Effect Of Speed, Agility, And Quickness (SAQ) Training With And Without Ball On All Types Of Dribble Skill For Junior Female Basketball Players

Dr/ sara helmy moselhy

Abstract:

Basketball juniors are the basement of any future development of basketball. Training them requires a sophisticated preparation program considering their characteristics and physical abilities that are in line with the skills to be acquired, especially the dribble skill and its types. The ultimate aim of this study is to identify the effect of Speed, Agility, and Quickness (SAQ) training with and without a ball; with a ball in the presence of a positive defender on the elements of the physical fitness associated with dribble skill and on all types of dribble skill for junior female basketball players.

The SAQ training was used in preparation period for the experimental group (n=10). Whereas, the regular training was used in order to develop speed, agility and quickness for control group (n=10) of junior female basketball players under 10 years old, at Maadi Sports and Yacht Club. The tests used for pre- and post-measurements: 5m, 20m sprint test, Illinois Agility Test with and without dribble and dribble skill with its entire Types test. The results showed that there weren't a statistically significant differences between the experimental and control groups concerning speed, agility and quickness without a ball. Furthermore, there were statistically significant differences between the experimental and control groups concerning dribble agility and the score of testing all types of dribble skill in favor of the post-measurement of the experimental group. Subsequently, the study reveals that the SAQ training has an effective impact on the performance of all types of dribble skill for junior female basketball players.

Key words: Basketball, SAQ Training Method, Training Juniors, Dribble skill.

1 Introduction:

Basketball training is an educational process, aiming mainly to develop the physical, technical and tactical levels of the player in order to reach the highest level of performance, so as to reach the utmost in championships or competitions (Fawzy, 2008).

Training juniors, especially who are between (9-12) years old is more difficult and complicated than older ages. It needs a complete knowledge of the characteristics, features, physical abilities, attitudes, and critical growing periods until the player can reach the highest level of performance (Radwan, 2017).

Recently, the number of junior players joining basketball has increased all over the world, as this age is considered, in all sporting clubs, the cornerstone on which the foundation of the teams and national teams are based. Nonetheless, such a sector may not receive the required care and attention from the clubs' administrations despite the significant role it plays in sports development (AlFaith, 2016).

Technically, basketball for juniors between (9-12) years old, is rather very similar to that for adults, with the addition of some modifications in proportion to the age and abilities, as referred by the International Basketball Federation FIBA. From this standpoint, the competitions committee of Cairo Basketball Zone performs some regular changes in the rules of the competition (3 × 3) to suit the needs of young beginners, matching their physical and psychological development, aiming at

enjoying and mastering skills, rather than focusing on winning or losing. For example, one of the changes was the game time; it consists of (9) quarters, each quarter lasts for (10) minutes, and (2) players are mandatory substituted after the fifth minute and all the players on the bench should participate in the game (15 players). Additionally, the scoring sheet is designed to monitor the proficiency of players in some skills such as free throw, as well as monitoring violations such as traveling with the ball, and double dribble (Cairo Basketball Zone, 2018; El-Shemly, 2014; USA Basketball, 2018).

Dribble is one of the basic offensive skills which includes a variety of performance forms, namely, (dribble with change of direction, dribble penetration, dribble hesitation, between legs crossover, crossover dribble, inside and outside dribble, pullback crossover, behind back dribble, dribble with pivoting and rotation) (Gasem, 2014).

Dribble is considered one of the most effective factors in the success of any offensive plan, especially if the player is a fast one, and hence the defender would not be able to stop his or her attack and shooting on the basket, or cutting the ball off (Salem, 2015). The physical abilities related to dribble are represented in (coordination – speed – agility – quickness – agility endurance), and they are the same factors that should be developed in the age stage between (9-12) years old and being the main gate for developing them. If the coach neglects developing such abilities during this age, their improvement in later stages will be less efficient. As special physical abilities are closely related to the skill, and the players must have them in a specialized manner, dribble requires long hours of training and follow the modern training techniques in the development of specialized physical abilities associated with it (Gasem, 2014; El-Shemly, 2014; Zedan, 2014).

Based on the aforementioned discussion and the Junior Basketball Games for 2017/2018 Season, the researcher noticed that the players lose the ball during dribble at a very high percentage, as well as committing violations related to it. This age group has demonstrated the lack of ability to master the skill of dribble and controlling the ball with and without a defender. Such an observation was confirmed through the analysis of the scoring sheets of the participating teams, which similarly outlined by the Cairo Basketball Zone. All of these have motivated the researcher to search for a method to improve and develop all types of dribble skill, using modern training methods fitting the age stage and its characteristics, as well as helping in developing the special physical abilities related to all types of dribble skill at the same time, reached the SAQ (Speed, Agility, and Quickness) training (Jovanovic et al., 2011).

