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Effectiveness of Fast Interval Training in The Competition Phase on Stamina Level of 800m Runner at Satset Athletic Club

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Abstract
This study examined the effectiveness of a short Fast Interval Training (FIT) program during the competition phase on the stamina of 800 meter runners at Satset Athletic Club. A quasi-experimental design with one group was used, involving 15 semiprofessional athletes who had been training regularly for at least six months and were preparing for a regional event. The FIT program lasted three weeks with four sessions each week. Stamina was measured through an 800-meter run before and after the intervention. A paired-sample t-test showed a significant improvement ($t = 9.987$; $p < 0.001$). On average, athletes improved their times by 3–4 seconds, representing about a 2.5% increase in performance. These findings suggest that FIT is a practical short-term strategy to prepare athletes during the competition phase, although careful management of recovery is essential.

Keywords: *Fast Interval Training, Stamina, 800-Meter, Runners, Competition Phase.*

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INTRODUCTION

The 800 meter event is one of the most demanding middle-distance races, because it requires both aerobic endurance and anaerobic capacity. Athletes need not only a high maximal oxygen uptake (VO_2max) but also the ability to tolerate lactate buildup and maintain efficient running mechanics. Traditional endurance training often emphasizes long cycles with gradual progression. However, semiprofessional athletes preparing for competition usually have limited time, making short and targeted training strategies valuable.

High-Intensity Interval Training (HIIT) has been widely recognized for producing rapid physiological adaptations. A variation of this model, Fast Interval Training (FIT), combines repeated high-intensity runs with short recovery periods, exposing athletes to race like conditions. Research has shown interval training to improve VO_2max, lactate tolerance, and running economy (Laursen & Jenkins, 2002; Stöggl & Björklund, 2017). Most studies focus on elite athletes or programs longer than six weeks. Little is known about the effectiveness of short FIT interventions applied during the competition phase for semi-professional runners.

This study aimed to fill that gap by testing whether only three week FIT program could enhance the stamina of 800-meter runners at the community-based Satset Athletic Club.

METHOD

This study employed a quasi-experimental design with one group using pre-test and post-test comparisons. Although it lacked a control group, this design was practical for athletes who were already in competition preparation. From 30 registered athletes at Satset Athletic Club, 15 were purposively selected. Criteria included (1) consistent training for at least six months and (2) registration for upcoming regional events (POPDA and BK PORPROV 2025). The FIT program ran for three weeks, consisting of four sessions per week (12 meets total). Each session included repeated runs of 100–400 meters at 80–90% of VO_2max, with short active recovery periods. Training intensity was monitored carefully to balance adaptation and fatigue. This study fill the instrument with:

1. A standard 400-meter running track
2. A stopwatch for time measurement
3. The VO_2max Distance Optimized Training (VDOT) application to evaluate endurance and VO_2max levels

Athletes performed an 800-meter pre-test before the program and a post-test under identical conditions afterward. Data normality was assessed using the Shapiro Wilk test. A paired-sample t-test was applied to compare mean scores, and Cohen's d was calculated to determine effect size.

RESULTS AND DISCUSSION

Result

Table 1. Descriptive statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test	15	2.20	2.58	2.39	0.11
Post-test	15	2.18	2.52	2.35	0.10

All 15 athletes completed both tests. Pre-test times ranged from 2.20 to 2.58 minutes (M = 2.39, SD = 0.11). Post-test times ranged from 2.18 to 2.52 minutes (M = 2.35, SD = 0.10).

Table 2. Normality Shapiro – Wilk test.

Variable	Statistic	df	Sig.
Pre-test	0.948	15	0.489
Post-test	0.950	15	0.521

The Shapiro–Wilk test confirmed data normality. A paired-sample t-test revealed significant improvements ($t = 9.987$, $p < 0.001$). The effect size ($d = 2.58$) was considered very large. Following the confirmation of normality, a paired samples *t*-test was carried out to compare the athletes' pre-test and post-test performances.

Table 3. Paired Samples t – test result

Pair	t-value	Df	Sig. (2-tailed)
Pre–Post	9.987	14	0.000

Beyond the statistical outcome, the observed improvements also point to meaningful physiological adaptations, such as increased oxygen uptake (VO_2max) and extended time to exhaustion (TTE), both of which are crucial determinants of success in middle-distance running. The calculation of Cohen's effect size produced a value of $d = 2.58$, which falls within the very large category. This indicates that the FIT intervention had a substantial impact on performance improvements, reflecting not only statistical significance but also practical relevance in the context of athletic training.

