

## Trainers reference norms of athletic achievement evaluation for handball young players

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*Published online: December 25, 2013*

*(Accepted for publication December 05, 2013)*

DOI:10.7752/jpes.2013.04091;

### Abstract:

The process of improving and raising athletic performance and achievement, demands knowing and evaluating the level of the individual or the group, which requires the existence of a proper reference to judge whether the performance and achievement level is as required or below the requirements.

The study aimed at recognizing the type of reference norms that handball trainers lean on in evaluating performance and achievement of young players in Jordan. For this purpose a questionnaire has been distributed to 32 trainers in Jordan.

The results showed a trend in using the individual reference more than the social reference, and that the age and experience of the trainer affects the type of reference norms used. The aged and experienced trainers were using individual reference norm more, and also the trainers who were interested in results (achievement) tended to use the individual reference norms more than the social one.

**Key words:** Athletic achievement, youth Handball, evaluation, individual reference norms and social reference norms.

### Introduction

Adopting and using a specific reference norm or a collection of proper reference norms for the educational or training situation is considered an assisting factor, and resembles a major role in supporting and developing an individual or a group. Also, an improper reference norm can lead to negative effects on motivation, self-notion and tendency of players which may affect negatively the development of a player or a team. (Rheinberg, 1980 and Sandouqa, 2008).

Studying such important issues, whether in the field of physical education or sport in clubs, requires the knowledge of reference norms that are used by teachers or trainers in evaluating performance and achievement of individuals or groups they supervise. And so, in this research, we will try to study and get knowledge of reference norms or criteria that trainers use in evaluating performance and achievement of handball young players in Jordan.

Until now, both Western and Arab scientific references lack studies about evaluation criteria and reference norms in the field of training and competitions, especially in handball. These theoretical and technical contributions focused only on reference norms and criteria used in evaluating the performance of students in the physical education class. This exploratory research and its results will resembles a database and an experience about the nature and type of reference norms that trainers use in evaluation, and then will be a starting spot to make future studies that aims at performing far targets which include performing processes of modifications to improve the mechanism and transparency of evaluating young players performance and achievement.

This study aims at achieving two main goals: recognizing reference norms or criteria used by trainers when evaluating players' achievement and identifying whether local trainers use same reference norm or there are some differences among trainers in tendency to choose and prefer a reference norm or another.

### Theory

The process of improving and modifying the athletic performance and achievement is based on knowing how far are targets accomplished (evaluation), which means that the lack of enough knowledge about results and achievement of a player or a team will lead to a situation such that improving and raising the level of physical level, skill and mentality of players will be non-purposive and non-aimed. In addition, the process of evaluating the athletic achievement demands the existence of reference norms or criteria that can be employed by trainers, and also they can judge the performance and achievement of a player or a team. We may prove or assure that a result is caused by a specific action, but we cannot say to what extent a success or failure has

happened without a reference norm or making a comparison of this result using a specific criterion or standard (Heckhausen, 1989). By this, we can understand the reference norm as: a criterion, a measure or a base that a trainer can employ to evaluate a performance or an achievement of an individual or a group. Heckhausen (1974) was the first to use the term (reference norm) and determine the evaluation reference norms that are used nowadays which are: objective, individual and social evaluation (Schöne, 2007). We can say that the availability of reference norms or criteria that a trainer can use is important, especially that:

- It affects the level of incentive motivation and emotions of players, especially in expecting success or avoiding failure which affect and determine the level of ambition, (Heckhausen, 1989 and Beier, 1980).
- It affects –to a great extent- in establishing the self-concept and self-esteem, and in determining the goal orientation towards “task” or “ego”, (Sandouqa, 2008).
- It affects the training ambience, interrelations and social communication inside the team, (Chatzopoulos, 1947).

#### **Reference norms Categorization**

To identify a better concept of reference norm and recognize reference norms, we benefit from the following example: if we want to evaluate a goalkeeper achievement in savings, we will have three types of reference norms or criteria that we can rely on to evaluate this goalkeeper:

- Individual Reference Norm: here, the evaluation will be by comparing the current achievement with the previous one with the same goalkeeper.
- Social Reference Norm: here, we compare achievement of a goalkeeper with another one or more.
- Objective Reference Norm: here, the achievement of a goalkeeper is measured according to a standard of requirements of the nature of his duty and then compared if he reached these requirements or not; i.e. 15 to 20 savings per game is a good achievement.

A trainer may use different a mix of these reference norms when evaluating a player, such that he may start with one reference norm then choose another one or use them both at the same time.