SAQ training is considered an integrated training approach which includes various physical abilities in one training program, for it combines between Quickness, which is the ability to read and quickly interact with the situation within a short distance, it is so important during teams' sports events, such as basketball (Bloomfield et al., 2007; Brown et al., 2000; Hunsiker, 2011; Jovanovic et al., 2011; Milanović et al., 2013; Milanović et al., 2014; Polman et al., 2004; Trecroci et al., 2016; Velmurugan, & Palanisamy, 2013). An example supporting this, is the speed of response by changing the type of dribbling due to the occurrence of a certain situation during the game (Al-bik & Mohamed, 1995). As for Speed, it is the ability to move at full speed in a straight line (Raines, 2015), it is used more frequently in basketball as the player passes through dribbling or without it in a straight line (Zedan, 2014). Agility is "the body's full fast movement with changing the speed or the direction as a response to an

incentive" (Sheppard & Young, 2006, p. 920), and it is the ability to move fast and effectively in different directions (Raines, 2015). It is the most important physical characteristic in performing movements that require complex coordination, which appears in the skill of dribble and all its types (A. H. Mahmoud & Mahmoud, 2008).

In the current study, SAQ training has been postulated in a way which is different than previous studies; this has been achieved through setting a selective training program to be performed without a ball, so as to develop SAQ for junior female players during the general preparation period of the training season necessary to develop their movement in the court without a ball. In addition, this training has been applied with dribble during the special preparation period of the training season necessary to develop their movements in the court with dribble, through the three physical abilities speed, agility and quickness with dribble. Finally, SAQ training has been used with dribble in the presence of a positive defender trying to cut the ball off and prevent the offensive player from passing, this will be during the pre-competition preparation period, contributing in improving all types of dribble skill for junior female basketball players.

This study ultimately aims at identifying the effect of speed, agility, and quickness (SAQ) training with and without a ball; with a ball in the presence of a positive defender, on the elements of the physical fitness associated with dribble skill and on all types of dribble skill for junior female basketball players.

2 Hypothesis:

(1) There are statistically significant differences between the experimental and control groups in the level of speed, agility, and quickness (SAQ) for junior female basketball players in favor of the post-measurement of the experimental group.
(2) There are statistically significant differences between the experimental and control groups in the level of dribble skill for junior female basketball players in favor of the post-measurement of the experimental group.
(3) There are statistically significant differences between the experimental and control groups in the level of all types of dribble skill for junior female basketball players in favor of the post-measurement of the experimental group.

3 Methods:

3.1 Approach

The study based on an experimental approach for two groups, one of them is experimental and the other is control, through pre- and post-measurement.

3.2 Sample

The study targeted a sample from junior female players under the age of 10 years old, those who spent at least a year in basketball academy before joining the team, at Maadi Sports and Yacht Club for the season 2018/2019. The sample comprises 25 players, they were randomly distributed (10) players for the experimental group (mean: ± SD: age: 9.00 ± 0.00 year; training age: 1.40 ± 0.52 years; weight: 28.70 ± 2.98 kg; height: 136.80 ± 2.97 cm) and (10) players for the control group (mean: ± SD: age: 9.00 ± 0.00 year; training age: 1.60 ± 0.52 year; weight: 28.60 ± 2.95 kg; height: 136.50 ± 3.47 cm) and (5) players for the exploratory study.

Note 1: moderation in distributing the sample under the normal curve in the variables

of height, weight, age, and training age was determined. The skewness was between (+ 0.00, + 0.71); also the physical variables affecting the dribble skill coordination, the arms power, the legs power, speed, agility, and quickness, so the skewness was between (+ 1.29, - 0.05); the individual technical tests variables 20 m sprint dribbling test– Illinois agility dribbling test– 5 m sprint dribbling test, so the skewness was between (+ 1.63, - 0.22); the compound individual technical test variables for all types of dribble skill, so the skewness was between (- 1.17, - 1.64). It is clear that the skewness is limited between (±3) referring to the moderate distribution of sample members in all the research variables.

Note 2: the equivalence between experimental and control research groups is confirmed, it was found that the P value > 0.05, confirming that there are no statistically differences between the two groups, and that they are equal.

