International Journal of Applied and Advanced Scientific Research (IJAASR)
International Peer Reviewed - Refereed Research Journal, Website: www.dvpublication.com
Impact Factor: 5.655, ISSN (Online): 2456 - 3080, Volume 10, Issue 2, July - December, 2025

EFFECT OF SAQ TRAINING ON ANAEROBIC POWER AMONG COLLEGE STUDENTS

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Cite This Article: S. Chandrasekaran, "Effect of SAQ Training on Anaerobic Power Among College Students", International Journal of Applied and Advanced Scientific Research, Volume 10, Issue 2, July - December, Page Number 130-132, 2025.

DOI: https://doi.org/10.5281/zenodo.21477675

Abstract:

The purpose of the study was to investigate the effect of SAQ training on anaerobic power among college students. It was hypothesized that there would be significant differences on anaerobic power due to the effect of SAQ training among college students. For the present study the 30 male college students from Government Arts and Science College, Thirukkattuppalli were selected at random and their age ranged from 18 to 21 years. For the present study pre test - post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each. Group 'A' underwent SAQ training only, group 'B' have not underwent any training. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA) and scheffe's post hoc test. The level of significance was set at 0.05.It was observed that the twelve weeks of SAQ training have significantly improved the anaerobic power of college students.

Key Words: SAQ Training, Anaerobic Power, College Students.

Introduction:

Agility is a complex motor ability that involves the rapid and accurate movement of the whole body or its parts in response to changing environmental demands. Antony (1992) noted that it is difficult to distinguish agility from coordination because both abilities are closely interrelated. Agility requires the coordinated activation of large muscle groups to execute rapid and efficient changes in body position and direction. Although genetic factors influence agility, it can be substantially improved through systematic training and experience. The effectiveness of agility is enhanced when combined with high levels of speed, muscular anaerobic power, power, balance, flexibility, and endurance (Sheppard & Young, 2006).

Agility has often been associated with coordination and dynamic balance because successful changes in direction require precise neuromuscular control and postural stability. Individuals possessing adequate muscular anaerobic power, balance, flexibility, coordination, and endurance generally demonstrate superior agility performance. Modern sports science defines agility as the ability to rapidly change direction or velocity of the whole body in response to a stimulus while maintaining balance and movement control (Young et al., 2015). Consequently, agility is recognized as a multidimensional physical quality that integrates physical, technical, perceptual, and cognitive components.

The type of stimulus presented significantly influences agility performance. Planned agility tasks, in which the direction of movement is known in advance, differ considerably from reactive agility tasks that require athletes to respond to unpredictable external stimuli. For example, a sprinter responding to the starting signal performs a pre-planned movement, whereas a soccer defender must react instantly to the unpredictable movements of an opponent.

Research indicates that reactive agility requires not only physical abilities but also perceptual and decision-making skills, making it more representative of sport-specific performance (Paul et al., 2016; Young & Farrow, 2013). Agility tasks are commonly categorized into three types: (i) changes in the direction of body parts, such as rapid hand or foot movements; (ii) changes in running direction, including shuttle runs and zig-zag or maze runs; and (iii) changes in whole-body position, such as squat thrusts and multidirectional movement drills. Since agility depends on rapid changes in body position while maintaining movement efficiency and balance, it is closely related to coordination, which refers to the harmonious interaction of muscle groups during skilled motor performance. Therefore, well-coordinated individuals generally demonstrate higher levels of agility, emphasizing the interdependence of these motor abilities.

Methodology:

The purpose of the study was to investigate the effect of SAQ training on anaerobic power among college students. It was hypothesized that there would be significant differences on anaerobic powerdue to the effect of SAQ training among college students. For the present study the 30 male college students from Government Arts and Science College, Thirukkattuppalli were selected at random and their age ranged from 18 to 21 years. For the present study pre test - post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each. Group 'A' underwent SAQ training only, group 'B' have not underwent any training. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA) and scheffe's post hoc test. The level of significance was set at 0.05.

