E-ISSN: 2707-7020
P-ISSN: 2707-7012
Impact Factor (RJIF): 5.41
JSSN 2025; 6(2): 89-94
www.allsportsjournal.com
Received: 10-07-2025
Accepted: 15-08-2025

Dr. Husam Abdulkadhim Raheema Al-Kaabawi
Assistant Professor, College of Physical Education and Sports Sciences, University of Kufa, Iraq

Corresponding Author:
Dr. Husam Abdulkadhim Raheema Al-Kaabawi
Assistant Professor, College of Physical Education and Sports Sciences, University of Kufa, Iraq

The effect of S.A.Q. exercises on developing acceleration, maximum speed, and improving performance in junior 60m sprinters

Husam Abdulkadhim Raheema Al-Kaabawi

DOI: https://www.doi.org/10.33545/27077012.2025.v6.i2b.336

Abstract
The study aimed to develop S.A.Q exercises to develop acceleration and maximum speed and improve the performance of junior 60m runners. During the study, the researcher used the experimental method as it was suitable for the nature of the problem and to achieve the research objectives, by designing two equivalent groups with pre-test and post-test. After defining the research population as junior 60m runners in the Middle Euphrates clubs, aged (16-17) years, with (7) junior runners, a random sample of (6) runners was chosen, and they were divided into two groups, an experimental group and a control group, with (3) runners in each group, and each of them was given (4) attempts, so the sample amounted to (12) attempts in each group - the researcher used the number of attempts instead of the number of individuals due to the small sample size.
After completing the testing and measurement of the research variables, the results were extracted after statistical analysis. The researcher reached several conclusions, the most important of which were:

- S.A.Q. exercises had a significant effect on developing acceleration and maximum speed, and improving performance in the 60-meter sprint.
- S.A.Q. exercises were more effective in improving performance in developing acceleration and maximum speed compared to the regular training program.

The researcher then recommended several points, the most important of which are:

- Coaches should be familiar with the appropriate exercises for the 60-meter sprint.
- Coaches should focus on developing the acceleration phase, as it is fundamental to developing maximum speed in the 60-meter sprint.

Keywords: S.A.Q., acceleration, junior 60-meter sprinters

1. Introduction
The development witnessed in the level of athletic achievement in recent years, in sports in general and athletics in particular, is due to the application of all sciences to sports training. These include physiology, anatomy, biomechanics, sports psychology, and other sciences that have been harnessed to serve athletic movement and address all aspects that influence athletic performance. Athletics includes a range of competitions, including the 60-meter sprint, which deals with the athlete's maximum speed from the moment of departure until reaching the finish line.
Training based on scientific principles is a hallmark of modern training, thus minimizing effort, time, and money in the process of preparing an athlete. Since the 60-meter sprint deals with fractions of a second, managing it has become extremely challenging. Therefore, coaches must employ the best training methods and techniques to achieve athletic success.
The researcher observed a lack of sufficient attention from some coaches to acceleration and top speed in this race, as well as a failure to differentiate them in training. When designing training programs, they did not select exercises specifically designed to develop acceleration and top speed, resulting in poor performance in the race. These exercises are often not precisely tailored to these abilities in the 60-meter sprint.
Therefore, the researcher found it necessary to study this problem and develop S.A.Q. (Special Assistance Training) exercises that focus on developing acceleration and top speed to achieve better results and improve performance. The ability to accelerate to top speed is a crucial and influential factor with a significant impact on race results. Runners can only run at the speeds they reach, or to put it more clearly, the top speed stage is always the result of

the highest acceleration speed. To improve performance in this race, it is essential to implement exercises that effectively develop the abilities directly related to performance, according to the requirements of the 60-meter sprint. Herein lies the importance of this research, in improving the performance of young runners in the (60)m sprint competition through exercises designed to develop acceleration and maximum speed, and thus improve performance in this competition.

2. Research Methodology and Field Procedures

2.1 Research Methodology

The researcher used the experimental method, as it was suitable for the nature of the problem and for achieving the research objectives. This involved a two-group equivalent design with pre- and post-tests.

2.2 Research Population and Sample

The research population consisted of young runners in the 60-meter sprint at clubs in the Middle Euphrates region, aged 16-17 years, totaling seven runners. A sample of six runners was then randomly selected and divided into two groups: a control group and an experimental group, with three runners in each group. Each group underwent a sample of twelve trials.

