

## Goal-setting and players' perception of their effectiveness in mini-basketball

Enrique Ortega\*, Aurelio Olmedilla\*, José M. Palao\*, Marta Sanz\* and María J. Bazaco\*

### GOAL-SETTING AND PLAYERS' PERCEPTION OF THEIR EFFECTIVENESS IN MINI-BASKETBALL

KEYWORDS: Team sport, Youth, Monitoring, Self-perception.

ABSTRACT: The purpose of the study was to assess the effect of an intervention program of goal setting using written report as feedback and controlling players' perception during the competitive season of a mini-basketball team. The intervention program was implemented on under-12 male mini-basketball team. The independent variable was the application of the intervention program of the goal-setting. The dependent variables were players' perception, and level of achievement of the goals. Three-four goals were design for each player. After each match, the players indicated in a scale from 0 to 10 their perception about the level of achievement of the goals. First day of practice of the week, the achievement of the goals and their perception was shown to the players. The results found show that: a) a reduction between the differences of the players' perception and the goal achievement through the season, and b) a significant increase through the season of the achievement of the goals was found. The study may be a reference to help coaches to implement goal-setting in youth teams.

In the scientific sport literature, there are a lot of research that show the utility of the psychology technique of "goal-setting" with senior athletes (Bueno, 2004; Chicau, Silva, and Palmi, 2012; Garcés de los Fayos, 2009; Lorenzo, Pujals, Navarro, and Lorenzo, 2012; Olmedilla and Ortín, 2001; Salesa, 2009) and with youth athletes (Bar-Eli, Tenenbaum, Pie, Btsh and Almong, 1997; Olmedilla, Jara, Garcés de los Fayos and Ortín, 2003; Olmedilla, Ortín and Lozano, 2003). Goal-setting is a tool that allows players to focus in specific conducts of the game (Garcés de los Fayos, 2009; Ortega, Giménez and Olmedilla, 2008). Most of the studies differentiate three basic types of goals: results or outcome goal, performance goals, and process goals (Kingston and Lynn, 1997; Weinberg and Gould, 2010). The research done shows that most effective goal-setting, for performance athletes as well as for youth athletes, is the one that combine the different types of goals (Steinberg, Singer, and Murphy, 2000). There are three aspects consider fundamental to do a proper goal-setting (Buceta, 1998): a) goal must be reachable in order to minimize a loss of self-confidence; b) goal must be directly correlated to the conduct that athletes do; and c) athlete must perceive that they master the conduct that allows them to achieve the goal.

Therefore, there is a relationship between goal-setting and athlete self-perception of their conducts. A proper self-perception involves that the athlete perceives correctly his/her actions. An unsuitable self-perception involves that the athletes over or under evaluate his/her actions (Del Monte, 2005). Several works have been found in the literature that studied the relationship between goal-setting, performance, and athletes' self-perception (Del Monte, 2005; González, 2001; Ortega et al., 2008). In all these studies, it was found that the intervention program was effective and increased the sport performance. These studies used video to give the feedback to the athletes, were done with senior athletes

or teams, and the technical staff was large. Some conditions are not commonly available in youth sports. Coaches do not have the resources, time, formation, etc. for giving this type of feedback to theirs athletes. The purpose of the study was to assess the effect of an intervention program of goal-setting using written report as feedback and controlling players' perception during the competitive season of a mini-basketball team.

### Method

The sample was composed by eight players of under-12 male mini-basketball team of Southeast of Spain. The team practiced three times per week and during 90 minutes per session. Four players of the team were not included of the study due that they did not play all the matches. The players that participated in the study played a similar amount of minutes in the matches (21 minutes per match; minimum of 10 minutes and maximum of 30 minutes) and they had a training experience of  $3.5 \pm .8$  years. The coaching staff was composed by a coach that had a degree in physical activity and sport and eight years of experience coaching mini-basketball teams (second year with this group of players). An inform consent was signed by the fathers of the team, after being inform about the study.

The independent variable was the application of the intervention program of the goal-setting. The dependent variables were players' perception, and level of achievement of the individual goals. The intervention program was implemented during five weeks. The dependent variables were measured in all matches played by the team during these five weeks. The intervention program was applied in the middle of the competitive season during three months (five matches).

Correspondence: Enrique Ortega, Facultad de Ciencias del Deporte. Universidad de Murcia. C/ Argentina s/n, 30720, San Javier (Murcia). E-mail: eortega@um.es

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\* Universidad de Murcia.

