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A PROPOSED TRAINING PROGRAM TO DEVELOP SOME PHYSICAL CHARACTERISTICS DUE TO JOB REQUIREMENTS FOR CIVIL PROTECTION WORKERS

Dr. Haggar Kherfan Mohamed

Institute of Physical & Sport Education, Mestghanem

mohadjar@hotmail.com

Abstract:

With the evolution of man and human societies and prosperity of industry and urbanization and the consequent modern technology in addition to various disasters and calamities,
It is necessary to the world to think of finding a solution for the protection of property and persons came the idea of establishing a Civil Protection,
As the nature of the work this wire require incumbent rely on physical activity and sports to maintain the level of fitness agents of civil protection, as it is so physical activity only way for that, because of its great importance as it contributed in maintaining fitness and improve the technical level through interventions daily.
Based on these important public administration decided for Civil Protection to make physical education and sports practice mandatory for being an integral part of the civil protection tasks.
Through field visits we've made to the National School of Civil Protection not lucky random in training and weakness in the composition of predators, where limited training to do some exercises and some games in football, and this prompted us to address this phenomenon to study and proposing a training program to develop some physical attributes and in accordance with the requirements of the profession, and this was asked the following question:
- Is the proposed training program develops some physical capacities for civil protection agent?

Keywords: Training program - The physical attributes –Civil Protection

1. INTRODUCTION:

Since his creation, man attempted to protect himself from disasters and dangers. Soon, man identified the nature of this land and faced types of dangers. There are natural dangers such as heavy rains and accompanying lightning, floods and torrents, hurricanes, earthquakes, volcanoes and other dangers such as epidemics and killer diseases of human societies. With life development, these dangers facing humans increased including forest fires, floods, outcomes of wars, riots and various risks and dangers facing humans in this age.

Civil protection field is one of the basic pillars of society through its basic tasks including rescuing, first aids, firefighting, working day and night in order for humans to live a safe life (Ministerial Decree No. 108/83 for 1983). Civil protection workers face multiple troubles including natural or industrial disasters. They try to reduce their effects and results, but these noble human tasks aim to help in civil protection make them need to own a set of physical characteristics, physiological and psychological abilities. This requires a careful scientific training in addition to the necessity of trainers to have knowledge, science and ability to qualify and train. Sport practicing in civil protection forms one important aspect as we consider sport as an element of physical, psychological and mental preparation for peers. Good work performance has to come from physically and mentally fit persons and this is achieved by sport activities. This is an application of the quote: “a sound mind in a sound body”. The concern with sport activities increased as a major activity in preparing civil protection workers in order to reach good performance with high efficiency in implementing their assigned tasks. The sport activity became a goal through which championships are achieved.

Problem of the Study:

With the development of humans, the concept of prevention from dangers and taking necessary precautions and procedures to face dangers developed according to these dangers. With the increase of these dangers, there was the need to establish organizations with multiple names such as civil protection, civil defense or other names in order to keep lives of people and help them at times of natural or industrial disasters.

The concept of civil protection refers to protection and rescue of people and properties at all conditions. It can also be identified due to its tasks and goals of protection from natural, industrial and military dangers with mitigation of their results, working to continue operation of important facilities, set suitable procedures and works, protecting lives, private and public properties.

However, these noble and humane tasks of civil protection workers need them to own a set of physical characteristics, physiological and psychological abilities. This can only be achieved by having high fitness and physical attributes in order to perform their tasks well. Further, they should be able to overcome dangers, protect themselves and the others from them. This requires a careful scientific preparation in which sport training is the basic pillar through dependence on various sciences applied in sport training.

Sport training is this science or job that is characterized by improvising in decision making, selecting exercises and games on the expense of the trainer's desires. It exceeded to become an independent science in itself with its rules and norms on which it depends and from which it achieves the hoped goals. However, through field visits to the National School of Civil Protection at Mestghanem state, and after reviewing and analyzing contents of programs about training civil protection workers, it was clear that there was an arbitrary training and weakness in formation of workers. Training is restricted to perform some random exercises that are applied every day. These are circular station exercises performed by civil protection workers. Through analysis and discussion of contents of these exercises, it became clear that they are not subjected to the followed scientific basics in sport training such as gradual loads in addition to sport programming and planning, selection of suitable and purposeful training to prepare civil protection workers. This was a motivation for the researcher to discuss this phenomenon in study through suggesting a training program to develop some physical characteristics needed by civil protection workers. In order to define the effectiveness of the proposed program, the following questions were posed:

1. Are there statistically significant differences between results of pre and post-tests of the empirical sample?
2. Are there statistically significant differences between results of pre and post-tests of the control and empirical samples?

Objectives of the Study:

1. Define significance of statistical differences between pre and post-tests of the empirical sample in the studied variables.
2. Define significance of statistical differences between pre and post-tests of the empirical and control samples in the studied variables.

Hypotheses of the Study:

1. There are statistically significant differences between results of pre and post-tests of the empirical sample in favor of post tests for the studied variables.
2. There are statistically significant differences between results of pre and post-tests of the empirical and control samples in favor of the empirical sample for the studied variables.

Exploratory Study:

The researcher performed the exploratory trial to ensure good pace of the main trial of the study during the period from 09/12/2013 to 23/12/2013. The goal from this exploratory study was to find scientific basics of physical training and qualify respondents to use them in field application of tests. Accordingly, the researcher performed a study on a sample from the same school of civil protection workers. Results of this study were as following:

- Actual asserting that devices are relevant and suitable to serve the study.
- Controlling other random variables that may affect validity of the main results of study.

Physical exercises enjoy validity, reliability and objectivity as follows:

First: Test Reliability:

The Pearson correlation coefficient was used. After detecting significance level at freedom degree 13(n-2) and significance level (0.05), it was found that the counted value of each test was bigger than tabulated one estimated with 0.51 which asserts that tests enjoy a degree of reliability as shown in table No. (2)

Second: Test Validity:

Validity is measured by counting the square root of reliability coefficient. It was found that tests contain a high degree of validity as shown in table No. (2).

Third: Test Objectivity:

It is defined as consistency between different individuals for the same test and it can be expressed by reliability coefficient.

Table (1): Test validity at significance level 0.05

Statistical Scales / Tests	Sample Size	Counted Value of Correlation Coefficient	Tabulated Value of Correlation Coefficient
Running from sanding	13	0.98	0.51
Retrospective Running		0.95	
The Pull-up		0.95	
Wide jump from stationary		0.92	
Jump by bending both legs		0.008	

Table (2): Test consistency at significance level 0.05

Statistical Scales / Tests	Sample Size	Counted Value of Correlation Coefficient	Tabulated Value of Correlation Coefficient
Running from sanding	15	0.99	0.44
Retrospective Running		0.97	
The Pull-up		0.97	
Wide jump from stationary		0.95	
Jump by bending both legs		0.09	

Accordingly, the exploratory study achieved its goals at all levels by offering important details such as scientific bases of physical tests used in field trials which was asserted by tables (1) and (2) that show reliability and validity of physical tests.

2. METHODOLOGY:

The researcher used the empirical method with pre and post-tests as this is one of the most efficient and successful methods to test validity of hypotheses and determine relations among variables (Ibrahim, 2002: 137). The population of the study was represented in 760 civil protection workers from the National School of Civil Protection at Mestghanem state distributed to 14 groups. Each group includes 40 workers. Two groups were selected randomly and divided into control and empirical samples.

Table (3): percentage of the sample from population of the study

	Number	Percentage
Actual population	760	100
Sample of the study	80	10.52

Aspects of the Study:

Human Aspect: the sample of the study included two groups:

- One group representing the control sample consists of 40 civil protection workers.
- One group representing the empirical sample consists of 40 civil protection workers.

Time Aspect:

The main empirical study was conducted in the period from 03/01/2014 to 04/05/2014. In this period, pre and post physical tests were conducted as well as application of items of the proposed training program.

Spatial Aspect:

Pre and post physical tests were conducted in addition to units of the proposed training program at the playground of the National School of Civil Protection at Mestghanem state.

General Overview of Contents of the Certified Training Program:

Table (4): general overview of contents of the training program

Physical Requirements	Overview of Contents
Endurance	- Free running training at different distances. - Targeted games.
Speed	- Different running with various distances and intensities. - Running from different positions (standing, sitting…).
Agility	- Running with changing direction - Running among hurdles. - Running and leaping exercises.
Flexibility	- Muscle extension and joint flexibility. - Joint and ligaments extension training. - Stretching training.
Strength	- Jumping, pushing and lifting training. - Training of muscle strengthening with devices.

Certified Scientific Standards

With the great role of training programs in raising the level of physical performance in various activities, training theories and methods became an important aspect to achieve the best possible results in the light of abilities and potential of athletes. Raising level of physical abilities of civil protection workers is among other important things including correct planning of sport training and physical performance level.

The researcher depended on previous and latest studies and literature online about training and physical preparation in order to be consistent with the nature of preparing civil protection workers at the level of regional schools of civil protection. Thus, the researcher defined basics of the training program to be consistent with job requirements with consideration of characteristics of the age category and the nature of work in the school can be summarized in the following:

- Considering the nature of time dedicated for training onside school.
- Considering general principles of applying training loads such as gradual loads and individual differences.
- Integrating some helping means related to the nature of job.
- Variability and using the latest training and forms used in programs depending on video recordings and related references in addition to the internet.
- Considering recreational aspect with suspense and competition.

3. DISCUSSING RESULTS OF THE STUDY:

The study aims to define the effect of training on developing physical characteristics of civil protection workers. To do this, student researchers performed a set of pre and posttests including: 30 m dash, retrospective running and pull-ups for both samples of the study. Based on results, the researcher students studied sample homogeneity using the T test for students and this process resulted in the following:

Table (5): Homogeneity between empirical and control samples in results of pre-tests

Tests	Control Group		Empirical Group		T Counted Value	T Tabulated value	Significance
	Mean	S.D	Mean	S.D			
Running 30 m	5.05	0.44	4.85	0.39	1.89	2	Insignificant
Retrospective Running	11.04	0.68	10.97	0.63	0.43		Insignificant
The Pull-up	12.9	2.72	12.52	3.72	0.50		Insignificant
Wide jump from stationary	276	7.4	267.3	5.3	1.73		Insignificant
Jump by bending both legs 30 sec	63.77	6.23	61.6	7.02	1.44		Insignificant

Table (5) shows the following:

Both groups are homogeneous in physical tests: running 30 m, retrospective running, the pull-up, wide jump from stationary and the jump by bending both legs 60 sec. The counted T values were 1.89, 0.43, 0.5, 1.73 and 1.44 respectively which are less than tabulated T value (2) at significance level (0.05) and freedom degree (78) which means that differences between means are statistically insignificant. Accordingly, this statistical analysis asserts the extent of homogeneity between both samples of the study.

Results of 30 m Dash Test:

Table (6): results of pre and post-tests for both samples of the study in the 3o m dash test

	Statistical Methods							
	Sample	Pre-test		Post-test		T Counted Value	T Tabulated value	Significance
		Mean	S.D	Mean	S.D			
Empirical Group	40	4.85	0.39	4.73	0.37	1.37	2	Insignificant
Control Group	40	5.05	0.44	5.08	0.41	0.30		Insignificant

From previous we notice that the training program was not greatly affected. The researcher found that this was due to speed which requires greater time to develop. In addition, the sample of the study is among a quite advanced age category which makes it difficult to develop this characteristic. This was asserted by DORNHOFF, habil & Martin as they think that speed of athletes is counted for safety of nervous system, muscular tissues, genetic factors and training condition (DORNHOFF, habil & Martin, P. 82).

Results of Retrospective Running Test:

Table (7): results of pre and post-tests for both samples of the study in the retrospective running test

	Statistical Methods							
	Sample	Pre-test		Post-test		T Counted Value	T Tabulated value	Significance
		Mean	S.D	Mean	S.D			
Empirical Group	40	10.97	0.63	10.82	0.61	1.09	2	Insignificant
Control Group	40	11.04	0.68	11.17	0.69	0.86		Insignificant

From previous we notice that the applied program had a positive effect on members of the empirical sample, but differences are statistically insignificant. The researcher found that agility decreases the more athletes stayed away from training during the period of preparation and training of civil protection workers. This result agrees with Wagih Mahgoub's who believes that it is an experience and practice as it undermines and weakens if training is halted for a certain period (Mahgoub, 1989, p. 87).

Results of Pull-Ups Test:

Table (8): results of pre and post-tests for both samples of the study in the Pull-ups test

	Statistical Methods							
	Sample	Pre-test		Post-test		T Counted Value	T Tabulated value	Significance
		Mean	S.D	Mean	S.D			
Empirical Group	40	12.52	3.72	15.87	4.10	3.77	2	Significant
Control Group	40	12.9	2.72	13	3.03	0.15		Insignificant

From results of table (8), we notice that this study agrees with the study of (Tarson Noureldin, 2005). In addition, the effectiveness of the proposed training program gave a positive effect in developing strength endurance characteristic as it contains strength training with or without weights presented in a systematic way following modern methods of sport training science.

Results of Wide Jumping From Stationary Test:

Table (9): results of pre and post-tests for both samples of the study in the wide jumping from stationary test

	Statistical Methods							
	Sample	Pre-test		Post-test		T Counted Value	T Tabulated value	Significance
		Mean	S.D	Mean	S.D			
Empirical Group	40	267.37	8.11	282.35	9.52	7.74	2	Significant
Control Group	40	276.07	11.55	278.42	9.27	0.99		Insignificant

From results of table (9), the researcher tackles the effectiveness of the proposed training program gave a positive effect in developing explosive strength characteristic as it contains training designed in a systematic way following modern methods of sport training science and most of them contained exercises of strengthening, weight lifting and pushing in addition to jumping and leaping exercises.

Results of Jumping with bending both legs Test:

Table (10): results of pre and post-tests for both samples of the study in the jumping with both legs test

	Statistical Methods							
	Sample	Pre-test		Post-test		T Counted Value	T Tabulated value	Significance
		Mean	S.D	Mean	S.D			
Empirical Group	40	61.6	7.02	73	5.56	7.94	2	Significant
Control Group	40	63.77	6.23	63.45	6.62	0.22		Insignificant

From results of table (10), the researcher tackles the effectiveness of the proposed training program gave a positive effect in developing strength endurance characteristic for its importance in job requirements and the researcher found that this was due to content of training depending on running and muscular work for a relatively long time with multiple repetitions. This agrees with Akram Zaki Khetabiah as he refers to movements that are characterized with highly intense work activity and for a long time contributing to develop endurance (Khetabiah, 1996, p. 257).

Discussing Results:

After conducting physical tests, the researcher made treatment of results using the T test through T counted values and comparing them with the T tabulated value (1.67) at significance level 0.05 and freedom degree 39 as shown in the following table:

Table (11): the T counted value in physical post-tests for both samples of the study

	Control Group		Empirical Group		T Counted	T Tabulated value	Significance
Tests	Mean	S.D	Mean	S.D			

					Value		
Running 30 m	5.08	0.41	4.73	0.37	3.94	2	Significant
Retrospective Running	11.17	0.69	10.82	0.61	2.38		Significant
The Pull-up	13	3.03	15.87	4.10	3.51		Significant
Wide jump from stationary	278.4	9.27	282.3	9.52	2.27		Significant
Jump by bending both legs 30 sec	63.45	6.62	73	5.56	6.89		Significant

Based on data collected by the researcher with the aid of the used data collection methods in this study, discussion and analysis of results of statistical analysis of the sample with limitations of the study, the researcher found that the sample of the study achieved statistically significant differences in means for pre and post-tests as these differences were in favor of post-tests in all physical tests which is asserted by statistical tables 6, 7, 8, 9 & 10. The researcher attributes development in the sample of the study to the positive effect of t5he proposed training program in developing some physical characteristics due to job requirements related to civil protection workers in terms of endurance, speed, strength, agility and flexibility if modern scientific methods in sport training are followed in addition to legalizing training loads.

4. CONCLUSIONS:

- The proposed training program has a positive effect on the physical characteristics under study.
- There are statistically significant differences between results of pre and post-tests in favor of posttests at freedom degree 78 and significance level 0.05 for physical tests: (pull-ups, wide jump from stationary and jumping with both legs in60 sec).
- There are statistically significant differences between results of pre and post-tests at freedom degree 78 and significance level 0.05 for physical tests: (30 m dash and retrospective running).

Recommendations:

Based on data collected in the study, conclusions and limitations of the study, the researcher recommends the following:

1- It is necessary for trainers to depend on modern training methods and select exercises that are consistent with the nature of civil protection workers' work and job requirements.
2- There should be an aid from trainers from abroad outside the field of civil protection with efficiency and knowledge that raise the level of fitness of civil protection workers.
3- Motivating researchers and specialists to conduct further studies in this sensitive field as it is important for society.

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EVALUATE THE PERFORMANCE OF SOME OF THE BASIC SKILLS PLAYERS SPECIALIZED CENTER FOR THE TALENTED BASKETBALL IN DIYALA, IRAQ

Yasser Mahmoud Wahieb

College of Basic Education / University of Diyala

Abstract

The evaluate and get to know the performance level players in the starting any game skills indicating the overall level of the team and find out what have to him and the rest it's up. This is the purpose of this study to know mechanism for players Specialized Center for the talented basketball in Diyala, where have been chosen the sample number (30) Player of the Specialized Center for the talented basketball in Diyala, and also have been identified basic skills then tested them to presentation group of experts. When applied tests, then have the results which compared to standard level, and select the percentages for each level of skill. Concluded that the sample average standard level and above, shows the effect of the applicable modules in the (Specialized Center) on the research sample.

Keywords: evaluate, performance, skills, basketball, Iraq.

1. INTRODUCTION:

The game of basketball has seen just like any other team sports. In recent years a new era full of many challenges and changes that have worked to develop significantly, as the influencing factor and crucial to the evolution became offers sports teams and clubs is excellence in the performance of their players and they developing, which was adopted on scientific planning and practical performance design, the success of any team in basketball game depends on the overall take the basic skills of the game offensive and defensive of both types, and the mastery of players to these skills helps the instructor to take all aspects of the game by the scientific and practical aspects, this improve the skill level that aims to raise the level of the team and access to achieve the goals desired. Where constitute the basic skills in basketball pillars of the main game, it is through mastery improves the performance level, as well as the development of physical and skill capabilities.

The fact that this game you needed very high fitness to carry out their skills and practice. In order to reach a better level of performance skills of basic basketball overall its image as essential for the success of the team substrate during the games to seek good performance, conducting tests and evaluation before the games championships and competitions, to reach to the level of the trainees, to know how they benefit from training and educational units "to know the strengths and weaknesses' of the player, is important for the athlete himself and his instructor.

The progress and good rate of program will explain the validity of all player and instructors of the manner and methods used in training program. Since the player is the essential ingredient for clubs and sports teams, and the development of physical abilities which skills related to the configured gradually apply the education and training programs. The planning for creating and developed players are investigating the evolution of basketball teams is one of the important scientific issues that contribute to a large margin in the final outcome of raising the level of clubs and teams of football basketball desired.

The argument 'take them young' it's mean many scientific purposes that makes it imperative for all those working in the field of sports given utmost importance they mean a lot to the process of training, as well as that, the argument (learning at a young age as engrave on a stone) is a principle of life in the emerging and educated and developed of its level.

The young athletes in most countries in the world, as well as our country have got very interests, which opened centers of athletic talents care of basketball for ages below (12 years). It is important to pay specialists basketball in interest in this age group to own world, even in the, manner of competition. It is through training and education groups, which apply on them will inevitably be that there is evolution in them performance of the skills. It is necessary to identify the levels of skills which are discovered through testing

the difference games tests with different techniques, including the football basketball has a positive role in the developing of the levels and progress and learning acquisition of skill and progress where, and therein lies the importance of research to identify the level of performance of basic skills of the players.

The school specialized for basketball in Diyala is important for duty of inevitable and increasingly important to reach to the results of the usefulness of these schools support teams and clubs in the province of Diyala, that is high-performance or acceptable basic skills in basketball. Players specialized school sports talent basketball level will give adequate opportunity for trainers and educators to use the process to help them get to achieve their potential in the preparation of teams and clubs basketball in the province.

Research problem:

As the need required for the advancement of basketball for all teams and clubs has been established specialized schools for the game, including the Diyala province, so be on the training providers to get to know the results of the performance of what has been achieved of goals in training modules and learn about the skill levels of the players to involve them in sports teams and private clubs the game is determined by the research problem by observing the field researcher and watch it for most of the training modules Note must evaluate the performance of the players to some of the basic skills of basketball to get to know the result of the effort by the Ministry of Sports and Youth of Iraq for the advancement of the team and the teams of the Iraqi basketball.

Study program and Field Procedure

Observation Methodology: In this observation was Used the descriptive method which being fit on research problem to be studied, as this approach was aimed to discovery the facts, describe phenomena, accurate description and characterization of specific qualitatively or quantitatively as well as detects the previous case of the phenomena and how they reach at the current image and trying to predict what will be in the future.

