

Self-determined motivation and life satisfaction in Portuguese veterans athletes

Motivación autodeterminada y satisfacción con la vida en deportistas veteranos Portugueses.

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Abstract: The aims of this work were to determine correlations and predictive variables, between the levels of motivation, basic psychological needs and life satisfaction of Portuguese veteran athletes. The sample consisted in 684 Portuguese veteran athletes of both genders, aged between 30 and 90 years ($M = 43.78$ $DP = 8.61$), competitors of various modalities. As instruments we used the Behavioral Regulation in Sport Questionnaire (BRSQ), the Basic Psychological Needs Scale Exercise (BPNES), the Satisfaction with Life Scale (SWLS) and Positives and Negatives Affections Scale (PANAS). It was applied the bivariate Pearson correlation test and multiple linear regression. The results showed that the veteran athletes present a good self-determination for the sport practice, being their welfare levels in life satisfaction related to the same self-determination, but rather dependent on the affections produced by sports. This study is presented as a contribution to understanding the role of sport in promoting wellness in veteran sports population.

Keywords: Self-determination, life satisfaction, well-being, sports, veterans.

Resumen: El objetivo de este estudio fue determinar las correlaciones y variables predictivas entre los niveles de motivación, las necesidades psicológicas básicas y la satisfacción con la vida de atletas veteranos portugueses. La muestra se compuso de 684 atletas veteranos portugueses de ambos géneros, con edades comprendidas entre los 30 y los 90 años ($M = 43.78$; $DP = 8.61$), competidores de varias modalidades. Los instrumentos utilizados fueron el Cuestionario de la Regulación Conductual en el Deporte (BRSQ), la Escala de Satisfacción de Necesidades Psicológicas Básicas (BPNES), la Escala de Satisfacción con la Vida (SWLS) y la Escala de Afectos Positivos y Negativos (PANAS). Se aplicó la prueba de correlación bivariada de Pearson y una regresión lineal múltiple. Los resultados mostraron una motivación autodeterminada de los atletas veteranos hacia la práctica deportiva, estando sus niveles de bienestar en la satisfacción con la vida relacionados con esta motivación autodeterminada, aunque también depende de los afectos producidos por la práctica deportiva. Este estudio supone una contribución hacia la comprensión de la función del deporte en la promoción del bienestar en la población de deportistas veteranos.

Palabras Clave: Autodeterminación, satisfacción con la vida, bienestar, deporte, veteranos.

Introduction

Our society is constantly changing, and in recent decades has been an increase in life expectation, accompanied by an increase in the percentage of individuals above 35 years old, participating in physical activities of competitive and noncompetitive character.

In relation to the veteran sport, it corresponds to the sport practiced by athletes beyond 35 years old who continue to dispute sports events, although in many modalities the term used to classify these athletes is «masters athletes».

But we can find participation levels in veteran classes at lower ages, as in swimming, since the 28 years, or in other modalities, from the age of 30, such as the triathlon and judo. The veteran participation in sport in Portugal has evolved in the number of federated effectives, marking an increase from 2002 to 2009 of 1500%, unlike the younger age groups, which only doubled, however, the veteran participation ratio by gender has centered in 1: 7 in favor of the men (Instituto do Desporto de Portugal, 2011).

The degenerative aging effects of the human being are known, described in detail by the American College of Sports Medicine (ACSM, 2010). However, it is very interesting to note that the veteran athletes normally, train and compete for almost all their lives (Baker, Horton & Weir, 2010), so the motivation to delay aging and hold a higher quality of life, could be one of the highest motives of such athletes, indicators obtained by Zarauz & Juan Ruiz (2013a).

In the case of veteran athletes, also the motivation should be considered a psychological determinant that may interfere with the athlete sports performance.

According to Da Silva (2009) or Zaráuz Sancho & Ruiz-Juan (2015), the motivations of these athletes are mostly intrinsic, although extrinsic motivations, health reasons, the taste for the practice, social relations

and the competition itself is also very important.

