

# The Effect of Competition Training on Developing Motor Energy of some Requirements of Skill Performance and Assertive Behavior for Handball Players of the Specialist Center in Diala

Alaa Ibrahim Jasim

Ministry of Education, Diala Education Directorate

## ABSTRACT

This study aims to determine the effect of competition training on developing motor energy of some requirements of skill performance and its relation to the assertive behavior of handball players. Handball training should have suspense and competition to work on developing their performance levels. No doubt that this works to develop their motor energies. It is the term that is often circulated in dealing with sport practice for early ages as well as the youth. It is known that positive psychological atmosphere provided by sport practice in general and competition training affect physical abilities of the players. This leads to develop their internal energies represented in their motor energies reflected on their psychological characteristics during the performance. We selected the assertive behavior as one of the positive psychological characteristics that help players to develop the effectiveness of their fruitful performance. This motivated the researcher to study the relation of developing motor energy of players through competition training to increase their assertive behavior, which increases with the increase in the effectiveness of their physical abilities as the researcher believes. The sample was selected purposively consisting of 12 players from Diala Club Youth team to represent 75% of the population of the study represented in players of the specialist handball center who are 16 players. The study used the empirical method with the single group as it is appropriate to the objectives of the study. This method aims to collect facts and data about a certain phenomenon or situation with the attempt to explain these facts completely.

**Keywords:** Competitive training, motor energy, assertive behavior

## INTRODUCTION

There are various performance requirements in handball, whether they are physical, mental, or psychological due to the nature of handball game which is characterized by high competitiveness to win through players' technical capabilities and related to physical aspects to form performances that reflect their motor energy

and crystallize their active sports bodies to beat the opponents. This could also with an assertive behavior represented in the selection of defensive skill or even offensive ones on time and at the right place, and this is incumbent on trainers to be taken into consideration and direct training curricula toward it to invest motor and psychological energy of athletes to win the game and thus the achievement of championships. It is known that competition training is one of the training methods, which depend on the game's requirements and conditions in determining training doses and depends on physical and psychological factors, the level of motor ability, skill level, psychological, and tactical ability.

This method is used for the development of physical, skills, or tactical elements during diverse games, and

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### Address for correspondence:

Alaa Ibrahim Jasim, Ministry of Education, Diala Education Directorate. E-mail: [alaajasimспорт29@yahoo.com](mailto:alaajasimспорт29@yahoo.com)

in particular, the elements and requirements of sport effectiveness. This is clearly evident in the team games by giving the terms in the direction to be achieved during the course of playing in its various forms with commitment to the law of specialist efficiency (Ibrahim, 2010: p. 144), making this training method an ideal one for the development of motor energy of athletes as well as mental abilities including the assertive behavior that is positively reflected on physical and technical performance.

### Objectives of the Study

1. Define motor energy for some requirements of skill behavior for members of the sample of the study
2. Define assertive behavior for members of the sample of the study
3. Define the effect of competition training on developing motor energy for some requirements of skill performance, motor energy, and assertive behavior for members of the sample of the study.

### Hypothesis of the Study

There are statistically significant differences between pre- and post-tests in motor energy in some requirements of motor energy and assertive behavior for members of the sample of the study.

## METHODOLOGY

The study used the empirical method with the single group as “empirical research is characterized with accuracy and control of studied variables in a way that makes an intentional change in some of them and controls other variables as it is considered the only research methodology, which shows the relation

between cause and effect accurately (Mohamed and Kamel, 1999: p. 104).”

### Population and Sample of the Study

The sample was selected purposively consisting of 12 players from Diala Club Youth team to represent 75% of the population of the study represented in players of the specialist handball center who are 16 players. To control variables of the study which accompany the research trial, the researcher extracted homogeneity to ensure closeness of sample in the study variables (age, length, and weight) as shown in Table 1.

