

RELATIONSHIP BETWEEN THE LEVEL OF SELF-EFFICACY, PERFORMANCE INDICATORS, AND PARTICIPATION IN YOUTH BASKETBALL

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ABSTRACT: The present study analyzed the relationship between the level of self-efficacy of the player with the ball in basketball, various performance indicators, and individual participation of the youth player in competition, with the goal of being able to establish initial values that help to define game styles and systems that are adapted to the characteristics of the youth player. In order to evaluate the levels of self-efficacy, a questionnaire was administered to 187 players from the under-16 age category. From a total of 22 games, the following variables related to the individual performance of the player were analyzed: a) points scored; b) shot attempts and shots made of 1, 2, and 3 points; c) efficacy percentage of 1, 2, and 3-point shots; d) rebounds made; and e) personal fouls received. With regard to participation, the following variables were analyzed: f) minutes played; g) total time of ball possession; h) number of ball possessions; i) number of passes received; and j) number of offensive phases in which the player participates. The results indicate that the performance and participation variables correctly classify 74.2% when differentiating between players with high and low levels of self-efficacy. The players with high levels of self-efficacy presented higher values in the different performance and participation variables than the players with low levels of self-efficacy.

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Introduction

Sport initiation, which begins the instant in which a player has his or her first contact with sport, should respect a series of pedagogical, didactic, methodological, and psychological principles that guarantee an essential educational process for the individuals (Cárdenas, 2009; Mitchell, Oslin, & Griffin, 2006).

If this stage is to be determinant for the youth athlete, it is necessary to know and evaluate whether it is being correctly utilized by coaches. This evaluation will not only affect the time dedicated to training sessions or practices, but also competition, which is considered the best means for learning (Ortega, 2005; Piñar, et al., 2006).

With the primary purpose of improving the learning process, increasing the degrees of satisfaction and of intrinsic motivation, and decreasing the abandonment of a certain activity (in this case athletic), different authors indicate that it is necessary to achieve a high level of self-efficacy (Bandura, 1997; González, et al, 2009; Ortega, Gímenez, & Olmedilla, 2008). Bandura (1997) defines self-efficacy as the belief of each individual in his or her capabilities, used as the foundation to organize and execute one's actions so that he or she may reach the desired performance; therefore, the concept does not make reference to the resources at one's disposal but rather to the opinion that one has on what he or she can do with them.

For sports activities, there are many studies that have demonstrated significant relationships between the level of self-efficacy and sports performance (Warnick, & Warnick, 2009). Specifically, in

basketball, Balaguer, Colilla, Gimeno and Soler (1990a, 1990b), with a sample of senior players, and Lázaro and Villamarín (1993) indicate a statistically significant and very positive relationship between levels of self-efficacy and the performance variable of points scored and with the participation variable of minutes played in competition.

The purpose of the present study was to assess the relationship between the level of self-efficacy of the player with the ball, various performance indicators, and individual participation, among under-16 basketball players.

Method

The Cuestionario de Autoeficacia Específica del Jugador con balón [Self-efficacy Questionnaire Specifically for the Player with the Ball] (Ortega, 2005) was administered to 187 under-16 players. A category system was designed. From a total of 22 games, the following variables related to the player's individual performance were registered: a) points scored; b) shot attempts and shots made of 1, 2, and 3 points; c) efficacy percentage of 1, 2, and 3-point shots; d) rebounds made; and e) personal fouls received. With regard to participation, the following variables were analyzed: f) minutes played; g) total time of ball possession; h) number of ball possessions; i) number of passes received; and j) number of offensive phases in which the player participates, with participation understood as obtaining control of the ball at least once in the offensive phase. Observer training was carried out, and a minimum reliability of 0.95 was obtained (intraclass correlation coefficient).

For the data analysis, the sample of players was divided into three groups

according to their levels of self-efficacy (low, average, and high). Later, a discriminate analysis was utilized to find those performance and participation indicators that best differentiate the players with high levels of self-

efficacy from those with low levels of self-efficacy. Finally a one-factor ANOVA with a post-hoc Scheffe was done. All of the statistical analyses were carried out with a level of significance set at $p \leq .05$.

Results

In table 1, the discriminate function is demonstrated in the case of differentiating between players with high and low levels of self-efficacy.