3.3 Procedures

- Tests used in this study are, (serving and receiving a tennis ball test) to measure the coordination, (pushing a medicine ball "1 kg" test with one hand) to measure the arms' power, (long jump from standing test) to measure the legs' power, (20 m sprint test) to measure speed, (Illinois agility test) to measure agility, (5 m sprint test) to measure quickness, (20 m sprint dribbling test) to measure dribble speed, (Illinois agility dribbling test) to measure dribble agility, (5 m sprint dribbling test) to measure dribble quickness; an individual compound technical test was designed including all types of dribble skill (back pivot, behind back dribble, between legs crossover, crossover, Dribble penetration, pull back crossover, Hesitation, inside- outside dribble) and was submitted to a group of experts in the field of basketball who approved it.

Note: the experts should meet the following criteria: "faculty member (professor – assistant professor) at one of the Physical Education faculties and works as a basketball coach at a sporting club".

- The validity of all physical tests as well as the technical tests used in the present study follows the standard published scientific methods (e.g. Al-Tikriti & Al- Hajjar, 2012; Barth & Boesing, 2010; Fawzy, 2014; Gasem, 2014; Gasem et al., 2014; Hassan, 2015; Ismail, 2010). In addition, retrieved data has been ascertained through applying Test Retest; there was (10) days between the first and second test application on a sample intentionally randomly selected from the research community and outside the research sample of (5) players "exploratory sample".
- An exploratory study was applied aiming at recognizing how much the physical and technical tests are compatible with the practical reality, and how much the SAQ training timing is appropriate after warming up directly and before the technical and tactical part. It also helps in defining problems and constraints that may occur during application of the training sessions, and attempting to find proper solutions for them. It was found that through exploratory experiment, all tests, whether the existing physical or technical, were fit to be applied. Also, it was made clear that it was better to apply SAQ training after the technical and tactical part and not before, so that the junior female players would be able to master the technical part, also to understand the tactical part and to apply these training in a competitive manner to be

performed with maximum load, so as to achieve its purpose. This agrees with what Albasiti (1998) and Hammad (1998) have referred to, as well as the training courses introduced by the Egyptian Basketball Federation and the experts' views in the basketball field.

- Pre-measurements (physical - technical) were applied on both the experimental and control groups, before applying the SAQ training program on July 1st and 2nd, 2018. Post-measurements (physical - technical) were also taken on groups, experimental and control, after 3 months –program application period- on Octob8er 3nd and 4th, 2018. It was taken in consideration not to let the players participate in the training the day before running the tests. Moreover, warming up was performed before the tests began; the temperature ranged between 33° and 36°C. and the test always started at 4 pm.
- All tests took place in basketball courts "open courts" at Maadi Sports and Yacht club, Egypt.

3.4 Training Program

- The suggested SAQ training program has been applied for three months during the preparation period of the training season, i.e. (12) weeks; 3 sessions per week. The training session lasts for 90 mins., so that the total time of the program would be 3240 mins. for the experimental group, from July 3rd, 2018 to September 30th, 2018 for a set of 40 exercises for each of the speed, agility, and quickness elements (Table 1). The Control group, the standard program was applied to develop each of the speed, agility, and quickness elements, from July 4th, 2018 to October 1st, 2018, so that the difference between the experimental and control groups would only be the part of the application of special physical preparation in session. SAQ training will be given to the experimental group female juniors during the general preparation period of the training season without a ball, then in the special preparation period of the training season; this training will be applied using dribble, being physical technical ones. During the pre-competition preparation period, the training will be applied using dribble in the presence of a positive defender, being physically technical tactical training. As for the control group, they will train on the regular training to develop their speed, agility, and quickness in both the general and special preparation periods, and the pre-competition preparation period as well.
- Application of the training program for both experimental and control groups in Basketball courts has been carried out in Maadi Sports and Yacht club (open courts), Egypt.
- Low intensity interval training method was used, with an intensity ranging between (60-80 %), and high intensity interval training method, with an intensity ranging between (80-90 %), so that the loads used in the program are the medium load, sub maximum load, and maximum load; the weekly Undulating load used is (1: 3), as it is the most fitting for the juniors' stage (Saleh, 2019).
- The percentage for (the general physical preparation – special physical preparation – technical preparation- tactical preparation) was determined on three preparation stages (general preparation – special preparation – pre-competition preparation), follow the standard basketball references, the

general physical preparation percentage was (40%), special physical preparation (30%), the technical preparation (20%), the tactical preparation (10%) during the general preparation period. As for the general physical preparation percentage (20%), special physical preparation (30%), the technical preparation (30%), tactical preparation (20%) during the special preparation period. The general physical preparation percentage was (10%), the special physical preparation (20%), the technical preparation (30%), tactical preparation (40%) during the pre- competition preparation period (Al-Bik & Mohamed, 1995; Zedan, 2014).