Thus, when studies inherent to the degree of self-determination on the basis of a series of training habits and athletic history, veterans athletes revealed high levels of intrinsic motivation, moderate extrinsic motivation and almost none of amotivation (Ruiz-Juan & Zarauz, 2012) because for these athletes the most important in their practice sport is the satisfaction of overcoming their limits during training and only then, overcome opponents in competitions, hoping for a medal, or even a record (Zaráuz Sancho & Ruiz-Juan, 2015).

The Self-determination Theory (Deci & Ryan, 1985, 2002) is based on the motivational dominant and stresses out the importance of the basic psychological needs satisfaction in the appearance of self-determined behaviors, which are those that cause a series of consequences among which is the future commitment with sports practice or exercise (Palmeira, 2010), which lifestyles are kept (Nutbeam, Aaro & Catford, 1989), or even, what kind of affects gives them a perspective of life satisfaction (Andrews & Withey, 1976).

The Basic Psychological Needs theory integrated in the Self-determination theory developed in 1981 by Richard M. Ryan and Edward L. Deci, a macro theory of motivation, personality and well-being (Simões & Alarcão, 2013), is considered one of the most important theories of contemporary motivation (Moreno Murcia, Marzo, Martínez-Galindo & Marin, 2011). This theory has as study object the conditions of the social context that eases up psychological health, has well as presents as main hypothesis the notion that psychological well-being can be achieved from the self-determination (Ryan & Deci, 2000) supported by Appel -Silva, Wendt & Argimon (2010).

Its central premise is that motivation can oscillate in a continuous between amotivation and intrinsic motivation (Simões & Alarcão, 2013), being that the subjects tend to participate more in activities when they regulate their behavior to more self-determined forms, that is, more intrinsically motivated (Ryan & Deci, 2002; Pires, Cid, Borrego Alves & Silva, 2010).

According to Ryan (1995), in the Self-determination theory board there are three requirements for psychological and well-being growth, these are the needs of psychological autonomy, competence and

relatedness, seen as the prerequisite for optimal function of these integration processes in the organism. These needs are defended by the Psychological Basic Needs theory that assumes that there are three basic requirements for the development and maintenance of psychological health and/or personal well-being (Moreno Murcia, Marzo, Martínez-Galindo & Marin, 2011).

Starting to characterize the three basic psychological needs, we can say that the need for autonomy is defined as the actions and decisions imperative in accordance with personal values and with a high level of reflection and consciousness (Appel-Silva, Wendt & Argimon 2010). According to Guimarães & Boruchovitch (2004) the concept of autonomy is linked to the desire or the will of the body to organize the experience and its own behavior, as well as to integrate them into the self-sense. As aptitude, autonomy is the ability to choose what seems to be the most appropriate decision without any external pressure (Moreno Murcia, Marzo, Martínez-Galindo & Marin, 2011) and also the ability to initiate tasks or make decisions, volitional control and assume the consequences of their own behavior (Simões & Alarcão, 2013).

According to Deci & Ryan (2000) the several studies about autonomy reveal that it is related to a higher intrinsic motivation, bigger satisfaction, and greater well-being. In turn, the need for personal ability, is related to the adaptation to the environment, referring to the learning broadly and also to cognitive development. This need, comprehends, from the search for survival, the execution of practical activities, environmental exploration to the competence in an effective social participation (Deci & Ryan, 2000; Appel-Silva, Wendt & Argimon, 2010). Simplifying, is the ability to perform actions with the certainty that the result is one that is expected or desired (Moreno Murcia, Marzo, Martínez-Galindo & Marin, 2011), referring to a personal feeling of efficacy (Simões & Alarcão, 2013).

Finally, the need for relatedness derives from the search for relationships with other people, groups or communities, searching for the activity of love and be loved. From that need, arises, also, the concern, responsibility, sensibility and support in caring relationships. This need is the feeling that one can count on the cooperation and acceptance of the people considered important (Moreno Murcia, Marzo, Martínez-Galindo & Marin, 2011) and it is essential for the acquisition of the social regulations (norms, rules and values), as it is for bonds with others that learning occurs (Deci & Ryan, 2000).