#### **Performance requirements of handball young players**

The process of improving and developing handball level involves choosing talented children from early ages, and affording suitable ambience and training requirements. This is meant to develop the ability to practice sport in general and specifically handball, (Sandouqa 2008 and Chatzopoulos, 1997). As these children grow up and enter the teenage, they become more specialized, although less when they become adults, (Conzelmann/Gabler 1993).

Performing and implementing any athletic activity, and the demand to accomplish specific results, involve a lot of physical, cognitive, psychological, skillful and social elements. (Mansi, 2003) mentions according to (Brack, 2002) that there are two types of load:

- Energy-related load, this is external and involves the extent of limit and strength of running, jumping and throwing and internal and is related to dynamic and circulatory systems and metabolism.
- Information-related load, this is also external and related to the quantity and type of tactical requirements and internal related to data reception and processing, and psychological burden.

According to (Mansi, 2003) and based on a study of (Hohmann, 1992), training content is accomplished according to players' ages. During 6-9 years stage it includes preparing harmonic capabilities preparation and basic skills acquisition. During 9-13 years stage attention is paid to developing skills of speed, flexibility and harmonic abilities, in addition to inserting tactical performance variation in training, and giving extra attention to individual skills. During 13-17 years stage attention is paid to general and specific physical preparation (especially tolerance), and adapting skilful performance, in addition to developing personality and group tactics. During the last stage 17-21 years, attention is paid to preparing the individual skilful performance, variant and purposive physical preparation (especially strength), personality building and team tactics, (Mansi, 2003).

While preparing young players physically, skillfully and tactically, they have to focus on performance improvement in the first place rather than results. In addition to the previous requirements, making a personal identity and constructing an individual plan or what is called self-concept are important factors in creating the abilities to perform and achieve. For the purpose of positively supporting and developing the concept of self respect for the young player, he has to focus on performance progress rather than achievement (results). Gaining experience from different playing situations and habituating young players to do their best during training on any skill or athletic move in addition to achievement or real result will have a major role in specifying how far a learning and training outcome has been reached. Evidence that a student has learned some skills can be investigated by examining his experience progression and modifications of his behavior. What motivates a young player to improve performance is the trainer's use, and hence the player, of the individual reference norm to evaluate performance and achievement. As a result, this means that using this reference norm will constitute the most important requirements of performance and achievement, (Sandouqa 2008).

Nowadays, we can say that there are no theoretical or practical studies about reference norms used by trainers in evaluating players' performance and achievement during training or competition. Of course, this also applies to handball.

On the educational level, and according to (Reihnberg/ Engesser, 2007), the comparison criteria (individually and socially) in evaluating students' achievement were implicitly known, especially by (Herbart, 1831) and (Pestalozzi, 1807) but the research didn't take a purposive and regular form.

(Heckhausen, 1974) is considered to be the first to design and specify current theoretical evaluation reference norms for purposes of research. Based on his theoretical contributions, which are involved in studying motivation issues, use of reference norms has practically moved to the field of schools' achievement by teachers, and a lot of studies have been done via an independent program by (Rheinberg 1977; 1980) who is considered to be one of the most famous researchers to make experiments about the importance and role of reference norms in evaluating achievement and motivation in the educational field, and proving the importance of following the individual reference norm evaluation to support motivation (Schöne, 2007).

A lot of experiments have also been conducted about the impact of reference norms on some issues related to motivation (Heckhausen, 1989). For instance, a study by (Krampen, 1987) has revealed a fact that using the individual reference norm in evaluation is the most suitable way to develop the ability to expect success and improve achievement for students. Also a study by (Rheinberg, Dusch, Michels 1980) has demonstrated that following the individual reference norm affects positively the level and reality of ambition. Before that (Heckhausen, 1974) ,according to studies and experiments he made, proved that using the individual reference norm will leave a positive effect on the self esteem of a person and that he will make more effort. About the effect of using evaluation references norms on emotions (Jagcinski, Nicholls, 1987) have declared that pride and feeling of success will be more powerful when using the individual reference norm in evaluating achievement and that there will be negative feelings, fear and low estimation of self power, using the social reference norm. (Rheinberg, 1982 and Trudewind, Kohne, 1982) made a series of experiments about the effect of reference norms on improving achievement motivation to students, and proved the importance of using the individual reference norm of evaluation in reducing the fear of failure and improving self-concept. (Refer to Rheinberg/Engesser, 2007). As a response to recommendations of studies and research which proved the importance of the individual reference norm in evaluating school performance and achievement, a lot of training programs have been developed that induces teachers to follow this kind of reference norm, and so the contributions of (McClelland and Winter, 1969), which were inapplicable in schools, have been abandoned. These programs included exercises that support independency, raise responsibility, explain and evaluate achievements in sport lectures, while adopting and using the individual reference norm.