2.3 Homogeneity of the Research Sample

The researcher established homogeneity between the two groups (the research sample) in terms of the variables of height, weight, and training age using the χ^2 test. The (F) values for all variables appeared to be less than the tabulated value at two degrees of freedom (11-11) and a significance level of (0.05) of (2.78), which indicates the homogeneity of the individuals in the two samples, as shown in Table (1):

Table 1: Shows the homogeneity of the research sample

Variables	Experimental group			Control group			Calculated value (F)	Statistical significance
	Arithmetic mean	Standard Deviation	Variance	Arithmetic mean	Standard Deviation	Variance		
Height (cm)	175.3	0.07	0.0049	173.5	0.06	0.0036	1.36	Immaterial
Weight (kg)	62.4	5.27	27.77	59.2	6.12	37.45	1.32	Immaterial
Training Age(months)	32.7	0.96	0.921	32.5	0.89	0.792	1.16	Immaterial

2.4 Tools, Methods, and Equipment Used

2.4.1 Research Tools

- Observation
- Personal Interview
- Testing and Measurement

2.4.2 Equipment and Equipment Used in the Research

- Metal Measuring Tape
- Six Sewan-type manual stopwatches
- Two whistles
- HP electronic calculator
- Various funnels
- Sony video camera
- Video camera tripod

2.5 Field Research Procedures

2.5.1 Research Instrument and its Description

- **Purpose of the test:** To measure acceleration, maximum speed, and completion.
- **Performance Description:** The subject starts from the starting blocks upon hearing the starting gunshot and sprints at maximum speed to complete the 60-meter sprint distance.
- **Measurement Equipment:** Starting gun, two lines drawn on the ground (30 meters between the starting line and the first line, and 30 meters between the first and second lines). (The second line represents the finish line for the 60-meter race.) Camera, tripod.
- **Recording:** The recorder records the time taken by the runner on their form, in seconds and to the nearest 0.01 second, for the first 30-meter distance, the second 30-meter distance, and the completion time for the 60-meter race, as analyzed in the video footage.

2.5.2 Pilot Test

- Date of Pilot Test
- The pilot test was conducted on (July 1, 2025).
- Pilot Study Sample

The sample consisted of (5) players, representing a portion of the research sample, and they were selected randomly.

- **Objectives of the Pilot Study**
- To verify the efficiency of the equipment and tools.
- To determine the time required for the test.
- To identify any difficulties encountered by the researcher in order to avoid them in the future.

Results of the Pilot Study

- The tests and equipment used in the experiment were functional.
- The time taken to conduct the experiment was sufficient and consistent with the researcher's estimate (two days).

2.5.3 Pre-testing

The researcher conducted the pre-tests on July 5-6, 2025, at the Najaf Olympic Stadium. The research sample consisted of six runners aged 16-17 years. They were then divided into two groups (experimental and control) for the purposes of the research experiment, with three runners in each group. These runners represented promising young athletes in the 60-meter sprint from clubs in the Middle Euphrates region.

The pre-testing procedures were conducted as follows

The 60m sprint was divided, as Peter Thompson (2009, p. 101) [1] explains, into two phases: the first 30m represents acceleration, and the second 30m represents maximum speed. Based on this division, the researcher conducted pre-tests for the 60m sprint under the legal requirements, taking into account the time measurements for each specific distance. This was done by placing an absolute near the starting line and drawing two parallel lines on the ground at distances of 30m and 60m from the starting line. The time for the 30m sprint from the start of the race, representing acceleration, was measured, as was the time between the first line (30m) and the second line (60m), representing

maximum speed. The race was completed at 60m. The difference between the time for the 60m sprint and the time for the first 30m represents the time recorded by the runner at maximum speed. Video recording was used to determine the time for each specific distance of the race. It is worth noting that the researcher gave each runner the opportunity to complete the race distance four times consecutively, with a full day between each two attempts to allow the runner to recover from the previous performance. In this way, he was able to obtain a sample of (12) attempts per group, performed by (3) runners per group.

2.5.3.1 Sample Equivalence

After verifying the sample results for the tests they underwent and then statistically processing them, the researcher performed a equivalence test on the two research groups in the variables {acceleration (30 m), maximum speed (30-60 m), sprint performance (60 m)}. The results were statistically analyzed using the t-test to determine the significance of the difference between them. The results showed non-significant differences based on the SIG values at a sample size of (24) and degrees of freedom of (22), indicating the equivalence of the two groups, as shown in Table (2).