- Warming up time was determined as (10 mins.) and cool down time as (5 mins.), according to the specialized scientific references in basketball filed and sports training (American sport Education program, 2007; Albasiti, 1998; Radwan, 2017).
- Skills required to be developed and improved in the technical preparation were distributed, in addition to what was taught from the tactics (individual – groups- teams) in the tactical preparation fitting with the age stage (9-12) years old from learning to training phase, according to the basketball scientific references (American sport Education program, 2007; El-Shemly, 2014).

Table 1. SAQ training used in the Experimental Group Program

Speed (S)	Agility (A)	Quickness (Q)
• Run – Shuffle – Run*	• X-Drill *	• Tennis ball Drop*
• Staggered Shuttle*	• L-Drill *	• 3×6 Lengths*
• Run – Shuffle – Shuffle – Run*	• T-Drill *	• 3 Complete Diamond Rotations *
• ARM Action Wall Run*	• Pro Agility Shuttle 5-10-5*	• 8×Twenty yard *
• Drop Acceleration *	• Cone Alley V.1 *	• 2×3 Lengths*
• Sprint and Release*	• Cone Alley V.2 *	• Two steps*
• One step*	• Cone Alley V.3 *	• Icky shuffle*
• B-Skip	• Zig Zag Cone Drill *	• Double icky shuffle*
• Attack the ground and go	• Figure 8 Runs *	• Side To Side
• Resisted knee Drive with Assisted Attack the Ground	• Box Run Relay *	• Low Barrier Hops
• Heel Flick Skip	• Illinois Change of direction *	• Scissor Steps
• Sweep	• 123 Back *	• Single Leg Line Hops
• Modified Suitcase walk with arm and knee Drive	• Lateral Mirror Drill *	• POGO Hops
		• Over Over Back Back

Note: (*) in this training the dribble is used during the special preparation period, also dribble in the presence of a positive defender during the pre-competition preparation period.

3.5 Statistical Analysis

IBM SPSS (24) version was used to conduct statistical processing for the research. Before conducting it, the normality of the research sample was checked using Shapiro- Wilk test so as to determine which statistics will use parametric or non-parametric, (significance level is P-value). For the experimental group in the variations of "height, weight, training age, coordination, the power of right arm, the power of left arm, the power of the legs, speed, agility, quickness, dribble speed, dribble agility, dribble quickness, dribble and all its types test time, dribble and all its types test score" = (0.06, 0.32, 0.00, 0.00, 0.81, 0.02, 0.27, 0.19, 0.47, 0.04, 0.51, 0.43, 0.43, 0.05, 0.27); (significance level is P-value) for the control group in the variations of "height, weight, training age, coordination, the power of right arm, the power of left arm, the power of the legs, speed, agility, quickness, dribble speed,

dribble agility, dribble quickness, dribble and all its types test time, dribble and all its types test score" = (0.00, 0.05, 0.00, 0.00, 0.08, 0.00, 0.02, 0.01, 0.02, 0.00, 0.12, 0.04, 0.00, 0.01, 0.00). As a conclusion the P-value sig.≤ 0.05 in most variations, which means non-parametric statistics should be used "Mann – Whitney U test" to calculate the differences between the experimental and control groups.

4 Results:

Table 2. Means, Standard Deviations and "U – Test" for experimental and control group in the variables of speed, agility and quickness

Variables	Experimental group (EG) Post-measurement		Control group (CG) Post-measurement		Groups	n	Mean Rank	Sum of Ranks	U	Z	P
	M	SD	M	SD							
speed	4.81	.44	5.07	.39	EG	10	8.95	89.50	34.50	1.18-	.24
					CG	10	12.05	120.50			
					Total	20					
Agility	22.10	2.37	22.39	1.85	EG	10	9.20	92.00	37.00	-.99	..32
					CG	10	11.80	118.00			
					Total	20					
Quickness	1.54	.27	1.60	.24	EG	10	10.10	101.00	46.00	-.30	.76
					CG	10	10.90	109.00			
					Total	20					

*** Significant difference between experimental and control group p≤0.05**

EG for experimental group

CG for control group

The existence of non-statistically significant differences between the two post-measurements for the experimental and control groups, it appears that (P-value > 0.05), pointing the differences in the variables of speed, agility, and quickness between the two post-measurements of the experimental and control groups in favor of the post-measurement for the experimental group, the one with less time (Table 2). However, these differences do not reach to the level of statistical significance.