According to Appel-Silva, Wendt & Argimon (2010) the final goal of the intrinsic needs is the integration of the person in the social environment, but in a consistent manner with the cultural values on which it is inserted. The same authors also show that the three intrinsic needs have «equifinality», i.e., they are interdependent and the development of one brings forth the development of others.

According to Moutão, Cid, Alves, Leitão & Vlachopoulos (2012) the satisfaction of the autonomy needs, competence and relatedness have been identified as an important instrument to predict optimal behavior and functioning in several contexts, including physical exercise. This way, it is more likely that the person reaches the intrinsic motivation (action promoted by the pleasure obtained during the activity) in those situations in which it allows autonomy, ensures the achievement of established goals (competence) and promotes group cohesion (relationship with others), understood by Rijo (2014) as promotion strategies of these needs, among several other strategies that may exist to meet these needs. However, if the basic psychological needs are not satisfied, it promotes the probability of experiencing extrinsic motivation (action promoted by an external end to the activity) or even to amotivation (featured action for lack of interest in the practice and frustration feelings) (Moreno-Murcia, González-Cutre, Martín-Albo & Cervelló, 2010).

Therefore, the satisfaction of basic psychological needs is based on the quality of interpersonal relationships, which are understood essentially as dynamic. So, this dynamic stems from the fact that human behavior is variable depending on many aspects, such as people with whom we interact, the contexts in which we do or the stage of

development of the various interpersonal relationships (La Guardia & Patrick, 2008).

In psychology, motivation is conceived as the dynamic behavior of the object, through which it seeks to understand the behavior of the orientation process for situations and preferred goals. It is one of the fundamental psychological skills inherent to practicing sports and the psychological athletes profile, as it is one of the factors that lead to certain behaviors to achieve certain goals (Plonczynski, 2000), that means, the motivation is characterized as an active, intentional and directed to a target process, which depends on the interaction of personal factors (intrinsic) and environmental (extrinsic) (Samulski, 2002).

Motivation is understood as an internal predisposition that leads the individual to act toward particular purpose, meaning therefore a psychological attitude of the individual as a result of some need or desire not satisfied. In achieving successful performances, there is an increase in specific desire for results, which increases their satisfaction and, in turn, their motivation (Fonseca, Zechin & Mangini, 2014).

That being, motivation can be classified in two ways: intrinsic motivation, referring to rewards that arise from the activity itself and related with instincts factors and needs; and extrinsic motivation, referring to the rewards that are not obtained from the activity, but are rather the consequences of itself, such as status and affirmation (Morris & Maisto, 2004).

According to Ryan & Deci (2000), intrinsic motivation results in high quality and creativity learning, being especially important in the factors detail and forces that engender or compromise. It is the basis for growth, psychological integrity and social cohesion; it is also a natural tendency for the demand of new features, challenges, as well as a way to acquire and try out their own capabilities. In this way, and as Nuñez, Picada, Schulz, Habitante & Silva (2008) mention, intrinsically motivated individuals are more likely to be more persistent, to make higher levels of performance and to perform more tasks than those that require external reinforcement. In sports case, individuals can also participate and compete sportingly for intrinsic reasons, for example, when they feel satisfaction in learning new techniques of their sport.

On the other side, extrinsic motivation comes from external factors, in the form of positive and/or negative reinforcement, such as when the athletes take part in competitions only for recognition of the technical and/or family. This refers to a variety of styles ranging from external regulation to the integrated regulation, being characterized by individual action goals, being directed by some consequence separately (Ntoumanis & Standage, 2009; Sebire, Standage, Gillison & Vansteenkiste, 2013).

The external regulation is characterized by the demand for external incentives for the practice, as the individual engages in task only to achieve a reward or avoid punishment (Coimbra et al., 2013). This represents the extrinsic motivation as it is traditionally defined, being the less self-determined form from the extrinsic regulation. As referred above, in the sporting context, an example of this are the individuals who practice a sport aiming for recognition by someone or to receive monetary rewards.