### Field Procedures of the Study

#### Determining tests used in the study

For the purpose of measuring the variables under study, it was a duty to determine the tests that are related to the phenomenon to be measured (Wagih, 2001: p. 201) and the researcher identified tests through the use of experts to identify research variables, which are best suited to the subject of study.

First, to extract motor energy values for each value related to performance requirements under study, the researcher resorted to treating results of all tests in the motor energy rule as it is a fixed rule through which it can be calculated as follows:

Motor energy =  $1/2 \text{ mass} \times \text{speed}^2$  (Al Khaldi et al., 2010: p. 84) as mass is calculated from weight counted for each student individually and in pre- and post-tests from the mass rule.

Weight = Mass  $\times$  ground acceleration (Al Khaldi et al., 2010: p. 84). From the previous relation, we can extract that Mass = Weight/ground acceleration. Then, speed

**Table 1:** Homogeneity of sample in the study variables

Serial number	Statistical values/Study variables	Measurement unit	Arithmetic mean	SD	Median	Skewness coefficient
1	Age	Number	15.6	0.48	16	-2.5
2	Length	Cm	163.9	6.62	165.5	-0.72
3	Weight	Kg	61	4.17	61	رفص
4	Motor energy in bouncing speed	Joule	22.37	3.42	22.12	0.21
5	Motor energy in response speed	Joule	3.57	0.6	3.4	0.85
6	Motor energy in short defensive moves	Joule	11.06	1.18	10.58	1.22
7	Motor energy in transitional speed	Joule	28.62	5.23	29.01	-0.22
8	Assertive behavior	Degree	61.83	1.24	61.44	0.99

Skewness coefficient represents homogeneity of values on the line of numbers between ( $\pm 3$ ). Table 1 showed that skewness coefficient values are between ( $\pm 3$ ), so the sample of the study becomes homogeneous with natural distribution. SD: Standard deviation

shall be calculated through the exercises applied in the form of a test to measure the motor energy through the distance for as little time as possible, and this is by adopting of the following equation:

Speed = Distance/Time (Al Fady, 2010: p. 74).

Sarih refers that “The amount of movement depends not only on the body but also on speed multiplied by the mass, and thus, speed is included mainly at the expense of kinetic energy” (Al Fady, 2010: p. 74). Second, assertive behavior as a psychological variable, the researcher depended on a questionnaire form designed as a measurement of sport assertive behavior of players by Mohamed Hassan Allawi, 1998.

### Motor Energy Tests for Some Requirements of Skill Performance

To extract motor energy for requirements of skill performance, the researcher performed treatment for each value of the following performance test values using the previously-mentioned motor energy rule. Therefore, we get motor values for multiple aspects included in skill performance requirements as follows:

First test: Transitional speed (Ali Salman, 2013: p. 92).

Second test: Bouncing speed (Al Anzi, 2009: p. 223).

Third test: Short-term defensive movements (forward, backward, lateral) (Diala and Nofal, 2001: p. 668).

Fourth test: Running right – Let 6 m from each side (Ali Salloum, 2004: p. 114).

Assertive behavior test (Al Yasseri, 2009: p. 66).

### Exploratory Trial

The researcher performed the exploratory trial with the help of the assistant team at 4:00 pm on Sunday 10/11/2015 to perform study tests in the indoor hall of Diala governorate on four junior handball players of the specialist handball center at Diala Sporting Club from the same original population of the sample. They were eliminated from the main trial. The trial aimed to achieve the following:

1. Diagnosis of obstacles and negative sides that may face the researcher during test and measurement
2. Answering questions and queries specifically about assertive behavior scale
3. Knowing the time spent in performing tests and scale separately

4. Ensuring effectiveness and efficiency of the assistant work team.

### Applying Tests

#### Pre-tests

After selecting the sample of the study, the researcher conducted some tests on Saturday 14/11/2015 at 4:00 pm in the indoor hall of Diala governorate noting that tests were made by the assistant team and under the supervision of a researcher. They explained testing procedures and clarified them to the research sample and distributed work on the assistant team. Then, tests of the study were conducted on a research sample, and results were recorded in a special form. Since the nature of search variables that relied on two-ways, one of them is the test by paper and pencil to measure the assertive behavior as a psychological variable, so they were conducted in the beginning before any action concerning performing variables represented by extracting motor energy through some skill performance requirements. This is to isolate the fatigue factor during answering paragraphs of the scale. The researcher also relied on the same principle to ensure respondent's comfort during skills performance tests and to ensure that each player has his role that allows him to get complete recovery.