Table 3. Means, Standard Deviations and percentage of the change for experimental and control group in the variables of speed, agility and quickness

Variables	Experimental group (EG) n=10					Control group (CG) n=10				
	pre-measurement		Post-measurement		%	pre-measurement		Post-measurement		%
	M	SD	M	SD		M	SD	M	SD	
speed	5.25	.44	4.81	.44	8.38 %	5.62	.67	5.07	.39	9.79%
Agility	24.94	2.53	22.10	2.37	11.39%	25.42	3.05	22.39	1.85	11.92%
Quickness	1.99	.41	1.54	.27	22.61%	1.91	.34	1.60	.24	16.23%

% = percent change in performance

The percentage of change in the post-measurement from the pre- ones of the experimental group with a percentage varying between (8.38%: 22.61%), and the percentage of change post- measurement from the pre-ones of the control group with a percentage varying between (9.79%: 16.23%) in the variations of speed, agility, and quickness in favor of the post-measurements of the experimental group, the one with the highest percentage of change (Table 3).

Table 4. Means, Standard Deviations and "U–Test" for experimental and control group in the variables of dribble skill through "dribble speed - dribble agility - dribble quickness"

Variables	Experimental group (EG) Post-measurement		Control group (CG) Post-measurement		Groups	n	Mean Rank	Sum of Ranks	U	Z	P
	M	SD	M	SD							
dribble Speed	5.27	.46	5.73	.57	EG	10	8.20	82.00	27.00	-1.75	.08
					CG	10	12.80	128.00			
					Total	20					
dribble Agility	26.47	2.88	31.29	3.67	EG	10	7.10	71.00	16.00	-2.57	.01*
					CG	10	13.90	139.00			
					Total	20					
dribble Quickness	1.60	.27	1.73	.20	EG	10	9.90	99.00	44.00	-.46	.65
					CG	10	11.10	111.00			
					Total	20					

*** Significant difference between experimental and control group p≤0.05**

EG for experimental group

CG for control group

The existence of statistically significant differences between the two post-measurements for the experimental and control groups in dribble agility, it appears that (P-value < 0.05), referring to the mean, it shows that the mean in the post-measurement for the experimental group, the one with less time, is better than that of the mean of the post-measurement for the control group, pointing that these differences are in favor of the post-measurement for the experimental group in the dribble agility variable only (Table 4).

Table 5. Means, Standard Deviations and percentage of the change for experimental and control group in the variables of dribble skill through "dribble speed - dribble agility - dribble quickness"

Variables	Experimental group (EG) n=10				%	Control group (CG) n=10				%
	pre-measurement		Post-measurement			pre-measurement		Post-measurement		
	M	SD	M	SD		M	SD	M	SD	
dribble Speed	5.76	.60	5.27	.46	8.51 %	6.19	.79	5.73	.57	7.43%
dribble Agility	35.55	3.72	26.47	2.88	25.54%	34.39	4.75	31.29	3.67	9.01%
dribble Quickness	1.92	.19	1.60	.27	16.67%	2.25	.77	1.73	.20	23.11%

% = percent change in performance

The percentage of change in the post-measurements from the pre-ones of the experimental group with a percentage varying between (8.51%: 25.54%), and the percentage of change post-measurements from the pre-ones of the control group with a percentage varying between (7.43%: 23.11%) in the variations of dribble speed, dribble agility, and dribble quickness in favor of the post-measurements of the experimental group, the one with the highest percentage of change (Table 5).

Table 6. Means, Standard Deviations and "U–Test" for experimental and control group in the variables of all types of dribble skill' test through "test time – test score"

Variables	Experimental group (EG) Post-measurement		Control group (CG) Post-measurement		Groups	n	Mean Rank	Sum of Ranks	U	Z	P
	M	SD	M	SD							
Test Time	.77	.31	.89	.26	EG	10	8.40	84.00	29.00	-1.60	.11
					CG	10	12.60	126.00			
					Total	20					
Test Score	16.00	1.74	13.08	2.44	EG	10	13.80	138.00	17.00	-2.51	.01*
					CG	10	7.20	72.00			
					Total	20					

*** Significant difference between experimental and control group p≤0.05**

EG for experimental group

CG for control group

The existence of statistically significant differences between the two post-measurements for the experimental and control groups in the score of all types of dribble skill' test only, it appears that (P-value < 0.05), referring to the mean, it shows that the mean in the post-measurements for the experimental group, the one with highest score, is better from the mean of the post-measurements for the control group, pointing that these differences are in favor of the post-measurements for the experimental group in the variable of the score of all types of dribble skill' test only (Table 6).