As for introjection - regulation, implies avoiding the bad feelings, such as guilt and anxiety, and add expectations of self-approval and pride, by establishing rules and duties for the action. It refers to behaviors that are not fully self-determined (Ntoumanis & Standage, 2009), and the activity performed could be in order to obtain social recognition or avoid internal pressures.

On the other side, Coimbra et al. (2013) mention that, the identified regulation refers to the autonomous behavior, although the decision to carry out the task is given by the external benefits and not for the simple pleasure and satisfaction inherent in the activity. That is, the behavior becomes more self-determined (Ntoumanis & Standage, 2009), and the results are valued.

Finally, with regard to the integrated regulation, the same authors state that happens when several identifications are assimilated and hierarchically organized, this is that the reasons are classified with other values and needs. This type of regulation refers to behaviors performed out of choice; in order to harmonize and bring coherence to different

parts of itself, as well as represents forms of integrated and self-determined behavior.

Thereby, apparently, the more self-determined motivation relates to the most positive consequences, both cognitively as behavioral and emotional, i.e., with feelings of interest, positive emotions, concentration, effort, performance and, first of all, intentions to continue their practice. In turn, the less self-determined motivation can cause feelings of boring, unhappiness and burn out (Moreno Murcia, Blanco, Galindo, Villodre & Cool, 2007).

The construct of life satisfaction is understood as a judgment process in which individuals globally assessed the quality of their respective lives based on their own criteria. Diener, Emmons, Larsen & Griffin (1985) report that life satisfaction is a cognitive judgment process. Indeed, it can be characterized as a cognitive component of subjective well-being, consisting of an overall judgment made by the individual, which focuses and appeals more to the positive feelings than the negative, that i.e., it is a positive evaluation of the events and life circumstances, may be subdivided into several areas, such as job satisfaction, love, family and friends (Diener, 1994; Lopes, 2012).

According to Siqueira & Padovam (2008) this concept is still considered as a subjective dimension of life quality, next to the happiness and well-being. As for Lopes (2012) life satisfaction relates to the subjective judgment that the individual makes about his quality of life, looking for his entire life story and basing in the factors that are for him, indispensable to feel happy and satisfied. Thus, approaching to the life satisfaction factor, it is important to note that this may refer to specific aspects, such as work, family, leisure, health, the economy, among others. It is thus a psychological state that is closely related to the well-being, rather than objective assessments of the personal life quality.

This way, some authors argue that a person with high quality of life could report dissatisfaction, while a person with low quality of life could even reveal life satisfaction (Siqueira & Padovam, 2008).

Currently, in the literature, seems to be a consensus that life satisfaction is part of the well-being, making their cognitive dimension and it is present in most welfare measures (Albuquerque & Tróccoli, 2004; Galinha & Pais-Ribeiro, 2005; Siqueira & Padovam, 2008).

The construct of life satisfaction is understood as a judgment process in which individuals globally assessed the quality of their respective lives based on their own criteria. (Diener, Emmons, Larsen & Griffin, 1985), being one of the three components of the subjective well-being (Diener, Suh, Lucas & Smith, 1999). When we speak of life satisfaction, it appeals to us for the appearance of positive and negative affects, involving aspects related to emotions and moods (Diener, Emmons, Larsen & Griffin, 1985; Siqueira & Padovam, 2008), and the positive emotions are expressed by pleasurable emotions while the negative affects are unpleasant feelings or emotions (Guedea, et al., 2006).

For these reasons, we aim to study: i) characterize the motivation and satisfaction of basic psychological needs for the practice of veteran sports ii) know the level of satisfaction with life and what kind of affects of veteran athletes iii) realize what self-determination variables connect and influence the levels of life satisfaction.