(Marwan Abdel Majid Ibrahim.2000.p40)

The observation population and samples:

All players 53 belonging to the specialized school basketball in Diyala province's, then chosen as sample of junior players ages (12-16 years) then chosen 30 player from the population because they have exercised game for a while more than cubs, which represent (56.%) for the observation community.

Harmonization of the observation sample was variables set (age measured by Years, length by cm, weight by kg, period of training by months). Statistical analysis of variables found that all the players fall within the normal distribution. So the population convergence of their age and height as well as period of training was begun at the same time.

Observation tools: In this observation were used the following tools: tape measure length, medical balance, 6 basket balls, forms skill tests forms, stopwatch, whistle, adhesive tape. Define basic skills were used in this observation:

To determine the variables of the study they have been prepared a questionnaire to determine the basic skills of basketball appropriate to research procedures. It was offered to some experts and specialists game, as in appendix (1). Then made statistical analysis to determine those skills in the final form as shown in Table (1).

Table (1) it illustrates the basic skills and the proportion of the conformable by the experts

T	Skill	Experts rate confomable
1.	Clapotement	100%
2.	Handling by thoracic	83.33%
3.	Handling of the highest one-handed	33.33%
4.	Handling get back	50%
5.	Approval ladder	91.667%

6.	Correction of stability	100%
7.	Correction jumping	41.667%
8.	Correction follow-up ball	75%

Tests used in the observation:

In the light of the results that have been reached from the views of experts and specialists on the identification of basic skills in basketball, it has been preparing a questionnaire to know the views of experts and specialists on the identification of the most important skills tests that measure these skills and as described in Annex (2) were presented form on experts in the jurisdiction of the basketball and tests, and asked them to identify the most important and appropriate for each skill tests, after collecting the forms and discharged experts and specialists agreed on the nomination of selected tests to sample. The rate of agreement was over (70%) as in Table 2.

Table (2) Shows experts and specialists agree on the most important skill tests to determine the proportion of experience

T	**basic skills**	T	Tests	Rate agreement
1	Clapotement	1.	Clapotement between (6) pillars.	75%
		2.	High clapotement 10 m go and come back	25%
2	Handling the thoracic	1.	Handling on rectangle drawing on wall for 10 second.	83.33%
		2.	Handling on wall far 270 cm	16.66%
3	Hit by follow up ball	1.	Handling a rectangle painted on the wall for 10 sec.	66.66%
		2.	Hit by following up under basketball within 30 second	33.33%
4	Ladder hitting	1.	Hit from handling within 30 seconds	75%
		2.	Hit from clapotement (5 minutes)	25%
5	Correction of stability	1.	Shooting the ball during follow-up (3 minutes).	91.66%
		2	Hit from free shooting to basketball goal	8.33%

The final application of the tests:

After completion of all scientific and practical basic requirements for testing were applied skills tests on the selected sample of observation by the date agreed with trainer's specialized school during the training modules on 08/21/2015.

2. STATISTICAL METHODS

To make analysis data were used the following formula:

1- Arithmetic mean. 2- Standard deviation .

3-Torsion coefficient. 4. Percentage.

Used the statistical (SPSS) program to address the results.

3. RESULTS AND DISCUSSION

Showing deviations, arithmetic medians, Mediator and torsion coefficient to basic skills tests of basketball:

After conducting the steps for the application of skill tests on the sample results were obtained that came with varying ore, and to achieve the goal of research of identifying some basic skills performance of the players Specialized Center for the talented basketball in Diyala. Obtained the raw scores for the tests are not difficult for the measure, but the the difficulty lies in the interpretation of these grades to give it meaning and significance which different in means of measurement to another one. In order to reach the standards must convert grades of crude to the standard grades, which its means to determine the relative status crude grades, and then can be explained by these grades and evaluate the results") Mohammad Hassan Allawi, Nasr al-Din Mohammed Radwan:1979، p. 127)

Through addressed the statistical results of the tests and carried out, athematic mean, standard deviations, therefore chased Gauss distribution method (Normal distribution) to find a standard grades, as a researcher supposed that the performance of the respondents in the results of the tests are all normal distributed distribution.

"For standards (with different standard units) to the standard grades must convert raw scores (with units of measurement uniform), as this method is the way to determine the relative situation of raw degrees and then interpret these grading and evaluating their results".

(Louay Ghanem al-Sumaidaie and others: 2010, p. 83)

In order to achieve the goal of observation to identifying levels of performance of the research sample in skill tests basketball, when we get through the identification standard levels of degrees of sample tests, which rely on distribution gauss mode (normal distribution) which is one of the most distributions common in the education field of sports because many of the features and characteristics that are measured in this area approaching the distribution of natural, curve. (Marwan Abdel Majid Ibrahim.2010, p. 83 2)

Has been extracting mean, median, standard deviation and coefficient of torsion tests sample value, as shown in the table (3), which is where most of the respondents the level of average appeared What above all skill tests, which showed that the sample went through a period of training may have influenced the development of skills in their performance, which was reflected by performance which some players from the research sample teams in basketball championships provinces and access to second level among the 26 team.

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It was also identified specific standard tables to members of the sample, as well as identifying the corresponding standard levels of T degrees. In order to evaluate the performance of the research sample for each skill level of basic skills at the end, which are presented below standard levels achieved by the sample,

Table (3) shows the median and mean and standard deviation and torsion of the sample in the selected variables

T	Variables	Tests	Units	Arithmetic mean	Mediator	standard deviation	Sprains torsion
1	Clapotement	Clapotement between five pillars	second	5.55	6	1.7	-0.355
2	Thoracic handling	Handling on the wall (10 sec)	Several	8.6	9	2.02	-0.437
3	Correction follow-up	Shooting from under the basket through (30 sec).	Several	10.73	11	2.28	-0.301

4	Correction of stability	Shooting within (10 sec)	Several	6.03	6	1.77	0050
5	Ladder hitting	Shooting from handling (30 sec)	Several	19.73	20	4.01	-0.20

Test results display of clapotement its analysis and discussion:

Table (4) shows the standard levels and frequencies, the percentage of test clapotement

Clapotement test between pillars		**Unit**	Standard levels		Number of Testers	%Percentages
Arithmetic mean	5٫55	A second	10.65	very good	1	3.33%
			8.95	Good	8	26.66%
			7.25	Average	14	46.66%
standard deviation	1٫7		3.85	Acceptable	6	20%
			2.15	Weak	1	3.33%
			0.45	Very weak	Zero	Zero
Total					30	100%

Table 4 shows the Sample degrees to test clapotement, where he was the arithmetic mean (5.55) and standard deviation (1.7) the performance of the sample (14) of them in the level of average and (8) of them at a good level for one player at a very good level , the acceptable level was number six players only one player at a weak level, and attributes the researcher this performance to the number of training units and the exercise of the sample to the skill clapotement which are associated with most skills in performance, the practice and effort to training and ongoing iterations are necessary in the learning process, which training a catalyst and necessary in the individual's interaction with the skill and control of his movements to achieve consistency between the components of the skill in the arena proper performance and movements appropriate time, continuing training alone increases the development of skill and mastery process" (The success of the Mahdi Shalash and Akram Mohamed Sobhi: 1975, p. 130)

Display handling thoracic and test results analyzed and discussed:

Table (5) shows the standard levels and frequencies, the percentage of thoracic handling test

Handling thoracic test		**Unit**	**Standard levels**		**Number of Testers**	**%Percentages**
Arithmetic mean	8٫6	Several	14,6	very good	Zero	Zero
			12,6	Good	16.67%	16.67%
			10,6	Average	66.67%	66.67%
standard deviation	2٫0 2		6,6	Acceptable	10%	10%

			4,6	Weak	6.66%	6.66%
			2,6	Very weak	Zero	Zero
Total					30	30

Table 5 shows sample of test clapotement, where arithmetic mean (8.6) and standard deviation (2.02). The performance of the sample (20) of them in the level of average and (5) of them in good level, the acceptable level was three players, and two players in a weak level. Performance of the players in more than (80%) above medium, pointing out to acquire expertise and streamlined performance. Handling skill which is of great importance to make the best results in the competition, by getting the ball to the nearest point of the basket discount which gives a great opportunity in the shooting and scoring points, is handling method most commonly used in the transfer of the ball inside the stadium and the fastest in the delivery (no ball) to discount the basket area, as well as to help create gaps within the team defense rival in order to facilitate investment in increasing the team balance Striker points"

(The success of the Mahdi Shalash and Akram Mohamed Sobhi;, 1975, p30)

Display correction follow-up test results, analyzed and discussed:

Table (6) shows the standard levels and frequencies, the percentage of correction follow-up test

Correction follow-up test		**Unit**	**Standard levels**		**Number of Testers**	**%Percentages**
Arithmetic mean	10،73	Several	17.57	very good	Zero	0%
			15.29	Good	4	13.33%
			13	Average	19	63.33%
standard deviation	2،28		8.45	Acceptable	7	23.33%
			6.17	Weak	Zero	0%
			38,9	Very weak	Zero	0%
Total					30	100%

Table 6 shows the test correction follow-up results, we note that the level is very well received on the ratio (zero%), while the good level obtained ratio (13.33%) of the four players and the level of the average obtained ratio (63.33%) the number of nineteen player while his level acceptable to the percentage (23.33%) by seven players the level is weak and the level is very weak it has obtained a percentage (zero%), which the above shows us that level (average) has received the largest proportion, followed by level (acceptable) Then level (good), and positioned in the center of the research sample results and this means continuing to normal distribution.

This skill is of great importance to success process of the attack on the opponent basket, especially in the case of strong defense and exploit opportunities to achieve the correction in the discount basket "and scoring on the opponent's basket is the end point of the attack team. All doing as attacking team by perseverance and effort, and mastery of basic skills offensive and plans. It is essential to achieve the goal, but it is finding the best conditions for one of its members to be away from the monitor competitor at the moment of a flash to exploit it as a process offensive team scoring and scoring points in the opponent's basket "(Raad Jaber, Arif Kamal: 1987, p. 143)

Display test of stability correction, analysis and discussion of the results:

Table (7) shows the standard levels and frequencies, the percentage of correction test of fortitude

Correction test of fortitude		Unit	Standard levels		Number of Testers	%Percentages
Arithmetic mean	6،3	Several	11.61	very good	Zero	0%
			9.84	Good	1	3.33%
			8.07	Average	22	73.33%
standard deviation	1،77		4.53	Acceptable	6	23.33%
			2.76	Weak	1	3.33%
			0.99	Very weak	Zero	0%
Total					30	100%

Table 7 shows the test results of the correction of stability, and we note that the level (very good) got the ratio (zero%), while the level received a good rate (3.33%) whereas level (average) had the highest percentage (73.33%) by twenty two players while his level (acceptable) ratio (23.33%) by six players which the level was (weak), get a percentage of (3.33%) and the level (very weak) has received a percentage (zero%), From the foregoing it appears to us that level (average) has received the largest proportion, followed by level (acceptable), which the sample in this test was towards the assembly in the middle part of the distribution of the normal curve, which attribute however, to the sample thoroughly enjoyed and efficiency of good muscular and nervous system, which is referred to Mohamed Sobhi Hassanein (1997), "The guiding involuntary movements toward a specific goal requires a high efficiency of the muscular and nervous system. Precision require complete control over the involuntary muscles to guide them on a particular target, as it requires that the nerve signals received are to the muscles of the nervous system accurate guidance of either directed the working muscles or muscle corresponding movement which lead until the desired goal necessary to injury accurate direction"(Mohamed Sobhi Hassanein: 1979,P167)

Display test results of ladder hit analyzed and discussed

Table (8) shows the standard levels and frequencies, percentage of thoracic handling test

Test of thoracic handling		Unit	Standard levels		Number of Testers	%Percentages
Arithmetic mean	19،73	Several	31.76	very good	1	3.33%
			27.75	Good	5	16.66%
			23.74	Average	17	56,66%
standard deviation	4.01		15.72	Acceptable	4	13.33%
			11.71	Weak	3	10%
			7,7	Very weak	Zero	0%
Total					30	100%

Table (8) shows the test results of hit ladder, with note that the level (very good) got the ratio (3.33%), while the level (good) got the ratio (16.66%) and level (average) earned a ratio (56.66%) while his level (acceptable) ratio (13.33%) The level (weak), get a percentage (3%) and the level (very weak) has received a percentage (zero%), and shows that the level (average) got the largest proportion, followed by level (good) and level (acceptable), the sample results in this test are stationed in the middle part of the distribution of the normal curve, since this skill requires concentration and compatibility and streamlined in the player port traffic, which indicates that the sample individuals with these traits as well for high-performance, confidence. This type of correction it is one of the most important skills of basketball and that's what referred to Khaled Mahmud (1991) "is the basic principle and the most important among the other basic skills as the outcome of the game is determined by the number of successful goals of which were acquired one of the two teams in the opposing team's basket"(- Khalid Mahmood Aziz: 1991, p. 27.)

4. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

In the light of the findings of this observation through field experience and using appropriate statistical methods are concluded the following:

1- Have been identified some basic skills performance of the players of the National Center for the care of sports talent, basketball / Diyala level.

2- The results showed that the sample in the level of performance and above average in all basic skills in selected research procedures.

Recommendations:

Through the conclusions that have been reached researcher recommends the following:

1- Need to adopt a specialist to take care of talented basketball players to evaluate the performance of the center in all of Iraq's centers.

2- Hold a subsequent study evaluates the physical abilities of the players Specialized Center for the talented basketball in Diyala, province, Iraq.

Supplements Extension (1) It shows the names of experts who offered them the basic skills and tests

t	Expert name	Jurisdiction	Academic Title	work place
1	Nabil Mahmoud Shaker	basketball	a . Dr	College of Basic Education / University of Diyala
2	Mohammed Zahir Gnaua	basketball	a . M. Dr	College of Basic Education / University of Diyala
3	Bashar Ghalib Shihab	Tests	a . M. Dr	College of Physical Education / University of Diyala
4	Tahreer Alwan	basketball	a . M.	College of Physical Education / University of Diyala
5	yassiar Sabah Jassim	basketball	M . Dr	College of Physical Education / University of Diyala
6	Uday Abdul-Hussein	basketball	M . Dr	College of Physical Education / University of Diyala

7	Abdel Moneim Hussein	Training	a . M. Dr	College of Basic Education / University of Diyala
8	Mohammed Walid Shehab	Tests	a . M. Dr	College of Physical Education / University of Diyala
9	Suha Abbas	basketball	a . M. Dr	College of Physical Education / University of Diyala
10	Nizar Ali Jabbar	basketball	M . M	College of Physical Education / University of Diyala
11	Jassim Mohammed Kamal	Tests	M . M	College of Basic Education / University of Diyala
12	Mohamed Mazloum	basketball	M . M	College of Basic Education / Mustansiriya

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GROWTH AND PRACTICE OF WEIGHTLIFTING AMONG YOUNG MALE ATHLETES

Ahmed Ridha YAHIA [1]; Yessine ARFA[2]; Fatma Zohra BEN SALAH[3]; Catherine DZIRI [4]

1.2 High Institute of Sports and Physical Education Ksar Said / Tunisia

3.4 Sciences University of BIZERTE / Tunisia

yessine arfa: yessinearfa@gmail.com

Abstract

By this study we aim to establish the relationship between the practice of weightlifting and osteological growth of young people. 303 male subjects participated in this study including 153 grouped in experimental group and 150 subject in the control group.

Anthropological measures were taken three times spaces of 6 months. These measures concern the size, sitting size, the thickness of the wrists and the thickness of the femurs.

The statistical treatment of the data using analysis of covariance revealed that the practice of weightlifting does not affect growth among young people. The differences were recorded at the level of the thickness of the wrists resulting from the joint adaptation has the technique of Olympic weightlifting movements.

Keyword: Growth, practice, weight lifting, young male, athletes.

1. INTRODUCTION:

The practice of weightlifting has always been prone to fears over its effects on the growth of young people. These fears emanate less scientific truths and prejudices. These prejudices come from both parents, doctors that of a majority of teachers and educators physical and sports... They assume that these kinds of sports are dangerous especially for children and young people who practise weightlifting at risk to see their growth hindered. **(Pierce et al., 2008)** suggests that the origin of these prejudices have been strengthened in 1983, when the American Academy of Pediatrics (American Academy of Pediatrics) who has published research giving a negative opinion on the practice of weightlifting, which has strengthened these prejudices more than two decades.

This research indicated including a negative impact of sports on the musculo-skeletal system: the risk of excessively hypertrophier muscles resulting in a loss of muscle qualities such as tone, flexibility and explosiveness, etc. Thus, this kind of sports makes slow muscles and which are converted after discontinuation of their fat, finding practice a maximum precaution for the practice of strength sports and weightlifting in preadolescents (Pierce et al., 2008).

Other studies have focused on the description of the evolution of the various characteristics of populations of non-sporting teens (Beunen. Malina, Van't Hof. Simons. Renson & Van Gerven, 1988; Lightweight and Lambee 1985) or youth participating in sporting activities in schools (Basel. Mayhew. Piper. Ball & Wiliman. 1992) these studies gave held contradictory and disparate results because they were made on various populations and practicing sports activities various and levels varied.

Several studies have shown the existence of a link between the practice of sport and osteological characteristics in adult athletes **(vaibhav et al. 2004 Jürimäe et al 2006)**. On the other hand, in this context, no studies have been carried out among young athletes, especially during puberty.

Although physical activity on a regular basis seems not affect growth in length of bone, changes to the level of the density. Thickening and mineralization were reported (**Bailey and McCulloch 1990; Booth and Gould. 1975; Cacciari et al., 1990; Malina, 1983**). This adaptation process is designed to preserve the integrity of bones often unsolicited. Response to mechanical stimulation of bone is subject to a threshold which differs according to the involved segment (**Smith and Raab, 1986**). Among players of tennis for example, several studies report observed differences in the thickness of the cortical area and dominating by comparison contra-lateral arm bone density (**Buskirk et al., 1956;) Huddleston et al., 1980; Jones et al, 1977**). It should be noted that these studies were conducted with adult athletes. The existence of this phenomenon in the young tennis player is poorly documented. **Sommer (1985)** however reports the same phenomenon at junior age players part of the German elite of tennis.

The appearance of the first signs of bone hypertrophy may seems to manifest itself as a teenager (**Bailey et al 1986**). All bony structures subjected to repetitive compressive tension react by this coping mechanism (**Steinhaus, 1933**).

The acquisition of bone capital depends on genetic factors that play a major role in the determination of peak bone mass. The hormonal status is the most important determinant of bone mass during growth and especially during puberty where the body undergoes significant variations in levels of anabolic hormones (**Lorentzon et al 2005**)**.** Food is another environmental factor determining capital bone (**Rauch et. Al. 2004**)**.** A correct ration of calcium is necessary to achieve the peak of bone mass predetermined genetically which allows to reduce the range of the subsequent risk of fractures and osteoporosis (**Braillon et al. 2006 Markou et al 2004**). Another factor for optimizing peak bone mass and which is considered as the most important environmental factor, it is physical activity (**Gustavson et al. 2003 Turner et al 2005**). This beneficial effect of exercise during the growth period is due not only to optimize bone mass but also its power to ensure a good quality and bone strength allowing him to be more resistant to any type of torsion (**Mackay et al 2005, Jakes et al 2001**). They seem interesting to know and to study, since they are modifiable factors, through which it is possible to increase bone accretion. Exercise can be considered as a preventive measure against bone fragility that may occur at the age adult (**Karlsson et al 2001**)**.** It is a valuable adjunct to programmes aimed at reducing the risk of osteoporosis (**Rubin et al., 1993, Umemura et al 1997**)**.** Links between physical activity, bone mineral density and growth hormones can be observed in different pubertal stages within the general population (**Yilmaz et al 2005**).

These studies have, therefore, finished to a lot more questions than answers. Indeed, what effect the practice of weightlifting has on the growth of young people? Are these effects vary according the periods of growth?

The stated hypothesis is that weightlifting practice has no negative effects on growth.

2. METHOD

PARTICIPANTS:

Our study was conducted on 303 young Weightlifters pre-pubescent and pubescent in consists of a sedentary school and an experimental group control group of young Weightlifters of same age form. We tried to make so that the control group came from the same cultural and especially socio-economic milieu as the experimental group, and to stabilize the effects of the different variations of environmental factors including social and socio-economic factors.

