

Effect of Fartlek Training on Breath Holding Time among Soccer Players

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Abstract

Background: Fartlek training is used to improve the physiological performance of soccer players. The goal of this experiment was to determine how fartlek training affected the length of time soccer players held their breath. 40 football players between the ages of 18 and 25 were recruited at random from Alagappa University Associated Colleges for this study.

Methods: There were 40 soccer players, thus they were split into two groups of 20, each. Fartlek training was done in Group A, and there was no training in Group B. Three alternating days each week for a total of twelve weeks were allotted for the training. The pre-test was administered two days prior to the beginning of the training period, and the post-test was administered on the day after the training protocol's conclusion. By using a breath holding count test, breath holding time was calculated.

Results: Using the *t* ratio breath holding time for data interpretation, the control group's pre-test values for breath holding time were 34.68 and 34.79, respectively. The resultant '*t*' ratio was 0.42, and as it was less than the necessary table value of 2.08 for statistical significance at the 0.05 level with 18 degrees of freedom, it was determined to be significant. The experimental group's pre-test mean values for breath holding time were 34.37 and 37.42, respectively. The acquired '*t*' ratio was 10.15*, which was deemed to be statistically significant because it exceeded the minimum table value of 2.08 needed for significance at the 0.05 level with 18 degrees of freedom. The study's findings show that there was a substantial difference in breath holding time between the experimental group and the control group. The performance of soccer players has improved dramatically as a result of the 12 weeks of fartlek training.

Keywords: Fartlek Training, Football Players

Introduction

A training approach called fartlek, which translates to “speed play” in Swedish, combines continuous and interval training. A very basic type of long distance running is fartlek. “Times of quick running interspersed with periods of slower running” is the definition of fartlek training. For some people, this might involve a combination of jogging and sprinting, but for beginners, it might simply be walking with brief intervals of running thrown in. For a certain total time or distance, a runner might, for instance, “sprint all out from one light post to the next, jog to the corner, give a medium effort for a couple of blocks, jog between four light poles and sprint to a stop sign, and so on.” Both the aerobic and anaerobic systems are strained by the exercise’s continuous nature and varying intensity. It differs from conventional interval training in that it is unstructured; the athlete can choose to vary the speed and/or intensity as they see fit. Although practically any type of exercise can be included in fartlek training, running is the most common association.

Running at different speeds, alternating between quick sprints and gentle jogs, is known as fartlek. Fartleks are less structured than standard interval training, which consists of predetermined timed or measured portions. Work-rest cycles may be determined by how the body is feeling.

Fartlek training allows you to experiment with tempo, endurance, and pace adjustments. Fartlek training is popular among runners since it involves speed work, especially new runners. However, it is less strenuous and more adaptable than conventional interval training. Another advantage of fartlek training is that it can be performed on any surface, including hills, highways, and trails, as opposed to just a track.

Try including a few brief segments of significantly faster pace into your regular runs to simulate a fartlek training. For short distances

or periods of time, such as 200 metres or 30 seconds, keep the faster speed. Throughout the workout, the intervals might change, and you can even mark your segments with landmarks like streetlights or telephone poles.

After a quick phase, reduce your speed to run at a slower rate until you’ve fully recovered and your breathing is back to normal. Later in the run, add more slightly faster intervals and resume running at your normal pace.

A fartlek training gets a runner ready for the variable race paces. During a race, a runner often runs quickly, then more slowly, then quickly. The geography of the race course and the surges employed by competitors are to blame for this difference in pace.

Pick out some landmarks in front of you, such as a telephone pole, and sprint from one to the next before jogging. This is a good technique to complete this exercise. The versatility of fartleks is one of the things that makes them so well-liked.

Make sure you warm up for at least 10-15 minutes before beginning a fartlek to make sure your muscles are relaxed enough to manage the accelerations. After the workout, cool down for ten to fifteen minutes. The fartlek can be a challenging exercise, and if you don’t warm up and cool down properly, you might wake up with very painful muscles. If your body isn’t prepared for the quicker pace, starting fartleks can be difficult on it and result in ailments like achilles tendonitis, IT-Band discomfort, and runner’s knee. Make sure you are running in comfortable running shoes and that you are not showing any signs of overtraining to help reduce the chance of injury. To get the most out of fartleks and speed up muscle recovery, it’s crucial to refuel your body after the fartlek training by drinking water and consuming protein-rich foods[1].

“The game of football involves both physical and mental obstacles.” Football players must perform precise actions in a generalised

environment that includes constrained space, little time, physical exertion, and competing players. During a game, one must be able to run numerous miles, primarily at sprinting speed, and react fast to a variety of rapidly changing conditions. Finally, one needs to have a solid understanding of team, group, and individual tactics. How well a player performs on the football field is determined by their capacity to overcome all of these obstacles. (Reily,1996).