Table 2: The equivalence of the individuals in the two research groups in terms of variables is shown.

Variables	Distance	Experimental group,		Control group		SIG	Statistical significance
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
Acceleration	First (30)m	4.127	0.029	4.141	0.062	0.037	Immaterial
Maximum Speed (30-60)m	Second (30)m	3.142	0.021	3.132	0.034	0.041	Immaterial
Achievement	(60)m	7.269	0.047	7.273	0.179	0.044	Immaterial

2.5.4 Exercise Structure

The principles upon which the researcher based the application of his exercises are as follows:

Group One: Works on applying S.A.Q. exercises to develop acceleration, maximum speed, and improve performance. The time allocated to this group is (25-30) minutes out of the total training session time of (90) minutes, as shown in Table (3). Further details are provided in Appendix (1).

Group Two: Trains according to the training program prepared by their instructor, with training sessions also totaling (90) minutes.

Table 3: Shows the general framework of the exercises used

Training unit time	Exercise time	Number of weekly training units	Total number of training units	Duration of exercises
(90) minutes	(25-30) minutes	(3) units	(24) units	(8) weeks

2.5.5 Post-testing

The post-tests were conducted on (9/10/2025) for the research sample at the Najaf Olympic Stadium, taking into account the conditions and instructions for conducting these tests under the same available conditions and capabilities used in the pre-tests.

2.6 Statistical Methods Used

The researcher used the Statistical Package for the Social Sciences (SPSS), employing a set of statistical methods and techniques that helped him achieve the objectives of his research. These included:

1. The F-test.
2. The independent samples t-test.
3. The paired samples t-test.
4. The arithmetic mean.
5. Variance.
6. Standard deviation.

3 Presentation and Discussion of Results

- 3.1 Presentation, Analysis, and Discussion of the Effect of S.A.Q. Exercises on Developing Acceleration, Maximum Speed, and Improving Performance for Junior 60m Sprinters
- 3.1.1 Presentation, Analysis, and Discussion of the Effect of the Experimental Group Exercises

Table 4: Shows the significance of the differences between the pre-test and post-test measurements in the experimental group

Variables	Distance	Pre-measurement		Consequent measurement		SIG	Statistical significance
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
Acceleration	First (30)m	4.127	0.029	4.032	0.021	0.012	Material
Maximum Speed (30-60)m	Second (30)m	3.142	0.023	3.011	0.019	0.014	Material
Achievement	(60)m	7.269	0.047	7.043	0.097	0.002	Material

Table (4) shows the statistical estimates obtained by the junior (60m) runners in terms of acceleration, maximum speed and completion of the competition. In the acceleration, which is the first (30m) distance of the race, the value of the arithmetic mean was (4.127) seconds in the pre-test, while it became (4.032) seconds in the post-test. As for the maximum speed, which is the second (30m) distance of the race, the value of the arithmetic mean was (3.142) seconds in the pre-test, while it became (3.011) seconds in the post-test. The same applies to the completion of the competition, as the value of the arithmetic mean was (7.269) seconds and (7.043) seconds in the pre-test and post-test, respectively. The matter did not stop at the difference and discrepancy between the estimates of the arithmetic mean,

but extended to the estimates of the standard deviation, as it also differs in its value in the pre-test and post-test during (acceleration and maximum speed) and the time of completion of the competition, as its values came in (0.029, 0.021), (0.023, 0.019) respectively in the pre-test and post-test during acceleration and maximum speed, and (0.047, 0.079) respectively also during the time of completion of the competition.