To this end, and to ensure a maximum of equivalence between the two groups, by reducing the maximum gap of views of secondary variables and after having eliminated the subjects who had not completed the three tests, our sample consisted of 303 subjects, distributed as follows:

Groups	Boys	
	G. experimental	Control group
11 and (-)	40	44
12	20	21
13	25	25
14	21	20
15	17	15
16	18	15
17	12	10
	153	150
Total	303	

INVESTIGATIVE TOOLS:

In accordance with the protocols of procedures we have measures three times 6 months following variables indicators:

1. Osteological length:

- Standing (cm),
- Seat height (cm),

2 Diameter Osteologique: index of the skeletal end robustness

- Wrist (cm) diameter,
- Humeral diameter (in cm),

PROCEDURE:

All measurements were performed according to standard procedures (Callauvway, Chumlea. Bouchard. Himes. Lohman. Martin, Mitchell. Mueller. Roche and Seefeldt, 1989; Hamson. Buskirk. Carter. Johnston. Lohman. Pollock, Roche and Wilmore. 1989; Wilmore, Frisancho. Gordon, Himes. Martin, Martorell & Seefeldt, 1989).

Subjects were also divided into three groups according to the age categories established by the Tunisian Federation of weightlifting, which coincides with the degree of biological maturation. To do this, the successful maturation index was age corresponding to the maximal short stature growth speed (AVM). The availability of longitudinal series for a large number of subjects has made it possible to estimate this index which is used in longitudinal studies **(Malina & Bouchard, 1991 a).**

Data were examined to see that the vast majority of subjects achieved their maximum growth rate for the size between the ages of 13 to 15 years, which is consistent with the given of **Sprynarova and Parizkova (1977)**

Subjects at the age of less than 13 years formed the prepubescent group within the meaning of the somatic maturation (GAVI), those aged between 13 and under 15 years of age were very active growth phase (AVM2) group and finally the third group (AVM3) consisted of athletes aged 15 years until 18 years of age, i.e. those who had completed their point of maximum growth.

Information thus collected were entered in a database under Excell then transferred has and statistical analysis SPSS 17.

Statistical analysis was performed by l use of analysis of covariance.

3. RESULTS:

MEASURES OF VARIATION OF THE STANDING HEIGHT

Among males aged 13

Table No. 8: Tests of the contrasts in groups of 13 boys

Source	FACTOR 1	Type III sum of squares	DF	Mean of the squares	F	GIS.
FACTOR	Linear	1.739	1	1.739	.928	.337
FACTOR * TD1	Linear	8.511	1	8.511	4,544	.035
FACTOR * GROUPS	Linear	2.209	1	2.209	1.179	.280
Error (factor)	Linear	222.923	119	1.873		

Table 8a: Tests of effects between the boys of 13 groups

Source	Type III sum of squares	DF	Mean of the squares	F	GIS.
Intercept	4.212	1	4.212	.481	.489
TD1	20647.711	1	20647.711	2.356E3	.000
GROUPS	202.147	1	202.147	23.064	.000
Error	1043.005	119	8.765		

The results above, found that both groups although they have suffered a growth at the level of the standing height, it remains non-significant to. 280, with a F = 1.179.

On the other hand, the improvement in the subjects in the experimental group is significantly higher than that of the control group, with a = 23.064 F, significant to. 001.

This, we can infer that the practice of weightlifting by youth aged 13 has a positive effect on the growth of the standing height. So on the different constituent segments this variable in this case the size of the trunk and lower limb.

Table No. 9 bis: Tests of effects between groups of boys-15 years					
Source	Type III sum of squares	DF	Mean of the squares	F	GIS.
Intercept	237.983	1	237.983	18.599	.000
TD1	11550.029	1	11550.029	902.644	.000
GROUPS	220.668	1	220.668	17.245	.000
Error	1126.028	88	12.796		

The above results to find:

On the one hand, that the two groups have noted a significant improvement at the level of the standing height variation, affirmed by an equal to 5.334 significant snedecor F. 023.

On the other hand, the improvement in the subjects in the experimental group is significantly higher than the control group, justified by a F = 17.245, significant to. 001.

This, we infer that,-15 years age group is characterized by a remarkable growth of the standing height, more the practice of weightlifting at this age, has a greater impact on this growth.

Among males aged 18

Table 10: Tests of contrasts in 18 boys groups						
Source	FACTOR 1	Type III sum of squares	DF	Mean of the squares	F	GIS.
facteur1	Linear	9.849	1	9.849	17.880	.000
facteur1 * TD1	Linear	6.745	1	6.745	12.245	.001
factor1 * group	Linear	11.251	1	11.251	20.426	.000
Error (factor1)	Linear	46.820	85	.551		

Table No. 10 bis: Tests of effects between groups of 18 boys					
Source	Type III sum of squares	DF	Mean of the squares	F	GIS.
Intercept	181.248	1	181.248	23.508	.000
TD1	6783.516	1	6783.516	879.841	.000
GROUP	78.360	1	78.360	10.164	.002
Error	655.345	85	7,710		

The results above listed, allowed us to see that both groups have suffered growth significant at the level of the standing height, with a F = 20.426, significant to. 001.

On the other hand, the improvement in the subjects in the experimental group is significantly higher than that of the control group,

Table n ° 11 bis: Tests of effects between the boys of 13 groups					
Source	Type III sum of squares	DF	Mean of the squares	F	GIS.
Intercept	44.193	1	44.193	6.767	.010
SAV	3984.626	1	3984.626	610.165	.000
GROUPS	109.452	1	109.452	16.760	.000
Error	777.118	119	6.530		

confirmed by a F = 10.164, significant at. 002.

These results allow us to deduce that,-18 years age category is characterized by outlet size, thus, the practice of weightlifting by athletes of same age, participates actively on the growth of the standing height. So on the different constituent segments this variable in this case the size of the trunk and lower limb.

MEASURES OF VARIATION IN SEATING SIZE

Among males aged 13

Table n ° 11: Tests of the contrasts in groups of 13 boys						
Source	FACTOR 1	Type III sum of squares	DF	Mean of the squares	F	GIS.
FACTOR	Linear	.402	1	.402	.276	.601
FACTOR * TA1	Linear	1,392	1	1,392	.955	.330
FACTOR * GROUPS	Linear	16.723	1	16.723	11.475	.001
Error (factor)	Linear	173.418	119	1.457		

The above results to find:

On the one hand, that the two groups have registered a significant improvement at the level of the seat size. Indeed F of snedecor equals 11.475, significant to. 001.

On the other hand, the improvement in the subjects in the experimental group is significantly higher than that of the control group, with a = 16.760 F, significant to. 001.

This, we can infer that the practice of weightlifting by young boys aged 13 has facilitator supplementation on the growth of the seat size, specifically on the size of the trunk, in this case on the vertebrae, so on the spine.

Thus, these results justify the standing height growth is caused through the evolution of the trunk, so the spine.

Under 15 years aged boys

Table n ° 12: Tests of the contrasts in groups of boys-15 years						
Source	facteur1	Type III sum of squares	DF	Mean of the squares	F	GIS.
facteur1	Linear	5.055	1	5.055	2,545	.114
facteur1 * TA1	Linear	1,988	1	1,988	1.001	.320
facteur1 * groups	Linear	2.013	1	2.013	1,013	.317
Error (facteur1)	Linear	174.796	88	1,986		

Table No. 12 bis: Tests of effects between groups of boys-15 years					
Source	Type III sum of squares	DF	Mean of the squares	F	GIS.
Intercept	107.108	1	107.108	21.014	.000
SAV	3381.806	1	3381.806	663.492	.000
GROUPS	62.689	1	62.689	12,299	.001
Error	448.534	88	5.097		

On the basis of the above results, we see that, although the two groups have registered an improvement at the level of the variation of the TA, this improvement is not significant to. 317, with a F = 1.013.

But, comparing the difference between the two groups, there is that the TA improvement subjects in the experimental group is significantly higher than the control group, certified by a F = 12,299, significant to. 001.

This, we to deduce that the significant growth of the TD is not visibly caused by the growth of the trunk, but appreciably by the growth of the lower limbs. And that the practice of weightlifting by age-15 years category, contributes to the growth of the seat size and more precisely of the spine.

Under 18 years old boys

Table n ° 13: Tests of the contrasts in 18 boys groups						
Source	FACTEUR1	Type III sum of squares	DF	Mean of the squares	F	GIS.
facteur1	Linear	3.429	1	3.429	8.988	.004
facteur1 * TA1	Linear	2.322	1	2.322	6.087	.016
facteur1 * group	Linear	1,988	1	1,988	5.210	.025
Error (facteur1)	Linear	32.426	85	.381		

Table n ° 13: Tests of effects between groups-18 years old boys					
Source	Type III sum of squares	DF	Mean of the squares	F	GIS.
Intercept	105.949	1	105.949	41.206	.000
SAV	1722.284	1	1722.284	669.838	.000
GROUP	3.448	1	3.448	1,341	.250
Error	218.552	85	2,571		

The above recorded results allow to note, that the two groups have recorded a significant improvement at the level of the seat size variation, shown by an equal to 5.210 Snedecor F significant at. 025.

While differentiation between subjects in the experimental group and the control group is not significant, affirmed by a F = 1.341, non-significant to. 250.

This allows us to predict that-18 years olds have suffered a significant evolution at the level of the seat size, but this developments is not at the origin of the practice of weightlifting.

MEASURES OF VARIATION IN THE DIAMETER OF THE WRISTS

Among males aged 13

Tests of the contrasts in groups						
Source	FACTOR	Type III sum of squares	DF	Mean of the squares	F	GIS.
FACTOR	Linear	164	1	164	6.385	.013
FACTOR * DP1	Linear	.051	1	.051	1.989	.161
FACTOR * GROUPS	Linear	.043	1	.043	1,679	.198
Error (factor)	Linear	3,060	119	026		

Tests of effects between groups					
Source	Type III Sum of Squares	DF	Mean Square	F	GIS.
Intercept	.949	1	.949	13.434	.000
DP1	43.644	1	43.644	617.943	.000
GROUPS	1.282	1	1.282	18,157	.000
Error	8.405	119	.071		

According the results listed above, with the diameter of the wrist, we found, that there is no difference in the two groups with a F = 1,679, non-significant. 198.

While the difference between the control and experimental group is significant at the.001 with a F = 18,157. What is to say that all the subjects in the experimental group underwent a significant development at the level of the wrist.

Which brings us to say that, although he y' has been an evolution in terms of the diameter of the wrist in two groups, remains non-significant variation, so that through the practice of weightlifting, the young athletes aged 13 undergo a most remarkable thickening of the wrist.

OLDER BOYS-15 YEARS

Tests of the contrasts in groups						
Source	FACTEUR1	Type III sum of squares	DF	Mean of the squares	F	GIS.
facteur1	Linear	.098	1	.098	4,938	.029
facteur1 * DP1	Linear	.032	1	.032	1.609	.208
facteur1 * groups	Linear	.001	1	.001	.051	.823
Error (facteur1)	Linear	1,744	88	.020		

Tests of effects between groups					
Source	Type III sum of squares	DF	Mean of the squares	F	GIS.
Intercept	2,789	1	2,789	28.528	.000
DP1	25.564	1	25.564	261.470	.000
GROUPS	.682	1	.682	6.980	.010
Error	8.604	88	.098		

According the results listed above, with the variation of the diameter of the wrists, we found, what he are no difference within the two groups, with a F of Snedecor equal to. 051, non-significant to. 823.

While the difference between the control and experimental group is meaningful to. 010, with a F = 6.980. What must be said, that all subjects in the experimental group underwent a significant development at the level of the wrist.

Which brings us to say, that the evolution of the diameter of the wrists is not representative, in the elderly-15 years, then this evolution is collectible in athletes of same age, confirming that the practice of weightlifting contributes positively to the thickening of the wrists of the Weightlifters of same age.

Among males aged 18

Tests of the contrasts in groups						
Source	FACTEUR1	Type III sum of squares	DF	Mean of the squares	F	GIS.
facteur1	Linear	.394	1	.394	14.305	.000
facteur1 * DP1	Linear	.492	1	.492	17.862	.000
facteur1 * group	Linear	.066	1	.066	2.390	.126
Error (facteur1)	Linear	2,339	85	.028		

Tests of effects between groups					
Source	Type III sum of squares	DF	Mean of the squares	F	GIS.
Intercept	.905	1	.905	12.835	.001
DP1	14.670	1	14.670	208.021	.000
GROUP	.497	1	.497	7.044	009
Error	5.995	85	.071		

According the results listed above, with the diameter of the wrist, we have not seen a difference within the two groups, confirmed by a F of Snedecor equal to 2.390, non-significant to. 126.

While the difference between the control and experimental group is significant for the first group. 009, with a F = 7.044. What is to say that all the subjects in the experimental group underwent a significant development at the level of the wrist.

This, we let's say that developments registered in terms of the diameter of the wrists is not representative in 18 subjects, while the practice of weightlifting positively affects the development of the diameter of the wrist at this age.

THE HUMERAL DIAMETER VARIANCE MEASURES

AMONG MALES AGED 13

Tests of the contrasts in the groups						
Source	FACTOR	Type III sum of squares	DF	Mean of the squares	F	GIS.
FACTOEUR	Linear	.056	1	.056	2.985	.087
FACTOR * DH1	Linear	.017	1	.017	.900	.345
FACTOR * GROUPS	Linear	.044	1	.044	2.374	.126
Error (factor)	Linear	2.215	119	.019		

Tests of effects between groups					
Source	Type III sum of squares	DF	Mean of the squares	F	GIS.
Intercept	.674	1	.674	9.191	.003
DH1	50.497	1	50.497	688.111	.000
GROUPS	1.143	1	1.143	15.579	.000
Error	8,733	119	.073		

From the results above, exposing the humeral diameter, we have seen that it not are no difference within the two groups, with an equal to 2.374, not significant at F. 126.

While the difference between the experimental group and control has recorded a positive significant difference for the experimental group (F = 15.579, significant to. 001).

This, we can predict that, although not representative, the variation of the humeral diameter within the two groups practice of weightlifting by young athletes aged 13 influences the development of humeral diameter, therefore on the thickness of the arm, especially at the level of the end bottom of the bone and more precisely on the elbow joint. While the results have shown that the practice of weightlifting by young people under 15 years and over, had no effect on the diameter humeral, something that allows us to confirmed that the practice of weightlifting with charge, has no effect on the articulation of the elbows.

MEASURES OF VARIATION OF FEMORAL DIAMETER

AMONG MALES AGED 13

Tests of the contrasts in the groups						
Source	FACTOR	Type III sum of squares	DF	Mean of the squares	F	GIS.
FACTOR	Linear	.152	1	.152	3.135	.079
FACTOR * DF1	Linear	.031	1	.031	.642	425
FACTOR * GROUPS	Linear	2.014E - 5	1	2.014E – 5	.000	.984
Error (factor)	Linear	5.781	119	.049		

Tests of effects between groups					
Source	Type III sum of squares	DF	Mean of the squares	F	GIS.
Intercept	61.774	1	61.774	123.720	.000
DF1	57.837	1	57.837	115.835	.000
GROUPS	2,480	1	2,480	4.968	.028
Error	59.417	119	.499		

The results obtained at the level of femoral diameter measurement, show the two groups a non-significant difference. 984, with a F =. 001.

While the comparison of measurements of femoral diameter between the experimental groups than in the control group presented a significant difference, shown by a F of Snedecor equal to 4.968, significant at. 028.

This allows us to say that the growth variation of femoral diameter within the two groups is not significant]. growth is so normal, but by practicing weightlifting, the young athletes aged 13 undergo osteological development at the level of the thickness of the femur, which reflected the effect of the training, and especially the execution of technical movements, who plays on muscle contraction, in this case the Tibialis hamstrings and quadriceps that pull on the periosteum of the femur, causing thickening at the level of the diameter and the end of the femur. Thing that was not found among Weightlifters less 15 years and more, which allows us to predict that the practice of weightlifting with bottom-up charges, has no effect on the femoral diameter.

4. DISCUSSION:

Our study demonstrates also, and at the level of the variation of the speed of longitudinal growth of the skeleton, in addition to the significant variation in the TD, youth from 13 years old; the practice of weightlifting by boys, cooperated with the acceleration in the rate of growth of the TD for all age groups powerlifters, in a meaningful way, as it has been observed, among Weightlifters boys, that this variation was caused by growth of the spine for older lifters under 13 years and by the growth of the lower limbs in the group under 18 years. This confirms the law of alternation of Godin (1935).

Our study similarly affected bone diameters variation, which is an index of skeletal robustness of the ends. Statistical results, have asserted that the practice of weightlifting by boys aged under 13 years contributes to the development of DP as well as the development of DH and the DF. This implies that the practice of weightlifting by young people under 13 years old has an effect on joint modeling and therefore the thickening and the density of the bones.

As a result, the practice of this sport, developing the robustness of the ends bones, and especially the most important joints, which cited the articulation of the wrist, elbow, knee, and as we saw previously the variation in growth of the shoulder joint; This confirms Act scope that corresponds to the range of joint motion proportional to the difference of extent of the two surfaces. While from the age of 13, there was difference at the level of the RFP and only for practitioners of weightlifting, while at the level of the DF, the difference is not significant, therefore evolution is normal and is not influenced by the practice of weightlifting.

As a result, can say that the growth of diameter of bones and especially the ends, therefore joints, is essentially caused by the handling and execution of the technical gestures, but not by the lift of the load. Thing that contradicts the prejudices who claim that weightlifting deforms the bones and demolished the joints.

5. CONCLUSION:

This study allowed to highlight that contrary to received ideas weightlifting practice promotes bone development in the longitudinal direction however only the bones of the wrist have recorded significant variations might be the result of a joint adaptation to technical movements of weightlifting and not the load lift.However this study does not deal with the excessive practice of weightlifting that like any sport excesses cannot lead that has negative effects on the health. For this we recommend that any sport must be accompanied by monitoring carefully the different parameters of growth and this side measurements of physiological indices usually practical in high level athletes.

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PROFESSIONAL COMPETENCE REQUIREMENTS: THE VIEWS OF SEVERAL PHYSICAL AND SPORTS EDUCATION TEACHERS

Laroua. A[a] ; Sebbane. M[b] ; Gleyse. J[c]; Bensabeur. M[d]; Benkazdali. H.M[e]; Belkadi. A[f] & Benbernou. O[g]

Laboratory of Applied Science in Human Movement

Institute of Physical Education and Sport University of Mostaganem Algeria

Laroua abdelhafid. E-mail : larouaeps@yahoo.fr

Abstract

The purpose of this study was to identify the opinions of Physical and Sports Education (PSE) teachers regarding professional competence and the specific requirements of the work. A questionnaire was drawn up and sent to 85 PSE teachers in secondary schools based the Mostaganem "Wilaya" or Province in Algeria. The findings indicate that this group of teachers could not clearly define general or specific competence. However, they largely agreed that the teacher/coach plays a very important role in establishing the professional competence of trainees. Competence that is specific to PSE is described in studies as "how to apply competence by competence the approach to teaching PSE" and "knowing how to apply legislation". None of the teachers responding cited a basic competence in the professional sphere, described in the literature: sound knowledge of legislation and administrative procedures. In addition, the findings show that the teachers are not satisfied with the training they received and that it does not enable them to reinvest their training in their professional role. From the opinions expressed by the population studied, their training does not encourage professionalism. This finding is also confirmed by research by Laroua et al (2014).

Key Words: Competence, Professional Competence, PSE, Algeria, Mostaganem

1. INTRODUCTION

Competence is defined in terms of "knowing how to act and react" and is not reduced to applying or carrying out rules, but goes beyond that which is stipulated (Le Boterf, 2001). The competent person knows how to choose, organise, and mobilise certain resources (knowledge, expertise, qualities, culture, documentary networks, expertise networks, etc.) in order to manage situations in professional practice (Le Boterf, 2002a).

Training for a Master in PSE at the Physical and Sports Education Institute of Mostaganem, Algeria, has been carried out since 2004 through a programme set up by a committee specialising in teaching motor skills in physical education.

Several study courses are taught at the Institute: Sports Coaching "ES", Human Movement and Motor Skills "MHM", Adapted Physical Activity "APA", and Sports and Health "SH". In our study, interest focused on MHM training, which equates to training formerly known as "EPS" or PSE. This training gives students the possibility of entering the teaching profession and applying for a teaching post within the National Education system through a mark attributed following an interview and a review of their university file. The graduates are appointed as trainee teachers for a nominal three-year period. They must undertake a nine-month training programme in the difficulties that may be encountered in practice as a prerequisite to applying for a permanent post (CAPEPS). This training is an obligatory stage required by the State Administration.

In addition, the Mostaganem Province education management uses a form of nomenclature and classification of teachers relating to their number of years teaching experience and also to successfully passing an evaluation test before being allowed to move on from one status to another. Several teacher grades have been established: trainee, permanent teacher, principal teacher and coach. Coach is the highest grade and once attaining this level a teacher may apply for the position of inspector of the various subjects taught.

The new LMD system (Bachelor, Master, PhD.), was established at Mostaganem University over 10 years ago and training is available in Science and Techniques of Physical Activities for the teaching profession, replacing the earlier training programme in Physical and Sports Education.

Few educational courses in Algeria are concerned with results of training and the quality and the competence of teachers. For this reason, several research studies have been carried out since 2011 to examine the issue.

