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# PARTICIPATION OF MINI-BASKETBALL PLAYERS DURING SMALL-SIDED COMPETITIONS

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KEY WORDS: Mini-basketball, participation, small-sided games, competition

ABSTRACT: This study presents the differences of competition between mini-basketball with the traditional rules (5-a-side) and minibasket with rule modifications (3-a-side) such as: reduced number of players on court, compulsory participation in 2 of the match's 4 periods, reduced court size, placing the free throw line at 3m from the basket, and including a three-point line. The sample that was selected included 47 mini-basketball players, and the study was carried out using a quasi-experimental design without a control group. The aim was to determine the effect of rule modifications on the participation of the player with the ball. It was demonstrated that the degree of individual participation is greater in mini-basketball with modified rules.

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## Introduction

Studies have been done in which the main aim has been to adapt the equipment and the game as fully as possible to children's needs, although for the most part, this has been done in non-competitive situations. Exceptions are found in studies of other youth sports such as that by Schmid (1983) in football; Martens, Rivkin and Bump (1984) in baseball for under-10 players; Rupnow and Engelhorn (1989) in girls' softball; and Buekers and Billiet (1998) in volleyball.

Modification of the equipment in basketball has been shown to produce advantages in learning skills and improving performance (Isaacs & Karpman, 1981). The research by Haywood (1978) and Isaacs and Karpman (1981), with children from 9-11, from 9-12, and from 7-9 years of age also showed that using a smaller ball improved their performance in the shot. Chase, Ewing, Lirgg, and George (1994) demonstrated that 9-12 year-old boys and girls felt more competent and their self-efficacy was greater when shooting at lower baskets, and they likewise obtained better scores.

Although little research has been carried out on the duration and type of participation in basketball competitions, Parkin (1980; cited by Weidner, 1998) found that with 9-11 year-old boys, the best-qualified players obtained possession of the ball 30-160 times, while for the least qualified it ranged from 12-82 times. Engelhorn (1988) obtained similar results for girls, as did Ortega, Cárdenas, Sainz de Baranda and Palao (2006) for boys, showing the vast differences in participation by 14-15 year-old players.

Keeping in mind that competition is an educational setting, and with the aim of increasing and varying players' types of participation in mini-basketball, a modification of some of the rules was proposed. The present

study assesses the effect of a series of rule changes (space, time played, and number of players) on player participation in offensive phases.

## Method

The sample was selected from players taking part in the Andalusian (Spain) Mini-basketball Championships for 9-11 year olds. Eight teams (4 boys' and 4 girls') took part, each with a maximum of 12 and a minimum of 10 players, for a total of 92 players (48 boys and 44 girls). For the second part of the study, each team presented 6 players who had taken part in the Championship, which would be a total of 48 (24 boys and 24 girls); however, during the research period one girl dropped out, reducing the sample number to 47. The study was a quasi-experimental design without a control group, as the whole group was considered the experimental group. The objective was to determine the effect of the modifications of the space, the time, and the number of players on player participation in offensive phases.

*Independent Variables. Modification of playing space.* The court dimensions were reduced to 15 meters long by 10 meters wide. Modification of each player's playing time. The playing time of all the participants was balanced. The match consisted of four 10-minute periods, and each player had to play in two periods, one before and one after the half-time break.

*Modification of the number of players per team.* The number of players was reduced to a total of 6 per team so that 3 of them played on court in each period, making the match 3-a-side.

*Dependent Variable. Amount of*

Variable	Type of competition	M	SD	Standard Error
1 Action	Traditional	2.71	7.8	0.793
	Modified	18.51	9.4	0.654
2 Action	Traditional	2.45	2.4	0.204
	Modified	5.10	3.7	0.312
3 Action	Traditional	0.231	0.5	0.046
	Modified	0.483	0.9	0.081
4 Action	Traditional	0.021	0.1	0.012
	Modified	0.042	0.2	0.017

Table 1. Number of participative actions per offensive phase in each type of competition.

participation (defined as number of participating actions) of the experimental subjects per offensive phase. The number of times a player obtained the ball in offensive phases was counted.

Two mini-basketball championships were recorded, the first organized by the Spanish Basketball Federation under the traditional mini-basketball rules, and the second was organized by the authors with the previously described modified rules of time, space, and number of players. The same teams competed in both championships and played against the same opponents and in the same order, although in the second championship, there were only 6 players per team. For the statistical analysis, comparison of means and student t-test for independent or paired samples were applied as necessary for the quantitative variables.

