

ICPEsk 2015 : 5<sup>th</sup> International Congress of Physical Education, Sports and Kinetotherapy

## Research Regarding Optimization of an Athlete's Motivation Level in Athletics Jumping Events

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### Abstract

<http://dx.doi.org/10.15405/epsbs.2016.06.26>

This research provides a model for the operationalization of psychological training for an athlete in athletics jumping events, obtained by means of a case study realized within a 3-year experiment. Optimization of an athlete's level of motivation through the operationalization of the psychological training aims at maximizing the level of performance achieved by the athlete. The research was carried out using specific techniques, based on quantifying motivational levels in order to identify global motivational force (GMF), determining the general motivation instrumentality (GMI) and the motivation instrumentality (MI) by motivational factors, which reflect the independent variables of motivation, these generating objectives in the optimization of psychological training. Quantifying the motivational level of an athlete revealed to us the sensitive differences between the values of the athlete (7.35) and those of his coach (6.85), in his perception of the athlete's motivational structures. Based on the values identified regarding the general motivation instrumentality (GMI) for the athlete O.M. and taking into consideration the evaluation of the athlete by his coach and the ranking of each motivational factor, we were able to create objectives for psychological training. The results recorded throughout the research show an ascending curve in the GMF values of the athlete, from 7.35 to 8.57, values which signify a motivational profile with increased tendencies towards a higher level. Applying this strategy with regards to optimizing the motivational level of the athlete (O.M.) through operationalizing his psychological training leads to an improvement in both GMI and GMF values.

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**Keywords:** Athletes; motivation, jumping events.

### 1. Introduction

In competitive sport, motivation can have a positive or negative effect on the behaviour of the athlete, depending greatly on the way the entire process of organizing and running the sports training is carried out. Motivation is the factor which activates, coordinates and guides all of the actions and



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reactions of the athlete. In order to reach competition objectives and adapt efficiently to the specific requirements, the jumping event athlete must be motivated so that they can put in the necessary effort to achieve high performance. Motivation is one of the determining factors of sports performance, thus being considered a generator of sports performance. Sports performance can be influenced by the intensity of the athlete's motivation. Human performance, including that of sport, can be explained as a multiplicative factor of motivation and possibilities/aptitudes (Epuran, Holdevici, & Tonița, 2008; Duda et al., 1995; Mamali, 1981),  $P = f(M \times A)$  (Bologa & Gherghișan 1994). Before moving on to the implementation of mechanisms designed to motivate the potential of the competitive athlete, it is essential to identify the factors which influence the sources of individual motivation and use them as such in order to obtain positive, efficient reactions in the attitudinal system and behaviour of the individual.

We believe that understanding the motivational structure, as well as the influences received from the athlete's system of values, is the key in determining the conditions through which the level of motivation can be optimized in order for the athlete to achieve high performance in competition.

Under the assumption that motivation is "a state which energizes behaviour and offers it a direction" (Atkinson & Hilgard, 2005, quoted by Mihăilescu & Haralambie, 2011) fulfilling a regulatory function in the conduct of the athlete, and is determined by the consciously proposed purpose for their activity, this research was initiated with the aim of optimizing the level of motivation of a jumping event athlete for maximizing his sports performance.

With a view to optimizing the level of motivation in order to maximize sports performance, we sought to achieve the following objectives: determine the level of motivation of the athlete and the independent variables of global motivational force (GMF); determine the global motivational instrumentality (GMI) and the instrumentation of motivation by motivational factors; create the objectives of the athlete's psychological training focused on increasing the global motivational force (GMF) and personalize this training for the jumping event athlete, our case study; develop and experiment an intervention strategy for the optimization of psychological training of the jumping event athlete, for the purpose of maximizing performance in forthcoming competitions.

## **2. Methods**

The experimental study was carried out using specific techniques, based on quantifying levels of motivation which reflect the independent variables of motivation, therefore generating the objectives necessary for the optimization of psychological training. In order to quantify motivation levels, we used 14 motivational items reflecting both intrinsic and extrinsic forms of motivation (validated by Bologa & Gherghișan, 1994; Haralambie & Mihăilescu, 2010; Haralambie, 2010), as can be seen in Table 1.