Theoretical research into the question of competence was carried out by Laroua et al. (2013), with the aim of identifying competence in the teaching of PSE while at the same time attempting to design a curriculum for competence specific to the profession in Algeria. Various recommendations resulting from this work extensively explored the professional competence required by a PSE teacher based on practical experience of the activity (situated action) in order to obtain more precise results more in line with actual practice. In order to obtain greater objectivity it was decided to interview those principally concerned in this area of education: experts, novices, and inspectors, in order to obtain a better understanding of practical competence and to draw up a grid of professional competence to meet the requirements for teaching PSE under standard conditions.

2. METHODS AND MEANS:

The method used to examine the professional competence required for the teaching of PSE is both descriptive and quantitative. The research study used closed and open-ended questions.

Participants

Eighty-five PSE teachers contributed to the research. This number was provided by the Mostaganem Province education authorities as being as all teachers working mixed-sex secondary schools in Mostaganem Province in 2014. The categories of teachers represented included those under training having little experience thought to the most experienced holding the title of teaching coach.

Materials and Procedure

The questionnaire

PSE teachers completed a questionnaire concerning the notion of competence in PSE teaching. The questionnaire included tabular forms with open-ended and closed questions, as well as questions open-ended and closed at the same time. The questions were intended to provide answers to the central question of identifying skills specific to practical teaching.

In order to test the objectivity and reliability of the research tool the first questionnaire established included several questions relating directly to the issue. The questionnaire was then assessed by specialists from the profession who adjusted and amended the questions taking the observations of experts into account. To test its reliability, seven PSE teachers chosen at random completed the questionnaire twice at a week's interval. The same results were obtained both times, leading to the conclusion that the research tool had an acceptable level of objectivity and reliability.

Statistical Analysis

In the study attention focused on analysing the replies of the PSE teachers in relation to teaching PSE in situ. Replies were coded in a computer data base and processed by **SPHINX *V5*** *SOFTWARE. THE results WERE ANALYSED USING THE COMPARISON TEST OF TWO PERCENTAGES WAS USED AS WELL AS THE* K^2 *test.*

3. RESULTS AND DISCUSSIONS

This part of the research study is devoted to analysing and discussing the findings obtained from replies. It throws light on the main observations from the research and analyses them within the framework of National Education in Algeria.

Table N°1: shows the grade distribution of PSE teachers

	Number of teachers		
	Teacher under training	Permanent teachers	Permanent Coach
N° of teachers	12	64	9
%	14.12	75.29	10.59

Table No.1 indicates a greater number of teachers with a university degree and from Physical and Sports Education teacher training institutes, with the overall total of 85 for Mostaganem Province in 2014. These teachers had obtained the level of experience which enabled them to move on to a higher status. Only 12 were under training, 14.12% of the group; 64 were PSE teachers in permanent posts, 75.29% of the group in this study. In addition, we identified nine PSE teaching/coaches, 10.59% of the group.

These findings show that the Mostaganem Province education administration uses a form of nomenclature and teacher classification based on their number of years experience in education and also on the evaluation test necessary for advancing from one status to another (e.g. from the status of principal teacher to that of teaching/coach). The results also show that most of these PSE teachers hold a permanent post.

The evaluation test for holding a permanent post consists of establishing the standards for permanent post teachers responsible for the subject matter and teachers under training. The permanent teacher coordinates the subject matter with other colleagues in the establishment, as well as the examinations and planning of the various tasks. Newly recruited teachers under training, with a three-year contract, have to wait in order to take the CAPEPS examination within 9 months following their nomination, knowing that passing this test for a permanent post is essential after receiving their end-of-studies diploma organised by the education administration (training department).

This training is required by the State public service administration. Furthermore, during the study we observed that those teachers with the title of coach regularly work with subject matter inspectors, particularly in identifying and planning objectives for the training seminars organised regularly by the inspectors.

The status of coach can be obtained under certain conditions, which include the number of years spent teaching the subject as well as the result of the written test. The results also revealed that 72.41% of teachers have this type of professional experience in Mostaganem Province by comparison with experienced teachers having more than 10 years experience in education. In the latter case they comprise 25.28%.

Results vary between regions throughout the country. Research by A. Laroua (2011) shows that certain Provinces, such as Oran and Témouchent (in the west of the country) have older teachers with more than 10 years experience in teaching PSE. This difference in experience of pedagogical practice doubtless has an influence on the quality of teaching as well as on the level of competence attained by these "experts".

Table N°2: showing competence definitions for a PSE teacher, according to the teachers themselves

How do you define the competence of a PSE teacher?				
Replies	R	%	K^2 (cal)	K^2 (tab)
Considerable stamina and moral capacity.	3	3.45	21.42	18,31
The ability to obtain objectives with a minimum of energy.	1	1.15		
Great psychomotor and social abilities in individual and team disciplines.	2	2.30		
All the concepts and knowledge required for preparing a teaching session.	5	5.75		
The ability to prepare a PSE session in good conditions.	12	13.79		
The ability to find appropriate solutions for problems faced by a teacher during sports practice.	20	22.99		
Mastering TIC (information and communication technology).	11	12.64		
The ability to deal with pupils and to transmit information.	15	17.24		
The ability to carry out exercises and games correctly.	12	13.79		
A sound theoretical and practical knowledge.	2	2.30		
Cognitive, physical, and administrative competence	4	4.60		

Table N° 2 shows the range of replies from teachers on the definition of competence in PSE. Twenty teachers, 22.99%, define specific PSE competence as the ability to find appropriate solutions for problem situations faced by the teacher in a practical teaching situation. However, fifteen teachers, or 17.25%, have a different view: they emphasize sound control over the class and the way of transmitting information as a major competence element.

In addition, by combining two replies (TICE and knowledge of the activities), twenty-three teachers, 26.43%, define the competence specific to PSE as the ability to carry out exercises correctly and sound knowledge of TICE (information and communication technology in teaching). The others gave quite varied and less significant responses. A large group defined competence in PSE as prior knowledge of the concepts which facilitate the preparation of a teaching session, as well as sound theoretical knowledge and specific practice regarding PSE. The K^2 test shows that the calculated K^2 value (K^2cal=21.42) is greater than the K^2 value of the Table (K^2 Tab=18.31) where the degree of freedom of scope (N-1) is 10, and the level of significance is 0.05. This finding is a statistically significant increase, which explains the large difference in favour of the answer giving the greatest number of choices.

The findings show how various definitions of competence are formulated in PSE. Each teacher suggested their own version where they defined competence specific to PSE drawn from their own professional experience. However, compared to the propositions generally found in the literature on the subject, their definitions are incomplete and do not take into account the basic elements that define competence in PSE.

In fact, most of the teachers said that competence in PSE is directly linked to the speed of assimilating environmental information in order to react to problem situations encountered during a PSE session. Good class control and the quality of message transmission during the session, underscoring the value of professional gestures such as the use of guidance gestures during a session and including verbal and non-verbal communication.

Authors such as N. Chomsky (1973) and G. Le Boterf (1999), D. Delignières, C. Garsault (1993), and M. de Montmollin (1984), as well as O. Reboul (1980), have put forward many definitions for competence. Beyond the specificity of each of these definitions, certain points of agreement emerge. Competence or skill is a stable quality, acquired by apprenticeship, resulting in a set or group of elements in dynamic interaction. Knowledge is programmed, which supposes a power of action and/or understanding that can be applied to a category of actions relating to a common problem. In secondary school, skills "constitute knowledge allowing for a reaction appropriate to a situation, or a group of situations presented by the teacher": they are cultural and methodological.

In every case, competence defines, in accordance with the regulations, the nature of the acquired knowledge: "apprenticeship in PSE leads to the acquisition of competence" (grade six programme, 1996).

Based on these definitions, it may be supposed that competence is the possibility of acting voluntarily and effectively in a range of situations. The aim of the PSE teacher is that the student acquires competence specific to PSE; the teacher observes the motor behaviour of the student and assists them in mobilising their motor, cognitive, emotional, and social resources.

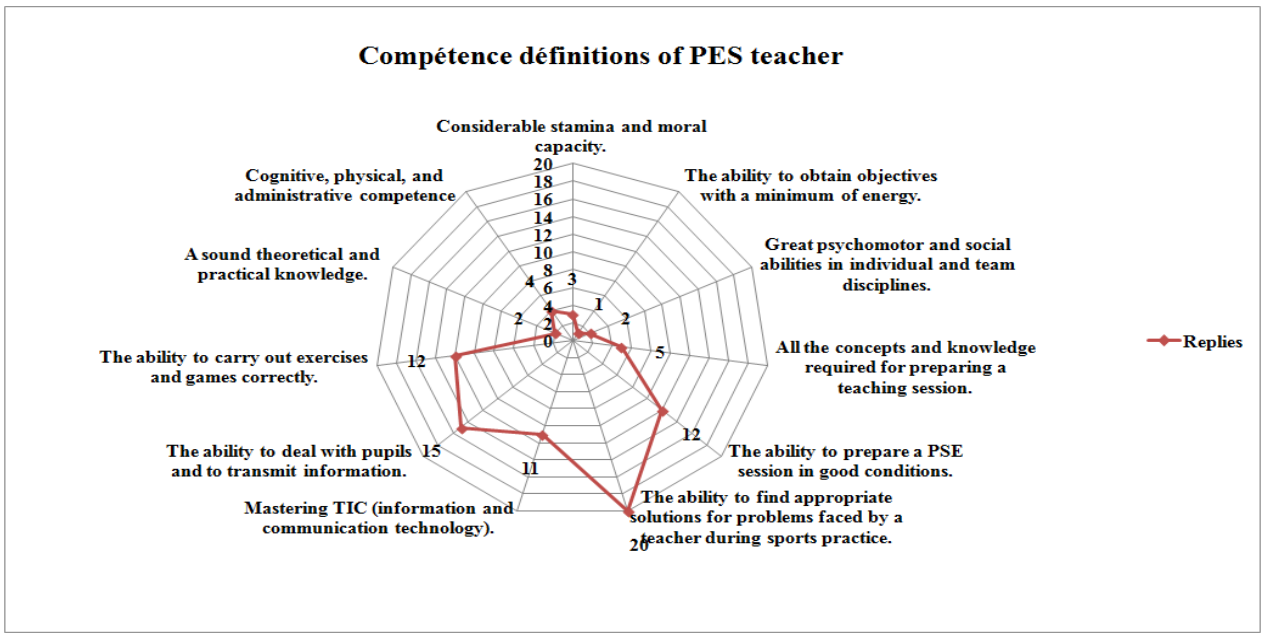

Figure N° 1: describing the definitions of the competence necessary for a PSE teacher according to the teachers themselves.

Table N°3: represents the specialised competence for a PSE teacher

Specialised competence required for a PSE teacher, according to the teachers themselves.				
competences	R	%	K² (cal)	K² (tab)
Simple, short explanation of exercises.	8	9.20	27.04	26.30
Good positioning and use of the area allocated to pupils.	8	9.20		
Mastering TIC in education.	8	9.20		
Mastering the science associated to each discipline taught.	6	6.90		

A good relationship with colleagues and the administration.	8	9.20		
Ability to apply legislation.	10	11.49		
Ability to apply the approach by competence in PSE teaching.	9	10.34		
Good use of teaching material.	7	8.05		
The ability to teach efficiently.	1	1.15		
Sports activity continues in the establishment.	1	1.15		
Working methodically.	3	3.45		
Being exemplary at work.	1	1.15		
Sound mastery of teaching methods and styles.	8	9.20		
Experience in PSE teaching.	2	2.30		
Personally undertaking the physical activity.	1	1.15		
Having a correct view of the physical activity during practice.	1	1.15		
Being innovative at work.	5	5.75		

The findings in table N°3 show how teachers perceive the specific competence that a PSE teacher should have. In fact, nineteen PSE teachers, 21.83%, gave two answers which represent for them the key specialised competence in PSE. This is the sound application of legislative texts supplied by the Algerian Minister of National Education.

In fact, teachers must abide by them, firstly since they are a guide to preparing classes, and secondly they provide the definition, objectives and purpose of PSE. The legislation clearly details the competence that should be acquired by the pupil at each of the three levels taught at secondary school. Competence is evaluated at the end of each trimester (basic competence), each year (final competence), and at the end of the three years of study (definitive and final competence).

In these same legislative texts there are the apprenticeship objectives for each discipline taught (collective and individual) relative to each level of teaching, including the various evaluation stages. Class preparation is clearly explained, giving models of technical sheets. In principle, the PSE teacher may not change the competence and objectives as defined in the Ministry's official textbooks.

The second competence raised by the teachers was the ability to efficiently apply the approach by competence in PSE teaching. An earlier study (Bensikaddour et al, 2013) shows that this was far from being the case for the group studied. Teachers under training have enormous difficulties in designing problem situations and in assisting pupils to find sound solutions (*ibid.*).

Furthermore, in this study show two replies have the same score. Eight PSE teachers, 9.20% of the group, gave an answer considered pertinent in the literature on the subject. This is the competence relative to mastering PSE methods and styles. The work of Bensikaddour (1995), Ataallah (2004), and Laroua (2009) match the findings of D. Banville (2004). They show that a great majority of teachers in Mostaganem Province, as in Western Algeria and Canada do not master all the various teaching methods available to them for a PSE session. Described among others by Muska & Ashworth (1994), translated by Cothranet (1999), are eleven teaching methods; Practice, Command, Guided Discovery, Reciprocity, Divergent Production, Inclusion, Self-verification, Convergent Discovery, Individual Programme, Self-teaching, and Pupil Initiative.

In the group taking part, a second group of sixteen PSE teachers, 18.40%, raised two types of competence specific to PSE: competence and professional gesture relative to teaching. They involve a simple short explanation of the exercises, and good positioning with good use of the area allocated to pupils.

The study by Laroua et al (2013) - whose purpose was to identify competence by using a grid for analysing professional gestures - has three major aspects: verbal gestures, non-verbal gestures, and positioning in the field. Findings show that the competence described by teachers was used during sessions in verbal teaching practices while adding other gestures such as voice modulation.

Eight teachers, 9.20%, mentioned mastering TICE in teaching PSE. This innovative finding, insofar as it was not cited in previous years, is today a teaching requirement. On the contrary, as TIC gradually invades all disciplines, a major change to references in professional competence is occurring with ever-increasing significance. Numerous research papers emphasize the complexity of analysing the teaching changes resulting from the integration of TIC (Levin, Ammon, 1996; Mangenot, 2000). In the framework of teacher training the complexity of such an analysis is amplified by the fact that it covers both training programmes in junior and secondary schools, where teachers under training are appointed.

In fact, in spite of integrating TIC in teaching programmes, teachers have difficulties adjusting. A recent study carried out in Mostaganem Province shows that 65.21% of teachers, particularly teachers under training, do not understand TIC in education (Laroua et al, 2013).

Furthermore, eight teachers, 9.20%, mention as competence a good relationship with colleagues and the administration. No reference is made of this competence in the literature. After having used the K^2 test, the value of K^2 calculated ($K^2cal=27.04$) is greater than the value of K^2 in the tables (K^2 Tab=26.30) where the degree of scope (N-1) is 16, and the degree of significance is 0.05.

This result indicates a significant statistical value in favour of the most often mentioned answer.

Analysis of the findings shows that sound knowledge of legislation and legislative and administrative procedures is not mentioned. However, this competence theoretically enables the teacher to know their rights as well as their professional duties and responsibilities while referring to public function law N° 06-03 of 2006 and employment law. This is not surprising inasmuch as, during training in PSE, students on the Master degree course in Human Movement and Motor Skills say the curriculum made insufficient provision for learning about legislation (Benchehida, 2014).

Analysis of the curriculum established for the Master degree in MHM confirms this finding. Without a doubt, this has a negative effect on teachers under training, in particular during their first months after being recruited. An assessment made by the trade union Cnapeste in Mostaganem Province in 2012 confirmed that nearly 80% of new teachers recruited in the education sector do not fully understand legislative aspects and are unable to intervene on an administrative question and exercise their rights. This is particularly so when seeking a solution to a particular problem or unexpected circumstance in the establishment. The education administration in Mostaganem often organises training sessions for newly recruited teachers on such subjects as psychology and educational methods as well as on legislation, but not to any depth. In fact, the most positive type of learning situation occurs when the teacher has a problem. Then the teacher must call on knowledge of legislation they acquired in training (Cnapeste, 2014).

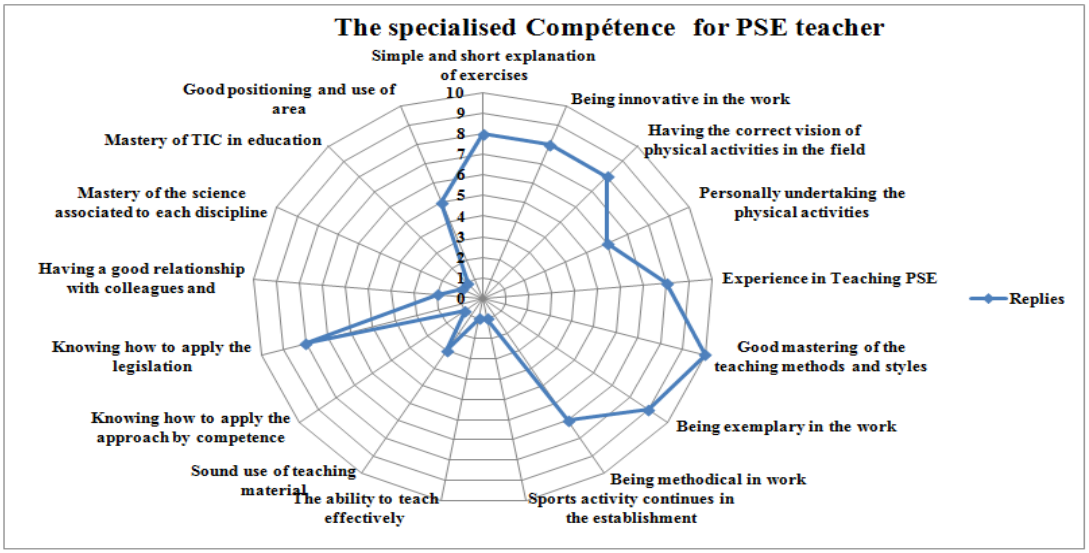

Figure N°2: showing the specialised competence that a PSE teacher should have, according to the teachers themselves.

4. CONCLUSION

The findings of this study indicate that the notion of competence is still far from clearly defined. They show that 65% of the teachers taking part cannot provide an accurate definition of competence, whether general or specific in relation to the literature on the subject.

Concerning the competence that a PSE teacher should have, several ideas have been formulated, such as “knowing how to apply the approach by competence in teaching PSE”, and “knowing how to apply the official legislation”.

On the contrary, none of the teachers taking part cited a basic competence considered fundamental to the profession in general and included in the literature on the subject: “sound understanding of legislation and administrative procedures”. This has led teachers under training to encounter major difficulties in their establishments as has been identified in other research (Laroua et al. 2013). This issue was also explicitly stated by the PSE inspector during an open-ended interview for research purposes.

Another finding concerns the training at the Mostaganem PSE Institute. In terms of the programmes and the formal curriculum training does not take into account the imperatives encountered in the field by the professional PSE teacher as stated by the teachers themselves.

Finally, from the findings of this study, discord is apparent regarding competence defined by different status PSE teachers and the training programmes of the Mostaganem Province PSE Institute (programmes studied in the form of a subject analysis of contents). The results of this study, listing 23 notions of professional competence necessary for PSE teaching do not comply with the formal training curriculum of the Mostaganem PSE Institute.

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RELATIONSHIP OF SLEEP QUALITY AND COPETITVE ANXIETY IN A SAMPLE OF SWIMMING ATHLETES

Ahmed Elbayoumy Ali Elbayoumy

Department of Sports Psychology, Faculty of Sport Education Al-Mansoura University, Egypt.

Address correspondence to A. Elbayoumy, e-mail: abayoumy@mans.edu.eg

Absract

Studying the anxiety has increased in the past ten years. A lot of studies aimed to identify the causes of anxiety and how to get minimize it Sleep quality is widely regarded as one of the most important modes of recovery for athletes A sample of 40 Egyptian swimmers 20 elite male swimmers short distance 100-m freestyle and 20 elite male swimmers long distance 800-m freestyle swimmers. Participants completed the Competitive State Anxiety Inventory-2 (CSAI-2) and Sleep Quality (PSQI) Questionnaire. Multiple linear regression and correlation coefficient were used for data analysis. The aim of the present study were, therefore, to identify affect the State Anxiety and sleep quality on result computation for swimmer (100 m- 800 m), and identify the relationship between sleep quality and Competitive anxiety at the swimmers (100-800 m) and results indicates to the existence of significant differences between the values of (Somatic anxiety, self-confidence and sleep quality) and the results of competitions for swimmers 100 m and 800 m and a positive relationship (r = 0.96* 100 m & r = 0.94* 800 m) between sleep quality and Somatic anxiety.

Keywords: Sleep quality, competitive Anxiety, Swimming Athletes.