Table 7. Means, Standard Deviations and percentage of the change for experimental and control group in the variables of all types of dribble skill' test through "test time – test score"

Variables	Experimental group (EG) n=10				%	Control group (CG) n=10				%
	pre-measurement		Post-measurement			pre-measurement		Post-measurement		
	M	SD	M	SD		M	SD	M	SD	
Test Time	1.07	.20	.77	.31	28.04%	1.16	.11	.89	.26	23.28 %
Test Score	10.28	2.28	16.00	1.74	55.64%	9.73	1.66	13.08	2.44	34.43 %

% = percent change in performance

The percentage of change in the post-measurements from the pre-ones of the experimental group with a percentage varying between (28.04%: 55.64%), and the percentage of change post-measurements from the pre-ones of the control group with a percentage varying between (23.28%: 34.43%) in all types of dribble skill level "test time – test score" in favor of post-measurements for the experimental group, the one with the highest change percentage (Table 7).

5 Discussion:

Tables 2 and 3 conclude the existence of non-statistically significant differences between the two post-measurements for the experimental and control groups in the variables of speed, agility, and quickness, and also prove that there are some differences in the percentage of change between the pre- and post- measurements for the experimental and control groups in the variables of speed, agility, and quickness in favor of the post-measurement for the experimental group, as the improvement rate varies between (8.38%: 22.61%), whereas the improvement rate for the control group varies between (9.79%: 16.23%). However, these differences didn't reach statistical

significance, proving the effectiveness of both programs for the control group using the traditional training program including regular exercises for every element of speed, agility, and quickness and the experimental group using SAQ training program. Nonetheless, SAQ training without a ball applied during the general preparation period for the experimental group, is more effective in developing the physical fitness elements related to dribble skills, which are speed, agility, and quickness.

These findings are consistent with Al- Saadi (2016), who assumed that there is a development in the physical part for the control and experimental groups, yet the advantage was for the experimental group.

Moreover, Jovanovic et al. (2011), Milanovic et al. (2014), Azmi and Kusnanik (2017), and Mahmoud (2017) all confirm that the SAQ training program is an effective way to improve speed, agility, and quickness.

Through this finding from Tables 2-3, the first hypothesis has not been achieved.

Also, Tables 4 and 5 summarize the existence of statistically significant differences between the two post-measurements of the experimental and control groups in the dribble agility variable, only in favor of the post-measurement for the experimental group. Moreover, there are some differences in the percentage of change between the pre- and post- measurements in the variables of dribble speed, dribble agility, and dribble quickness for the experimental and control groups in favor of the post-measurement for the experimental group. As the improvement rate of it varies between (8.51%: 25.54%), whereas the improvement rate of the control group varies between (7.43%: 23.11%). Such conclusion implies the effectiveness of SAQ training method with a ball used in the special preparation period of the experimental group in developing the dribble level, especially dribble agility with the statistical significance. As the agility element is one of the complex physical fitness which needs special training so as to improve it, this was achieved for the experimental group through SAQ training, and it was reflected on the improvement of dribble skill, as the development of the physical elements of a skill is reflected directly on the development of the skill itself.

The obtained results are in agreement with Milanović et al. (2013) who indicates that "SAQ training has an effective way in improving agility with and without a ball" (p. 102).

Agility is important in the implementation of motor skills in all sports and games, thus it is one of the most important elements of physical fitness to be developed in young people (Hammad, 2010).

Moreover, Ameen (2015) assumed that "the more the player's agility increases, the more he can improve his level. This evidenced how much agility is strongly connected with the rest of physical fitness elements on one hand, and with the technical aspect of the game on the other hand, because of the different variable and unknown beforehand situations and circumstances" (p.190).

It has been outlined that the dribble agility level for the experimental group has largely improved from that of the control one, and those differences reached the statistical significance, for SAQ training applied with a ball in the special preparation period of the experimental group is similar to the technical performance of the dribble skill in basketball during training and competitions.

This is consistent with what Abdulhamid (2013) referred to, "conducting physical training at the same motor line of the skill leads to the improvement of this skill,

owing to being similar with the nature of the muscle performance" (p.2).
Through this finding from Tables 4-5, the second hypothesis has been partially achieved.

Further, Tables 6 and 7 illustrate the existence of statistically significant differences between the two post-measurements of the experimental and control groups in the variables of dribble test score with all its types, and there are some differences in the percentage of change between the pre- and post- measurements for the experimental and control groups in the variables of all types of dribble skill test, "test time – test score" in favor of the post-measurement for the experimental group. As the improvement rate of the experimental group varies between (28.04%: 55.64%), whereas the improvement rate of the control group varies between (23.28%: 34.43%), the thing that shows the effectiveness of SAQ training method without a ball during the general preparation period, which helped juniors (experimental group) develop the physical fitness elements of the dribble skill: speed, agility, and quickness without a ball. Also, applying this training with a ball during the special preparation period helped in increasing the development of dribble skill, which appeared in improving its physical components using the ball. Furthermore, using the ball in the presence of a positive defender during the pre-competition preparation period helped the junior players to use all types of dribble skill smoothly and with great harmony under any pressure during the training and competition. This can be seen clearly in the increase of the dribble skill test score with all its types, the one with a statistical significance.

