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## **The Impact of Strength, Agility, and Quickness (SAQ) Training on Certain Performance Measures among Football Players**

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### **ABSTARCT**

The primary goal of this research was to analyse how the Strength, Agility, and Quickness (S.A.Q.) training programme affected the health and skill-related characteristics of football players. In the run-up to the 2021-22 academic year's collegiate athletics season, this study was conducted. Participants' ages ranged from 18 to 25 years old, and their body mass indexes (BMIs) were all within the healthy range of 18.5 to 24. Subjects were initially screened using the Physical Activity Readiness Questionnaire (PAR-Q), after which they were randomly assigned to one of two groups. There were a total of 25 participants across both the Experimental Group (EG) and the Control Group (CG). Twelve weeks of SAQ training were administered to the experimental group, while the control group received no treatment. Physical criteria included speed, agility, and power, with kicking tested both before and after the 12-week mark for both groups. The study found that football players' performance in specific areas increased significantly after participating in the S.A.Q training programme. Therefore, it has been determined that football players' speed, agility, and power can be enhanced with SAQ training.

Keywords: SAQ Training, Football , Speed, Power

### **INTRODUCTION**

Football is a fast-paced game that necessitates several approaches to developing players' physical and technical abilities (Lees, Barton, & Robinson, 2010). There are many different physiological and anatomical demands in football, thus it's important to use a training method like SAQ to promote an integrated impact and conserve time and effort (Milanovi et al., 2013).The emphasis on random or controlled training in the provision of programmed training protocols is warranted. For elite athletes to deliver epic performances, fitness is essential (Collins et al., 2018). In a similar vein, the fundamental motor skills need to be modified into highly position-specific movement patterns as part of a well-planned and organised training programme in order to affect the physical and skill-related parameters. In order for an elite athlete's brain structure to develop, coaching must follow a specific sequence (Ericsson, 2006).Elite athletes have a considerably more difficult time changing their bodies. They make changes to their physical appearance without affecting the health-related software. Football players need the ability to maintain their speed, balance, strength, and body control over the course of a game without becoming overly fatigued. That's why it need the strength of your muscles to get the job done quickly within the allotted amount of time (Reilly, 2006; Jovanovic et al., 2011; França et al., 2022).The SAQ programme



incorporates a wide range of football-specific drills. Strength, Agility, Balance, Coordination, and Speed (SAQ) training incorporates a wide range of activities meant to improve these qualities (França et al., 2022). The most efficient biomechanical movement structures have been used in previous studies, cutting down on both time and effort (Stetter et al., 2019). Joint mobility and dynamic, balance, a proper locomotor system, and energy generation are all important components of power performance. The early starting phase and the acceleration phase are more significant to a player's total performance, despite the fact that it is well-known that football players rarely ever reach their full pace while playing. Furthermore, professional soccer players sprint at greater paces for longer periods of time relative to the overall distance traversed throughout a game (Dalen et al., 2021). Football players who want to be successful must be quick on their feet. They use it to not only get an advantage over the competition, but also to protect themselves from harm. Balance, coordination, purposeful movement, and improvisation are the four pillars of agility, as outlined by Pearson. The SAQ continuum incorporates all of these elements, scaled to the appropriate level for athletes of varying ages and motor abilities. In keeping with previous studies, this one set out to determine how much of an effect SAQ training actually has on the power performance measurements of elite football players. Sports that need speed, agility, and quickness can benefit from SAQ Training, which emphasises efficient running mechanics and explosive movement patterns. The Illinois test is widely recognised as an accurate method of measuring athletic agility. Leg strength and quickness training can improve test results in the agility category.