The amount of time it takes the person to hold his breath as long as he can is called breath holding time. Tissues continue to use oxygen while holding their breath voluntarily and release carbon dioxide. Therefore, by holding a breath, arterial pO₂ decreases and pCO₂ increases. There comes a point where the respiratory drive is so intense that the person can no longer hold their breath because both of these causes are potent respiratory stimulants (2).

Methods

Two groups of 20 each were formed from the 40 soccer players. Fartlek training was done in Group A, and there was no training in Group B. Three alternating days each week for a total of twelve weeks were allotted for the training. The pre-test was administered two days prior to the beginning of the training period, and the post-test was administered on the day after the training protocol's conclusion. By using a breath holding count test, breath holding time was calculated.

Result

Computation of 'T' Ratio on Breath Holding Time of College Men Soccer Players on Experimental Group and Control Group

Variables	Group	Mean		SD		df	't' ratio
		Pre	Post	Pre	Post		
Breath Holding Time	Control	34.68	34.79	1.57	1.72	18	0.42
	Experimental	34.37	37.42	2.31	2.17		10.15*

*Significance level 0.05 level degree of freedom 2.08

Participating and Setting

The 40 participants were split into two groups. For 12 weeks, Group-A (fartlek=20 N) and Group-B (non-training=20 N) were handled as experiments, doing experiments on alternate 3 days of the week. Before and during the treatment period, pre- and post-treatment data were gathered.

Structured Fartlek

Although the flexibility of the fartlek contributes to its appeal, many runners like to plan the exercise and give it more of a track interval feel. A systematic fartlek could, for instance, consist of a 10-15 minute warm-up, 2 hard minutes, 2:30 easy minutes, 3 hard minutes, 2:30 easy minutes, 4 hard minutes, 2:30 easy minutes, 3 hard minutes, 2:30 easy minutes, 2 hard minutes, and a 10-15 minute cool-down. It is simpler to describe this exercise as a: 2, 3, 4, 3, 2, with 2:30 pause. A organised fartlek is excellent because it gives you the advantages of a track workout while also giving you the chance to run hills since it is done on roads or trails.

Statistical Technique

The "t" test was used to assess the significant differences at the 0.05 level of significance, which was observed as a relevant, in order to determine the effects of fartlek training on the amount of time that male soccer players could hold their breath.

The computation of the control group’s pre-test mean values for breath holding time was shown in table I as 34.68 and 34.79, respectively. The resultant ‘t’ ratio was 0.42, and as it was less than the necessary table value of 2.08 for statistical significance at the 0.05 level with 18 degrees of freedom, it was determined to be significant. The experimental group’s pre-test mean values for breath holding time were 34.37 and 37.42, respectively. The acquired ‘t’ ratio was 10.15*, which was deemed to be statistically significant because it exceeded the minimum table value of 2.08 needed for significance at the 0.05 level with 18 degrees of freedom. The study’s findings show that there was a substantial difference in breath holding time between the experimental group and the control group. The study’s findings support the notion that after twelve weeks of fartlek training, the experimental group advances in breath holding time.

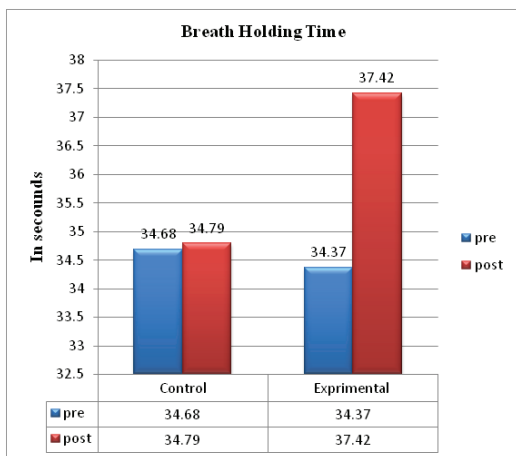


Figure 1 Bar Diagram Showing the Pre and Post Mean Values of male soccer players on Experimental and Control Group

Discussions on Findings

The fartlek training group’s breath holding time performance was shown to be significantly greater than that of the control group between the pre- and post-12-week test results. This is possible as a result of the three times per week

of fartlek training, which may induce a sudden spike in the amount of time college soccer players can hold their breath. The results of this study strongly suggest that twelve-week fartlek training has a considerable impact on fartlek training. Men’s soccer players in college receive breathing exercises. As a result, the earlier hypothesis that the fartlek training programme would have a considerable impact on the fartlek training components was accepted.

Conclusion

The following conclusions were reached based on the study’s core findings and within its constraints:

1. College men’s soccer players’ breath holding times decreased as a result of fartlek training.
2. Among college men’s soccer players, the experimental group had superior improvement in breath holding time.

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