This is consistent with Mahmoud (2017) study, "developing SAQ variable is considered one of the most important physical variables, having a positive effect on improving the level of technical performance of the game" (p.296).

SAQ training, especially when combined with a ball and with a ball in the presence of a positive defender, has helped in creating a combination of physical, technical and tactical interrelationships that match the performance of players in the games. As their performance in any situation during the competition does not require a physical element (as for the control group) isolated from the technical performance or tactical thought, yet combining them in a one training mould. This is what was achieved from mixing these training, which helped greatly in developing the physical fitness elements of the dribble skill in basketball compared to the control group, leading to the improvement of the junior players' performance of dribble skill with its entire types for the experimental group.

This is what Velmurugan and Palanisany (2013), referred to, "SAQ training system is a comprehensive integrated training system that results in integrated effects of many physical abilities within a single training program" (p.433).

Hammad (1998) refers that, "without very high levels of physical fitness elements, it is difficult to achieve the goals of developing technical performance" (p.211).

Physical fitness elements are considered the basic components of basketball players, as they cannot improve their technical and tactical performance unless such elements are developed and connected with technical and tactical aspects (Abbas, 2011).
Through these findings from Tables 6-7, the third hypothesis has been partially achieved.

6 Conclusion:

In light of the aim, research hypotheses and methodology used, and within the sample of the research and through the statistical analysis, and based on the results reached, it was concluded that the SAQ training program has a more effective positive impact than the traditional training one in developing the dribble agility and all types of dribble skill. Whereas, the effectiveness of the traditional training program was equal to the SAQ training program concerning the development of speed, agility and quickness without ball.

Therefore, applying SAQ training with players, especially junior ones, is recommended so as to improve the elements of physical fitness of speed, agility, and quickness in their periods of sensitive growth, as it is the main gate for its development and reaching the highest level, reflecting the impact of its effectiveness on the development of sports skills.

7 Reference:

Azmi, K., & Kusnanik, NW. (2018). Effect of Exercise Program Speed, Agility, and Quickness (SAQ) in Improving Speed, Agility, and Acceleration. *Journal of Physics*, Conf. Series 947 (2018) 012043.

Al- Saadi, A. (2016). The impact of the diverse style of speed in the development of some types of speed and level of performance skills of offensive basketball players for youth. *Journal of studies and researches of sport education*, 48, 246-258.

AlFaith, W. (2016). *Science and knowledge series for sports training (3) - The foundations of sports training for juniors' stage (a modern technical vision)*.Cairo, Egypt: Arab Science and Culture Foundation.

Ameen, N. (2015). Different exercises for speed and agility and its effect on dribbling manovars and recovery for basketball players ages under 16 years. *Journal of physical education*, 27(1), 187-201.

Abdulhamid, A. (2013). *A proposed training program to develop the technical performance for basketball junior from 9: 12 years* (master's thesis). Banha University, Egypt.

Al-Tikriti, W., & Al- Hajjar, Y. (2012). *The complete encyclopedia in the physical preparation for women*. Alexandria, Egypt: Dar Alwafaa.

Abbas, N. (2011). Develop speed endurance with two distances (12, 24 m) and their effects Agility element for basketball players. *Journal of physical education*, 23 (4), 63-89.

American sport Education program. (2007). *Coaching youth basketball*. Unites States: Human Kinetics.

Albasiti, A. (1998). *Rules and foundations of sports training and its application*. Alexandria, Egypt: Al Maarif Printing.

Al-bik, A., & Mohamed, SH. (1995). *Training Planning in Basketball.* Alexandria, Egypt: Al Maarif Printing

Barth, K., & Boesing, L. (2010). *Training basketball*. UK: Meyer & Meyer sport.

Bloomfield, J., Polman, R., O'Donoghue, P., & McNaughton, L. (2007). Effective speed and agility conditioning methodology for random intermittent dynamic type

sports. *The Journal of Strength and Conditioning Research*, 21(4), 1093-100.

Brown, L., Woodman, G., & Yap, C. (2000). Development of Speed, Agility, and Quickness for the Female Soccer Athlete. *National Strength & Conditioning Association*, 22(1), 9-12.