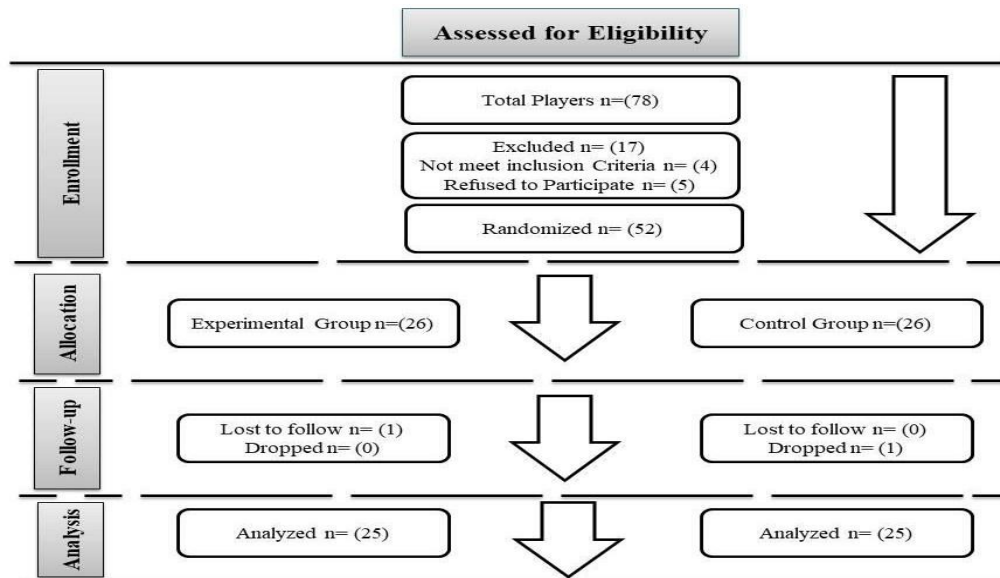
#### MATERIALSANDMETHOD

The primary goal of this research was to examine the effects of the Strength, Agility, and Quickness (S.A.Q.) training programme for football players of various college and Universities of district Maharashtra, India . Subjects (n=50) were randomly split into two groups to accomplish the goals of the study. There were n=(25) people in the experimental group, with an average age of (212.62) years, and n=(25) people in the control group, with an average age of (221.89) years. The BMI of the control group was 21.20.34, while the BMI of the experimental group was 20.90.67.

**Table1**SubjectCharacteristics(Mean andStandardDeviation)

Characteristics	ExperimentalGroup	ControlGroup
Age	21±2.62	22±1.89
Height	183±0.09	179±0.37
Weight	70±0.34	68±0.45

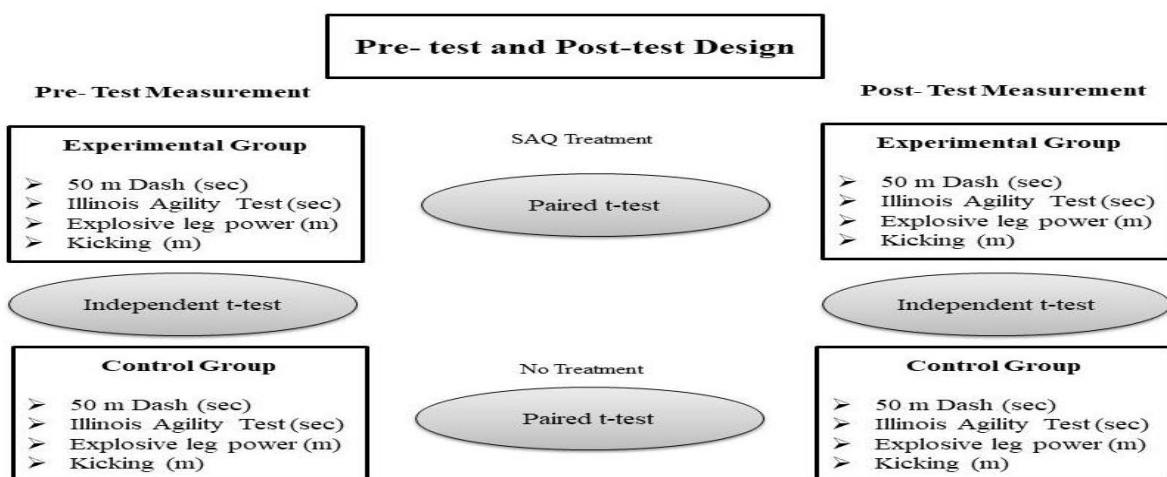
The above table shows mean and standard deviation of age, height and weightoftheparticipants.



**Figure1** flow of the participants at each stage

Before beginning the experiment, all participants gave their informed consent. The participants were screened with the Physical Activity Readiness Questionnaire (PAR-Q), randomly assigned to one of two groups, and monitored throughout the study only for information from those who willingly remained involved (Figure 1).

The SAQ training programme consisted of 12 weeks of varying sets and reps for the experimental group, while the control group received no physical activity whatsoever. Figure 2 is examined in full below.