1. INTRODUCTION:

Consistent specialists in the field of psychology that Anxiety has been one of the most extensively researched topics in sport psychology (Woodman & Hardy, 2003). Although there have been many theories and models in anxiety. There appears to be only consensus on the notion that anxiety is a multidimensional concept (Polman, Rowcliffe, Borkoles, & Levy, 2007). That is, anxiety consists of three independent: Cognitive concern is what is happening as a result of the negative impact on the expected success, or by the negative impact of self-assessment for the player of some individuals, such as the coach. The works of this kind of concern for the weakening of the ability of on attention and concentration during the competition due to increased negative thoughts spam. The concern physical is a reflection of the psychological aspects of the state of physical play, and characteristic features of this type of concern what happens to athletes from increased heart rate and increased respiratory rate and sweating hands and stomach disorders and muscle tension and the self-confidence, a positive dimension in the face of anxiety factor (Boudhiba, Moalla, Arfa, & Kridis, 2015).

Many studies have shown that competitive swimmers who doubted their abilities scored high in state competitive anxiety and low in state sport confidence. In addition, self-confidence was related to the participants' performances (Pszchountaki & Zervas, 2000) (Burton, 1988) (Dizdari, Bunke, & Psouni, 2013) (Edwards & Hardy, 1996) (Woodman, Albinson, & Hardy, 1997) (Jones & Swain, 1992).

Sleep is widely regarded as one of the most important modes of recovery for athletes (Romyn, Robey, Dimmock, Halson, & Peeling, n.d.). Sleep research in Egypt is very limited in the field of sport. This is due to the lack of instruments measuring sleep in the Arabic language. Recently, the Pittsburgh Sleep Quality Index (PSQI) was translated into Arabic and tested on Arabic population. However, there is a need to test the PSQI and obtain psychometric values among Arabic athletes living in their native country (K. Suleiman, Hadid, & Duhni, 2012)(Buysse, Reynolds, Monk, Berman, & Kupfer, 1989) (K. H. Suleiman, Yates, Berger, Pozehl, & Meza, 2010).

Many factors are associated with limited work performance, one of which is poor sleep quality. Although athletes and coaches believe that adequate sleep is essential for peak performance, there are many situations in which sleep is disturbed prior to a competition. An athlete may lose sleep owing to jet lag or anxiety. The effects of poor sleep quality on athlete rating of perceived exertion, mood and cognitive functions are well documented. (Souissi, Sesboüé, Gauthier, Larue, & Davenne, 2003).

Evidence suggests athletes worry about the effects of inadequate sleep on performance (Leger, Metlaine, & Choudat, 2005). The amount of sleep obtained by an athlete is. Additionally, It has been reported that an athlete's sleep may be significantly disrupted before a competitive event, with 79% of athletes reporting problems falling asleep, and 43% of the same population reporting an earlier wake time on the morning of competition (Erlacher, Ehrlenspiel, Adegbesan, & El-Din, 2011).

The aim of the present study was, therefore, to identify affect the State Anxiety and sleep quality on result computation for swimmer (100 m- 800 m), and identify the relationship between sleep quality and Competitive anxiety at the swimmers (100-800 m).

2. METHOD:

Participants: A group of 40 male subjects (mean age 19 ± 1 years) volunteered for the study, including 20 elite male swimmers short distance 100-m freestyle and 20 elite male swimmers long distance 800-m freestyle. The purpose, aims, and potential benefits of the study were explained to trainers for obtaining their approval. The major consideration / criteria for these swimmers were that they had won the honor of representing their country in major regional or international events. Also, they had got at least: one of the top two positions in the final Arab Republic of Egypt Championships (AREC) (Youth, under 20 years old for the sports season 2014/2015.

Procedure: The (AREC) C 2014/ 2015 was chosen for this study, due to its highly competitive nature. The participating swimmers qualified for the (AREC) by emerging victorious and by achieving the participation requirements (from the Egyptian Federation of Swimming) during Saudi various regional tournaments of the sports season 2014/2015, thereby giving variance of the sample.

Measures: After reviewing the previous studies, which focused on the Competitive State Anxiety Inventory-2 (CSAI-2) and Sleep Quality (PSQI) for athletes. The researchers used the Arabic version of the Competitive State Anxiety Inventory-2 (CSAI-2) (Boudhiba, Moalla, Arfa, & Kridis, 2015) and Pittsburgh Sleep Quality (PSQI) (K. Suleiman et al., 2012). The first scale is called, The PSQI is a solid and legitimate device that measures rest quality and amount more than a one month period. It comprises of 19 self-evaluated inquiries that subsumed inside of seven part scores or subscales: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medications, and daytime dysfunction. A worldwide score can be gotten from the summation of the seven segments that ranges from 0 to 21 with higher scores meaning poorer rest quality. The first creators set up a cutoff of > 5 for the worldwide score to recognize poor sleepers (> 5) from great sleepers (< 5) (Buysse et al., 1989), and the second scale is called the competitive state anxiety inventory (CSAI-2C), an Arabic version with 23 items was used to measure state anxiety (Boudhiba et al., 2015). All players, swimmers (100 m - 800 m) were carefully familiarized with the test protocol of the anxiety scale which contains 5 sentences for each measurement of cognitive anxiety, somatic physical anxiety, and self-confidence, with each arranged on a scale quartet to measure attributes from lesser degree to the highest degree. It was given to all the players before the start of the first league championship game, and all items were explained.

After the competition of the objective study sample was selected, and then the (CSAI-2) and (PSQI) has been applied. The (CSAI-2) and (PSQI) was administered at a convenient time in a comfortable room setting. Instructions aimed at reducing socially desirable answers (a constructive reaction inclination in member's evaluations) were also given, they were told that it was a measure of "personal styles in competition" basically). Moreover the members were told to peruse every announcement and circle the answer that best fitted their own perspective (without interaction with others) and which related to their particular sport "swimmers.

Statistical analysis: All data obtained during the study were treated with stringent confidentiality and anonymity. Data was analyzed using Microsoft Office Excel and the statistical program SPSS (version 17).

3. RESULT:

Table (1). Multiple linear regression of anxiety and sleeping on competition results of 100 free style swimming and P values (2-tailed test) also shown

RESULTS OF COMPETITIONS		**INDEPENDENT VARIABLES**			
Y	Unstandardized coefficients *B*	Somatic anxiety	Self confidence	Cognitive anxiety	Sleeping quality
CONSTANT	80.22	- 0.522	0.01	- 0.02	- 0.20
t	35.5	- 02.7	0.40	- 0.49	0.186
P	0.002	0.016*	0.048*	- 0.42	0.045*

Significant P < 0.05 (2-tailed)

TABLE (2). MULTIPLE LINEAR REGRESSION OF ANXIETY AND SLEEPING ON COMPETITION RESULTS OF 800 FREESTYLE SWIMMING, AND P VALUES (2-TAILED TEST) ALSO SHOWN

RESULTS OF COMPETITIONS		**INDEPENDENT VARIABLES**			
Y	Unstandardized coefficients *B*	Somatic anxiety	Self confidence	Cognitive anxiety	Sleeping quality
CONSTANT	75.18	- 0.42	0.09	- 0.08	- 0.30
t	22.5	- 03.4	0.39	- 0.37	0.19
P	0.03	0.019*	0.040*	- 0.49	0.048*

Significant P < 0.05 (2-tailed)

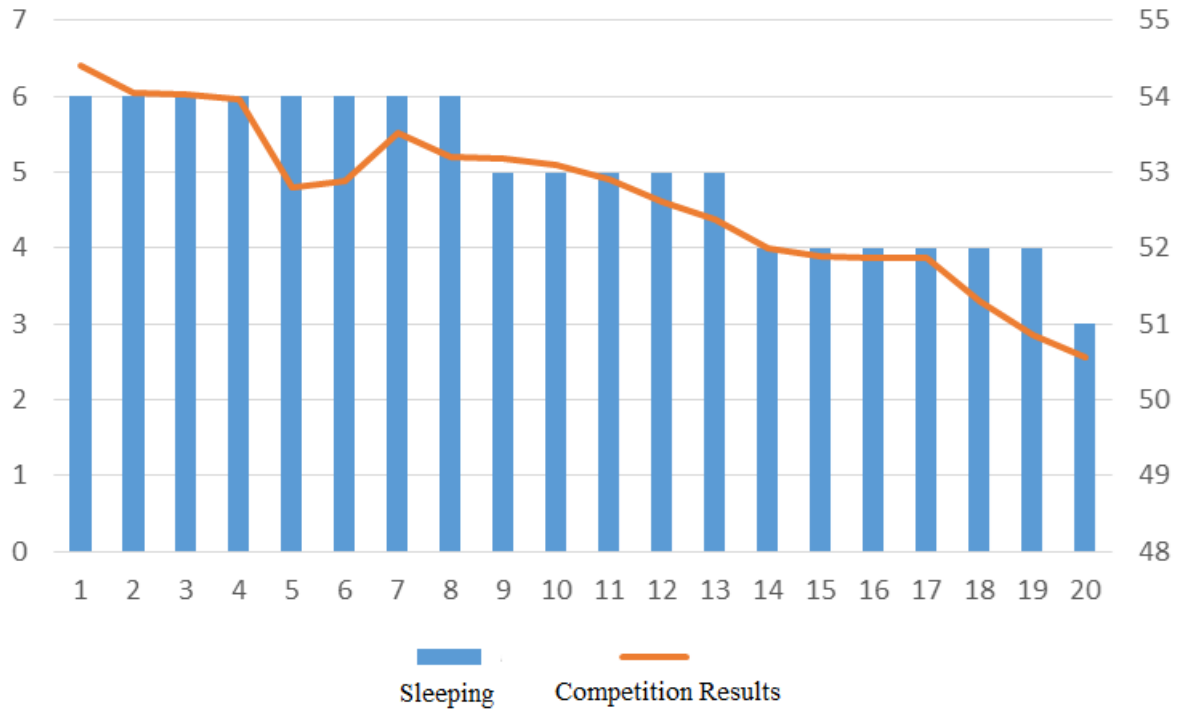

Figure 1. The relation between sleeping and competition results for 100 m swimmers

Table 3. Means, standard deviations and correlation with Somatic physical anxiety and Sleep Quality between short distance 100-m freestyle and long distance 800-m freestyle.

Tests	Sleep Quality		Somatic anxiety		
	M	±SD	M	±SD	R
100 m	5.0	0.97	18.2	2.2	0.96*
800 m	5.1	1. 7	17.35	1.6	0.94*

**Correlation is highly significant at the level 0.01 (2-tailed)*

Table 4. Means, standard deviations and correlation with Cognitive anxiety and Sleep Quality between short distance 100-m freestyle and long distance 800-m freestyle.

Tests	Sleep Quality		Cognitive anxiety		
	M	±SD	M	±SD	R
100 m	5	0.97	17.5	3.8	0.09
800 m	5. 5	1. 8	16.1	2.4	0.13

Correlation is highly significant at the level 0.01 (2-tailed)

Table 5. Means, standard deviations and correlation of Self-confidence and Sleep Quality between short distance 100-m freestyle and long distance 800-m freestyle.

Tests	Sleep Quality		Self-confidence		
	M	±SD	M	±SD	R
100 m	5.0	0.97	22.0	3.2	0.03
800 m	5.1	1. 7	21.1	2.8	0.24

Correlation is highly significant at the level 0.01 (2-tailed)

4. DISCUISSON:

The findings of this study will be discussed in relation to the two objectives and tables outlined above.

1. Identify affect the Competitive State Anxiety and sleep quality on result computation for swimmer (100 m- 800 m).

Multiple logistic regression was used in a manner Enter It turns out that the three Correlation value of Simple correlation coefficient was (R=89,01 100 m. R=91,13 800m), While the coefficient of determination debugger was (R^{2-} =87,30 100 m, R^{2-} =89,22 800 m), This means that The independent variables explanatory (Sleep Quality cognitive anxiety, somatic physical anxiety, and self-confidence), we're able to explain 80% of the changes in the results of computation for swimmers 100 m and was explain 75% of the changes in the results of computation for swimmers 800 m, but the rest Results may be to the other factors.

Table (1) (2) It was observed Independent variables were significant from a statistical point between the values of (Somatic anxiety, self-confidence and sleep quality) and the results of competitions for swimmers 100 m and 800 m, as the table shows While the independent variable (cognitive anxiety) was not a significant effect in the multiple regression model.

That the state of competition plays a big role in increasing or decreasing the level of athletic performance in sports competition, Individuals who have a decrease in the level of anxiety is often a high level of performance if compared to their members are characterized by a rise in the level of anxiety.

Results of Table (1) (2) are compatible also with some research findings, which acknowledge that Negative associations were evident here between state anxiety and the sleep quality. The more anxious an athlete was at bedtime, the lower they rated their sleep quality upon waking the next day. Previously, that elevated anxiety levels before competition. (Erlacher et al., 2011) (Fietze et al., 2009) (Lastella, Lovell, & Sargent, 2012) (Sargent, Halson, & Roach, 2014). However, anxiety has also been to have the potential to cause sleep, restlessness and over arousal, overriding any sleep promoting processes, thereby leading to a reduction in sleep quality (Reilly & Edwards, 2007; Silva et al., 2012; Wilson & Nutt, 2008). Furthermore, some athletes have reported difficulty overcoming pre-competition anxiety as a reason for a decrease in sleep quantity (Gebhart, Erlacher, & Schredl, 2011), as well as reporting fear that poor sleep will have a negative impact on their performance. (Leger et al., 2005)

Primary research indicates that anxiety may have a delayed influence on performance and rustle. (Gould, Petlichkoff, & Weinberg, 1984)

Researchers have found the level of competitive state anxiety has been shown to differ depending on certain characteristics, such as sport type, experience, gender, and age, individual athletes have been shown to have higher levels of anxiety than team athletes. (Polman et al., 2007)

Furthermore, the results indicates that the competitive anxiety and poor sleep quality, may not be a good predictor of performance. Its influence on performance may be dependent on various other factors such as coping strategies, confidence in one's ability to handle anxiety, and athletes' overall perceptions of performance outcomes, which would take into account their perceptions of the situational demands such as weather, team interaction, etc., (Craft, Magyar, Becker, & Feltz, 2003).

2. Identify the relationship between Competitive State Anxiety and sleep quality for swimmer (100 m- 800 m).

It was observed a positive relationship ($r = 0.96^{*}$ 100 m & $r = 0.94^{*}$ 800 m) between sleep quality and Somatic anxiety in the results of Table (3)

The swimmers may have taken longer than normal to fall asleep because some elite athletes experience elevated levels of anxiety during intensive training, and anxiety can interfere with a person's ability to fall asleep (Lindberg et al., 1997). (Sargent et al., 2014) and anxiety can interfere with a person's ability to fall asleep. (Lindberg, Janson, & Bjornsson, 1997)

In the (Arzu Vardar et al., 2007) study, show that the sleep deprivation was evaluated as an anxiety inducer. The increase in anxiety levels was originally due to total sleep deprivation rather than competition stress or a pathological state.

Table (4) (5) indicates not found the correlation between sleep quality, cognitive anxiety and self-confidence for swimmers at the competitions 100 and 800 m, So must pay attention to the improvement of sleep before competition swimmers to improve the results of competitions and As well as not to rely on sleep as the only way to improve self-confidence rate or reduce anxiety levels among the players.

In the (Erlacher et al., 2011) study, show that athletes of individual sports reported more sleep difficulties than athletes of team sports. The main sleep problem was not being able to fall asleep. Internal factors such as nervousness and thoughts about the competition were rated highest for causing sleep problems. Most athletes stated that disturbed sleep had no influence on their athletic performance; however, athletes also reported effects such as a bad mood the following day, increased daytime sleepiness, and worse performance in the competition or game. The differences between individual and team sports indicate that athletes in some sports need more help than those in other sports in managing sleep problems.

In conclusion; there is a need to create sufficient opportunities to participate in competitions for swimmers (Experience is one of the factors to reduce the anxiety of the players). The psychological preparations for swimmers must be taken into serious consideration in order to raise their achievement potential. The knowledge obtained from this study can contribute towards strengthening an awareness of the importance of psychological trainings and their application at all levels of swimmers preparations. Thus, we should conduct more research to Reducing the competitive anxiety and Interests to sleep quality in the long distance for swimmers

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STUDYING THE ACTUAL FACT OF SPORT INJURIES TO THE WEIGHT LIFTING PLAYERS WOMEN IN THE IRAQI SPORT CLUBS

Abdul Munaam Hussien Sabr [1] ; Imran Ali Abbas[2]

1. Basic education college- Diyala University

2. Physical Education College & sport sciences - Diyala University

drmunaam@yahoo.com imraniamrn1983@gmail.com

Abstract.

The definition in the research involves the introduction, research problem, objectives, its impositions & fields. The weight lifting sport to the women in Iraq has been going in hard stage because it's new for the Iraqi woman and its difficult especially for the women, the act of falling in the sport injuries problem is inevitable due to the difficulty upon the women and the sport injuries are the larger troubles for both sexes of players. Both the researchers trying to study the sport injuries, causes, avoiding, uplift the physical fitness to develop the weight lifting sport upon the women. The research intent to know some kinds of the sport injuries faces the weightlifters women during the exercise and the daily training & to know the reasons of the sport injuries happening with its places in the body of the lifters during the weight lifting. Both employed the descriptive research , the sample was chosen with intentional way , they derived that the muscular or cramps , backaches , arms aches , lacerating the palm of both hands are the most sport injuries of the women by the weight lifting , with showing some causes to that injuries .

Both researchers recommend to attend with the warming up process & developing the physical fitness to the whole body organs using exercise to the abdomen and the back muscles then attending to correct the common faults during the training.

Keywords: sport injuries, weight lifting, women, Iraqi.

1. INTRODUCTION :

The muscles regards the mobilizing part of the locomotor apparatus involves from the bones , muscles , joints , in order to perform the much and hard movements requires to the athletic achievement , the muscles make the big act to free the required energy to perform that achievement . As a result of that the muscles and ligament be exposure to the injuries and disease cases that directly correlated with the high effort located on the muscular apparatus during sport actions exercising

The sport injury is define as (effect of tissue or group of tissues by internal , external or self-acting that results to defuse the act & function of that tissue - kub`a , 1996 , 52) according to the firm correlation between the muscular apparatus injuries with the training process , so the sport injury is one of the problems facing the athletes on both sex of players during the daily training of all actions in the athletic courts and clubs . While the woman have a big act in the sport field beside the man , she faces many problems during practice her sport act , the injury became the big problem with hurt and harden to her motion with ache feeling . The injuries are occur because of the medical culture weakness of both the coaches and players (Yousif , 2009 , 18) and many of the modern studies assure that there is a noticeable topping in the averages of the women injuries , so the weightlifter woman be more faces the injury because of her ability is less than that at the man , that injury make the passive training process upon the women by the aches and difficulty the locomotive performance or probably loss the efficiency intransitive to resume the sport act . The research importance is coming with trying to know the important injuries between the weightlifters women doing the weightlifting sport in Iraq when its new and fewness players acts to this hard sport , and studying the common kinds of injuries , causes , happening places in order to diagnose and saving , with humble contribution of both researchers to support the female weightlifting , with the result of reduce the injuries ratios facing the lifters during the daily sport training acts and the official competitions and championships .

Research problem:

The sport injuries that has been happening during the daily training or competitions are differs with its physicality, causes and the body parts those exposures to the injury coming after the sport effort. For each kind of sport actions there is a specified grade of risks depends on that practiced action or activity. While both the researchers attend with the weightlifting for both men & women in Diyala governorate clubs, they saw multi injuries have been happening which reflects in passive on the achievement. When there is no detailed limitations to that injuries will appearing the searching problem both researchers trying to focus to know the injuries kinds happening to the weight lifters women , its body places a es in order to reduce or minimize during the daily training or competitions .

3. Research aims:

The research aims to know:

- The common kinds of injuries to the weight lifters women.

- The injuries causes and its places on the body of the weight lifters women.

Research program:

Both researchers applied the descriptive research with the surveying manner that suitable with the study nature.

Research society & sample:

The research sample involved with (30) players of weight lifters women in Iraq represents (% 100) ratio of the origin society , which means that this sample acts the real representation of the whole number in Iraq , when (6) weightlifters represents Arbil governorate , (7) weightlifters represents Kirkuk governorate , (6) weightlifters represents Diyala governorate , (7) weightlifters represents Baghdad governorate,(2) weightlifters represents SalahulDeen governorate, (2) weightlifters represents Wasit governorate , there was not any weightlifters from the other governorates .

2. RESEARCH TRACK PROCEEDINGS:

Mechanism preparing of the questionnaire form:

To achieve the research objectives both researchers depends on the scientific resources to fill up the questionnaire form especially the research title which taken from both researchers (Huda Shihab jari studying & Fadhel Ali Akbar) that corresponds with the research sample of women. To confirm the objectivity of this questionnaire, it's seen by a group of experts to act the survey process by the questionnaire form to achieve the research objectives to appropriate with the sample individuals.