To confirm this difference, the researcher used the Significance Level (SIG), which is the indicator of significant significance, which showed the effective effect in developing acceleration and maximum speed, and thus improving the performance in the competition. To explain the researcher's findings, we state the following:

From the initial steps to reaching maximum speed, which is approximately 30 meters from the start of the race, the runner is subject to Newton's second law of acceleration. This law states that the acceleration of an object is directly proportional to the force acting upon it. The explosive power exercises performed by the experimental group, specifically those using the S.A.Q. method, particularly exercises that develop horizontal strength such as the long jump, triple jump, and running with jumps, demonstrate a correlation between explosive power and acceleration speed. (Among the effective methods for developing acceleration are standing long jump and standing triple jump exercises) (Jamal Sabri Faraj, 2012, p. 30). Similarly, the S.A.Q. method exercises for the arms, performed by the experimental group, which included arm flexion and extension from a forward support position, arm flexion and extension from an inclined support position, and especially exercises involving alternating arm movements with weights similar to those used in running, imparted kinetic speed to the arms when swinging them during the exercise. In sprinting, the transfer of kinetic energy from the part to the whole is greater, based on the principle that the movement of the entire body is the sum of the movements of its parts (Samir Musallat, 2010, p. 47) [3]. Acceleration requires rapid arm movement to achieve the necessary speed increase in leg speed (powerful and rapid leg movement must be matched by equally powerful and rapid arm movement; the faster the arm movement, the faster the leg movement will also be) (Qasim Al-Mandalawi *et al*., 1990, p. 47) [6]. These exercises provided the fundamental building blocks for developing and improving the acceleration speed of the experimental group. One of the findings is the time difference between the post-test and the pre-test for the 30-meter sprint, which was 0.095 seconds. In addition to strength training, there are basic exercises for low-impact sprints to develop acceleration speed over distances of 10, 20, and 30 meters. The purpose of these exercises, at these short distances, is to develop increasing speed (acceleration).

Regarding maximum speed, the time difference in the post-test compared to the pre-test for the second 30-meter sprint was 0.131 seconds. This difference resulted from the training performed by the experimental group, which consisted of running distances of 40, 50, and 60 meters from a flying start at maximum speed. The training also benefited from S.A.Q. exercises for motor flexibility, which effectively increased the range of motion of the joints by lengthening the involved muscles, thus increasing stride length at maximum speed. Additionally, explosive power and speed-strength exercises using the S.A.Q. method improved stride frequency in young runners. One of the principles of improving maximum speed is achieving the optimal balance between stride length and frequency to establish a foundation for maximal speed development.

Improved performance is the result of the development achieved in acceleration and maximum speed for the runners.

2.1.3 Presentation, analysis, and discussion of the effect of regular training (prepared by the coach) on developing acceleration, maximum speed, and improving performance for junior (60) m runners

Table 5: Shows the significance of the differences between the pre-test and post-test measurements in the control group

Variables	Distance	Pre-measurement		Consequent measurement		SIG	Statistical significance
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
Acceleration	First (30)m	4.141	0.062	4.137	0.057	0.043	Material
Maximum Speed (30-60)m	Second (30)m	3.132	0.034	3.079	0.046	0.045	Material
Achievement	(60)m	7.273	0.179	7.216	0.129	0.039	Material

Table (5) shows the statistical estimates obtained by the junior runners in the (60m) race in terms of acceleration, maximum speed and completion of the race. In terms of acceleration, which is the first (30m) distance of the race, the value of the arithmetic mean was (4.141) seconds in the pre-test, while it became (4.137) seconds in the post-test. As for the maximum speed, which is the second (30m) distance of the race, the value of the arithmetic mean was (3.132) seconds in the pre-test, while it became (3.079) seconds in the post-test. The same applies to completion of the race, as the value of the arithmetic mean was (7.273) seconds, (7.216) seconds in the pre-test and (7.216) seconds respectively. The matter did not stop at the difference and discrepancy between the estimates of the arithmetic mean, but extended to the estimates of the standard deviation, as it also differs in its value in the pre-test and post-test during (acceleration and maximum speed) and the time of completion of the competition, as its value came to (0.062, 0.057), (0.034, 0.046) respectively in the pre-test and post-test during acceleration and maximum speed, and (0.179, 0.129) respectively also during the time of completion of the competition.

To confirm this difference, the researcher used the significance level (SIG), which is the indicator of significant significance, which showed the effective effect in developing acceleration and maximum speed and thus improving the performance of the competition. This was a result of their continued training and implementation of the requirements of the training modules in terms of acceleration and maximum speed training and explosive power and speed-strength training set by their coach and with estimated volume ratios for the special abilities of the (60m) competition. From those estimated trainings, the control group maintained its previous training level and then

developed and improved it, even if by small percentages. However, we cannot consider this improvement in performance as the goal to be achieved to represent the best performance for the control group, especially since the difference in the time of performance is a time difference of (0.057) seconds, which does not represent the difference required to be achieved in improving the numerical performance of the runners of the control group.

