



The Effluence of Training on the Development of Selected Physical Abilities among Young Volleyball Players

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ABSTRACT:

The present study aimed to analyze possible determinants of the attack effectiveness in side-out and transition, with reference to the effect of reception and defence, the speed of the attack (attack tempo) and attack type, under the youth male elite category. In type of study, the authors differentiated studies that analyzed a previous modification not proposed by the authors and studies that analyzed a modification proposed by the authors of each study. This review differentiates the purpose of the proposed modifications and the purpose of the authors when conducting their studies. We also differentiated whether the goals were achieved and what motivated the authors to carry out the modifications or to conduct the studies. In the volleyball game complex analysis, it is observed that the side-out possesses more stable initial organization conditions, as the ball is recovered from the most predictable action of the game, the serve, thus creating favourable conditions to the offensive organization. Hence, it is plausible that in this complex the effect of the attack will not depend on its speed, because this is common. In opposition, according to the same author (idem), the transition has more unstable initial organization conditions, caused by the action of the opponent's attack, thus promoting slower attacks. Consequently, the increase of the attack tempo in this complex optimizes the effect of attack, since it is not so common.

Keywords: attack effectiveness, speed of the attack, offensive skills.

INTRODUCTION:

To analyze the impact of training curriculum in the development of some physical abilities and skills of young people in volleyball. The Objective of this study to investigate the training methods in volleyball game. Planning and analysis of teaching curriculum of skills to young volleyball players. The essential parts of physical instruction and game training and intend to accomplish physical and mental soundness of the youthful era and military training foundations in charge of instructing youngsters and understudies. Viable instruction and preparing of the different components included in this, however the greater part of them quality training. In this connection, the subjects with the exception of physical training and game instruction framework ought to be the most compelling component in necessities of understudies.

Volleyball is an Olympic group activity in which two groups of 6 dynamic players are divided by a net. Every group tries to score focuses by establishing a ball on the other group's court under sorted out principles. Play moves ahead as takes after: a player on one of the groups starts a rally by endeavoring to serve the ball (throwing or discharging it and afterward hitting it with a hand or arm), from behind the back limit line of the court, over the net and into the getting group's court (Homberg, S., & Papageorgiou, A. (1995)).

SELECTION OF SUBJECT:

Fourty participants were selected as participants. Ethics approval for this study was granted by the researchers' faculty of Osmania University was received prior to all experimental procedures. The Participants are divided into two groups (Group –I, Experimental Group, Number Players = 20 & Group – II, Control Group, Number Players = 20). They

Experimental group is already has experience in skills skills and control group is a volleyball team. which help them perform more efficient volleyball

