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# Psychological state of runners. Differences between federated and non- federated

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**Resumen:** El propósito del presente estudio es conocer las motivaciones y el estado psicológico de los corredores populares, diferenciando entre federados y no federados, y entre hombres y mujeres. Se consiguió una muestra de 473 corredores populares, empleando la Motivations of Marathoners Scales (MOMS) y el CSAI-2R para evaluar la motivación y la ansiedad. Los resultados indican que los corredores federados presentan mayores puntuaciones en sentido de vida y menores puntuaciones en autoconfianza, logro de meta personal, autoestima y búsqueda de reconocimiento. Por otro lado, los hombres obtienen puntuaciones significativamente más altas en aptitud física, interacción social, atracción por la competición, conveniencia y competición y menores puntuaciones en sentido de vida.

**Palabras clave:** corredores, estado psicológico, ansiedad, motivaciones, licencia federativa.

**Abstract:** The purpose of this study is to meet the motivations and psychological state of the popular runners, differentiating between federated and non-federated, and between men and women. The sample was composed of 473 popular runners, using Motivations of Marathoners Scales (MOMS) and CSAI-2R to evaluate motivation and anxiety. The results indicate that federated runners present higher scores in sense of life and lower scores in self-confidence, achievement of personal goal, self-esteem and recognition search. On the other hand, the men obtained significantly higher scores on physical fitness, social interaction and attraction to the competition, convenience and competition and lower scores on the meaning of life.

**Keywords:** runners, psychological state, anxiety, motivations, federative licence.

## Introduction

The purpose of this study was to know the motivations and the psychological condition of popular runners, differentiating between federated and non-federated, and between men and women. The importance of this research lies in knowing how federated players have certain psychological characteristics and certain grounds for running and differ with the not federated or amateur in these aspects.

The study of motivation is needed in this growing population, it is necessary to shed light on its relationship with various psychological constructs (levels of intrinsic satisfaction, addiction training, etc.) as well as its relationship with certain variables in sports (sports experience, fitness level, possession of license, hours of training, etc.). One of the most used to assess the motivations of marathon runners is the Motivations of Marathoners Scales (MOMS) by Masters Ogles & Jolton (1993). It contains 56 reasons for running, which in turn are grouped into four general categories of motivations (psychological motivations

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of achievement, social and physical health) with respect to anxiety, there is research that concludes that pre-competitive anxiety facilitates performance, coming to the conclusion that the most skilled players perceive anxiety better than less-skilled athletes (Jones & Swain, 1995; Ntoumanis & Jones, 1998), however, in most of them, it is concluded that the anxiety has negative effects on performance, enjoyment of sport participation and physical well-being (Scanlan, Babkes & Scanlan, 2005; Smith, Smoll and Weichman, 1998).

Anxiety can also be related to different psychological constructs, such as orientation and motivational climate, achievement motivation and satisfaction or fun in the sport. In this sense, Salinero, Ruiz & Sanchez (2006), found a positive and significant correlation between anxiety with fun, while the ego orientation correlated positively and significantly with boredom.

One of the trends has been the comparison of subjects depending on their fitness level or ability, analyzing descriptively physical and psychological differences that exist between world-class athletes and those who are not (López Gullon et al., 2012; Martinez-Abellan et al., 2010).

On the other hand, Donzelli, Dugoni & Johnson (1990) investigated potential differences in patterns of anxiety among successful amateur runners and little successful, trait anxiety and the condition of the marathoners. Other found studies that differed subjects depending on their fitness level or ability, analyzed the response times in groups with different level of experience (Reina, 2004), or the action of penalty in football (Núñez, Ona, Raya & Bilbao, 2009) not found significant differences.

In other studies that differed to athletes based on their skill level (Olmedilla, Andreu & Blas, 2005; Olmedilla, Ortega & Abenza, 2007) have been used only samples of male athletes, which does not allow us to know if there are differences of gender on this matter, which could be of great interest in the applied field.

On the other hand, although in previous work have been studied the sports level of participants (in youth, young footballers and senior) (Olmedilla et al., 2005; Olmedilla et al., 2007) and the results are very similar, in both cases the sample consisted of football players; perhaps in individual sports, such as athletics, the level of competition understood as the possession of license or not, could provide additional information that could be important, for this reason the study is handled

## *METHOD*

### *Design*

It is a quantitative study because it consists of numeric measurement variables that may be described or linked and require a sample size that means representativeness of the population under study (Verma & Mallick, 1999). The study is cross-type because only a measurement was performed in time, without prior or subsequent follow-up. On the other hand, the design of the study was observational, descriptive

and correlational (Thomas & Nelson, 2007). In addition, it is a non-experimental study since it described the circumstances of an event (in this case, motivation and psychological status in popular runners) without any direct manipulation of the variables of study. Only numbers were used to characterize the population, which gives it its descriptive character (McMillan & Schumacher, 2005).

The selection of the sample was not randomly, therefore it's no probabilistic research (McMillan & Schumacher, 2005). The participants were selected by convenience, in this case, for agreeing to participate in the study.