3-2 Presentation, analysis, and discussion of the differences in effect at (acceleration and maximal) and the improvement in performance of the runners in the two research groups (experimental and control) in the (60) m race

Table 6: The study reveals the significance of differences in research variables between the experimental and control groups in the post-test.

Variables	Distance	Experimental group		Control group		SIG	Statistical significance
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
Acceleration	First (30)m	4.032	0.021	4.137	0.057	0.038	Material
Maximum Speed (30-60)m	Second (30)m	3.011	0.019	3.079	0.046	0.041	Material
Achievement	(60)m	7.043	0.097	7.216	0.129	0.032	Material

Examining Table (6), we find that the values listed therein are different and varied, particularly the arithmetic mean and standard deviation values for the research sample in both groups (experimental and control). The table indicates the superiority of the experimental group over the control group across all research variables.

This superior effect is attributed to the S.A.Q. exercises designed to develop acceleration, which were performed by the experimental group. These exercises included the long jump, deadlift, triple jump, and standing long jump. (The necessary physical exercises for each technical phase of the competition can be prepared according to each mechanical indicator and its associated physical capacity) (Sarih Abdul Karim, 2010, p. 101) [4]. Therefore, these exercises focused on developing the basic requirements for launching abilities and acceleration speed, since (the ability to push a stationary body forward at a speed requires attention to developing explosive power to a great extent, as a runner who lacks explosive power is unable to run (30) meters at maximum speed) (Dintimam, B.G.1984, p35). Similarly, low-start exercises are influenced by the direct relationship between the starting support's pushing force and its reaction force. The pushing force of the starting support is calculated as (force x time of effect). The fundamental exercises of this stage involve performing progressive speed drills from low starts over distances of 10, 20, and 30 meters. The ability to transition from zero speed and gradually increase it while overcoming resistance to reach maximum speed is clearly demonstrated in the 60-meter race, specifically immediately after the starting shot (Abdullah Hussein Al-Lami, 2010, p. 191) [5]. These fundamental running exercises support the previous exercises and fulfill their developmental function. All the exercises performed by the experimental group, specifically those designed to meet acceleration requirements, provided them with the elements of superiority in both starting power and acceleration speed.

As for the experimental group's superiority over the control group in maximum speed, this is due to the exercises implemented by the experimental group, which effectively work to achieve the requirements of maximum speed. This is the result of peak acceleration, meaning reaching the maximum acceleration speed within (30) meters from the start of the race and continuing up to (60) meters, especially for novice runners. One of its requirements is for the runner to maintain the highest rate of speed for the longest possible time, and these are the tasks of the training process. Based on this specificity, the experimental group's exercises were based on running distances of (60-50-40) meters from the flying start at maximum speed. Also, exercises that served maximum speed were flexibility exercises, which effectively contribute to increasing the range of motion of the joint by lengthening the involved muscles and thus increasing the stride length at the maximum speed stage. (Limited flexibility is one of the common reasons for poor technique and performance level and not achieving effective stride length during sprinting) (Peter Thompson, 2009, p. 92) [1]. One of the basic tasks in improving maximum speed is the ideal ratio between stride length and frequency to establish the basic foundation for the processes of developing maximum speed.

As for the time of completion in the competition, the difference indicates (0.173) seconds in favor of the experimental group, and this difference came as a result of its superiority in acceleration and maximum speed, as it carried out the special exercises that develop its components and enhance its capabilities, and thus improve the achievement.

4. Conclusions and Recommendations

4.1 Conclusions

1. S.A.Q. exercises had a significant effect on developing acceleration and maximum speed and improving performance in the 60m sprint.
2. S.A.Q. exercises were more effective in developing acceleration and maximum speed compared to the regular training program.

4.2 Recommendations

1. Coaches should be familiar with the appropriate exercises for the 60m sprint.
2. Coaches should focus on developing the acceleration phase, as it is fundamental to developing maximum speed in the 60m sprint.

