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Effect of imagery training on 400-meter sprinters at university level in Pakistan

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Abstract
The purpose of this study was to analyze the effect of imagery training on the 400-m sprint at the university level. The current study was conducted on the 49 sprinters based on their participation at university level competitions from the year 2013-2017. The age of sprinters was ranged from 18-25 years. Sports imagery ability questionnaire' [1] was used to measure the imagery ability and completion time of 400-m sprint was noted. To analyze the effect of imagery training a paired sample t-test was employed at $P<0.05$ level of significance. The results of the study show that imagery ability and time of completion of the sprint was improved among university players. So, imagery training of university players can improve their performance. It is recommended that imagery training and its utilization in sprints should be mandatory at the university level in Pakistan.

Keywords: Imagery ability, 400-m sprint, university level sprinters

1. Introduction
Various psychologists, coaches and sprinters adopt imagery as it is recognised tool for the success and performance of athletes [2] through psychological state positively [3, 4]. Studies have proven that the majority of elite athletes deliberately employ imagery. Similarly, most sports psychologists systematically apply imagery to increase their performance [5, 6].
Athletes and coaches are not aware of imagery, and various abilities benefit at the university level, and they cannot strive to become an elite athlete [7]. So, imagery training develops the performance of young athletes. According to [8], it takes almost ten years to improve a skill in athletes. Hammoudi-Nassib, Chtara [9] found that the imagery training improves the sprint performance but also revealed that psyching-up strategies lost their effect on performance over time. It was concluded that preparatory arousal strategies and imagery training improves the performance in short distance sprint (0 to 10-m). Moreover, imagery strategies improve the sprinter's performance in 30-m.
Khan [10] Highlighted that Pakistan lacks mental, physical toughness and mental training programs which could contribute to ultimate performance and longevity in athlete's career. Pain, Harwood [11] theorised that imagery training not only improves the performance of athletes having specific training but athletes having non-specific training as well. Munroe-Chandler, Hall [7] suggested that imagery training evolves from early childhood to early adolescence among children. So, this study highlights the importance of imagery training at the university level and improvement in the specific and non-specific skills of sprinters so that their career as sprinter lead them towards national and international competitions.

2. Methodology
In this study, 49 sprinters were selected on the bases of participation in university-level competitions from the year 2013-2017. The sprinter's age was ranged from 18-25 years. A sprinter imagery training script, consisting of various mental training techniques used in 5 weeks training program. Sports imagery ability questionnaire' [1] was filled before and after the imagery training secession by using judgmental sampling technique. Time of completion [12] of the 400-m sprint was noted before and after the imagery training by stopwatch. The seven-point Likert scale was used ranging from; very hard to image=1 to very easy to image=7 was used to collect responses from sprinters.

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3. Results

A total sample of university-level sprinters was 49, 36 (72%) were between the age of 18-25 years. Approximately, 28 (56%) were male, and 22 (44%) were female sprinters. Almost, 40 (80%) were unmarried, and 10(20%) were married sprinters. Nearly, 14 (28%) qualified up to bachelors, and 19 (38%) were qualified up to Masters level. About, 14 (28%) wanted to be professional sprinters while 36 (72%) did not want to be professional sprinter due to various reasons. A paired sample t-test was applied to estimate the effectivness of imagery traning program.

Table 3.1: Imagery Paired Sample t-test

Paired Difference			
imagery Skills Difference	**Mean**	**T-Value**	**Sig. Value**
	-1.122	-10.425	0.000
Time Difference	1.082	7.938	0.000
*Significance at 0.05 level of Significance			

Table 1 shows that sprinters were not feeling easy to use imagery skills, but after training, they were able to use imagery abilities quickly. However, time of completion the 400-m sprint also reduced after the imagery training program at the university level.

4. Discussion

The results of this study show that imagery skills of university sprinters were improved and time of completion of the 400-meter sprint was 52.45 seconds before the imagery training but after the five-week imagery training program time reduced to 51.37 seconds. According to [13], the excellent timings for non-professional runners to complete the 400-meter sprint for elite category sprinters is 52 seconds. So, the imagery training program improved the 400-meter sprint completion timings at the university level in Pakistan.

5. Conclusion

The findings of the study show that

- Sprinters at university level were not much aware of the usage of imagery abilities at the university level in Pakistan.
- The results show that the timings of completion of the 400-meter sprint by the sprinters were equivalent to elite category sprinters.
- Sprinters in Pakistan at the university level has potential to compete at a national and international level and at this level they possess more abilities to adopt imagery skills than athlete later on in his/her career and results of this study are also in line with [14].
- So, the imagery abilities among sprinters at university level improved and they could be able to improve their performance by merging the imagery abilities in their daily practices.

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