**Table 1.** Intrinsic and extrinsic motivational items (compiled from the previously presented models by Bologa & Gherghișan, 1994, Mihăilescu & Șerban, 2005)

No.	Intrinsic motivational items	Extrinsic motivational items
1.	Activity content: training, competitions, training camps, recovery	Norms of sporting activities: rules, statutes and regulations
2.	Opportunities to use and develop sporting abilities in a creative manner	Material advantages and facilities: prizes, accommodation, travel
3.	Passion for the sport practiced	Social atmosphere: family, club, spectators, coaches, press, radio and TV stations
4.	Level of sporting aspiration: qualification to a higher competition level, national team selection	Social prestige of the athlete, the sport practiced, the club and the coach
5.	Determination to assert oneself personally: integration into a team and promotion up the ranks	Management style used: by the coach, club and administration
6.	Need to perform well, to be the best, to win, to self-improve	Sport-school relationship: the possibility to be both an athlete and a student
7.	Fear of failure: failed attempts, defeat, accidents, opponents, playing safe	Material conditions: facilities, gear, equipment, schedule

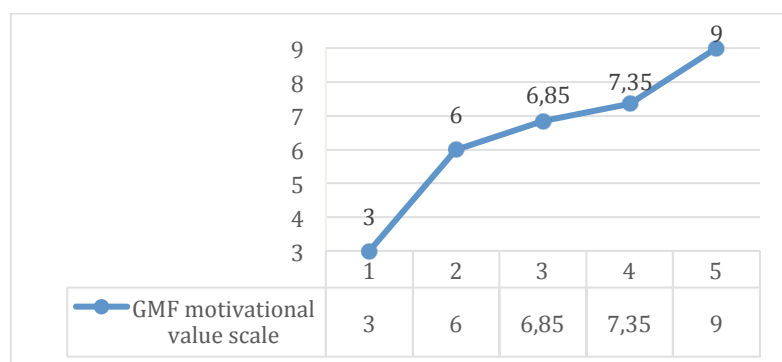
Determining the values of the independent variables of motivation, both GMF and GMI, was achieved by means of the survey method using a questionnaire. The items of the questionnaire were focused on evaluating the valence (V), expectancy (E) and instrumentation (I) of motivation.

$$V \times E = GMF; V \times I = GMI$$

The research is based on a case study, a unique experiment, owing to the fact that athletics as a sport requires individual training. The questionnaires were completed by the athlete and his coach. This crossover method was used so as to observe the perception of the coach regarding the athlete, in terms of leverage and motivational resources in training, in order to increase the efficiency of the athlete's preparation for competition.

### 3. Results

Quantifying the athlete's level of motivation revealed to us the subtle differences between the values of the athlete and those of the coach, with regards to motivational structures. The GMF value of the athlete (7.35) constituted a medium level of motivation, a fact also observed in the perception of the coach, who recorded a lower value (6.85) than that of the athlete, falling, however, into the same level on the motivational scale (Graph 1).



**Graph 1.** GMF motivational scale value for the subject O.M.

The values of V, E, I, GMI and the rank hierarchy of MI for the athlete O.M. were compared with the standards determined by Haralambie and Mihăilescu (2010) for the athletes (seniors) in the formative stage of training (Tables 2, 3).

**Table 2.** Value of the structural components of the athlete's motivation compared to the norms determined in senior athletes

Motivation Components	Valences		Expectancy		Instrumentality	
	Seniors	O.M./Coach	Senior Team	O.M./Coach	Senior Team	O.M./Coach
Min.	32		19		19	
Decile I	37		25		25	
Decile II	38		28		28	
Decile III	39		29		29	
Decile IV	40		31		31	
Decile V (median)	41	40/39	33	36/34	33	28/27
Decile VI	41		34		34	
Decile VII	41.7		35		35	
Decile VIII	42		36		36	
Decile IX	42		38		38	
Max.	42		41		41	
Average	40.01		32.01		32.01	

In order to optimize the level of motivation of the athlete by operationalizing his psychological training, we identified the global motivational instrumentality and determined the values of motivation instrumentation by motivational factors. The results of the research show a lower level in the case of athlete O.M. when compared to the IM of the seniors (Table 3). The values recorded in the case of seniors for the valence and instrumentality of motivational variables (Table 2) compared to the results of athlete O.M. allowed us the opportunity to optimize the psychological training of the athlete. Based on the values recorded for the athlete O.M. and taking into consideration the evaluation of the athlete by his coach and the ranking of each motivational factor (Table 1), we were able to create psychological training objectives aimed at increasing motivation indicators (Table 3).