References

1. Thompson P. Introduction to Training. Cairo: International Association of Athletics Federations; 2009.
2. Farag GS. Strength, Power, and Modern Sports Training. 1st ed. Amman (Jordan): Dar Dijla for Publishing and Distribution; 2012.
3. Musallat S. Sports Biomechanics. 3rd ed. Baghdad: Al-Nibras for Printing and Design; 2010.
4. Abdul Karim S. Applications of Biomechanics in Sports Training and Motor Performance. 2nd ed. Baghdad: Dar Al-Kutub Wal-Watha'iq; 2010.
5. Al-Lami AH. Sports Training. 1st ed. Najaf: Dar Al-Dhiya for Printing and Design; 2010.
6. Al-Mandalawi Q, *et al*. Training Foundations for Athletics Events. 1st ed. Mosul: Higher Education Press; 1990.

Foreign Sources
Dintimam ،B.G.: How to run faster ،N.Y. leisure press, 1984.

Appendix (1) shows examples of the training units used
Week: 1st, 4th, 7th

Time	severity	Exercises	Exercise time	repetitions	Rest between repetitions	Groups	Rest between groups
3 minutes	—	Bend the torso forward from a standing position	45 seconds	1	—	—	15 seconds
		Standing with feet apart	45 seconds	1	—	—	15 seconds
		Spreading the feet apart while sitting	45 seconds	1	—	—	15 seconds
6 minutes	90%	Triple jump (Hajla) - step - His leap	4 minutes	6	10 seconds	2	70 seconds
		long jump forward	2 minutes	6	10 seconds	1	70 seconds
11.5 minutes	90%	Starting from a low sprint, 10m	2 minutes	2	50 seconds	1	70 seconds
		Starting from a low sprint, 30m	3 minutes	2	1 minute	1	2 d
		From the start, the bird ran 50m	6.5 minutes	4	1.5 minutes	1	2 d
4.5 minutes	90%	Clean-Jerk (3) kg per hand (10) times	4.5 minutes	2	45 seconds	2	1.5 minutes
4 minutes	90%	(10) Hugs for each man	2.5 minutes	5	15 seconds	1	1.5 minutes
		(30m) Jump Run	1.5 minutes	5	15 seconds	1	30 seconds

Week: Second, Fifth

Time	Severity	Exercises	Exercise time	Repetitions	Rest between repetitions	Groups	Rest between groups
3 minutes	—	Standing with feet apart	45 seconds	1	—	—	15 seconds
		Bend the torso forward from a standing position	45 seconds	1	—	—	15 seconds
		Bend the torso forward from a seated position	45 seconds	1	—	—	15 seconds
5 minutes	95%	Deep jump (landing from a height of 80cm and jumping over a hurdle with a height of 76cm)	5 minutes	8	10 seconds	2	80 seconds
10 minutes	95%	From the start, the bird ran 40m	3.5 minutes	2	1.5 minutes	1	2 minutes
		From the start, the bird ran 60m	6.5 minutes	3	2 minutes	1	2.5 QGD
4.5 minutes	95%	Arm movement during running (5) kg	4.5	3	1 minute	2	2.5 minutes
5.5 minutes	90%	Continuous jump (6) hurdles with a height of 84cm	3.5 minutes	7	20 seconds	1	1.5 minutes
		(6) Steady forward movement	2 minutes	6	20 seconds	1	20 seconds

Week: Third, Sixth, Eighth

Time	Severity	Exercises	Exercise time	Repetitions	Rest between repetitions	Groups	Rest between groups
3 minutes	—	Standing with feet apart	45 seconds	1	—	—	15 seconds
		Bend the torso forward from a standing position	45 seconds	1	—	—	15 seconds
		Spreading the feet apart while sitting	45 seconds	1	—	—	15 seconds
5 minutes	95%	Deep jump (landing from a height of 80cm and jumping over a hurdle with a height of 76cm)	5 minutes	8	10 seconds	2	80 seconds
8.5 minutes	95%	Starting from a low sprint, 20m	6.5 minutes	4	1.5 minutes	1	2 minutes
		From the start, the bird ran 50m	2 minutes	1	—	1	2 minutes
8 minutes	95%	Front support, flexion and extension of arms (10)	3.5	3	45 seconds	1	2 minutes
		Arm movement in a running motion (5 kg) for each hand (10 times)	4.5	3	1 minute	1	2.5 minutes
5.5 minutes	90%	Continuous jump (6) hurdles with a height of 84cm	3.5 minutes	7	20 seconds	1	1.5 minutes
		(6) Steady forward movement	2 minutes	6	20 seconds	1	20 seconds