Questionnaire applications mechanism:

At June 15, 2015 the track survey and pilot study process was done by distributing the questionnaire form to the research sample individuals during them attendance to the Iraqi women championship before the weighing process in Al T`ameem hall in Baghdad at 9:00 am . The sample individuals were answered about all questions with the help of the work team, then collecting the forms.

Data deflating:

A special forms had been preparing to deflate all the data obtained from the questionnaire each one according the prepared form to this purpose.

3. SHOWING - ANALYZING - DISCUSSING AND DISPLAY THE RESULTS:

After getting the questionnaire results that divided on the participants in the championship in order to reach the scientific form to achieve the research objectives and aims of the study, the researcher has been showing, analyzing and discussing the results as following:

Display of results to the injuries kinds:

Table (1) shows the sample individuals injuries, the answers number and the percentage ratio to each answer:

No	Injuries	No. of injuries	% to each injury	Notes
1.	General muscular lacerations	15	% 50	
2.	Bruises	1	% 33	
3.	Wounds	1	% 33	
4.	Muscular spasms or cramps	20	% 66.6	
5.	Fractures	Zero	% Zero	
6.	Dislocation	Zero	% Zero	
7.	Muscular stress	10	% 33.3	
8.	Backaches or low back pain	30	% 100	

9.	Joints inflammation or Arthritis	1	% 3.3	
10	Contusion	1	% 3.3	
11	Upper limbs aches or pain (wrist, elbow, fingers)	20	% 66.6	
12	Shoulders aches	10	% 33.3	
13	Lower limbs aches	2	% 6.6	
14	Laceration the Palm of the hands due to catch the shaft (Bar) or soft tissue injuries	25	% 83.9	

Analyzing the percentage results to the injuries kinds of the research sample individuals:

From table (1) shows the injuries kinds for the lifters during the athletic training , number of the correct injuries to each kind and the percentage ratio to each injury , it's clear that the number of the agreed answers to the injure (General muscular lacerations) is (15) with ratio (%50) , the (Bruises , Wounds , Muscular spasms) is (1) with ratio (% 3.3) , Muscular stress and the upper limbs aches is (20) with ratio (66.6) , in the (Fractures & dislocation) is zero with ratio (% zero) that clear it's not coming to the sample individuals . In the backaches is (30) answer with ratio (%100), in the shoulders aches is (10) answer with ratio (% 33.3), in the palm of hands lacerations due to couch the shaft is (25) with ratio (% 83.9) that belong to the skin delicacy , the shaft aspiration & friction during the daily training , but the other higher injuries as in the table that causes by (general muscular weakness , lifting the high loads , not well warming and the physical fitness weakness to the women leads to the injury) (Yousif , 1997 , 20) .

Showing or display the important reason leads the injury with the sample individuals, answers number, the percentage ratio to each answer:

Table (2) shows the important reasons leads to the women injury during the daily exercise:

No	The reason during injury	No. of answers	%to each answer	Notes
1.	Not enough warming up before the exercise	30	% 100	
2.	Continuation of the exercise during the injury	5	% 16.6	
3.	Returning to the training before full recovering	9	% 30	
4.	Low physical fitness of the women	20	% 66.6	
5.	Bad training approach or program	5	% 15.00	
6.	Weakness of the women muscles	3	% 10	
7.	Common mistakes during the skill performance of the lifters, bad technique	10	% 33.3	
8.	Other mistakes	------	% Zero	
9.	Other additions	------	% Zero	

The results discussion to the important reasons of the injuries in the weight lifters for women:

Table (2) shows the important reasons leads to injure the sample individuals , number of answers with the percentage ratio to each reason & answer , its became %100 due to not made the warming up before the exercise , this reason occur to most athletes with them ignorance , it's necessary they must prepare the muscles , joints and bands or ligament to the sport act before peaking with the training load (Nasif , others , 1988 , 51) . The physical fitness of the women appear in high weakness ratio (% 66.6) it regards that there is a defectiveness in the general physical fitness , when the athlete must be prepared with well setting work to avoid the injury (Jasim , 2010 , 44) .

In the commonly mistakes during the skill performance of the weightlifters appeared in ratio (% 33.3) , its relatively high while most the athletes have a problem to not applying the technical skill performance to the lifting (technique) causes the difficulty in the lifting may leads to the injuries in some muscles , that be assured by (Abd Ali Nasif & Sabah Abdi : when do not applying the well & proper technique leads to occur the injuries in some joints & muscles especially in both hands , feet , shoulders) (Nasif & others , 1988 , 126) , but the other items with the medial ratios it regards acceptable in all sports due to the physical differences & weakness in

some muscles because it needs to general physical preparing . While the buckskin laceration of the palm of both hands, its inevitable result of the shaft aspiration & friction in accordance of the game nature.

4. CONCLUSIONS:

In view of the research objectives and aims with showing the results, both researchers conclude the following:

The most common injuries in the weight lifting sport for women are:

* The muscular spasms and cramp & stress, backaches, upper limbs aches & shoulders, lacerations of the palm of both hands due to the friction of the shaft.

* While the important reasons that leads to the injury with high ratio are: not take care with the enough warming up, weakness in the physical fitness, not applying the technical locomotor skill performance to the liftings.

Recommendations:

* Necessary caring with the own & general warming up with gradating & giving the intransitive time for warming up.

* Caring & assuring to lift the physical fitness elements to the players (preparing, warming up, entitling).

* The coach assuring to regard the technical locomotor skill performance applying to the weightlifters.

* Necessary to give the curative or therapeutic exercises to avoid the technical common mistakes.

* Using the paws saving Palm of both hands, driving bands to the knee & hands joints, buckskin belt to the back.

* Necessary caring & assuring to apply the exercises for the abdomen & back seriously.

* Using the curative ointments to the joints of the hands, shoulders & back before the training.

Research appendixes:

Appendixes (1)

The questionnaire form items

No.	Sport injuries	Answers	Notes
1.	General muscular lacerations		
2.	Bruises		
3.	Wounds		
4.	Muscular spasms and cramps		
5.	Fractures		
6.	Dislocating		
7.	Muscular stress		
8.	Backaches or pain or low back pain		
9.	Joints inflammation or Arthritis		
10.	Contusing		
11.	Upper limbs aches (wrist, ancon, fingers)		
12.	Shoulders aches		
13.	Lower limbs aches		
14.	Laceration the Palm of both hands		

Appendixes (2)

Reasons of happening the athletic injuries

No	The reason during injury	No. of answers	%to each answer	Notes
1.	Not enough warming during the exercise			
2.	Continues with the exercise during the injury			
3.	Returning to the training before full recovering			
4.	Physical fitness weakness to the women			
5.	Bad training approach			
6.	Weakness muscles of the women			
7.	Common mistakes during the skill performance of the lifters			
8.	Other mistakes			
9.	Other additions			

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Ministry of high education & scientific research

Diyala University

Physical education college & sport sciences

THE EFFECT OF USING EDUCATIONAL TRAINING IN STEP LENGTH FREQUENCY TO DEVELOP SPEED RATE FOR VAULTING HORSE EVENTS

Iqbal Ammar lafta

Ministry of Education – Faculty of Open Education

akpalammar6969@gmail.com

Abstract:

The importance of the study lies in the focus on measuring speed, its rates and depending on two mechanical characteristics: step length and frequency. The study aims to define the amount of development in speed rate for vaulting horse event after preparing educational exercises for step length and frequency and then application on a sample of vaulting horse athletes. After conducting the empirical method with the design of a single group, the method related to step frequency training was applied using the rising regression as it was applied for eight weeks. Next, the researcher conducted pre and post-tests in the period from 15/01/2015 to 15/04/2015. After data processing, the researcher concluded that consistency of the exercises used for the sample of the study contributed to develop speed rates. In addition, various training methods using means such as regression play an important role in developing the level of physical potentials and, in return,, skill performance on vaulting horse jumping.

Keywords: step length, speed rate, vaulting horse jumping

1. INTRODUCTION & SIGNIFICANCE OF THE STUDY:

Gymnastics occupy an advanced position among various types of sport activities. This is because it builds human correctly and relevantly. It also contain plenty of rewards that equal double rewards in other individual and team sports, especially in Olympic or regional tournaments as it includes multiple appliances. Moreover, the developed levels witnessed in this sport lately, represented in reducing age ranges of champions at the world level, was not coincidental, but it came as a result of continuous planning between trainers and using innovative scientific methods in education and training. Educational training plays an important role in gymnastics in general and in vaulting horse jumping event in particular as this event has an effect on step length and frequency in order to achieve the best levels as it is one of the factors that accelerate learning process if used well. In addition, it simplifies learning, movement performance and plays an important and basic role in learning for the purpose of improving skills. Approaching the form of optimal performance and method is a basic task of learning process. The element of speed is one of the important elements with effective impact on players. Thus, "trainers should focus on it and develop it as gymnastic athletes should possess speed (speed means individual's ability to perform certain moves at the least possible time) as speed goes through four interrelated stages: response speed, speed increase, maximum speed and speed endurance". From previous we can notice that speed and its type play an important role in contribution to prepare players physically and skillfully as the vaulting horse event needs high speed and players' movement is characterized by continuous change and requires muscular work with high intensity and explosive speed. Here, the importance of the study emerges with the focus on measuring this speed and its level to build a special educational training for it using a training method to develop speed and its rates depending on mechanical principle of developing speed. This principle means the ratio between distances made by body to the time in which this distance was made. Fast running is affected by two main mechanical characteristics: step length and frequency (repetition rate) and they can be developed. This motivated the researcher to study the effect of educational training on developing skill performance of step length speed rate in the vaulting horse event.

Problem of the Study:

Developing any element cannot be done unless for cases and situations which occurs during performing gymnastics which makes players relatively suffer from a malfunction in this element during playing. Speed plays a decisive role at cases which require achieving the highest rate of speed for the purpose of achieving suitable jump on the vaulting horse. Thus, developing all types of this characteristic requires concentration and consideration on learning it and training with all means that help in this development in skill performance.

Since rising and falling regression training contributes to develop speed rates with all it types, the problem of the study lies at studying the effect of using educational training to develop skill performance of speed rate, step length and frequency at the vaulting horse event.

Objectives of the Study:

1. Preparing educational training for step frequency by regression training method.
2. Defining the effect of educational training on step length and frequency using rising and falling regression training to develop speed rates of the vaulting horse athletes.

Hypothesis of the Study:

Step length and frequency training has a statistically significant effect on developing skill performance speed of the vaulting horse players.

2. METHODOLOGY & FIELD PROCEDURES:

Methodology: The researcher used the empirical method by the single group design as it is proper for the nature of the study problem.

Population & Sample of the Study:

One of the important things for the researcher is to determine sample and population of the study. Therefore, the population was determined purposively represented in (6) players from Al Amana Club representing 100% of the study population.

Sample Homogeneity:

In order to determine sample homogeneity in some variables that affect results of the study, the researcher derived skewness coefficient for (training weight, length and age), arithmetic mean, standard deviation and standard error for (training weight, length and age) related to the study. The following table shows skewness coefficient values (-3 and +3). Thus, the sample of the study is homogeneous in the said variables.

Table (1): statistical factors of measuring units for arithmetic mean, standard error, standard deviation and skewness coefficient:

Statistical description / Variables	Mean	Standard Deviation S.D	Median	Standard Error	Skewness Coefficient	Type of discharge
Age	12.11	1.05	12	0.33	0.23	Random
Weight	33.11	6.70	33	2.20	0.32	Random
Total length	130.46	4.56	133	1.49	0.45	Random
Training age	6.32	1.04	6	0.34	0.45	Random

Tests of the Study:

30 m dash test (Hanafy Mahmoud, 1980, p. 73)

Test of skill performance on the vaulting horse jump

Exploratory Trial

The exploratory trial is a small trial to test validity of the main trial. The researcher determined original population, test type or items and a small sample of the population for trial (Wagih Mahgoub, 1995, p. 235). Therefore, the researcher performed its trial on a sample consisting of three players. The trial was on Thursday 08/01/2015 at 10:00 am to determine efficiency and validity of devices for tests and the needed time with concentration on camera locations in performing tests, training the assistant work team and determine accurate needs of tests.

Pre-Tests:

After setting study tests with 60% agreement among experts and specialists, the researcher conducted maximum speed test for the sample of the study on Thursday 15/01/2015 at the indoor hall of Al Amana Sporting Club at 10:00 am.

Video Recording of the Study Sample:

The researcher used video recording for the sample on Thursday at 10:00 am. The goal of recording maximum speed test is to extract biomechanical variables related to players' speed rate: step length and step frequency. After measuring total distance of test (30 m), a Sony video camera, made in Japan, was fixed on a triple stand on terrace to cover complete body of players with focal height of (1.80 m) and on a distance of (6.50 m) from players vertically on player's side during long distance running. With approval of the last 10 meters to extract variables and considering the first 20 meters as (10 x 10) as acceleration distance to reach maximum speed in the last 10 meters, after determining distance and fixing performance time for each player, speed rate for each player was extracted through the following equations:

Speed rate = step length x step frequency (Sarih El Fadly, 2010, p. 58).

Then

Step length = $\frac{Distance}{steps\ number}$

Step frequency = $\frac{steps\ number}{distance\ time}$

The Empirical Method:

The researcher considered the main conditions to set the educational course to serve the goal for which they were set. The course included some exercises related to rising and falling regressions with the help of references. The course consisted of eight weeks (3 educational units weekly).

Post-Tests

The researcher conducted post-tests and measurements on Tuesday 17/03/2015 at 10:00 am. The same procedures of pre-tests were applied with the attempt to control all previous conditions of pre-test whether spatial or temporal ones but with validity in results.

3. DISCUSSION & ANALYSIS OF RESULTS

Analysis of Results of Players' Speed Rate for Pre & Post-Tests of the Study Sample:

Table (2): Arithmetic Means and Standard Deviations S.D for pre and post-tests of speed rate variable:

Statistical Description	Pre-test		Post-test	
	Mean	SD ±	Mean	SD ±
Speed Rate	5.57	0.62	6.87	0.67
Skill performance on vaulting horse jump	5.34	1.23	7.21	0.967

Table (3): difference averages, standard deviation S.D, standard error, counted T value, error percentage an d significant for pre and post tests for speed rate variable:

Statistical Description / Variables	Difference average	Difference S.D	Standard Error	Counted T Value	Significance
Speed Rate	1.3	0.05	0.267	4.86	Significant for the post-test
Skill performance on vaulting horse jump	1.87	0.263	0.765	3.34	Significant for the post-test

Discussing Results:

Table (2) shows the effect of the used educational training on the study (rising and falling regression) in increasing speed through the increase insteps frequency. Sarih Al Fadly, 2010, p. 366 refers that training of rising regression benefits in increasing speed through increasing steps frequency. Here, it is possible to use regressions with different skewness degrees not more than 3.5 degrees. In consistency with the previously used mechanical rule by the researcher, there is a direct relation between speed rate, step length and frequency after focusing on educational units for the sample of the study for any of these two variables (step frequency) using regression

with a length of 20 – 30 meters as a start to run with maximum speed. Skewness degree should not be more than 2.5 degrees to avoid injury. This was considered as when a player increases his speed he should increase heart rate on the expense of length and this was asserted by (Ibrahim Salem El Sakkar et al, 1998, 309) agreeing with the view of Sadek Farag who says that: "to follow rising training is the efficient mean to enhance achievement". Running in rising regression sloping benefits in increasing speed through the increase in step frequency against gravity and regressions with various skewnss degrees can be used to allow starting running with maximum possible speed and benefit from ground response (sloping surface) and kinetic flexibility of general joints. Running on rising slopes forces the athletes to make flexibility in leg joints more than as usual. This was reflected on movements of players during performing maximum speed on normal surface and enhanced skill performance due to this kinetic task. This agrees with what was said by (Abu El Ela, 1997) as kinetic units participate to muscular contraction due to resistance amount faced by muscles. In case of low resistance, less kinetic units operate with less muscular tissues. In case of high resistance, the participation of kinetic units increases and, in return, muscular tissues in producing necessary strength to face resistance or overcome it (Abo El Ela Ahmed Abdelfattah, 1997, p. 15). Thus, muscular tissues participate due to load intensity in results of post-test as the development of player's ability to perform similar moves in the shortest possible time means development of its maximum speed through running on the slope. The use of sloping angles from 2 to 5 degrees and a distance 20 – 30 meters is considered one of the best methods to enhance legs movement. Such angles and distances allow free fast movement of legs better than the rest of angles. In addition, step length with a very small amount with each increase in step frequency refers that those two factors have efficiency in speed and strength endurance which the study worked to develop due to previously mentioned training to keep the highest rate of step frequency with goof percentage of lengths. As a result, this leads to speed with all its types and maximum speed in particular for field referees which necessitate players to move with maximum speed as shown by (Hanafy Mahmoud, 1980, p. 180).

4. CONCLUSIONS:

In the light of results reached by the researcher, it can be concluded that:

1. Consistency of training used on the sample of the study contributed to applying them correctly and suitably.
2. The prepared training has a positive effect on developing speed rate and frequency on vaulting horse jumping event.

Recommendations

1. It is necessary to use training on slopes to develop skill performance of other events.

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THE EFFECT OF USING PLYOMETRIC EXERCISES TO IMPROVE SOME PHYSICAL ABILITIES AND PERFORMANCE IN THE TRIPLE JUMP (HOP, STEP, JUMP)

Habib Bensikaddour[1], Houcine Benzidane[2], Ahmed Benklaouz Touati[1] Djamel Mokrani[2]

[1]*Laboratory of Human Movement Sciences , Institute of Physical Education and Sports, university of Abdelhamid Ibn Badis -Mostaganem-Algeria*

[2]*Laboratory of Programs Optimization in APS, Institute of Sports and Physical Education, university of Abdelhamid Ibn Badis -Mostaganem-Algeria*

bensikaddourh@yahoo.fr

hocine76ben@yahoo.fr

touatibenk@yahoo.fr

djameleps@yahoo.fr

Abstract

The research aims to study the effect of Plyometric exercises to improve some specific physical abilities in triple jump, where researchers used the experimental method due to the nature of the research relevance, and the sample was consisted of students from the Institute of Physical Education and Sports at the University of Mostaganem (Algeria). 44 students aged (19 ± 0.55 years) were selected and divided into two equal groups, the first was the control sample which used the traditional style and the second was the experimental one used plyometric exercises during the lesson to know the achievement of the educational goals of the effectiveness of the triple jump, while the tests used were (the broad jump test from the stability, 10 hop walk with the right foot and 10 other ones with the left foot from sprint, sprint 30 m from the moving start, performance in the triple jump). After the treatment of the results by statistical means, and through these results it have been reached several conclusions of them, Plyometric Exercises to develop some Specific Physical Abilities and performance in the triple jump, under discussion significant difference (*p≤0.05). One of the most recommended by the researcher emphasized the need to use, Plyometric exercises that have been applied in research units within the training curriculum due, with similar studies for the preparation of such exercises and use in the development of the rest of the other games.

Keywords: plyometric, Physical Abilities, performance, triple jump.

