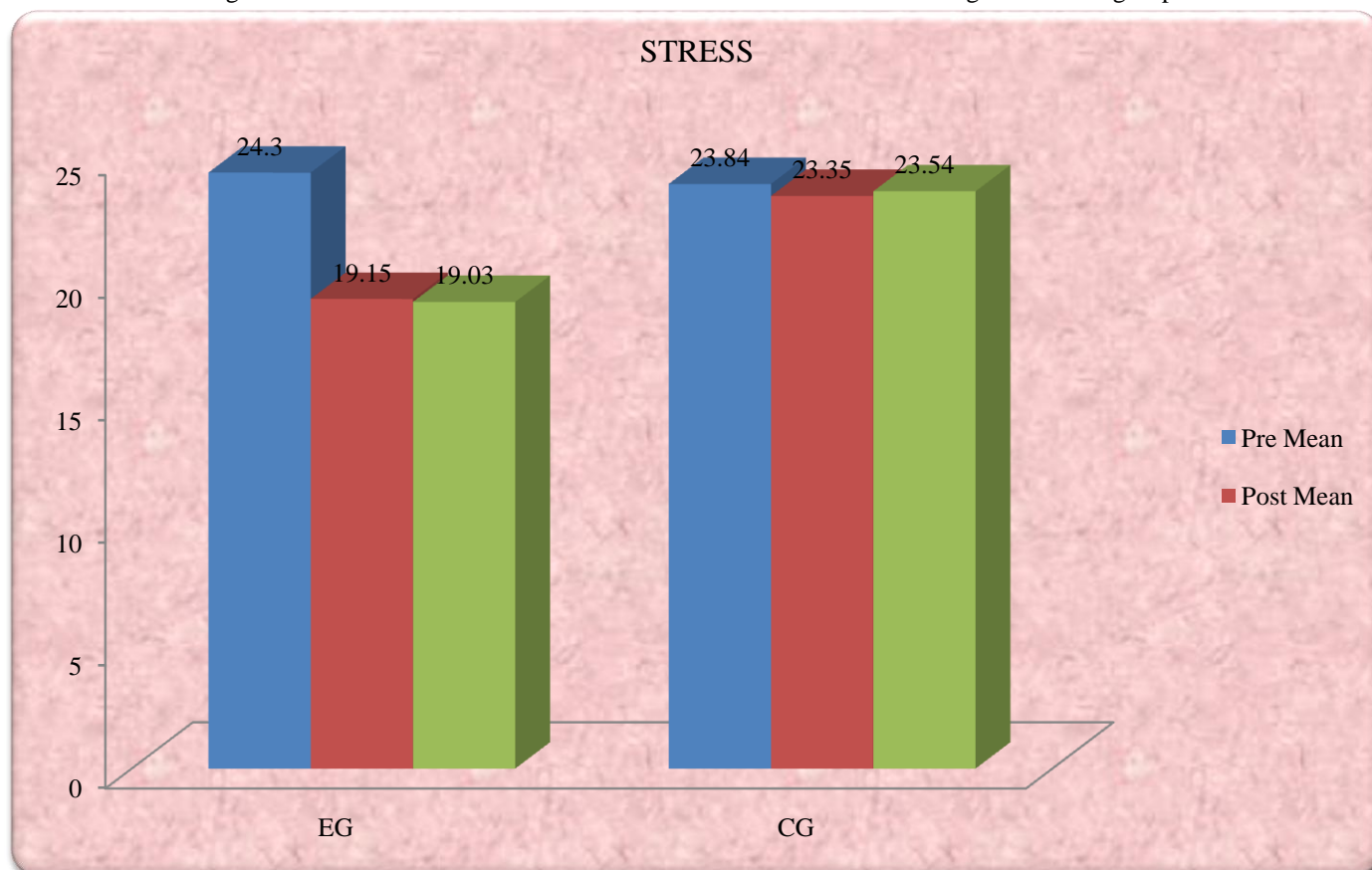
	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	24.3	23.84	BG	0.22	1	0.22	0.98
			WG	8.45	38	0.22	
Post Test Mean	19.15	23.35	BG	55.66	1	55.66	397.57*
			WG	5.32	38	0.14	
Adjusted Post Mean	19.03	23.54	BG	58.23	1	58.23	413.53*
			WG	5.21	37	0.14	

* Significant at 0.05 level

Table value for df 1, 38 was 4.09, df 1, 37 was 4.10

The adjusted mean value of stress level for the experimental and control groups was 19.03 and 23.54, respectively, as seen in the table above. The adjusted mean F-ratio of 413.53 was higher than the table value of 4.10 for degrees of freedom 1 and 37, which was needed for significance at the 0.05 level of confidence. According to the findings, there was a difference in stress level between the experimental and control groups.

Figure 1: Show the mean values on stress level of aerobic circuit training and control groups



Conclusion:

It was observed that the twelve weeks of aerobic circuit training have significantly reduced the stress level of athletes.

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