Figure 1: Research Design

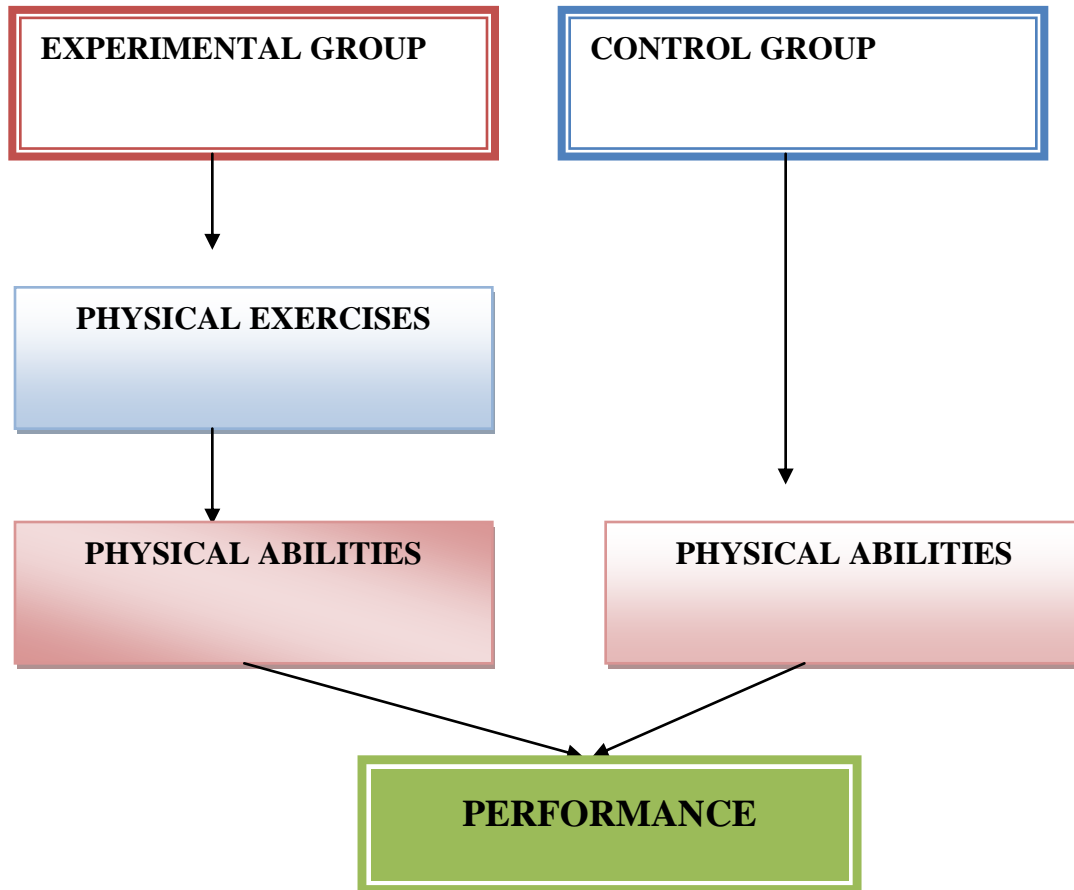
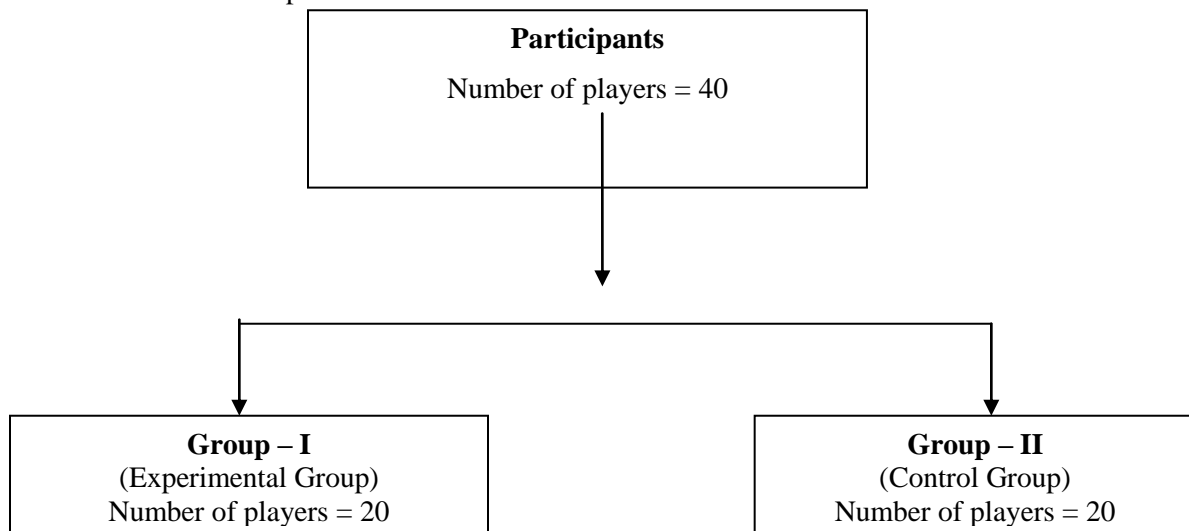


Figure 2: Flow chart of Participants





SELECTION OF VARIABLES

For training muscles for volleyball, squats should be used to strengthen the hips. The key thing is getting your body working efficiently so that ALL your movements are driven by the correct muscles. The muscles that control the hips are the key. These muscles include the biceps femoris, gluteus maximus, erector spinae muscle group, trapezius, and posterior deltoids. These muscles play a major role in volleyball explosive athletic movements such as approaching quick, jumping high, and hitting hard. Your volleyball training program should contain exercises that explosively extend the hips and contract of the glutes. The most common pains of volleyball players are at the knees, low back and shoulder. These complaints are commonly relieved by intentionally strengthening weaker muscle groups (typically posterior) and stretching stronger antagonistic muscles (typically anterior). As muscular imbalance is corrected, pain should noticeably decrease if not disappear entirely. Problems occur when athletes don't have good muscle balance.