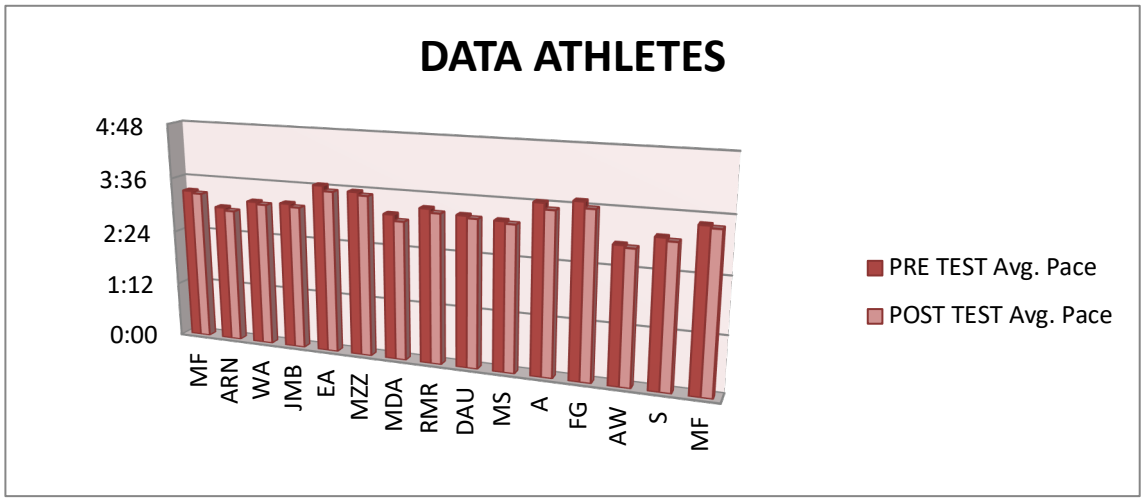

Figure 1. Pre-test and Post-test Data

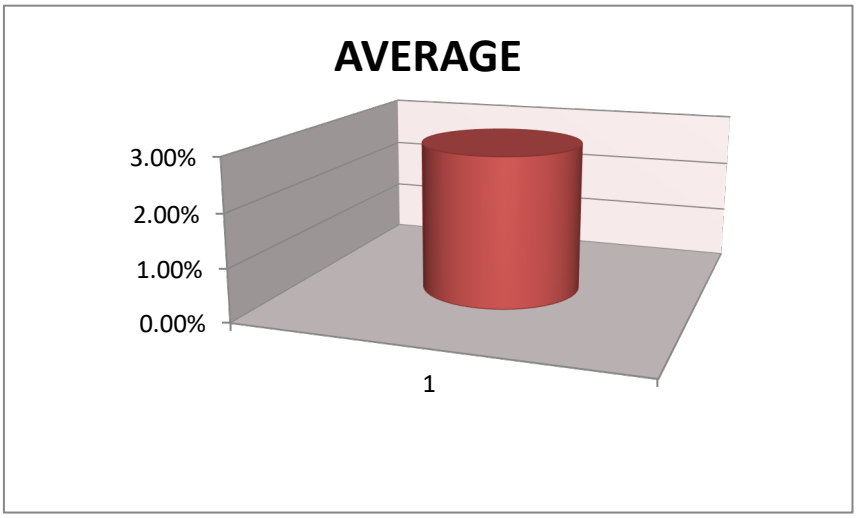

Figure 2. Average different pre – test and post – test

The analysis of the pre-test and post-test data demonstrated a consistent improvement in performance among all participants. In Figure 1, the average running pace of each athlete declined in the post-test compared to the pre-test, reflecting faster completion times and improved performance. With presented in Figure 2, the overall mean improvement of approximately 2.5%. Such results provide clear evidence that the three-week Fast Interval Training (FIT) program contributed to meaningful gains in stamina and race efficiency for the 800-meter runners.

Discussion

The findings confirm that a short, three-week FIT program can lead to meaningful improvements in the performance of semi-professional 800-meter runners. Reductions in running time point to physiological adaptations such as higher oxygen uptake efficiency and better tolerance of fatigue. These outcomes align with prior research showing that interval-based training enhances both aerobic and anaerobic energy systems (Billat et al., 1999; Silva et al., 2017). What makes this study valuable is its real-world application. Conducted in a community club environment rather than a laboratory, the results are directly relevant to coaches and athletes. FIT allows measurable improvements even when preparation time is limited, which often happens at the semi-professional level.

However, FIT is not without risks. Its demanding intensity can increase the chance of overtraining or injury if recovery is neglected. Coaches should integrate FIT alongside other methods, ensuring proper rest before competition. Future studies should involve larger samples, include physiological markers such as lactate and heart rate variability, and compare FIT with other training strategies

CONCLUSION

This study demonstrated that a three-week FIT program significantly improved stamina and performance times in semi-professional 800-meter runners. FIT is a time-efficient and practical strategy during the competition phase, but its effectiveness depends on careful recovery management. Coaches are encouraged to consider FIT as part of a balanced training program rather than as a standalone approach.

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