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The goals were established for each player by the coaches after analyzing the three first matches of the season. The criteria used to establish the technical-tactical goals were the coach's planning. After that, the coach presented the goals individually to the players to check their opinion and establish the goals. For

each player, 3-4 technical-tactical goals were established. Goals were individuals, measurable, and oriented to the process (Cox, 2009). Table 1 included an example of goals established for a player and level of achievement in one match and the way of achievement was calculated.

Example of goal	Percentage of occurrence	Level of goal achievement*
Look forward when I dribble the ball (at least in half of the cases)	25%	50%
Shoot when I don't have a defender in front of me (at least in half of the cases)	70%	100%
Play at least half of the time, 1-on-1 for the left side of the court	25%	50%

\* The global level of achievement obtains by the player of this example is 66.6%

Table 1. Example of goals established for a player and level of achievement.

Before the matches the player read their goals, and after the match the players fulfill a registration sheet with their perception on the level of achievement of the goals in a scale from 0 to 10. All the matches were recorded and analyzed by the researcher whom registered the level of achievement of the players' goals. The observer had a degree in physical activity and sport with the specialization in basketball and two years of experience coaching youth basketball. The observer was trained following the criteria of Anguera (2003). The observer had an inter-observer reliability over .93 in all the studied variables (*Cohen's kappa*). A researcher was used reference to calculate the reliability. The first day of practice of the week, the players were informed by the differences between their perception and the success achievement (match observation). An individual written report was given to the players, with a graph with their perceptions and the level of achievement of the goals, and the numerical difference between perceived and achieved.

A no-parametric Wilcoxon test was used to establish the existence of differences between the perceived and achieved by

the players in the moments studied. A multivariate analysis of variance (Pillai's Trace) was used to study the evolution of the goals through the intervention program. Partial eta squared ( $\eta^2$ ) was calculated to know the statistical power of the test. For both test, the level of significant was established at  $p < .05$ .

### Results

Table 1 shows the average and standard deviation of players' perception and achieved in the matches analyzed. Figure 1 shows the evolution of the perceived and achieved efficacy in the five matches analyzed. A significant increase of the goals achieved was found ( $F_{4,4} = 10.682, \eta^2 = .914, p = .021$ ). A decrease of the difference between the perception and achieved was observed through the matches. This decrease of the differences was not significant. In three of the matches, the players over evaluate their actions and in two matches under evaluate them.

	MATCH 1 <sup>st</sup>		MATCH 2 <sup>nd</sup>		MATCH 3 <sup>rd</sup>		MATCH 4 <sup>th</sup>		MATCH 5 <sup>th</sup>	
	Av.	SD								
Perceived efficacy	62.38	17.82	74.07	10.57	55.93	10.59	68.15	17.08	74.47	8.22
Achieved efficacy	53.09	20.75	65.15	25.05	59.15	16.27	65.52	17.51	75.85	11.43
Difference	-9.28		-8.92		3.22		-2.63		1.37	
Z Value			-.051		-1.376		-.702		-1.407	
P			.959		.169		.483		.159	

Table 2. Values of perceived efficacy and achieved efficacy.

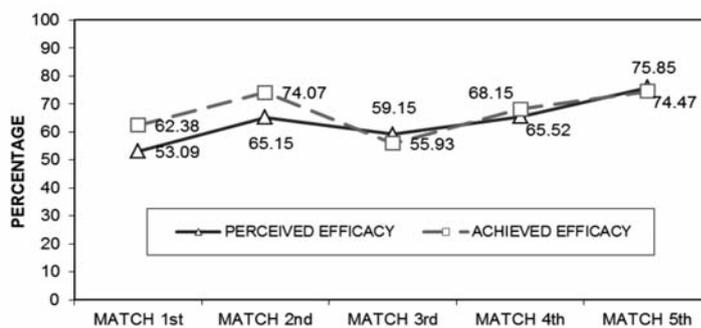


Figure 1. Temporal evolution of the perceived efficacy and achieved efficacy.

## Discussion

The purpose of this study was to: a) know the effect of a goal-setting intervention program on the youth players' perceived efficacy; and b) know the effect of a goal-setting intervention program on level of goal achievement. With respect to the first purpose, the results showed that players perceived better their actions in the match at the end of the intervention (9% to 1% of difference). Initially the players over perceived their actions, after that the players adjust their perception (differences of < 2%). Differences between self-perception and really done by the players made that the feedback given by coaches are not interpreted correctly by the players because they have the perception that they are executing properly. This can affect the credibility or the confidence in the comments of the coach. At this level, it is important that to be effective the feedback give is close to player's perception (Leo, Sánchez, Sánchez, Amado and García, 2009; Moreno, Moreno, Iglesias, García and Del Villar, 2007). The results show that the control of the players of players' perception and the comparison with the achieved by the player helps them to players to have a better perception of their actions during the matches.