#### Participants

It was worked with popular runners and who agreed to participate in the study on a voluntary basis. Got a sample of 473 popular runners (374 men and 99 women) who participate in the San Silvestre Crevillentina and the half marathon of Santa Pola. In table 1 you can see the averages and standard deviation of the age, weight and height of the popular runners.

**Table 1. Average and standard deviation of age, weight and height.**  
Average and standard deviation of age, weight and height.

	MEN		WOMEN	
	Average	Standard desviation	Average	Standard desviation
AGE	30,28	8,13	31,70	8,45
WEIGHT	73,07	8,27	56,65	7,07
HEIGHT	1,76	0,07	1,64	0,05

own elaboration

Table 1 nstruments

The tools to be used for the collection of information, were chosen and designed in accordance with the objectives of the study and the required methodological specifications. Self-managed scales whose sections are described below were used. For the evaluation of the personal socioemographic variables was elaborated a questionnaire of self-report ad hoc where all relevant information collected, regarding the variables of sport training, age, gender, whether it is or not federated, among others. On the other hand, the CSAI-2R of Andrade, Lois & Arce (2007) (annex 1), was used to evaluate anxiety prior to the competition, it is a version in Spanish of the CSAI-2R by Martens, Vealey & Burton (1990). The resulting adapted shape consists of 18 items which are distributed in 3 subscales or dimensions: 1) somatic anxiety condition, 2) cognitive anxiety condition and 3) self-reliance status. In this, as in other questionnaires, the responses to the items are reflected on a scale Likert type with a range of response from 1 to 4 where 1 corresponds completely in disagreement and 4 agreement with the formulation of the question.

Finally, to assess the reasons for running was used a questionnaire designed by Barrios (2002), consisting of a scale that collects different reasons (23 items) to participate in endurance racing. The items were made in a work developed previously (Barrios, 2001) from contributions from the level of motivation of the marathoners (MOMS) by Masters, Ogles & Jolton (1993). Each item is related to a psychological aspect that is intended to evaluate following the conceptions of the same authors. The used scale is of Likert-type with five response options: nothing important (1); unimportant (2); important (3); very important (4); and extremely important (5). Each of these items belongs to one of the established categories by Barrios (2002): satisfaction, physical fitness, achievement of personal goal, interest in sport, social interaction, self-esteem, attraction by the competition, meaning of life, seeking recognition, competition-rivalry and convenience.

#### Procedure

The participants were popular runners. They were invited to participate when they were collecting their dorsal the previous days to the race, or on the same day of the race. It was explained that the purpose of this study was to provide information to describe their reasons why they run and their psychological condition in their role as popular runners. In this sense, the explanation gained extraordinary importance with the study as well as the characteristics and the way of filling out the psychological questionnaires moreover the social sport data. Therefore the points that were developed were as follows:

- It was marked the voluntary and anonymous nature of participation in the study.
- Explanation of the study: objectives and development (on a poster).
- Explanation of instructions for completing each questionnaire at the beginning of the same. The investigator read each statement and any item example of each questionnaire in case a participant has doubts.

#### Statistical analysis

The statistical treatment of the data was performed using the program SPSS 21.0. Descriptive analyses were performed with this program and frequency analysis, average and correlations through the technique of analysis of variance ANOVA and Tukey multiple comparison method. All statistical analysis were performed with a  $p \leq .05$  significance level.

## Results

Firstly, there has been a descriptive analysis, the count of any of the variables may be seen in table 2.

**Table 2. Possession of federative license**  
Possession of federative license

		MEN	WOMEN
FEDERATIVE LICENSE	NO	290	72
	YES	84	27

own elaboration

Table 2. Possession of federative license On the other hand, each of the items of the developed questionnaire by Barrios (2002) is part of a motivational category possessing a particular psychosocial content (Barrios & Cardoso, 2001).

Table 3 presents the averages obtained by competitors in the psychological variables of the three subscales of the CSAI-2R questionnaire, and in each one of the motivational categories of the questionnaire by Barrios (2002), depending on whether it is federated or not and depending on the genre.

**Table 3. Averages according to the psychological variables of each of the categories of the scales**  
Averages according to the psychological variables of each of the categories of the scales

		Cognitive Anxiety	Somatic Anxiety	Self-confidence	Satisfaction	Personal goal achievement	Physical aptitude	Sport interest	Social interest	Attraction competition	Self-esteem	Sense of life	Recognition search	Convenience	Competition
FEDERATIVE LICENSE	NO	8,9	15,6	14,9	8,7	8,7	6,4	7,0	7,0	6,4	7,2	6,8	5,4	6,4	4,8
	YES	9,1	16,2	14,1	8,5	7,2	6,1	7,4	6,7	6,6	6,0	7,3	4,7	6,8	4,3
GENRE	MEN	8,9	15,6	14,8	8,7	8,5	6,5	7,0	7,0	6,6	6,9	6,7	5,2	6,7	4,8
	WOMEN	9,0	16,0	14,3	8,7	7,9	5,5	7,4	6,4	5,9	7,1	7,7	5,3	6,0	4,2

own elaboration

Table 3. Averages according to the psychological variables of each of the categories of the scales The technique of analysis of variance (ANOVA) was used to determine the relationship of other variables with the motivational categories, and thus determine what are the variables that get significant relationships with the reasons to participate in endurance racing, in table 4.