**Table 3.** The rank hierarchy of MI and GMI values determined for the seniors, athlete O.M. and his coach

MOTIVATIONAL FACTORS	MI-seniors		MI OM.		MI Coach	
	Pct.	Rank	Pct.	Rank	Pct.	Rank
1. Activity content: training, competitions, training camps, recovery	6.03	VI	6	III-XI	6	III-IX
2. Opportunities to use and develop sporting abilities in a creative manner	5.92	VII	6	III-XI	6	III-IX
3. Passion for the sport practiced	8.10	III	9	I-II	6	III-IX
4. Level of sporting aspiration: qualification to a higher competition level, national team selection	8.40	I	6	III-XI	9	I-II
5. Determination to assert oneself personally:	7.31	IV	6	III-XI	6	III-IX

integration into a team and promotion up the ranks

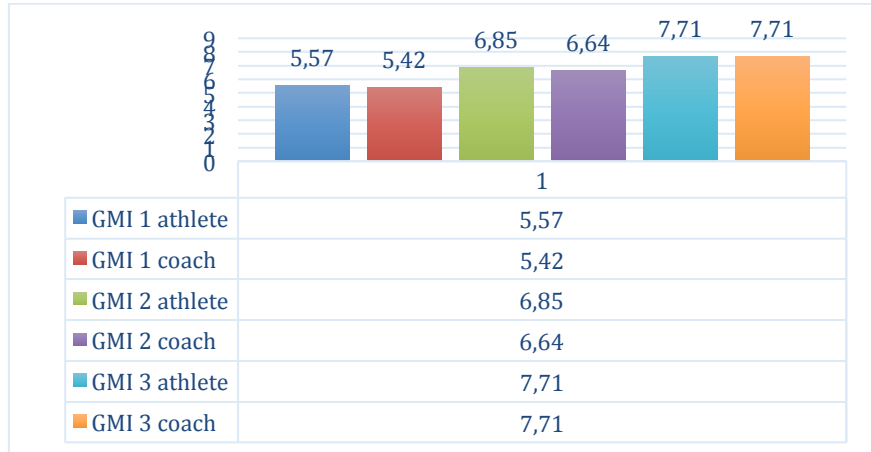
6. Need to perform well, to be the best, to win, to self-improve	8.31	II	6	III-XI	6	III-IX
7. Fear of failure: missed shots, defeat, accidents, opponents, playing safe	5.16	IX	4	XII	4	X-XI
8. Norms of sporting activities: rules, statutes and regulations	3.34	XIV	3	XIII	3	XII-XIII
9. Material advantages and facilities: prizes, accommodation, travel	4.32	XI	2	XIV	2	XIV
10. Social atmosphere: family, club, spectators, coaches, press, radio and TV stations	4.92	X	6	III-XI	6	III-IX
11. Social prestige of the athlete, the sport practiced, the club and the coach	5.75	VIII	6	III-XI	6	III-IX
12. Management style used: by the coach, club and administration	4.20	XII	6	III-XI	4	X-XI
13. Sport-school relationship: the possibility to be both an athlete and a student	7.21	V	9	I-II	9	I-II
14. Material conditions: facilities, gear, equipment, schedule	4.09	XIII	6	III-XI	3	XII-XIV
GMI	5.97		5.57		5.42	