Method

Study design

This is a transversal study, as it wants to view the status of a population at a given moment (Araújo, 2011; Mota, 2010), in this case the veteran athletes. As for the handling of direct interventions on the study object, it is an observational study, since there was no manipulation of the independent variables (Cubo Delgado, Martin Marin & Ramos Sanchez, 2011), i.e., the variables are presented as they are, with no interference by the investigators.

Sample

The study sample will consist of 684 Portuguese veteran athletes of both genders, aged between 30 and 90 years ($M = 43.78$ $SD = 8.61$), of which 86.2% (362 individuals) of males and 13.8% (58 individuals) female, mostly with 3 to 5 hours of weekly training, with $M = 19.5$ SD

= 12.2 years of practice, competing in several sports. Are included in this study data referring to team sports practitioners like football, roller hockey, rugby, basketball, as well as individual modalities, such as tennis, judo, athletics, mountain biking, triathlon, horse riding or cycling. The sampling technique was not random, since it is not based on a probabilistic basis, being inherent to the data collection with an intentional approach to subject with specific characteristics.

Proceedings

For the preparation of this work was carried out a request for written consent to the study participants, proceeding in the authorization cases to the interest to the assessment instruments application. Data collection took place in March, April and May 2015, during competitions and training sessions.

Instruments

For data collection we used the instruments described below, respectively for the basic psychological needs, motivation and life satisfaction variables.

- Basic Psychological Needs. It was used the Portuguese version of the Basic Psychological Needs Exercise Scale (BPNES), validated by Pires, Cid, Borrego Alves & Silva (2010). This scale consists of 12 items distributed in three dimensions that reflect the basic psychological needs of self-determination theory: autonomy, competence perception and relatedness perception, each dimension being composed of 4 items that can be classified taking into account a scale of the Likert type from 1 (strongly disagree) to 5 (strongly agree). This instrument was developed by Vlachopoulos & Michailidou (2006) specifically for the physical exercise context, as well as translated and validated preliminarily for the Portuguese population, first using an exploratory factor analysis (Moutão, Cid, Leitão & Alves, 2008) and after using a confirmatory factor analysis (Moutão, Cid, Alves, Leitão & Vlachopoulos, 2012).

- Motivation. For its measurement it was used the Portuguese version of Behavioral Regulation in Sport Questionnaire (BRSQ) validated by Monteiro et al. (2013), from the Lonsdale, Hodge & Rose (2008) questionnaire. This questionnaire consists of 24 items, divided into six subscales assessed according to a 7 levels Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree) and that reflect the types of underlying motivation, which may be: amotivation, external motivation, introjected motivation, identified motivation, integrated motivation and intrinsic motivation.

- Life Satisfaction. As for the Life Satisfaction Scale, as the name implies was used to assess satisfaction with life as a cognitive construct (Diener, Emmons, Larsen & Griffin, 1985). This one consists of 5 items and is to indicate, through a 7-point Likert scale, ranging from Strongly Disagree (1) and Absolutely agree (7), the satisfaction degree according to each item. According to Albuquerque, Sousa & Martins (2010), in relation to the validation process of the SWLS Portuguese version (Neto, 1993), through confirmatory factor analysis, the quality adjustment indicators were considered adequate.

- Positive and Negative Affections. Other applied scale was the Positive and Negative Affections Scale, originally composed by Watson, Clark & Tellegen (1988) and translated into Portuguese by Simões (1993), in order to assess the subjective well-being and affection. The scale consists of twenty items, in order to assess the positive affects through ten adjectives, such as interested, excited, strong, attentive, enthusiastic, among others, and also the negative affects, which correspond to the remaining adjectives such as, upset, worried, guilty. Each item of this scale should be assigned a corresponding value to a Likert scale ranging from nothing or very slightly (1) and extremely (5).

Statistical procedures

We proceed to entering data into the statistical analysis software Statistical Package for the Social Sciences (SPSS 21.0), where we were allowed to carry out the process of descriptive statistics of the variables under study. Later, we identified the correlation between groups using the Pearson correlation coefficient and conducted a multiple linear regression.