One of these programs is the training and preparation program executed by (Weling Lunnemann, 1982) during one academic semester for teachers, to improve motivation in sport lecture by forcing teachers to use the individual reference norm. Results did not show any change or impact on students' motivation, which may resulted, from the point of view of researcher, because a lot of teachers insisted on using social reference norm rather than the individual one. Results of another specialized program carried out by (Rheinberg and Krug, 2005) showed that students' motivation has improved especially reducing fear of failure among students of poor achievements (Rheinberg and Engeser, 2007). Measuring the role of putting duty on the learning processes in sport class by (Chatzopoulus, 1997) and the role of planning effect on sport class by (Sandouqa, 2008), the results revealed that self-concept was more positive, and goal orientation became more responsible among students of ruling groups that their teachers took training and preparation programs that guarantees the induction to follow the individual reference norm in evaluation. Training and preparation programs were not limited to teachers only; parents were advised to try the individual reference norm to evaluate their children's achievements. (Gladasch Lund/ Rheinberg , 2001) made daily after-noon practices for 7 weeks among parents showing them the importance of individual reference norm, and induce them to follow it in their evaluation. Results showed a decrease in fear of failure among students in the ruling group in the post-test which assures the positive effect of using the individual reference norm in evaluation (Rheinberg and Engeser, 2007).

Based on the educational and psychological importance to follow some evaluation reference norm, which has to be suitable to player's personality, notion of his improvement, and his physical, mental and psychosocial characteristics, in order to improve both his athletic performance and achievement. Therefore, we should, in first place, recognize what reference norms the local trainers depend on, to evaluate performance and achievement of young handball players. On the other hand, to what extent following a specific reference norm is affected by independent factors such as age, experience and target priorities of a trainer.

## **Method**

### **Participants**

A random sample of (32) national trainers was chosen. Some of these trainers have long national and international experience, in both practicing playing and training young handball players. As shown in table 1, the average age of these trainers is (41.46) years, whereas the average experience is (8.12) years.

Table 1– Descriptive statistics of independent factors: age and experience in training

Std. Deviation	Mean	Maximum	Minimum	N=32	Independent variable
4.19	41.46	49.00	33.00	32	Age
4.10	8.12	22.00	2.00	32	Experience in training

Table 2 shows that the percentage of trainers who are interested in high results, i.e. achievement is (56.3%), whereas the percentage of those who prefer improving performance is (43.8%).

Table 2 – Iterations and percentages of the independent variable: goal priority

Cumulative Percent	Valid Percent	Percent	Frequency	Goal priority	
56.3	56.3	56.3	18	Achieving results	
100.0	43.8	43.8	14	Improving Performance	Valid
	100.0	100.0	32	Total	

### Procedures and Research Instrument

The sample of research has answered a questionnaire designed to understand and specify reference norms, which refers to the German researcher (Rheinberg, 1980) who designed and developed it to recognize reference norms of school teachers in dealing with issues related to evaluation process in class. These issues can be categorized as follows:

- Evaluation based on individual reference norm
- Evaluation based on social reference norm
- Procedures of notice, analysis and ability to expect and affect
- Taking into account individual differences
- Efficiency in evaluation

To achieve the study purpose, the contents of items have been modified to suite training situations and athletic competitions, and to describe them well. Also, the succession of items was preserved as in the original study. It has been translated from German to Arabic by specialist of both languages.

To determine validity of the questionnaire in Jordan (construct validity test), factor analysis based on rotation principle has been applied to understand and specify the reference norm used by handball trainers in evaluating athletic achievement among young players. A freight value of (0.6) or more has been specified as a criterion to declare validity of items.

To measure the reliability of items related to explored factors a (Guttman Split-Half) method has been used. This because the questionnaire has been used for only once.

And to achieve a high degree of reliability for items, a secondary analysis has been executed by eliminating items by which (Cronbach's Alpha) value is raised if deleted, and those items with low correlation compared to total correlation.

According to validity and reliability tests of the questionnaire, “trainer's reference norms of athletic achievement evaluation for handball young players” consists of two factors:

- Evaluation based on individual reference norm: which depends on comparing achievement of an individual in different periods?
- Evaluation based on social reference norm: which depends on comparing achievement of a player to another one or more?

### Results

To answer the research questions, which requires knowing the reference norms that the national trainers depend on to evaluate performance and achievement of handball young players, a general overview will be made on averages of evaluation based on individual reference norm and averages based on social reference norm by descriptive statistics.

Table (3) shows that the average value of using individual reference norm (3.8) is more than of social one (3.4) among the sample used.

