

Improvement in 1-Mile Run Times in a Fleet Feet Training Group: A Brief Research Note

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Abstract It is a common goal for runners to improve their run times. This short report compares 1-mile run times for a route that was run twice, five weeks apart in a Fleet Feet training program. A paired t test for 62 runners indicated an average improvement of 1 minute, 15 seconds which was statistically significant ($p < 0.0001$). This evidence indicates that the training program was effective for this group in improving their 1-mile run times over a 5-week period.

Keywords: fitness, running, biostatistics

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1. Introduction

One consideration for runners is their run times. No previous studies were found for adult recreational runners in a training program open to all in the community (such as Fleet Feet) regarding improvement in 1-mile run times during their training sessions. There are numerous studies however regarding other research topics. A previous study on maximal running in 14-17 year-old students for example showed faster times with a 12 week intensity program [1]. Another study found that reducing wind resistance using certain types of clothing and trimming the hair can also improve run times [2].

This analysis pertains to a Fleet Feet training program where participants ran a 1-mile course twice, weeks apart. The purpose of the study is to see what kind of change occurred from the first run to the second run. The null hypothesis is that there was no change while the alternative hypothesis is that there was a change.

2. Methods

The analysis was exempted by the Institutional Review Board at Purdue University Global. Recent records (2018-2019) were available for 62 adult trainees (52 females and 10 males) in a Fleet Feet program called No Boundaries (NoBo) in Greenville, South Carolina (USA) [3]. The runners were relatively new to the sport and their program consisted of walk-run or run. The same 1-mile route was used for both running sessions that were 5 weeks apart. The first run is referred to as Trial 1 and the second as Trial 2. The coach started all runners at the same point and stood at the finish point to mark the stop

point. Each runner was told their run time which they marked down on that day's attendance sheet.

Analysis was conducted by the author in Excel 2016 (Microsoft Corp., Redmond, WA). The paired t test was used to determine if the average difference between Trial 1 versus Trial 2 was statistically significant. A p-value less than the conventional alpha level of 0.05 was considered statistically significant.

3. Results

Probability plots for both trials indicated acceptable normality for each of these variables (Figure 1 and Figure 2). Therefore, the t test was considered appropriate for this data set.

Average run time for Trial 1 was 13 minutes, 48 seconds (13:48) versus 12:33 for Trial 2 (Figure 3).

Trial 2 was 1:15 faster on average compared to Trial 1 and this difference was statistically significant ($p < 0.0001$). Count-wise, 57 runners out of the 62 (92.0%) runners achieved faster times. Among the five runners who did not improve, their slower times had a range of only 0:02 to 1:48 compared to the much wider range of 0:01 to 4:37 for the 57 runners who *did* improve.

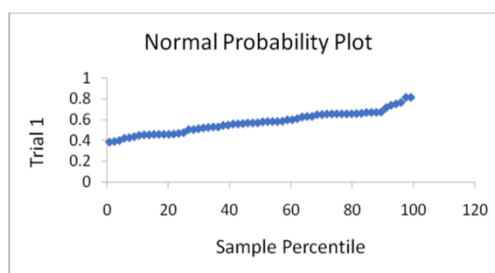


Figure 1. Probability plot for Trial 1

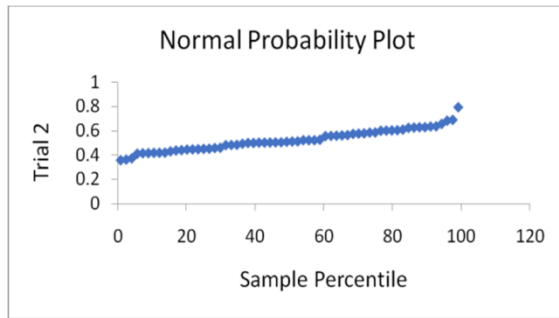


Figure 2. Probability plot for Trial 2

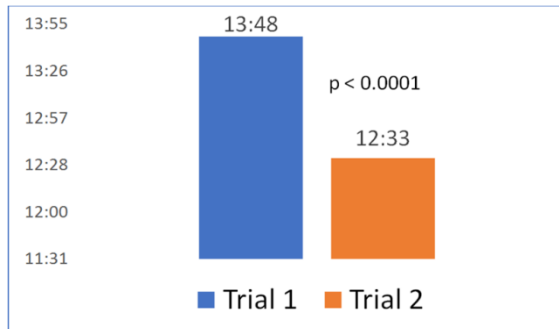


Figure 3. Run times for Trial 1 and Trial 2

4. Discussion

The statistically significant p-value indicates that the difference between trials probably did *not* happen by chance alone. This suggests that the faster run time in Trial 2 compared to Trial 1 is due to the hard work of participants guided by effective coaching and mentoring.

Acknowledgement

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References

- [1] Manteca SB. Effect of a 12-week training program on maximal aerobic speed (MAS) and running time to exhaustion at 100% of MAS for students aged 14-17 years. *Journal of Sports Medicine and Physical Fitness* 1995; 35: 251-256.
- [2] Kyle CR, Caiozzo VJ. The effect of athletic clothing aerodynamics upon running speed. *Medicine and Science in Sports and Exercise* 1986; 18(5):509-515.
- [3] Fleet Feet of Greenville (SC). No Boundaries 5k program. Accessed 12-17-19 at: <https://www.fleetfeet.com/s/greenville/training/no-boundaries-program>