1. Excellent **movement qualities**. **Anticipation of ball flight**.
2. A wide **repertoire of skills** – from **simple to complex**.
3. **High percentage accuracy** when playing these passes.
4. **Control & fluency** when passing.
5. A skilled performer carries out a **series of linked movements** with **maximum efficiency**.
6. Excellent **decision making qualities** – when to make the easy pass & when to try the speculative pass. Plus be able to convert a poor pass into a good one.
7. Able to cope with the **Pressure demands** of the game –being able to **react / adapt to any given situation**.
8. **Awareness** of where your own players are, as well as those in the opposing team.
9. **Creativity / Vision** to see the pass or move that others cannot.
10. **Deception** - one who has the ability to deceive the opposition when passing or hitting.
11. **A team player** – one who can link with other players to the benefit of the team.

SELECTION OF DATA:

Nearly half (48.94%) of the studies analyzed the effect of rule modification on the game actions that occur during the game. Game action was also one of the data in the studies that was most often registered through a test (14.89%). Sixty-eight percent of the studies used only one type of data from a single register procedure, and 31.11% based used more than one type of data. We consider that it is necessary to use more than one type of data that allows us to confirm the results. This methodological strategy leads to more powerful results. Therefore, it would be interesting to utilize qualitative and quantitative methodologies.

A great majority of studies did not consult the participants (91.5%). However, when studying rule modification, we need to know the players' and coaches' opinions. The four studies that collected participants' data only took the players into consideration. None of the studies considered the coaches or other people. According to Kew, 1990, the rule modification entails a process of social interrelation between the administrators of the sport, the players, and the coaches. Of the four aforementioned studies,

Importance of Strong Hips (glute strength)

With weak or inhibited gluteal muscles, you won't be able to move as fast, or jump as high. Relying on your hamstrings and lower back more than your glutes will often lead to low back pain and hamstring problems.



Figure 3: glute strength

Training Muscles for Volleyball Squats

Train the glutes and hamstrings more than the quads The glutes and hamstrings are more powerful than the quadriceps and have a higher ratio of fast-twitch muscle fibers, leading to greater strength and power. These backside muscles were designed to support us in a squatting position.

Movement at the Hips For the squat, a strength coach will regularly use cues like weight on your heels, sit back in a chair, don't let your knees travel forward past your toes, keep chest up, and abdominals tight. All of those things promote the "hip hinge" position that forces the posterior chain to do the work. A squatting/lunging/lowering exercise should not begin with a bend of the knees. It should begin with a hinge of the hips (think of moving at the hips first and try to keep the lower leg vertical).

You need strength, but you need it in the right places.

Due to their natural strength and the leverage advantage they have over your leg muscles, the glutes should always be the primary muscles that drive lower body movement.

Exercises for training muscles for volleyball developing healthy shoulders...

- **Scapulae stabilizer exercises.** Shoulder exercises like I's, T's, and Y's, internal/external rotations, etc can go a long way to improving shoulder health and function.
- **Horizontal pulling variations.** Think of pulling BACK, or retracting the scapulae.
- **Vertical pulling variations.** Think of squeezing the scapulae DOWN, or depressing the scapulae.
- **Push up variations.** Pushups are important because pushups recruit and strengthen the serratus anterior. Also, pushups on an unstable surface such as a balance ball will help activate shoulder stabilizer muscles and the abs.

BROAD JUMPS

An explosive jump is extremely important in volleyball, especially between hitting, jump serving and blocking. Broad jumps will help with all three of these skills.

- To begin, mark off an area around 15 yards. Start with feet shoulder width, knees slightly bent, and arms positioned at the side of the body.
- Keep feet parallel and even with one another, then squat down and swing both arms back in unison while jumping for distance.

- Both feet should land at the same time in a balanced shoulder width positioned. Once landed, they should repeat the same broad jump motion.
- This exercise can be done in 6 sets with 10 forward broad jumps in each set.



Figure 4: BROAD JUMPS

SKI JUMPS

In volleyball, agility is a key component when transitioning from defense to offense and skill to skill. An exercise that can help with agility is ski jumps.

1. Find a line, either on a field or a court, fifteen yards long.
2. Start on the balls of the feet with both feet touching the inside of each other.
3. Proceed to jump from side to side over the line and move forward while jumping; feet should stay together.

To add to this exercise, go forwards then backwards or also jump on one foot. Begin with six sets of fifteen yard ski jumps.

Figure 5: SKI JUMPS

BURPEES

Burpees are a full body workout that includes legs, core, arms and chest muscles. A Burpee should be done in one continuous motion and one

should avoid stopping and starting during this move. Five sets of ten repetitions is a good number to start at.