#### Planning competition training

Aiming to build research trial is build depending on competition training method as an effective training method; the researcher resorted to planning training related to achieving the study objectives through similar training in handball. Through this training, the researcher ensures the presence of competitors in attack and defense. The purpose here is to put a set of sequential training units based on training principles in gradual difficulty to make differences in the study variables. We should consider that training doses of the used training course is a part of the training modules to develop skills abilities of handball, reflected positive mental capabilities on him. One of them is the assertive behavior, and the location of training doses of the variables of research is within the main section in the part dedicated to the development of skills abilities in the training unit of the trainer's approach. To apply the proposed exercise, the researcher conducted the following steps:

#### First: Setting general parameters of the proposed training course

- The training method under study
- The used training methods

- The goal of training is to develop motor energy for some requirements of handball skill performance
- Training application duration: 8 weeks
- Number of training units: 24 training units (3 training units/week)
- Training duration: 45 min (total duration for all proposed exercises is 1080 min)
- Training intensity: 75-85%
- Repetitions: 3-5 times of the single training
- The used rest: 30 s to 2 min
- Mechanism of legalizing training load: Performance duration.

**Second: Applying the proposed training**

The researcher started by applying competition training on members of the empirical group on Monday 16/11/2015 at the sports hall for the young at Diala Sporting Club after completing pre-tests on the empirical and control groups. To control outsider variables, the researcher considered individual differences among players in applying the special training. The researcher was supervising method application. Training days were Saturday, Monday, and Thursday. It is noteworthy that the session of the research variable (competition training) was 45 min for the single training unit out of a total duration of the training unit (1080 min).

As for training units intensity related to the proposed method and relation between loads and rests, the researcher considered grading and variability in this relation. He manipulated the training load components

represented in performance duration and number of groups for the purpose of making training waves that reach the best adaptations for members of the empirical sample of the study.

**Post-tests**

The researcher conducted post-tests on 17/01/2016 corresponding Sunday. He depended on the same procedures adopted in pre-tests to control outsider variables.

**PRESENTING, ANALYZING, AND DISCUSSING RESULTS**

Arithmetic means and standard deviations (SD) for skill performance requirements (Table 2).

Arithmetic means, SD of differences, calculated and tabulated (T) values, and statistically significant differences between pre- and post-tests in skill performance requirements for members of the study sample (Table 3).

Arithmetic means and SD of assertive behavior for members of the study sample (Table 4).

Results of arithmetic means, SD of differences, calculated and tabulated (T) values, and statistically significant differences between pre- and post-tests in assertive behavior for members of the study sample (Table 5).

**Table 2:** Arithmetic means and SD for skill performance requirements

Serial number	Variables	Measuring units	Mean±SD	
			Pre-test	Post-test
1	Motor energy through bouncing speed	Joule	22.37±3.42	27.37±3.33
2	Motor energy through response speed	Joule	3.57±0.6	5.65±0.76
3	Motor energy through defensive movements	Joule	11.06±1.18	15.18±1.16
4	Motor energy through transitional speed	Joule	28.62±5.23	33.5±3.66

SD: Standard deviation

**Table 3:** Arithmetic means, SD of differences, calculated and tabulated (T) values, and statistically significant differences between pre- and post-tests in skill performance requirements for members of the study sample

Serial number	Variables	Measuring units	Mean±SD	(T) value		Significance
				Counted	Tabulated	
1	Motor energy through bouncing speed	Joule	5.00±2.45	5.77	2.20	Significant
2	Motor energy through response speed	Joule	2.08±0.94	10.84		Significant
3	Motor energy through defensive movements	Joule	5.68±1.85	1.28		Random
4	Motor energy through transitional speed	Joule	4.87±2.99	4.6		Significant