Cairo Basketball zone. (2018). *Rules for competitions 3×3 for the ages 10, 11, 12 years Sports season 2017/2018*. Cairo, Egypt.

El-shemly, M. (2014). *Analyze study of the basic skills and physical variables to indicator the system as a function competitions for Mini basketball player's* (master's thesis). Helwan University, Egypt.

Fawzy, A. (2014). *Basketball: History, principles and basic skills*. Alexandria, Egypt: World Sports Foundation & Dar Alwafaa.

Fawzy A. (2008). *Psychology of sports training for youth*. Cairo, Egypt: Dar Elfikr Elarabi.

Gasem, S. (2014). *Basketball: Exercises - tactics - Playing Methods*. Baghdad, Iraq: Al-Thakera Publishing & Distributors.

Gasem, S., AL- karim, H., & Abdullah, K. (2014). *Basics of the basketball game*. Baghdad, Iraq: Al-Thakera Publishing & Distributors.

Hassan, Z. (2015). *S.A.Q Training method one of the modern methods of training speed, agility and quickness*. Cairo, Egypt: Modern Book House.

Hunsiker, G. (2011). The Differences between Speed and Quickness. In: Recreation and Sports [Online Article]. Available at: https://ezinearticles.com/?The-Differences-Between-Speed-and-Quickness&id=5845219 ; accessed on 10.2.2018

Hammad, M. (2010). *Sports Training for Junior and Successful Trainer*. Cairo, Egypt: Modern Book House.

Hammad, M. (1998). *Modern Sports Training: Planning, application and leadership*. Cairo, Egypt: dar elfikr elarabi.

Ismail, M. (2010). *Basketball practical application 1(Attack)*. Alexandria, Egypt: Al Maarif Printing.

Jovanovic, M., Sporis, G., Omrcen, D., & Fiorentini, F. (2011). Effects of speed, agility, quickness training method on power performance in elite soccer players. *Journal of Strength and Conditioning Research*, 25(5), 1285-1292

Mahmoud, N. (2017). The effect of S.A.Q exercises on the performance of some offensive attack skills of judo girls. *European Journal of Sports Science Technology*, 7(14), 289- 299.

Milanović, Z., Sporiš, G., Trajković, N., James, N., & Šamija, K. (2013). Effects of a 12 week saq training programme on agility with and without the ball among young soccer players. *Journal of Sports Science & Medicine*, 12(1), 97-103.

Milanović, Z., Sporiš, G., Trajković, N., Sekulić, D., James, N., & Vučković, G. (2014). Does SAQ training improve the speed and flexibility of young soccer players? A randomized controlled trial. *Human Movement Science*, 38, 197–208.

Mahmoud, A. & Mahmoud, M. (2008). *Recent trends in sports science training*. Alexandria, Egypt: Dar Alwafaa.

Polman, R., Walsh, D., Bloomfield, J., & Nesti, M. (2004). Effective conditioning of female soccer players. *Journal of Sports Sciences*, 22(2), 191–203.

Radwan, A. (2017). *Modern tools and methods in basketball*. Alexandria, Egypt: World Sports Foundation.

Raines, A. (2015). The Benefits of Speed, Agility and Quickness (SAQ) Drills for Strength and Conditioning Athletes [Online Article]. Available at: https://myvega.com/blogs/content/speed-agility-drills-for-strength-and-conditioning-athletes ; accessed on 10.2.2018

Saleh, M. (2019). *Sports training strategies for young*. Cairo, Egypt: Modern Book Center.

Salem, M. (2015). *Basketball*. Giza, Egypt: The Egyptian Library for Publishing and Distribution.

Sheppard, J., & Young, W. (2006). Agility literature review: Classifications, training and testing. *Journal of Sports Sciences*, 24(9), 919- 32.

Trecroci, A., Milanović, Z., Rossi, A., Broggi, M., Formenti, D., & Alberti, G. (2016). Agility profile in sub-elite under-11 soccer players: is SAQ training adequate to improve sprint, change of direction speed and reactive agility performance?. *Research in Sports Medicine*, 24(4), 331-340.

USA basketball. (n.d.). *Youth Guidelines: Rules and Standards* [Online Article]. Available at: https://www.usab.com/youth/development/youth-guidelines-rules-and-standards.aspx; accessed on 15.10.2018

Velmurugan, G., & Palanisamy, A. (2013). Effects of Saq Training and Plyometric Training on Speed Among College Men Kabaddi Players. *Indian journal of applied research*, 3(11), 432-433.

Zedan, N. (2014). *Basketball coach guide (1) Physical preparation*. Cairo, Egypt: Modern Book House.