**Figure2**Pre-testandpost-testresearchdesign

This study used a pre- and post-test experimental design; hence, only participants in the experimental group received the SAQ training. The 50-meter dash (in seconds), the Illinois agility test (in seconds), and the standing wide jump (in metres) were used to gauge the speed, agility, and explosive leg power, respectively. Table 2 details the results of the Warner soccer test (m), which tested the kicking ability of football players.

**Table 2** criterion measures

Variable	Test items	Measurement (Units)
Physical (Speed)	50m dash	In seconds
Physical (Agility)	Illinois Agility Test (10X4 shuttle run)	In seconds
Physical (Explosive leg power)	Standing Broad Jump	In meters
Skill (Kicking)	Warner's soccer test	In meters

**Table 3** Content of the 12 week training program

Phase	Exercises	
Week 1 to 12 (Monday, Wednesday, Friday)	Straight Leg Run	High Knee Running
	Single Leg Hop (Left and Right)	High Knee Running
	Double Leg Hop	High Knee Running Sideways

Throughout the course of the study, researchers kept a close eye on the SAQ's exercise training programme. Each participant needed 10 minutes of warm-up and 10 minutes of cool-down exercise before and after the 40 minutes of exercise listed in table 3. Training load was increased by 5% every two weeks, from 65% to 85% towards the end of the programme.

## RESULTS AND DISCUSSION

**Table 4** t-test results

Variable	N	Pre-test	Post-test	Df	t	Sig.
<b>SAQ Experimental Group</b>						
50m dash	20	7.29±0.50	7.12±0.27	19	11.21	<b>.031</b>
Illinois Agility Test (10X4 shuttle run)	20	16.42±0.51	16.25±0.13	19	18.34	<b>.000</b>
Standing Broad Jump	20	1.92±15.34	1.97±25.15	19	-16.56	<b>.013</b>
Warners soccer test	20	54.41±5.72	56.87±5.22	19	32.34	<b>.001</b>
<b>Control Group</b>						
50m dash	20	7.35±0.44	7.36±0.19	19	9.13	<b>.110</b>
Illinois Agility Test (10X4 shuttle run)	20	17.49±0.39	18.31±0.40	19	19.52	<b>.543</b>
Standing Broad Jump	20	1.92±17.45	1.92±22.15	19	-19.41	<b>.211</b>
Warners soccer test	20	53.87±5.31	54.96±5.33	19	29.22	<b>.067</b>

*Alpha=0.05*

The results of a series of physical and football-specific tests were tabulated before and after treatment. Both the experimental and control groups were evaluated on their speed, agility, strength, and kicking skill. Speed (.0310.05), agility (.0000.05), strength (.0130.05), and kicking ability (.0010.05) results from the SAQ experimental group showed statistically significant differences. In this case, the values are smaller than the threshold value of 0.05. As a result, the untreated control group showed no statistically significant changes in the assessed parameters.



## DISCUSSION ON FINDINGS

The present trial lasted 12 weeks and used a treatment plan based on the SAQ training programme, which led to a considerable increase in the desired football metrics. When the training routine for speed, agility, strength, and kicking ability was followed correctly, it was obvious that the trainees improved significantly and reliably in all four areas. There was a significant correlation between SAQ training and the enhancement of kicking ability in collegiate football players, namely in the areas of lower limb power, sprinting speed, and standing wide jump. A faster athlete performs better on tests measuring power performance qualities like the squat jump and the countermovement jump, as stated by Wisløff et al. (2004). Cronin and Hansen (2005) found that the explosive leg power of the jumpers played a significant influence in developing stronger hamstrings. Pauole et al. (2000) looked at the correlation between agility and sprinting speed in collegiate athletes and found a considerable positive correlation. Fletcher and Anness (2007) found a weak correlation between the 50-meter sprint test and vertical jump performance. Our research suggests that an increase in lower limb power may have shortened the amount of time the feet were in touch with the ground while running by increasing the rate at which strong forces were generated in the lower limb muscles.

## CONCLUSION

First, the study shows that collegiate football players' SAQ scores have a significant impact on their physical and skill development.

Secondly we conclude that College football kickers benefit from 12 weeks of training that focuses on increasing their speed, agility, and leg explosive strength so that they can kick more effectively.

Third, the metrics that were preserved under SAQ training in this study showed considerable improvement, notably for collegiate football players.

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