Results:

Table 1: Computation of Mean and Analysis of Covariance of Anaerobic Power of Experimental and Control Groups

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	1201.86	1194.60	BG	396.03	1	396.03	0.05
			WG	197821.33	28	7065.04	
Post Test Mean	1429.60	1208.86	BG	365424.03	1	365424.03	95.77*
			WG	106837.33	28	3815.61	

Adjusted Post Mean	1429.94	1208.52	BG	366973.45	1	366973.45	94.31*
			WG	105060.04	27	3891.11	

* Significant at 0.05 level, Table value for df 1 and 28 was 4.20, 1 and 27 was 4.21

The above table indicates the adjusted mean value ofanaerobic power of experimental and control groups were 1429.94 and 1208.52 respectively. The obtained F-ratio of 94.31 for adjusted mean was greater than the table value 4.21 for the degrees of freedom 1 and 27 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on anaerobic power. The above table also indicates that both pre and post test means of experimental and control groups differ significantly.

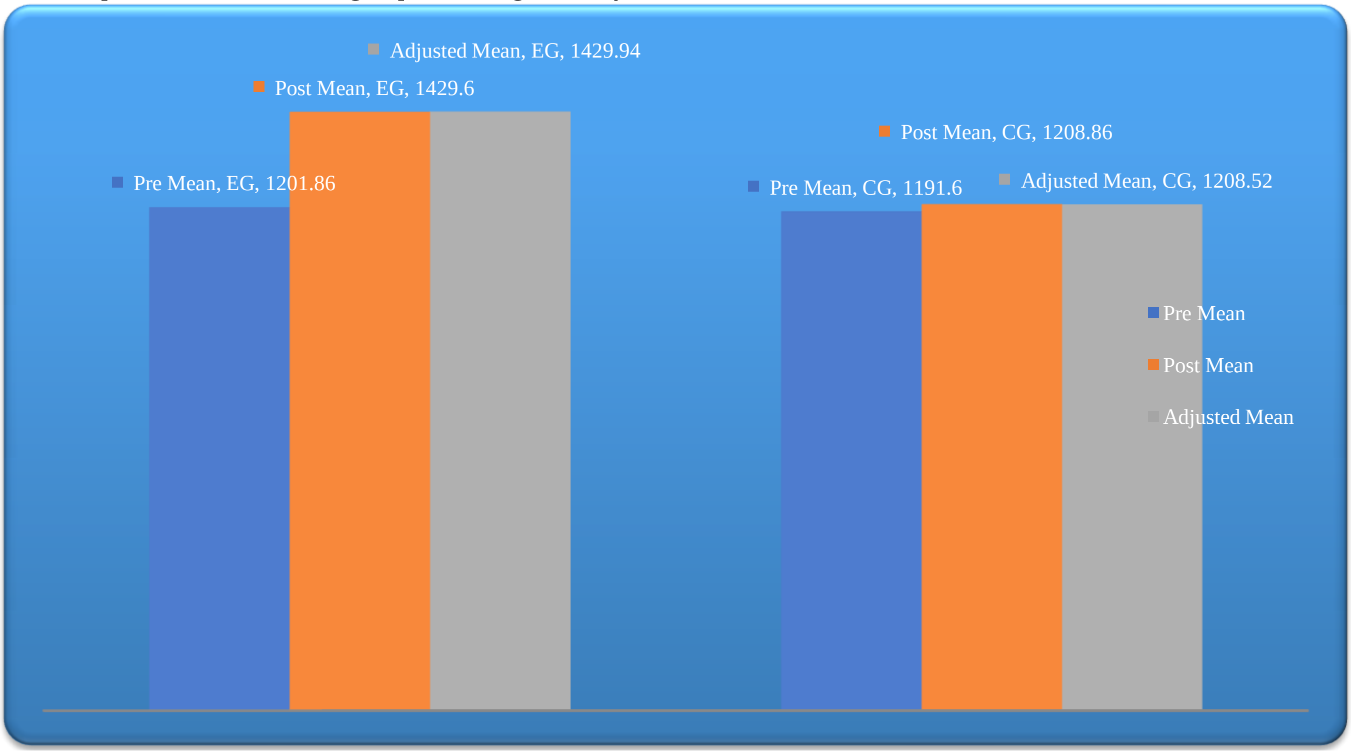

Figure 1: Shows the Mean Values on Anaerobic Power of Experimental Group and Control Groups

Conclusion:

It was observed that the twelve weeks of SAQ training have significantly improved the anaerobic power of college students.

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