1. INTRODUCTION:

The Triple Jump consists of three distinct skills performed at speed in a continuous action as follows: Hop: During the hop the athlete uses the same foot for take-off and landing. Step: Athlete lands on the opposite foot (to that used for the hop). Jump: Athlete performs a jump from the "step" foot by landing in the pit the saying: "same; other; both" can help remember this sequence (Miladinov & Bonov .2004). The triple jump is one of athletic disciplines in which its practitioners must requires a range of physical, psychological, tactical and skills components. The physical aspect is an important and effective element in this event, and this is illustrated by some specialists that physical preparation for the level of jumper is the most important component of an effective and influential general jump distance, and this demonstrates the importance of the physical aspect of the effectiveness of the triple jump before the skills setting, also they indicated the necessary effectiveness of these physical attributes where he focused on the direct influence of muscle strength and its importance and how it relates to the element of speed to generate explosive power and thus improve the level of jump. As the inability to show muscle strength affects the mastery of skills and the development of performance and non-arrival of the athlete to the level he want to access.The use of the training and the variety of plyometric exercises and its effects and the need for practitioners of the discipline of triple jump to physical preparation commensurate with their abilities for the discipline and requirements to take a share deal of work is also associated with levels communicated by the player through the digital achievements that he can record in the triple jump. Where he is known The Plyometrics exercises are training techniques used by athletes in all types of sports to increase strength and explosiveness (Chu, 1998). Plyometric consists of a rapid stretching of a muscle (eccentric action) immediately followed by a concentric or shortening

action of the same muscle and connective tissue. The stored elastic energy within the muscle is used to produce more force than can be provided by a concentric action alone (Marginson et al., 2005) .Also some experts indicates that: The importance of plyometric to a strength and conditioning program has previously been established, with positive training adaptations reported for force production (Malisoux,et al.,2006) , muscular power (Thomas ,et al,. 2009) , sprint velocity (Kotzamanidis ,2006), and sprint economy (Kerdok,et al,.2002) . A review of the published literature produces a common definition of plyometric exercise. (Fatouros,et al,.2000 ; Moore & Schilling, 2005 ; Wathen,1993) , report plyometric exercises as those that are characterized by a rapid deceleration of the body followed almost immediately by a rapid acceleration of the body in the opposite direction. It is this eccentric, concentric contraction pattern which is reported to evoke the elastic properties of the muscle fibers and connective tissue in a way that allows the muscle to store more elastic energy during the deceleration phase and release it during the acceleration period. Whereas, Plyometric training specifically fulfills the needs of triple jumpers by developing the ballistic muscular strength these events demand. Care must be taken not to over train and risk injury. Nonetheless, plyometric are effective because they directly address several principles of training for the triple jump and duplicate many of the event's movements (Edward et al., 1995 ;Stander,2012) .Many researchers also believe that plyometric training or use of plyometric exercise is the most important methods in improving explosive power and distinctive speed force for many sporting activities, which require the integration of the maximum speed with maximum force of the muscle, this method contributes to overcome the problems that correspond to the force development. This is what was said by (Hamdi ,2011; Perttumen et al.,2000) , that plyometric training contribute to the improvement, especially in activities that use explosive muscular contractions achievement, and Rahimi and Behpur, (2005) , who pointed out that the plyometric training in the short term is effective to the development of muscle strength, improve upgrade and anaerobic capacity. Where in contrast adds that when you connect plyometric training exercises with the adoption of the loads is very effective for players (Ai et al.;2011) .It is understood that the primary objective in physical education and sports sections is upgrading physical for students so that they can practice practical lessons with a good level of fitness, and the research problem due to the follow-up of researchers in the field of teaching students in the athletics disciplines in institutes of physical education and sports, where it was noted weakness among students in the digital delivery, in addition the vulnerability of some specific physical capabilities associated with the triple jump and according to researchers this is due to adoption of lot of teachers of skills side, primarily during the teaching process, and the lack of use of appropriate methods of training concerned with the physical aspect which has a direct impact in performance in the as shows many experts in the field of specialization, as well as studies and previous research, so the researchers felt the use of certain plyometric exercises and find out how effective they are in improving some physical capabilities of digital and achievement in the triple jump at the first-year students of physical education and sports at the University of Mostaganem – Algeria.

Research Aim:

– Prepare Plyometric exercises to develop some Specific Physical Abilities in triple jump of the first year students of L.M.D physical education and sports

– Prepare Plyometric exercises to develop the performance in the in triple jump of the first year students of L.M.D physical education and sports

– To identify the differences between pre and post tests for members of the research group.

Research Hypotheses:

– That the Plyometric exercises have a positive impact in the development of some Specific Physical Abilities in triple jump

– That the Plyometric exercises have a positive impact in the development of performance in the in triple jump

– There are no statistically significant differences between tribal and dimensional tests and for the post-test

2. METHOD:

– **Research Methodology:**

– The researchers used the experimental method for the nature and relevance of the research problem.

– **Group and the research sample:**

group research was selected from the first year students of L.M.D physical education and sports at the Institute of Physical Education and Sports –University of Mostaganem- Algeria for the season 2013-2014, ranging in age from 18 to 20 years old, and totaling 250 students, and 44 students were chosen intentionally and divided into two groups: an experimental group of 22 students and a control group includes 22 students from the first year for the L.M.D.in specialty of athletics.

- **Specification tests under discussion**
- The broad jump test of stability**:** measuring the explosive force of the muscles of the legs.
- 10 Hop walk for two legs from sprint: measuring the specific speed force.

- Test sprint 30 m from the moving start: measuring the speed
- Testing of sprint the triple jump: measuring the level of achievement in the triple jump.
- **Principal experience:**

After selecting the appropriate plyometric exercise and associated elaborately technical steps in the triple jump, in order to ensure the credibility of the research the researchers followed the simplified method using modern scientific method to learn the steps, where it was given 10 educational and training sessions at the same time, where it was first done tests tribal experimental group , the control sample was train in the traditional manner, and after the end of the programmed application of quotas relating to research and then make a posteriori tests for each of the two samples to determine the collection rate and find out how effective plyometric exercise used.

- Training sessions were conducted in the mornings on Sundays and Wednesdays and was the usual times for the training of research sample and a set of plyometric exercises were prepared with the aim of developing explosive power of the legs with first-year students of physical education and sports using the tools and necessary means.

Where it was proposed 10 training sessions and each session has its own procedural goal and starting from 05/02/2014 until 16/03/2014.

Educational quotas were divided into 3 sections consistent content goes with objectives and they are as follows:

1-The preparatory segment: is the warm-up period or the initialization phase, all terms of the content of one used in the training unit, and range from 20-minute to receive in accordance with the duties and the application of the motor in the main stage.

2 - The main part: the main part of the exercise, which works to achieve the goal of educational goals or quotas, which are given plyometric exercises directly related to the discipline of the technical steps in triple jump a 45-minute contain.

3 - The final part: the final part of the relaxation exercises and calming contain, and duration of 15 minutes.

The first phase included 02 weeks and the duration of use of the proposed exercises about 20 minutes and the intensity of load ranged between 40% to 60% and the number of iterations per exercise was from 06 to 10 with 03 to 04 groups with a rest of an estimated 45 to 60 seconds. The second stage involved a 03 weeks and the duration of use of the proposed training was about 20-30 minute and load intensity ranged between 50% to 70% and the number of iterations per exercise was from 08 to 12 with 04 to 05 groups with a rest of an estimated 60 to 90 seconds. But the control sample was exercising long jump under the supervising professor.

Some plyometric exercises used in practical lessons:

- Jump exercises in place one foot and feet together
- Jump exercises with movement right / left one foot
- Jump exercises from sprint right / left one foot
- Exercises bounce barriers heights Gradient
- Hop exercises of walking, sprint light, sprint average
- Hop and jump exercises together of walking, brisk walking and sprint light
- Hop exercises and jump together with the decline of walking in the sand pit
- Hop exercises and jump together from a brisk walk with landing in the sand pit
- Hop exercises and jump together with the landing of sprint in the sand pit.
- Connectivity sprint exercises between the approximate, hop, and stepping in a hole and then jump to ump.
- Zig Zag jumps or Slalom jumps (two footed) Hops (right leg) ,Hops (left leg) , Bounding/Stepping.

Statistical analysis

To produce an objective judgment on the effect of Plyometric exercises to improve some specific physical abilities in triple jump. We reached the statistical results of our research, which was carried out using SPSS v.20. For data of central tendency and dispersion measures, in physical capacity and athletic performance in the same context, we used also:

Independent-Samples T Test for comparing the average of two case groups (the control sample and experimental sample). (Cortina & Nouri, 2000)

3. RESULTS:

– **Display, analyze and discuss the results:**

Table 1 Descriptive statistics for control group and experiment group (mean ± SD and Std. Error)

Group Statistics		Pret-test				Post-test		
group		N	Mean	Std. Dev.	Std. Error Mean	Mean	Std. Dev.	Std. Error Mean
The broad jump test of stability	contol group	22	2.19	0.15	0.03	2.28	0.14	0.07
	experimental group	22	2.24	0.13	0.02	2.41*	0.19	0.08
10 Hop walk for right legs	contol group	22	22.87	1.98	0.51	24.2	2.15	0.75
	experimental group	22	22.78	2.11	0.69	25.8*	0.98	0.28
10 Hop walk for left legs	contol group	22	22.78	2.25	0.75	23.8	2.07	0.83
	experimental group	22	22.74	1.98	0.81	25.6*	1.74	0.76
sprint 30 m from the moving start	contol group	22	4.95	0.31	0.09	4.65	0.27	0.085
	experimental group	22	4.86	0.27	0.07	4.34*	0.23	0.063
Performance in the triple jump.	contol group	22	9.20	0.58	0.11	9.71	0.54	0.15
	experimental group	22	9.41	0.51	0.13	10.1*	0.49	0.11

Note: Values are reported as mean ± s.

* indicates significant difference (P < 0.05) from baseline

-Display, analyze and discuss the results of the tests with experimental sample

Table 2. sample comparisons tests between pre-test and post-test in the experimental sample (* p ≤ 0.05)

Statistical measurements	Pre-test		Post-test		T
	Mean	Std. Deviation	Mean	Std. Deviation	
The broad jump test of stability	2.24	0.13	2.41	0.19	4.95*
10 Hop walk for right legs	22.78	2.11	25.8	0.98	3.52*
10 Hop walk for left legs	22.74	1.98	25.6	1.74	5.43*
sprint 30 m from the moving start	4.86	0.27	4.34	0.23	3.99*
Performance in the triple jump.	9.41	0.51	10.1	0.49	5.63*

Statistical signification 0.05 , degree of freedom 21, T Tabulated = 2.08

Note: Values are reported as mean ± s.

*indicates significant difference (P < 0.05) from baseline

We note from the table (01- 02) the results for the experimental sample ,Show a significant difference between the results of the pre and post tests and reached the arithmetic mean of the difference between the results of pre and post- tests, The value (t) calculated (4.95, 3.52, 5.43, 3.99, 5.63) while the value (t) Indexed (2.08) at the level of (0.05) and the degree of freedom (21) Since the value of (T) the

calculated value is greater than tabular indicates that the moral difference between the two tests tribal and posttest and in favor of the post test.

Displays and analyze the results of the tests with the control sample

Table (03) shows the results of the tests in question through tribal and dimensional measurements using T Student

Statistical measurements	Pre-test		Post-test		T
	Mean	Std. Deviation	Mean	Std. Deviation	
The broad jump test of stability	2.19	0.15	2.28	0.14	4.35*
10 Hop walk for right legs	22.87	1.98	24.2	2.15	2.10*
10 Hop walk for left legs	22.78	2.25	23.8	2.07	3.55*
sprint 30 m from the moving start	4.95	0.31	4.65	0.27	5.82*
Performance in the triple jump.	9.20	0.58	9.71	0.54	5.61*
Statistical signification 0.05 , degree of freedom 21, T Tabulated = 2.08 Note: Values are reported as mean ± s. *indicates significant difference (P < 0.05) from baseline					

We note from the table (03) the results for the control sample ,Show a significant difference between the results of the pre and post tests and reached the arithmetic mean of the difference between the results of pre and post- tests, The value (t) calculated (4.35,2.10, 3.55, 5.82, 5.61) while the value (T) Indexed 2.08 at the level of (0.05) and the degree of freedom (21) Since the value of (T) the calculated value is greater than tabular indicates that the moral difference between the two tests tribal and posttest and in favor of the post test.

Comparison of post-test results of research samples:

Table 4. Independent sample t-test comparisons between experimental and control sample (*p≤0.05)

	Levene's Test for Equality of Variances											
	research samples						t-test for Equality of Means					
	Control		Experimental		F	Sig.	T	df	Sig. (2-tailed)	Std. Error Dif.	95% Confidence Interval of the Difference	
	Mean	Std. Dev	Mean	Std. Dev.							Lower	Upper
broad jump test of stability(m)	2.28	0.14	2.41	0.19	0.59	0.07	2.06*	42	0.01	0.18	0.23	0.75
10 Hop walk for right legs(m)	24.21	2.11	25.81	0.98	0.35	0.56	2.57*	42	0.00	0.09	-0.92	-0.18
10 Hop walk for left legs(m)	23.88	2.07	25.59	1.74	0.01	0.92	2.36*	42	0.01	3.98	-0.50	-0.12
sprint 30 (m) from the moving start(s)	4.65	0.27	4.34	0.23	0.02	0.88	3.27*	42	0.00	0.27	1.11	3.14
performance in the triple jump. (m)	9.71	0.54	10.11	0.51	3.51	0.07	2.20*	42	0.01	0.08	0.23	0.75

Statistical signification 0.05, degree of freedom 42, T Tabulated = 2.02

It is noted through the table (04) that the values of the calculated T, which came between 2,06 smallest value and 3,27 as the largest value is the largest spreadsheet T, which reached 2.02 for the degree of freedom 42 and the significance level 0.05, which confirms the presence of significant moral differences between these averages which are the differences taking place between the averages statistically significant. , and this information is detailed at Figure 1.

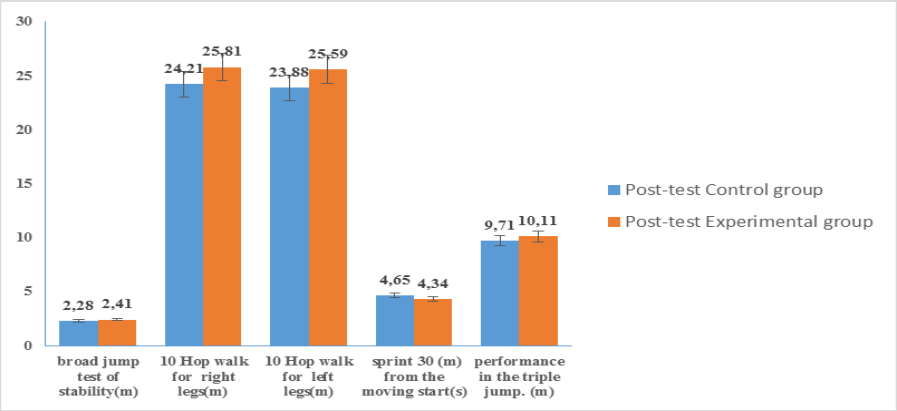

Figure 1. Indicates comparisons between experimental and control sample at Averages Performances In the research variables and athletic performance in triple jump. (*P < 0.05)

1. Discuss the results:

Through the results in tables (02) and (03) which shows the difference between the averages before and after the two samples of research experimental and control in test broad jump of stability, and in test Hop (10 right foot from sprint and 10 left foot from sprint) , in 30 m sprint, which is in favor of post measurements. Which confirmed the effectiveness of the use of plyometric exercise in improving some specific physical capabilities for triple jump discipline in athletics, and the control sample results achieved statistically function, but the differences were for the experimental sample.

Also it shows that the experimental group achieved a better development as a result of attention to improving the ability of jump and Hop by receiving the experimental group special plyometric exercises that help performance and proficiency jump ability and hop.

The researchers explain it to that skill Hop right foot and left foot and then jump lead to access to the target circle also the focus here is to use speed in this skill to be effective performance, giving some educational steps in learning these steps, because the attention to the physical while teaching helps achieve a positive effect in the results, which were divided and the order of steps logically sequential arrangement, make an educated article more interesting for the student, taking into account individual differences among them. This is what the students helped the rapid absorption of the technical steps for effective by linking technical steps in the triple jump by focusing on the recruitment plyometric exercise directly related to the effectiveness. Also refers Through previous studies like (Allen et al.,2011 ; Flora et al.,2015 ; Apostolos et al.,2013 ; Makaruk et al.,2011) .The use of plyometric training contributes to the improvement and upgrading of jump in sports activities that rely on explosive power in the ability of the lower parties.

Through the results of testing performance in the triple jump table (01) and (02) we find that the experimental group achieved better progress through the use of plyometric exercise that contributed to the ability of how to master the hop and jump and stepping in a hole of jump.

The researchers justify the proportion of experimental sample progress on the control sample to improve Hop and jumps kills, which is one of the key components in the discipline of the triple jump, and it was a focus on the special physical abilities under discussion, and improved by employing plyometric exercise. also that the role of the teacher was crystallized in helping students to rely on self-feedback nutrition, and the use of a fixed standard in order to achieve self-perception process. This is consistent with the study (Chimera et al., 2004; Essam 2014 ; Benito et al., 2013; Donley, 1991) .the results showed significant improvements in the performance of athletes who used plyometric exercises.

And that The type of series of performed plyometric exercises with medium strength and represented by a range of different plyometric leaps confirmed the effective impact on the muscular system through the development of the relationship between the maximum power and the explosive power of the lower parts. Thus the development of upgrade capability that improves performance in the in efficiency, and this corresponds to the study of Malisoux (2004), plyometric training that contributes to the improvement chiefly in activities that

use explosive muscle contractions, and according to (Miller& Hay,1986; Ozbar et al., 2014; Hori, et al.,2008;) . who pointed out that the effective plyometric training in the short term for the development of muscle strength and high upgrade.

Through Table (03) we note that there are significant differences between the post measurements for each of the experimental group and the control group in the level of physical abilities of digital and achievement triple jump discipline pilot for the experimental sample, and this result indicates that plyometric exercise was more effective in improving performance in the applied in the triple jump tests compared to the traditional method, which relies on memorization and performance of the model with the control group.

This confirms that the use of plyometric exercise in line with the characteristics of the game is an important principle for effective educational situation a principle taking account the individual differences among students, and given an additional motivation for learning as a result of the use of devices and tools to assist in education and training. Which led to attract the attention of the learner, to know the material process, and provide opportunities for creativity shown by the student during the course of the lesson. This is in line with the study of (Wong, et al., 2010 ; Damon , et al., 2010 ; Suhail ,2014 ; Koh & Hay ,1990) Showing that: Plyometric exercises increase muscular power and are most effective when designed to complement the specific movements required of the athletic activity.

It is shown by the results of individual differences morale among post measurements between the two sample search tests, as shown in Table No. (03) Presenting the results of the post tests in question (jump of stability, Hop of sprint, it was 30 m, performance in the triple jump).

This actually confirms the effectiveness of using plyometric exercises while teaching with the students led to an improvement in the some physical abilities and performance in the with the experimental research sample (Sam et al.,2013; Labuber, et al.,1993;).

Finally Through the presentation of the previous results found that the curriculum prepared according to scientific controls has resulted in the development of the explosive power of the muscles of the legs as the use of methods of training and different in a scientific as well as the use of different Intensity and rest periods sufficient to restore the healing and the number of its replication fits with the intensity of exercise as well as the use of body weight at elevations varying has led to the development of the explosive power of the muscles of the legs and this, which led to the development aspects of physical, and reflected this development on the technical performance and this was confirmed that the plyometric exercises are aimed at the physical and qualities associated with the type of sports activity development.

4. CONCLUSION

We conclude

– That the Plyometric exercises have a positive impact in the development some Specific Physical Abilities in triple jump

– That the exercises Plyometric a positive impact in the development performance in the in triple jump

– There are no statistically significant differences between tribal and dimensional tests and for the post-test.

– Best improve of the experimental sample-based on plyometric exercises Albulaomitrih lessons in the process compared to the control sample, which rely more on the technical side only in the triple jump.

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USING THE KINEMATIC ANALYSIS FOR DETERMINE THE OPTIMAL DISTANCE BETWEEN THE TWO FISTS IN THE SNATCH WOMAN WEIGHTLIFTERS

Dr.Jamal S.M.Abubshara

Dr. Osama Abdel Fattah

Palestine Technical University – Kadoori (PTUK)

jamal_abubshara@yahoo.com

Abstract

This study aims to identify the values of some variables Kinematic with Jordanianweightlifter national team by using different methodsto distance between the two fists in the snatch, then compared it with the results achieved from international weightlifters, and explore the best distance between the two fists which achieve the best values for the variables kinematic in the snatch. Researcher used descriptiveapproach. The sample of study consisted of the best weightlifter in JordanianNational team in 75+ kg. The study included (3) methods for the distance between the two fists, and (17) dependent variables. Statistical analysis was completed with using frequencies and percentages. The study results showed that the values of some variables Kinematic of the studysample waswithin the results achieved from international weightlifters. The angle method is the best for study simple, because had the best percentage of the variables values kinematic. The researcher recommend coaches to train weightlifters more than methods, and use the kinematic analysis in the process of determining the distance between the fists**.**

Key Words: kinematic, women, weightlifting, Barbell, snatch.

1. INTRODUCTION:

Weightlifting, an event restricted only to men in the past, has gained popularity among women since the first Women's World Weightlifting Championships in 1987, yet the performance development in this event has not been studied as much in women weightlifters as in men (Gourgoulis et al., 2002; Hoover et al., 2006).And also the popularity of women's weightlifting has grown in recent decades, and women competitors achieved Olympic status at the 2000 Games in Sydney, Australia, as with the men.

The importance of this study through a topic that addressed, it is a scientific serious attempt to use scientific methods and objectivity in the selection of the distance between the fists in the snatch at female weightlifters in proportion to their potential, and to provide the theoretical foundation for coaches and thus employed in the training process for the development of the achievements of digital female weightlifters in the snatch because the coach can't, whatever the technical expertise to prepare champions in weightlifting is not available, has a precise scientific information about the numeric values of mechanical variables affecting the performance.

Therefore, this study aimed to bridge the sex-based gap in the weightlifting research literature by analyzing the biomechanical performance of women weightlifters competing on the national level. and thus providing valuable information for athletes and their coaches to integrate into training and competition, and it is considered an attempt by researcher to explore the changes in the kinematic variablesvalues caused by the different method for distances between the fists in the snatch, which requires a scientific and accurate study to answer the question: What is the best distance between the fists that values? To help coaches and lifters better understand the snatch lift.