In relation to the second purpose of the study, the results showed that the goal-setting intervention using written report was effective in youth players. The goal-setting intervention increased the level of achievement of the goal, probably because players focused their attention in the aspects that coached considered more important of the game. These results were similar to the finding of previous studies in adult players (Bueno, 2004; Olmedilla and Ortín, 2001; Salesa, 2009) and with youth players (Bar-Eli, Tenenbaum, Pie, Btesh, and Almong, 1997; Olmedilla, Jara, Garcés de los Fayos and Ortín, 2003; Olmedilla, Ortín and Lozano, 2003).

The results showed that goal-setting intervention is a valid training option with youth athletes (Alarcón, et al., 2011; Marín et al, 2012). The youth players improved their self-perception and level of goal achieved using observation systematic, and written reports where the perceived and achieved was compared. The conditions of coaches' youth sport work are very broad (resources, time, formation, etc.). It is necessary to study the minimum number and frequency which the perception and players' actions should be controlled in training and matches to increase the goals achievement. The research design used in the study does not allow establishing the exact causes of the results found; that could be an improvement in the perception, the intervention program, the accumulation of practice, the fact that this aspect was controlled, more focused by the coaches on these aspects in practice, etc. Futures studies are needed to verify if the same results found and the exact causes (Salado et al., 2011). These works should control the practice done by the players and coaches; have a control group; etc. Also, it is needed to study if the used of this type intervention program is effective in practice where the number of execution that the players do and the practice time are higher.

## Conclusions

The application of goal-setting intervention controlling player perception of goal achievement and using written reports involved: a) that youth players perceived better their actions in the matches; and b) an increase in the level of achievement of individual goals by youth players. The absence of a control groups does not allow establishing the exact causes of these results in youth.

### *ESTABLECIMIENTO DE OBJETIVOS Y PERCEPCIÓN DE EFICACIA DE LOS JUGADORES EN MINIBASKET*

**PALABRAS CLAVE:** Deporte de equipo, Minibasket, Auto-percepción.

**RESUMEN:** El objetivo del estudio fue evaluar el efecto de un programa de intervención basado en establecimiento de objetivos mediante el informe escrito como retroalimentación y el control de la percepción de los jugadores durante la temporada competitiva de un equipo de mini-basket. El programa de intervención se llevó a cabo en un equipo de minibasket masculino. La variable independiente fue la aplicación del programa de intervención basado en establecimiento de objetivos. Las variables dependientes fueron la percepción de éxito de los jugadores, y el nivel real de logro de los objetivos. Después de cada partido, los jugadores indicaban en una escala de 0 a 10, su percepción sobre el nivel de éxito de los objetivos. El primer día tras el partido se le mostraba su valoración subjetiva, y la eficacia real. Los resultados muestran que: a) tras la aplicación del programa de establecimiento de objetivos se apreció una reducción entre las diferencias existentes entre la percepción de los jugadores y la eficacia real, y b) un aumento significativo en los objetivos deportivos. El estudio puede ser una referencia para ayudar a los entrenadores para poner en práctica la fijación de objetivos en categorías inferiores.

### *FORMULAÇÃO DE OBJECTIVOS E PERCEÇÃO DE EFICÁCIA DOS JOGADORES NO MINI-BASQUETEBOL*

**PALAVRAS-CHAVE:** Desporto de equipa, Minibasket, Auto-percepção.

**RESUMO:** O objetivo do estudo foi avaliar o efeito de um programa de intervenção baseado na formulação de objetivos mediante um relatório escrito como feedback e o controlo da percepção dos jogadores durante a temporada competitiva de uma equipa de mini-basquetebol. O programa de intervenção foi realizado com uma equipa de mini-basquetebol masculina. A variável independente foi a implementação do programa de intervenção baseado na formulação de objetivos. As variáveis dependentes foram a percepção de sucesso dos jogadores, e o nível real de alcance dos objetivos. Depois de cada jogo, os jogadores indicavam numa escala de 0 a 10, a sua percepção do nível de êxito dos objetivos. No primeiro dia após o jogo era mostrada a sua avaliação subjetiva, e a eficácia real. Os resultados mostram que: a) depois da aplicação do programa de formulação de objetivos se verificou uma redução entre as diferenças existentes entre a percepção dos jogadores e a eficácia real, e b) um aumento significativo nos objetivos desportivos. O estudo pode ser uma referência para ajudar os treinadores a implementarem a formulação de objetivos em escalões jovens.

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