Table 3. Descriptive Statistics for dependent variable individual reference norm and social reference norm

Std. Deviation	Mean	Maximum	Minimum	N	Dependent variable
.55	3.88	5.00	2.83	32	individual reference norm
.62	3.43	4.38	2.25	32	social reference norm

Depending on classifying the research sample according to age, experience and goal priority among trainers (achieving results versus performance improvement), the differences between groups will be specified and the number of iterations among individuals will be declared to specify the type of reference norm. And to clarify the data regarding the age experience of a trainer, it has been converted from (scale) data to (categorical) according to average values (see table 1), and so:

- Age is categorized in two species: a- less than 41 years      b- 41 years or more
- Experience: a- less than 9 years      b- 9 years or more
- Goal priority: a- accomplishing achievement (achieving results); b- Performance improvement

As shown in table (4), trainers prefer to use individual reference norm (individual RN) rather than the social reference norm (social RN) and that the independent factors: age, experience and goal priority among trainers affect the type of reference norm used; the more experienced and older trainers prefer using individual reference, whereas trainers who are concerned with achieving results prefer the individual reference norm.

Table. 4. Means of dependent variable in relation with independent variable

Means dependent variable		frequency	Group category	Independen Variable
Social RN	individual RN			
3.4	3.6	14	less than 41 years	Age
3.5	3.9	18	= or more than 41 years	
3.3	3.7	19	less than 9 years	experience of training
3.5	4	13	= or more than 9 years	
3.5	4	18	achieving results	goal priority of trainer
3.2	3.6	14	performance improvement	

**Discussions**

The total result of descriptive statistics showed that the average of using individual reference norm is more than using the social one, which implies that handball trainers prefer using the individual reference norm in evaluating performance and achievement of young players more than using the social reference norm. This result can be explained that the trainers may use the individual reference norm as a means of raising enthusiasm and motivation especially internally and as a strategy for supporting the notion of self-respect among players. These strategies may be applied without taking any course about using reference norms or taking individual differences into account directly. (Rheinberg and Engeser, 2007) mentioned that periodic observations in German schools during 1970’s and 1980’s proved the existence of teachers applying some motivation training principles, even though they were not aware about any type of motivation training or plans and models of this type of training. This was revealed by that the teachers were using a specific reference norm in evaluating achievement of students. This can also be applied to Jordanian trainers; the subject of evaluating achievement and its reference norms as introduced in this research is a new issue in Arab countries. The knowledge of trainers in using these strategies may be a result of experience and age, and it may be related to goal priority. The results proved the effect of independent factors on declaring the type of reference norm. The average of using individual reference norm among experienced and older trainers was more than among younger trainers. By getting older and more experienced, trainers may realize the educational and psychological importance of the individual reference norm in evaluation. On the other hand, trainers who are concerned with achievement results use the individual reference more than trainers who are concerned with improving performance.

This seems inconsistent; because it is known that those who are concerned with results use the social reference norm more (Erdmann and Amesberg, 2007 and Erdmann, 2004). Probably, the questionnaire design didn’t suite the sample way of thinking enough, as it was Western-oriented and designed mainly according to school classes, and a lot of paragraphs were eliminated and did not take a part in evaluating results, because they did not succeed in validity and reliability tests. The elimination of some results of questionnaire paragraphs, led to absence of important issues related to references like: evaluation efficiency and procedures of observation and expectation, which restricted the results to two factors only.

**Conclusion**

- The process of improving athletic performance and achievement requires knowing the athletic level of an individual or a group, and evaluating them. This evaluation needs a suitable reference norm to judge if they satisfy the ambition, or they are under the desirable level.
- The scientific encyclopedia lacks studies about reference norms used by trainers to evaluate players' athletic performance in general and handball performance particularly. Previous studies were just in school field.
- This study aimed at recognizing the notion of reference norms that trainers use to evaluate youth performance and achievement in Jordan. To achieve this, a questionnaire had been distributed for 32 trainers inside Jordan.

- After executing validity and reliability tests for research sample, the items were restricted to two factors: individual reference norm and social reference norm.
- The results showed that trainers tend to use individual reference norm more than social reference norm, and the independent factors (trainer's age, experience, and goal priority) have an effect on determining reference norm type, i.e. old and expert trainers tend to use individual reference, whereas trainers who are concerned with achievement results use the individual reference more.
- Research purpose that is recognizing the reference norms, which Jordanian trainers use to evaluate youth handball performance and achievement, was accomplished. The results proved that trainers tend to use the individual reference more than the social reference.
- Study results were satisfactory for the psychological and educational requirements that assure the necessity of following individual reference norm to evaluate the youth's performance and achievement. So trainers need to be urged to deal with the youth's achievement, and to evaluate it on the basis of individual reference norm continuously because this reference norm affects positively the young player's personality, his motives, and on building and developing self-concept

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