**Table 4.** The objectives of psychological training concerning the motivational aspect of the athlete

General objectives	Operational objectives
GOB.1. – Develop self-confidence	OP.1.1. – Objectively analyse the athlete’s own evolution in training
	OP.1.2. – Objectively analyse the level of performance achieved
	OP.1.3. – Adopt positive thinking
	OP.2.1. – Correctly analyse the level of performance reached
	OP.2.2. – Correctly evaluate the results obtained in training
	OP.2.3. – Correctly evaluate the benefits of training and competition
GOB.2. – Develop the ability in the athlete to appreciate his own execution, level of performance and the results obtained	OP.3.1. – Recognise the advantages of the proposed results
	OP.3.2. – Adopt a winner’s attitude
	OP.3.3. – Create the desire to achieve the proposed results
	OP.4.1. – Control the level of emotions
	OP.4.2. – Control the level of motivation and aspirations
	OP.5.1. – Achieve the proposed results
GOB.3. – Develop the necessary motivation for performance	OP.5.2. – Objectively evaluate the training process
	OP.6.1. – Acquire theoretical and methodical knowledge regarding the training process
	OP.6.2. – Acquire knowledge from other related sporting fields
GOB.4. – Develop the capability to regulate and self-regulate different mental states	OP.6.3. – Create the habit of being permanently informed
GOB.5. – Develop awareness of the intended goal	
GOB.6. – Develop capacity for knowledge and self-perfection	

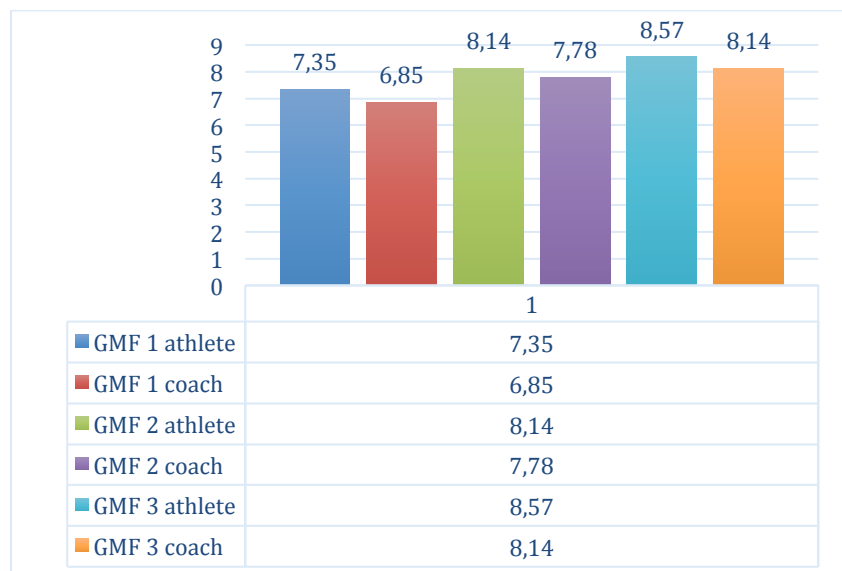
Based on the data obtained in the process of quantifying the level of motivation of the athlete O.M. and in correlation with the objectives aimed, an action plan was drawn up to optimize the athlete’s motivation level. The action plan was materialized through operational strategies designed to achieve the optimal level of motivation for the forthcoming competition. Following the implementation of this

strategy, we noticed an improvement in the GMI values both in the evaluation of the athlete and that of the coach. Graph 2 shows the evolution of GMI values for the subject O.M. during the research. This progress is due to our efforts to improve the behaviour of the athlete regarding his attitude towards assuming responsibility and understanding that, by engaging in conscious and active activity, his level of performance can improve.



**Graph 2.** The evolution of GMI at the end of the experimental research

In the graph below, we can see that the process undertaken to improve the level of motivation of the athlete was successful. Over the course of the research, we observed a continual increase in the GMF values of the athlete, values which signify a motivational profile with great potential.



**Graph 3.** The evolution of GMF at the end of the experimental research

#### 4. Conclusions

The results recorded throughout the research show an ascending curve in the GMF values of the athlete, from 7.35 to 8.57, values which signify a motivational profile with great potential.

Applying this strategy with regards to optimizing the motivational level of the athlete O.M. by operationalizing his psychological training will lead to an improvement in both GMI and motivation instrumentality by motivational factors, this having a lower value than that of the seniors (Table 3). The lower values of some of the external motivational factors recorded in the results of the athlete created the opportunity to optimize the psychological training of the athlete by improving them, as well as by developing internal motivational factors.

This approach has led to the optimization of the motivational level of the athlete, who recorded a value of 8.57 at the end of the experiment. This ascending trend of motivation level was also identified within the results obtained following an evaluation of the coach's perception of the athlete's level of motivation.

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