Tabulated (T) value at freedom degree (11) and significance level (0.05) was 2.20. SD: Standard deviation

## DISCUSSING RESULTS

Tables 3 and 5 about arithmetic means, SD of differences, calculated and tabulated (t) values, and statistically significant differences between pre- and post-tests in skill performance requirements and assertive behavior for members of the empirical group members. Findings showed that there is significance among all variables of the study except motor energy through short-term defensive movements. Thus, the study achieved hypothesis of the study by the researcher based on the problem of the study represented in non-direction of training courses toward developing motor energy for skill performance requirements and the necessity to direct this motor energy to be reflected on psychological aspect. This is to invest motor and psychological energy of athletes to reach winning the match. The researcher believes that these results are logical due to the adoption of competition exercises that create an atmosphere of competition which contributes to the player or athlete's maximum physical and skill potential to do the training. This is what is necessitated by the existence of opponents during a workout aiming to the effectiveness of its technical performance that is represented in an increase in his motor energy and related self-efficiency and physical confidence. This leads to the development of his assertive behavior which makes the athlete employs his performing potential as part of the related rule of the game. This is consistent with what was said by "Hassan and Abdulhady" that "the athletic field that meets the spirit of fun, competition and develops motivation has the biggest impact in training sports movements and skills (Hassan and Abdulhady, 2014: p. 137)." The researcher believes that the development of motor energy of variables under study was the result of high-intensity training loads within limits of the

influencing load. This led to raise potentials of athletes in the motor energy of various forms of skill performance. This was confirmed by Darwish et al. that "increasing the size of resulting energy during physical or motor exertion doubles of what it was in during the rest in proportion to the load effort (Darwish et al., 1998: p. 37)."

As for insignificance of differences of motor energy during defensive movements, the researcher finds that the reason is that defensive training is characterized by being difficult for players in terms of not possessing the ball. This leads to a heavy training load for athletes as it does not include high motivation of performance even if included in competition method. This, in turn, was reflected on the insignificance of differences between pre- and post-differences in the motor energy of defensive movements. However, there are slight differences through comparing values of arithmetic means. Thus, the increase in an athlete's physical efficiency represented in raising his motor energy level led to higher confidence in his abilities which makes him act psychologically positive represented in increasing assertive behavior. This agrees with Al Yasserri, who refers that "players who have good competitive orientation, it will be accompanied with a behavioral motivation for players in their competition performance. Therefore, their potential of optimal performance will increase when they perform matches (Al Yasserri, 2009: p. 68)."

**Table 4:** Arithmetic means and SD of assertive behavior

Variables	Measuring units	Mean±SD	
		Pre-test	post-test
Assertive behavior	Degree	61.83±1.42	76.12±1.5

SD: Standard deviation

**Table 5:** Results of arithmetic means, SD of differences, calculated and tabulated (T) values, and statistically significant differences between pre- and post-tests in assertive behavior for members of the study sample

Variables	Measuring units	Mean±SD	(T) value		Significance
			Counted	Tabulated	
Assertive behavior	Degree	14.36±1.92	25.92	2.20	Significant

Tabulated (T) value at freedom degree (11) and significance level (0.05) was 2.20. SD: Standard deviation

## CONCLUSIONS

1. Competition training has a positive effect on physical, technical, and psychological aspects of handball players
2. Competition training has a positive effect on motor energy of skill performance of handball players
3. Competition training has a positive effect on the assertive behavior of handball players.

## RECOMMENDATIONS

1. Using competitive training to develop technical and tactical performance of handball players



2. Conducting similar studies to define competition training on the rest of performance requirements
3. Considering purposeful training to develop players' motor energy based on various training methods to select the best
4. It is necessary to consider the development of physical abilities of the athletes through stressed training loads.

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