**Table 4. Results of the analysis of variance (ANOVA)**  
)Results of the analysis of variance (ANOVA)

	FEDERATIVE LICENSE	GENRE
Cognitive Anxiety	0,713	0,892
Somatic anxiety	0,333	0,471
Self-confidence	0,012	0,123
Satisfaction	0,598	0,928
Personal goal achievement	0,004	0,283
Physical aptitude	0,675	0,029
Sport Interest	0,090	0,049
Social interest	0,322	0,008
Attraction competition	0,409	0,012
Self esteem	0,000	0,277
Sense of life	0,018	0,000
Recognition search	0,007	0,706
Convenience	0,218	0,039
Competition	0,079	0,034

own elaboration

Table 4. Results of the analysis of variance (ANOVA)

With regard to the procedure to determine these relationships was taken the scores in each of the categories of the scales as a dependent variable and if you are federated or not and genre as an independent variable. The results are presented and discussed later.

#### Federated vs. non-federated

When it is taken as an independent variable if you are or not federated, we found significant differences in the self-confidence categories ( $p=0.012$ ), personal goal attainment ( $p=0.004$ ), self-esteem ( $p<0.001$ ), sense of life ( $p=0.018$ ) and search for recognition ( $p=0.007$ ). Noting their averages, can be seen that runners which are federated give higher scores in sense of life (7.3/6.8); and lower scores in self-confidence (14.1/14.9), personal goal attainment (7.2/8.7), self-esteem (6.1/7.2) and quest for recognition (4.7/5.4).

#### Genre

With regard to the gender of the runners, the analysis of variance indicate significant differences in the physical fitness categories ( $p=0.029$ ), social interest ( $p=0.008$ ), attraction by the competition ( $p=0.012$ ), sense of life ( $p<0.001$ ), convenience ( $p=0.039$ ) and competition ( $p=0.034$ ). Noting their averages can be seen as men get significantly higher scores on physical fitness (6.5/5.5), social interaction (7.0/6.4), attraction to the competition (6.6/6.0), convenience (6.7/6.0) and competition (4.8/4.2); and lower scores on the meaning of life (6.7/7.7).

### Discussion

Understanding that federal licence can be an indicator of a higher level sports as an athlete, in the present study runners who were federated presented lower scores in self-confidence, as opposed to the study by Pozo (2007) where the lowest level of athletes and swimmers decreased self-confidence.

On the other hand, in this study have not been found significant differences regarding the relationship between cognitive and somatic anxiety with possession or not of federal license. However, in the study by Pozo (2007) the lower level athletes and swimmers has increased the anxiety.

With respect to the reasons for running, Jaenes (2000) concluded that the majority of the reasons for running that runners had, were related to the benefits that they hope to obtain with this practice. In the same vein, Llopis & Llopis (2006) concluded that the most important reasons for running were the satisfaction that it produced by running, achievement of a personal goal, physical fitness, social interaction and interest in the sport.

For its part, in the investigation by Ruiz-Juan and Zarauz (2011), the higher motivations for running were the meaning of life, self-esteem and the orientation to health were the highest, face to the recognition,

which was the one which obtained the lowest scores. In this study, the runners who were federated presented higher scores in sense of life and lower scores on achievement of personal goal, self-esteem and recognition search.

Respect to the differences of sex, Ogles, Masters & Richardson (1995) concluded that women earned higher scores in the concern for weight, affiliation, self-esteem, psychological goals and meaning of life. Along the same lines, in the present study women earned higher scores than men, but only in the sense of life scale. On the other hand, in the investigation by Ruiz-Juan & Zarauz (2011), men scored higher than women on the recognition scale and women achieved higher scores than men in the meaning of life and self-esteem scale. In what refers to this study, the men obtained significantly higher scores on physical fitness, social interaction and attraction to the competition, convenience and competition.

On the other hand, although the men show more self-confidence than women, the women are who better control their anxiety (Ponce de Leon, Lopez & Medina, 2006). In terms of the commitment to practice, in Zarautz & Ruiz-Juan (2011) a greater commitment to the practice of their specialty athletic, made that women show a higher somatic anxiety. In this study there were no significant differences between men and women relating to self-confidence, somatic anxiety and cognitive anxiety.

Considering the theoretical background and the earlier results that deal with works that have used these variables of study, and which have been designed with this type of population, it is underlined the importance of continuing to deep into this topic

### *Conclusions*

1. Runners who are federated presented lower scores in self-confidence, achievement of personal goal, self-esteem and recognition search; and higher scores in sense of life, probably because federated runners see the competition as a part of their lives and don't see the race as a hobby.
2. Men score significantly higher on physical fitness, social interaction and attraction to the competition, convenience and competition and lower scores on the meaning of life.
3. Not found significant differences regarding the relationship between cognitive and somatic anxiety with possession or not of federal license

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