1. Start in an athletic position, and then drop into a push up position.
2. Perform one push up and then immediately jump back into an athletic position.
3. In this athletic position, proceed to jump with hands raised in a volleyball blocking motion.

This is one Burpee. Feel free to increase repetitions if the workout becomes too easy. These five exercises can all be done at home, with no need to get a fancy gym membership. The five exercises tackle legs, shoulders, core and agility, which will improve the movement and strength of each player that implements these exercises.





Figure 6: BURPEES

RESULTS:

Nearly two-thirds (65.71%) of the studies did not mention whether the previous modifications they analyzed achieved the proposed goals. The goal

Table 2: Body height, weight, body mass index (BMI), spike reach, block reach, and age of volleyball players who participated in the Olympic Games and World Championships between 2000 and 2012

Gender	Competition	Height	Weight	BMI	Spike reach	Block reach	Age
Male*	2000 OG	1.97±0.06	90.0±7.7	23.2±1.6	3.44±0.11	3.26±0.11	26.4±3.6
	2002 W Ch	1.96±0.06	88.3±7.5	22.9±1.6	3.43±0.12	3.26±0.12	26.8±4
	2004 OG	1.97±0.07	89.4±7.2	23.0±1.4	3.43±0.13	3.24±0.11	28.2±4
	2006 W Ch	1.97±0.07	88.5±8.1	22.8±1.5	3.42±0.14	3.26±0.12	26.8±3.9
	2008 OG	1.97±0.07	88.9±7.8	22.8±1.5	3.45±0.12	3.27±0.12	28.1±4.4
	2010 W Ch	1.96±0.08	87.7±8.7	22.8±1.8	3.41±0.14	3.24±0.13	28.5±4.3
	2012 OG	1.98±0.07	89.7±8.6	23.0±1.8	3.43±0.13	3.23±0.13	27.0±4.6
	Average	1.97±0.07	88.7±8.1	22.9±1.6	3.43±13	3.25±0.12	27.4±4.2

Nearly half (48.6%) of the studies that analyzed a previous modification achieved a different goal from that originally proposed. This datum seems to coincide with the fact that rule modification can interfere with aspects that, theoretically, should not be affected (Kew, 1990; Krauss, 2004). We need to know how rule modification interferes with a wide range of variables, and not only how it interferes with the variables that the researchers intended to change. All the studies that analyzed a previous modification and proposed an alternative achieved the intended goals of the modification and of the study. However, these cases are scarce (only two studies). Studies should not only analyze a modification proposed by others. They should also elaborate useful proposals that serve the organizations that are responsible for

was achieved in 20% of the cases, and it was not achieved in 14.28%. According to Mathes and Flatten, 1982, the lack of information about the effect of the modifications on the players' behavior causes some rule modifications to be questioned.

On the other hand, all the studies that proposed a modification stated whether or not the modifications that they analyzed achieved the goals. Thus, 60% of the studies achieved the goals that prompted the study. The results of the review seem to corroborate previous research data. Several authors suggest that most of the studies conducted to verify the effect of rule modification produce results that are far from or contrary to what was intended with the change.

competitions. Evans, 1980 acknowledged that research has done very little to provide information to guide the people in sport administration who are responsible for competition.

Table 3: Data extracted about modification and study goal.

Variables	Modification		Study	
	n	%	n	%
Attempted goal				
To improve performance	12	25.53	20	42.55
To attract spectators and attend to commercial pressures and interests	12	25.53	4	8.51
To adapt sport to children	10	21.28	10	21.28
To prevent injury	5	10.64	13	27.66
To attract athletes	3	6.38	3	6.38
Was the goal achieved?				
Yes	7	20	6	60
No	5	14.28	4	40
Not mentioned	23	65.71	0	0

Table 4: Data extracted about data and register method, participants consulted, analysis before the modification and rules modified.