## Results

The mean values and the standard deviations for the amount of participation in the offensive phase according to the type of competition are shown in table 1; it is

demonstrated that with modified games the players participated more often per attack phase, especially in the “1 action” and “2 actions” categories. The relationships between the type of competition and the number of participative actions by the experimental subjects per attack phase are as follows: 1 action:  $t_{exp}=-7.035$  (142) df and  $p=.000$ ; 2 actions:  $t_{exp}=-7.889$  (142) df  $p=.000$ ; 3 actions:  $t_{exp}=-0.0813$  (142) df and  $p=.004$ ; and 4 actions:  $t_{exp}=-1,000$  (142) df and  $p=.319$ .

## Discussion

With regard to the results, it is demonstrated that in both types of competition players most frequently participate only once in each offensive phase. This may be due to the higher number of counterattacks in the modified games, since this type of attack is characterized by its quickness, thereby not giving many opportunities to pass. However, in the 5-a-side game, where it has been shown that the number of counterattacks is lower (Piñar, 2005), this

high value together with the values obtained for the number of passes per offensive phase, leads us to think that the ball is monopolized by one or at most two players for a long time. This is normal, as children of this age need to satisfy their egocentric need for ball possession without having the obligation to share it resulting in teammates having no opportunity to possess the ball. For this reason, the more players there are, the fewer chances of playing with the ball and learning from it

or acquiring educational experiences with it. Thus, this confirms the need to take part in a reduced and simplified competition with the aim of offering active and direct participation with the ball, a necessary requirement for improving game skills (American Sport Education Program, 2001; Chase et al., 1994; Cruz, Boixados, Torregrosa & Mimbbrero, 1996; Dias, Cruz & Danish, 2000; Martens et al., 1984; Ortega et al., 2006; Piñar, Cárdenas, Conde, Alarcón & Torre, 2007).

## References

- American Sport Education Program. (2001). *Coaching youth basketball*. Champaign, IL: Human Kinetics.
- Chase, M. A., Ewing, M. E., Lirgg, C. D., & George, T. R. (1994). The effects of equipment modification on children's self-efficacy and basketball shooting performance. *Research Quarterly for Exercise and Sport*, 65,2, 159-168.
- Cruz, J., Boixados, M., Torregrosa, M. & Mimbbrero, J. (1996). ¿Existe un deporte educativo?: Papel de las competiciones deportivas en el proceso de socialización del niño. *Revista de Psicología Del deporte*, 9-10, 111-132.
- Dias, C., Cruz, J.F. & Danish, S. (2000). El deporte como contexto para el aprendizaje y la enseñanza de competencias personales. Programa de intervención para niños y adolescentes. *Revista de Psicología Del deporte*, 9 (1-2), 107-122.
- Englehorn, R. (1988). The relationship between player skill level and offensive player activity in girls youth basketball. *Journal of Applied Research in Coaching and Athletics*, 3(3), 204-219.
- Haywood, K. M. (1978). *Children's basketball performance with regulation and junior-sized baskets*. St.Louis University of Missouri. (ERIC Document Reproduction Service No. ED 164 452).
- Isaacs, L. D. & Karpman, M. B. (1981). Factors effecting children's basketball shooting performance: A log-linear analysis. *Carnegie School of Physical Education and Human Movement*, 1, 29-32.
- Martens, R., Rivkin, F. & Bump, L. A. (1984). A field study of traditional and nontraditional children's baseball. *Research Quarterly for Exercise and Sport*, 55 (4), 351-355.
- Ortega, E., Cárdenas, D., Sainz de Baranda, P. & Palao, J.M. (2006). Differences in competitive participation according player's position in formative basketball. *Journal of Human Movement Studies*, 50, 103-122.
- Piñar, M. I. (2005). *Incidencia del cambio de un conjunto de reglas de juego sobre algunas de las variables que determinan el proceso de formación del jugador de minibasket (9-11 años)*. Tesis doctoral no publicada. Universidad de Granada.

- Piñar, M. I., Cárdenas, D., Conde, J., Alarcón, F. & Torre, E. (2007). Satisfaction in minibasketball players. *Perceptual and Motor Skills*, 4, 122-125.
- Rupnow, A. & Engelhorn, R. (1989). Effect of substitution rules on player participation in youth softball and baseball. *Journal of Applied Research in Coaching and Athletics*, 4(4), 233-244.
- Schmid, C. C. (1983). *The effectiveness of improving soccer skills and tactics through the use of small-side and limited area scrimmages*. Tesis doctoral, Universidad de Oregón (1981). Microform Publications.
- Weidner, J. A. (1998). *The Effects of a modified Ball in developing the volleyball pass and set for high-school students*. [Tesis Doctoral]. Northern Illinois University.