Performance and participation variables	Players with high levels of self-efficacy – players with low levels of self-efficacy	
3-point field goal attempts	.664	*
Successful 3-point field goals	.568	*
Personal fouls received	.506	*
Offensive phases in which player participated	.495	*
Total time of ball possession	.481	*
Points scored	.479	*
Total number of ball possessions	.454	*
Free throw attempts	.426	*
Passes	.405	*
Successful free throws	.382	*
Successful 2-point field goals	.326	*
Minutes played	.302	*
2-point field goal attempts	.285	
Rebounds	.147	
Eigenvalue	0.74	
Wilks' Lambda	.891	
Canonical correlation	.856	
Chi-square	31.996	
Significance	<.01	
Reclassification	78.2%	

* SC discriminate value $\frac{24}{120.30}$

Table 1.- Standardized coefficients (SC) of the discriminate analysis of the performance and participation variables between players with high and low levels of self-efficacy.

In table, the means and the performance and participation variables are shown, according to the self-efficacy (low-average-high) of the player with the ball.

Variables	Low self-efficacy		Average self-efficacy		High self-efficacy		p-value
	Mean	SD	Mean	SD	Mean	SD	
Points scored	4.13	3.99	6.32	5.56	7.06 a	6.31	.009
2-point field goal attempts	4.38	3.99	5.47	4.05	5.89	5.16	-.157
Successful 2-point field goals	1.61	1.61	2.16	2.01	2.39 a	2.47	.088
3-point field goal attempts	0.36	0.69	1.17 c	2.13	1.45 a	1.88	.001
Successful 3-point field goals	0.09	0.22	0.21	0.52	0.37	0.57	.004
Free throw attempts	1.45	1.70	2.30	2.45	2.41 a	2.19	.027
Successful free throws	0.66	0.97	1.15	1.66	1.31 a	1.25	.022
Rebounds	3.54	3.19	3.74	3.53	4.16	4.00	.631
Personal fouls received	1.07	1.21	1.62	1.60	1.94 a	1.74	.007
Game time played (s)	938.2	638.61	1093.8	628.90	1105.4 a	627.80	.270
Total time of ball possession	47.63	51.03	77.82 c	84.66	87.20 a	87.21	.013
Total number of ball possessions	24.98	20.70	34.51 c	25.08	37.61 a	27.32	.014
Passes received	15.58	14.36	24.12 c	20.82	27.38 a	22.51	.003
Offensive phases in which player participated	20.01	15.47	26.55	18.23	27.84 a	18.70	.033

Legend: a = $p < .05$ between the groups of low and high self-efficacy; b = $p < .05$ between the groups of average and high self-efficacy; c = $p < .$ between the groups of low and average self-efficacy

Table 2.- Mean values of the study's variables, according to levels of self-efficacy

Discussion

First of all, the power of prediction of this self-efficacy questionnaire for the player with the ball with regard to the different variables related to performance and participation, such that those players who have very high values of self-efficacy later are the players that obtain higher values in the study's variables during competition, should be highlighted.

These data coincide with those by the studies carried out about self-efficacy and execution and/or performance in different

sports (Feltz, Short, & Sullivan, 2008) in which it is demonstrated that the relationship between the two of them is very positive, and the former is an important predictor of the latter.

In basketball, different authors have also demonstrated this relationship (Balaguer et al., 1990a, 1990b; Lázaro & Villamarín, 1993), though they were studies in which points scored (as the only factor of performance) and game minutes played (as the only factor of participation) were analyzed in an isolated manner. The data from the present study, in addition to corroborating those obtained by

these authors, indicate the need to understand the concept of performance and participation in youth basketball from a multifaceted perspective.

Thus, a player that has a high level of self-efficacy, and therefore perceives the competition as a challenge that can be overcome, enjoys competition, employs greater effort when faced with difficulties, and when he or she does not surmount it (loses a game), recovers the perception of efficacy quickly, ending up with an active participation in the game (with high levels of participation and performance).

The role that the coach plays in this aspect, and ideally the sport psychologist, is determinant (Godoy, Vélez, & Pradas, 2009; Smith, 2008). From the perspective of

competition, one of the fundamental tools that coaches have at their disposal in order to be able to efficaciously develop self-efficacy is game styles that, at the same time, include game systems. These should favor the acquisition of the greatest amount of experiences possible, and these experiences should be the most varied possible, in order to facilitate and enrich the learning process for the youth player (Cárdenas, 2009; Ortega, 2005). Therefore, it is necessary to design game styles and apply rule modifications that foster that the majority of players have the possibility to experience an active and efficacious participation in the game, sufficient to consider competition as a truly educational means (Cárdenas, 2009; Ortega, 2005).

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