Variables	n	%
Data and register methods		
Game action during game	23	48.49
Game action, by test	7	14.89
Mechanical variables, utilizing power plates and accelerometers	2	4.25
Result of the games	1	2.13
Not mentioned	2	4.25
Were participants consulted?		
Yes	4	8.51
No	43	91.49
Was there an analysis before the modification?		
Yes	12	25.53
No	2	4.25
Not mentioned	33	70.21
Modified rules		
Structural and functional	2	4.25
External logic	7	14.89
Internal and external logic	3	6.38
Not mentioned	2	4.25

EVIDENCE OF ANALYSIS PRIOR TO RULE MODIFICATION

More than two-thirds (70.21%) of the studies did not mention whether the modifications that were introduced were previously analyzed by the organizations that proposed them (see Table 4). Except for two, in all cases, the modification was proposed by the organizing body of the competition. Very few of articles (4.25%) reported that the promoters of the rule modification did not carry out previous analyses. We found two proposals of models that established stages for the study and modification of game rules. Evans, 1980 proposed three stages to adapt a sport to children's characteristics: (a) analyze the game with adult rules; (b) identify game deficiencies with regard to children's needs, interests, and possibilities and (c) recommend the modifications to transform the game. Usabiaga and Castellano, 2005 established that the study and modification of game rules should follow the following stages: (a) structural analysis of the sport, (b) descriptive analysis of the game action in the sport, (c) structural modification of the sport, (d) descriptive analysis of the game action in the modified sport, and (e) optimization and descriptive analysis of the game action in the modified sport.

Table 5: Average body mass index (kg/m^2) of international volleyball players with regard to their position and their team's level

Gender	Setter	Middle	Outside	Opposite	Libero	Average
Male	23.0±1.5	22.5±1.6	22.8±1.4	22.8±1.7	23.3±1.1	22.8±1.5
	23.4±1.3	22.8±1.7	23.1±1.5	23.0±1.5	23.6±1.5	23.1±1.5
	23.0±1.7	22.5±1.7	22.8±1.7	23.3±1.7	23.3±1.4	22.9±1.7
	23.1±1.6	22.5±1.7	22.9±1.6	23.1±1.7	23.4±1.4	22.9±1.6

SUMMARY:

The purpose of this review was to analyze the state of the bibliography about rule modification in sport. Rule modification involves processes that attempt to change the game conditions with a certain goal in mind. Studies tend to omit the goals underlying the modifications but they do mention the goals of their analysis. These goals are: (a) to improve players' performance; (b) to attract spectators and attend to commercial pressures and interests; (c) to adapt the sport to children's needs, possibilities, and interests; (d) to prevent injuries and (e) to attract athletes. The reviewed literature seems to reflect awareness that it is necessary to modify rules in order to achieve certain goals, but few empirical studies report valid arguments on which the process is based. Furthermore, the

studies consulted provide conflicting results about the same modifications. Despite underlining that rule modifications should be carried out based on scientific knowledge, there is a lack of studies that analyze the appropriate modifications to change rules. This makes it more difficult for people in charge of sports competitions to propose suitable rule modifications.

CONCLUSION:

The present study concludes the possible determinants of the attack effectiveness in side-out and transition, with reference to the effect of reception and defence, the speed of the attack (attack tempo) and attack type, under the youth male elite category. Regarding the possible determinants of the attack effectiveness, different trends emerged for *side-out* and transition. While



in the side-out only the attack type has shown predictive power, in transition the *attack tempo* has also emerged as a determinant of the effect of the attack. The fact that the attack tempo has been determinant only in the transition is enlightening of the dissimilarities in the characteristics of the offensive game structures between the two complexes, showing that the fastest tempo (1st attack tempo) has increased the chances of making the point. Patsiaouras *et al.* (2009), having analyzed fifteen games of the 2006 World League through the stepwise regression method, have noticed that setting fastballs was a predictor factor to win the match and having showed that a faster game created advantages to the offensive system. In the volleyball game complex analysis, it is observed that the *side-out* possesses more stable initial organization conditions, as the ball is recovered from the most predictable action of the game, the serve, thus creating favourable conditions to the offensive organization.

RECOMMENDATIONS:

The study recommends for the Modifications in a sport should be analyzed after a reflective process before they are finally introduced. In this process, the following aspects should be considered: (a) establishing the goals; (b) respecting the basic rules that are not recommended to be modified; (c) knowing the players' and coaches' opinions; (d) knowing how the modification interferes with a wide range of variables; (e) elaborating useful proposals that serve the organizations; (f) using more than one type of data; (g) modifying rules of internal logic and, preferably, functional rules and (h) following some basic stages in the process.

The basic stages to follow in the study of rule modification are: (a) structural and functional analysis of the sport, (b) descriptive analysis of

game action and other complementary data, (c) identification of the deficiencies of the game and establishment of the goals pursued by the modifications, (d) game modification, (e) descriptive analysis of game action and other complementary data with the modified rules and (f) optimization of the modifications and/or inclusion of other modifications if the goals are not achieved.

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