The researcher believes that many of coaches depend in determining the distance between the fists on: the player feeling the provisions on the barbell without regard to the mechanical aspects that control better performance, and the Coaches often depends on the distance between the fists of the players on personal experience, which may be insufficient and not objective because female players Different in anthropometric measurements. therefore, this study aimed to identify: the values of some kinematic variables in a studysample using different methods than the distance between the fists in the snatch and compared with the results achieved from international weightlifters, thus identify the best distance between the fists and that achieve the best values of the variables kinematic that affecting on achievement for the study sample.

According toGourgouliset al., (2002).The maximum angle of the knee during the first pull phase was 129 ± 11°, and the maximum angle of the knee during the second pull phase was 164 ± 6.47°, while the knee angle at Maximal height of the barbell was 41.75 ± 9.9°, and the drop displacement was 18.6 ± 3.7cm. As well Hoover, et al., (2006) study, that horizontal displacement toward weightlifter in the first pullphase was 1-8 cm, and the Horizontal displacement toward weightlifter in the second pull phase was 1-14 cm, and horizontal displacement toward weightlifter after beginning of descent from maximum height was 3-17cm. According toHarbili, E. (2012).The barbell height at the end of the first pull was 49cm, and the barbell height at the end of the second pull was 89cm, while Maximum barbell height was 117cm, and the Maximum vertical velocity of the barbell in the first pull was 1.13m.s, and maximum vertical velocity of the barbell in the second pull was 1.08m/s, while the duration of the first pull phases was .51s and the duration of the second pull phases was .15s

2. METHOD:

Experimental Approach to the Problem

This study was descriptive in nature. The data for this study were collected only from female Jordanian national team in the snatch lift for 75+ kg, also (Table 1) shows the characteristics of sample study. And to determine the development of female snatch performance, the data were collected, then analyzed and compared with female weightlifters reported in the World Weightlifting Championships.

Table 1. Sample characteristics

Age (y)	**Bodyheight** (m)	**Body** mass **(kg)**	**Weightcategory(kg)**	**Barbellmass (kg)**
20	**1.72**	**83**	**kg 75+**	**80**

Methods for determining the distance between the fists in the snatch

Researcher choose three methods to determine the distance between the two fists: **1- Arm and shoulder method:** a weightlifter raises his arms aside at level of the shoulder and measured the distance between thefist extended arm and joint of shoulder adverse grip Figure (1)

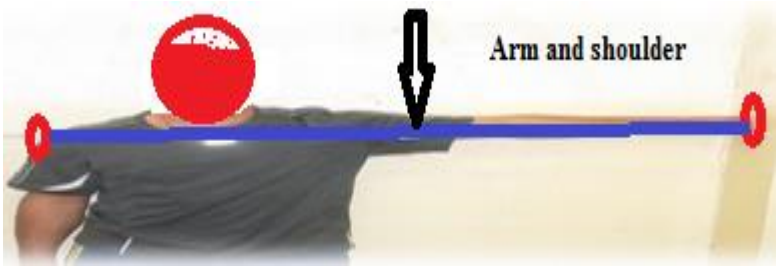


Figure 1.Arm and shoulder method

2- Distance between the elbowsMethod: Weightlifter raise his arms aside and proving of the elbows so that the level of the shoulders thenmeasure the distance between the elbows. Figure (2)

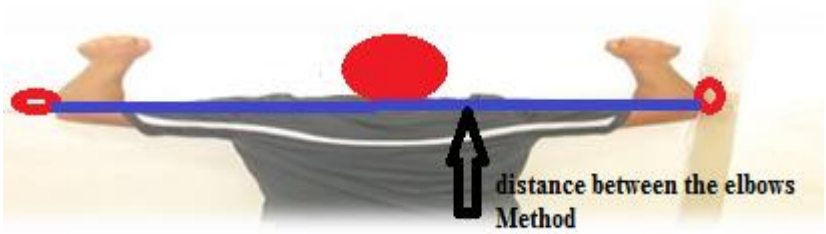


Figure 2. Method of the distance between the elbows

3-Method of angle : angle measured between the barbell and forarm weightlifter, so ranging angle value between 49-63°, andvalue at angle reached55° in studysample, and the most logical opinion in determining the angle according to the classification of body mass range between 56- 61° where this angle, These range from angle where even mass 90 kg. (Faver, M.2007).figure (3)

Figure 3.Angle method

Procedures

Snatch lifts were recorded using one digital camera Fuji (F500) , which capturedimages at 50 fields per second, a digital camera was positioned on the verticalon Laterallevel of the platform at a distance of (6) m from the weightlifter. The researcher was filmed successful attempt of each method by lifting 80 kg in each attempt, luminous markersput on joints of the bodyopposite the camera (shoulder, elbow, wrist, pelvis, knee and ankle) as well as the barbell side of the camera.

The study variables

The researcher found some of the related studies such as, (Gourgoulis, et al., 2002) ;(Harbili, E.2012) ;(Akkus, 2012), studies. This study included thethree independent variables: Arm and shoulder method, distance between the elbows method and angle method, and 17 dependent variable .table (2)

Table 2.The study variables

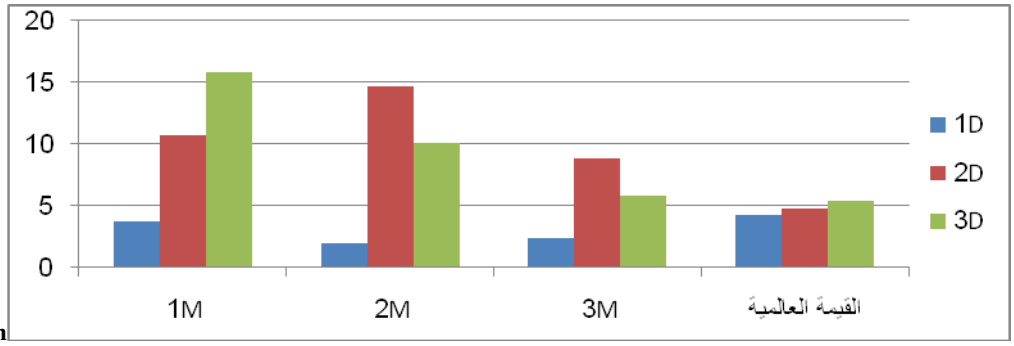
variable	shortcut
Horizontal displacement away from weightlifter in the first pull (cm)	D1
Horizontal displacement away from weightlifter in the second pull (cm)	D2
Horizontal displacement from weightlifter in the maximum height (cm)	D3
Barbell height at the end of the first pull(cm)	D4
Barbell height at the end of the second pull(cm)	D5
Maximum barbell height(cm)	D6
Drop displacement (cm)	D7
The duration of the first pull(s)	T1
The duration of the second pull(s)	T2
Knee angle in phase grab a moment of barbell (degree/°)	A1
Hip angle in phase grab a moment of barbell (degree/°)	A2
Knee angle in the end of first pull (degrees/°)	A3
Knee angle in the end of second pull (degrees/°)	A4
Hipangle in the end of first pull (degrees/°)	A5
Hip angle in the end of second pull (degrees/°)	A6
Maximum vertical velocity of the barbell in the first pull(m/s)	V1
Maximum vertical velocity of the barbell in the second pull(m/s)	V2

Statistical Analyses

Statistical analysis was completed with using frequencies and percentages

3. RESULTS AND DISCUSSION:

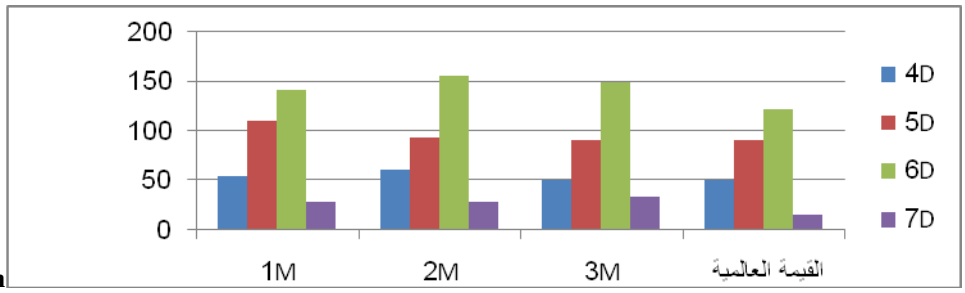
After collection the special data of studysample and after analyzing the images have been successful attempt getting results shown by the Figures (4-9).



Displacement/cm

Method **Figure 4.Variables (D1, D2, D3)**

Figure (4) clearly shows that horizontal displacement away from weightlifter in the first pull (D1) was 3.72 cm in the method (M1) and 2 cm in the method (M2) and 2.35 cm in the method (M3), It is within the results achieved in the (Harbili, E. 2012) study, which ranged between 1.25 - 4.26 cm. While the horizontal displacement away from weightlifter in the second pull (D2) 10.70 cm in the method (M1) and 4.70 cm in the method (M2) and 8.82 cm in the method (M3), which they are a greater than the results achieved in the (Harbili, E. 2012) study, which ranged between 1.55-4.74 cm and researcher believes that will increase the resistance on the arms and thus will become the next phase difficult and tedious. while horizontal displacement from weightlifter in the maximum height(D3) was 15.88 cm in method (M1) and 10 cm in the method (M2) and 5.88 cm in the method (M3), they are the largest of the results achieved in the (Harbili, E. 2012) study, which ranged between4.20-5.41cm.



Displacement/cm

Method **Figure 5. Variables (D4, D5, D6, D7)**

Figure (5)clearly shows that barbell height at the end of the first pull (D4) was54 cm inthe method (M1), and 61.18 cm in the method (M2), and51.19 cm in the method (M3), which they arenearof the achieved results in the (Harbili, E. 2012);(Akkus,H. 2012)which ranged between 49- 52 cm,exceptthe method(M2) was high. whilethe barbell height at the end of the second pull(D5)was The 110 cm in the method(M1) and 93.53 cm in the method(M2) and 91.43 cm in the method(M3),which they arenearof the achieved resultsin the (Harbili, E. 2012);(Akkus, H. 2012), studieswhich ranged between89- 2.16 cm, exceptthe method(M1) it was high. While themaximum barbell height was 142 cm in the method(M1) and 156 cmin the method (M2) and150 cm in the method(M3).which they aremore than the achieved results in the (Harbili, E. 2012);(Akkus, H. 2012), studieswhich ranged between117-133 cm,due to attributed it lag of weightlifter in the rotation and go down under the weight. While the drop displacement (D7) was 28.27 cm in the method(M1), and 28.90 cm in the method(M2), and 34.16 cm in the method (M3)which they aremore than the achieved results in the (Harbili, E. 2012);(Akkus, H. 2012), studieswhich ranged between 13-21 cm.

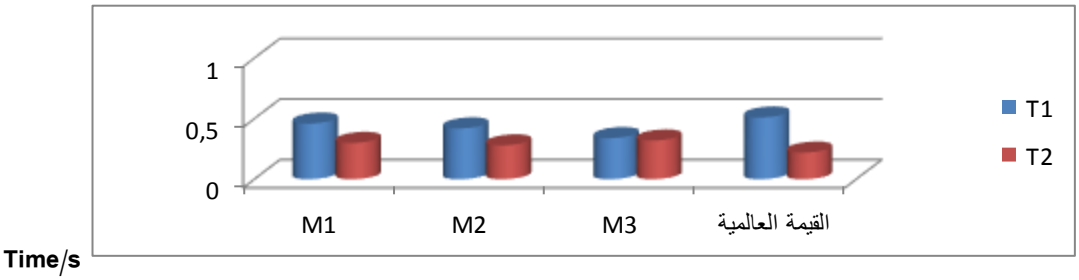


Figure 6. Variables (T1, T2)

Figure (6)clearly shows that the duration of the first pull (T1) was .46 s in the method (M1) and .42s in the method (M2), and .34sin the method (M3) whichthey arelow than the achieved result in the (Harbili, E. 2012) study, which amounted to .51 s. While the duration of the second pull (T2) was .30s in the method(M1) and .28s in the method(M2) and .33s in the method(M3),which they arenearof the achieved results in the (Haijun, G. &Xinna, H. 2012) study which ranged between .18 –.28s

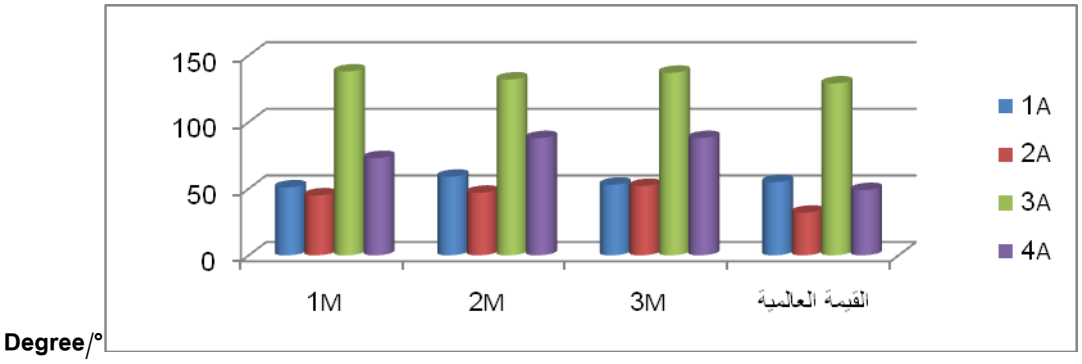


Figure 7. Variables (A1, A2, A3, A4)

Figure (7)clearly shows thattheknee angle in phase grab a moment of barbell (A1) was51° in the method (M1) and 59° inthe method (M2) and 53° in the method (M3), which it is within the results achieved in the(Gourgoulis, et al,. 2002) study, which ranged between 42-67°. While thehip angle in phase grab a moment of barbell (A2) was 45°in the method(M1) and 47 ° inthe method(M2) and 52° in the method (M3),which they aremore than the achieved results in the (Haijun, G. &Xinna, H. 2012) study which ranged between, 25-35°. While theknee angle in the end of first pull(A3), was 138° in the method(M1), and 132° inthe method (M2) and 137° inthe method (M3), whichthey arewithin the results achieved in theGourgoulis, et al, (2002)study,which ranged between 118-140°. while theknee angle in the end of second pull (A4) was 73° inthe method (M1) and 88 ° in the method(M2) and 87° inthe method (M3),which it ismore than the achieved results in the(Haijun, G. &Xinna, H. 2012) study, which ranged betweenranged between 28-69°

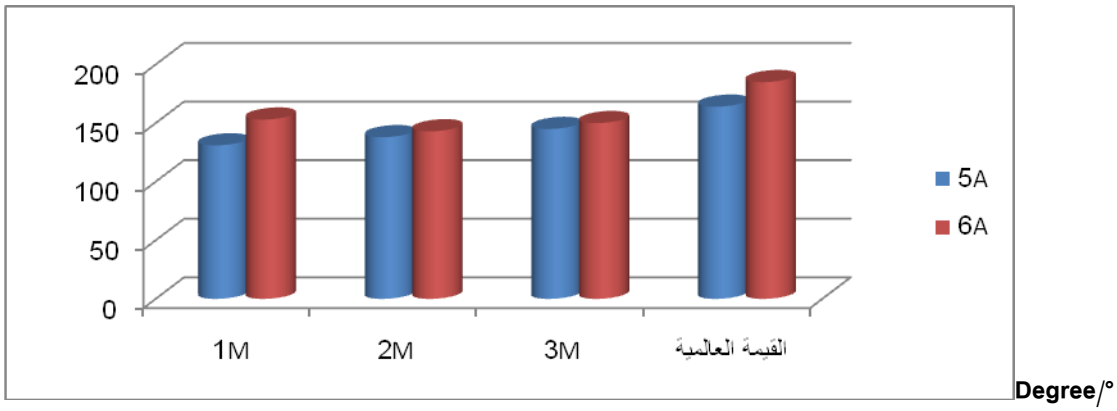


Figure 8.Variables (A5, A6)

Figure (8)clearly showsthe hip angle in the end of first pull (A5) was 131° in the method(M1) and 138° in the method(M2) and 145° in the method(M3), whichthey arelower than the results achieved in (Akkus, H. 2012) study,which ranged between 158-170°. While the hip angle in the end of second pull (A6), was 153° in the method(M1) and 143° in the method(M2) and 150° in the

method(M3).whichthey are lower than the results achieved in (Akkus, H. 2012) study,which ranged between 180-190°.and may be caused that weakness in the muscles of the thighs and torso andlack in theflexibility body joints , considers flexibility of weightlifter an important in role in the effectiveness of performance art in weightlifting as well as the rest of the fitness of other elements.

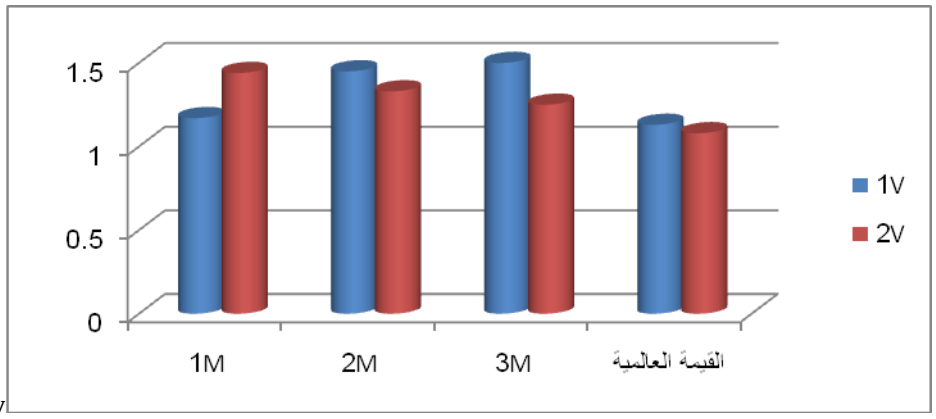


Figure 9. Variables (V1, V2)

Figure (9)clearly shows the maximum vertical velocity of the barbell in the first pull (V1) was .17 m / s in the method (M1) and 1.45 m / s in the method (M2) and 1.50 m / s in the method (M3) which they are more than the achieved results in the (Harbili, E. 2012) study, which amounted to 1.13 m /s. While themaximum vertical velocity of the barbell in the second pull (V2) was 1.44 m / s in the method (M1), and 1.33 m / s in the method(M2) and 1.25 m / s in the method(M3), which they are more than the achieved results in the (Harbili, E. 2012) study, which amounted to 1.08 m / s. To identify the order of study variables in the methods used, Table (3) shows that.

Table 3.The order of study variables

Variables	D1	D2	D3	D4	D5	D6	D7	T1	T2	A1	A2	A3	A4	A5	6A	V1	V2	% Percentage
methods	**order**																	
M1	1	**2**	2	2	3	1	2	1	2	2	1	3	1	3	1	1	3	33
M2	3	**3**	3	3	2	3	1	2	3	3	2	1	3	2	3	2	2	29
M3	2	**1**	1	1	1	2	3	3	1	1	3	2	2	1	2	3	1	38

Table (3) clearly shows a percentages obtained by each method, depending on the number of variables which were its values similar to those achieved values in World Championships. And figure (10) shows the percentages of each methods.

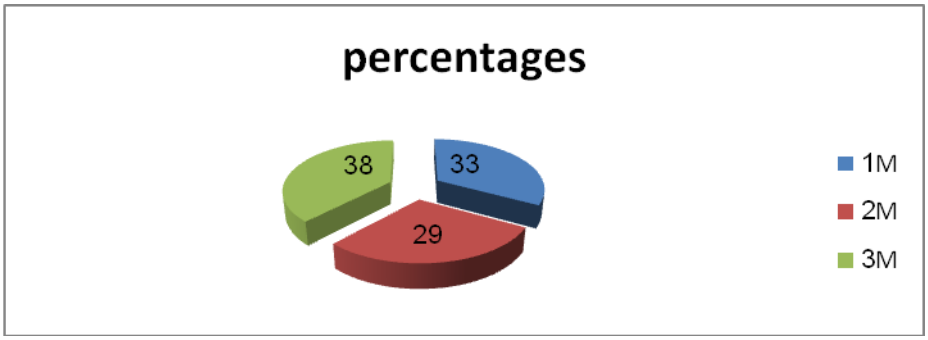


Figure (10) percentages of method

Figure (10) clearly showsthe third method (M3) that depend on the angle, was the best due to achieved a percentage of 38% compared to the other method, while achieved the first method (M1) second place by 33%, and achieved second method (M2) third place by 29%.

4. CONCLUSIONS:

In the present study,that some of the variables kinematic values ofthe study sample werenear of the results achievedinternational weightlifters, as well the third method is the best methods for the study sample, and thekinematic values of variables t different from one method to the other. The researcher recommendcoaches to trainweightliftersmore thanmethods, and use the kinematic analysis in the process of determining the distance between the fists, and focus on the good physical preparation for the weightlifters, especially muscle strength and flexibility.

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