Results

Descriptive analysis and reliability

In this point we will reflect descriptive values and reliability revealed by the collected data. We observed (Table 1) higher values relate to the autonomous motivation, where the intrinsic motivation got a mean (M) of 6.07 and a standard deviation (SD) of 0.88, integrated motivation M = 5.40 SD = 1.12 and identified motivation M = 5.45 SD = 1.01. Controlled motivation, obtained lower values, specifically in introjected regulation M = 2.37 SD = 1.32, external regulation M = 1.78 SD = 1.05. The amotivation revealed an equally low value M = 2.26 SD = 1.25. The values obtained in the basic psychological needs variable, revealed a very high value, namely autonomy perception M = 4.05 SD = 0.59, competence perception M = 4.2 SD = 0.55 and relatedness perception M = 4.31 SD = 0.55. The value obtained in the life satisfaction variable was high M = 5.09 SD = 0.97, in the positive affects M = 3.65 SD = 0.57 and in negative affects M = 1.76 SD = 0.86.

From the reliability analysis, all dimensions showed a Cronbach's α above of .70, with exception of the identified regulation dimension that was .67. The highest value in motivation was the external regulation dimension .90, in the basic psychological needs variable, the autonomy perception and relatedness .78 in life satisfaction variable .87, .85 positive affects and negative affects .86.

Table 1.
Descriptive statistics and analysis of reliability of the variables motivation, basic psychological needs, life satisfaction and affects

Variable	Amplitude	Mean	Standard Deviation	Cronbach Alpha
Intrinsic Motivation	1-7	6.07	0.88	0.81
Integrated Regulation	1-7	5.40	1.12	0.79
Identified Regulation	1-7	5.45	1.01	0.67
Introjected Regulation	1-7	2.37	1.32	0.78
External Regulation	1-7	1.78	1.05	0.90
Amotivation	1-7	2.26	1.25	0.85
Autonomy Perception	1-5	4.05	0.59	0.78
Competence Perception	1-5	4.02	0.50	0.71
Relatedness Perception	1-5	4.31	0.55	0.78
Life satisfaction	1-7	5.09	0.97	0.87
positive affects	1-5	3.65	0.57	0.85
Negative affects	1-5	1.76	0.58	0.86

Table 2.
Pearson's correlation coefficient between the motivational variables, basic psychological needs and life satisfaction

	1	2	3	4	5	6	7	8	9	10	11
1 - Intrinsic Motivation											
2 - Integrated Regulation	.594**										
3 - Identified Regulation	.581**	.636**									
4 - Introjected Regulation	-.360**	-.028	-.096*								
5 - External Regulation	-.555**	-.282**	-.328**	.674**							
6 - Amotivation	-.439**	-.194**	-.279**	.498**	.749**						
7 - Autonomy Perception	.337**	.405**	.277**	-.002	-.203**	-.234**					
8 - Competency Perception	.339**	.385**	.309**	.004	-.173**	-.197**	.715**				
9 - Relatedness Perception	.305**	.341**	.240**	-.071	-.225**	-.254**	.462**	.550**			
10 - Life satisfaction	.139**	.125**	.113**	.024	-.065	-.127**	.372**	.374**	.242**		
11 - Positive affects	.201**	.201**	.204**	-.076*	-.121**	-.206**	.345**	.463**	.278**	.459**	
12 - Negative affects	.060	.003	-.096*	.141**	.220**	.199**	-.100**	-.040	-.016	-.253**	-.106**

*Sig < 0.05 **Sig < 0.01

Table 3.
Regression analysis coefficients by blocks considering life satisfaction as dependent variable

Block	Variable	Beta	R ²	T	P
Block 1	Autonomy	.210	.16	4.16	.00
	Competency	.206		3.84	.00
	Relatedness	.031		.74	.46
Block 2	Autonomy	.216	.17	4.16	.00
	Competency	.208		3.83	.00
	Relatedness	.036		.83	.41
	Intrinsic Motivation	.040		.75	.46
	Integrated Regulation	-.083		-1.60	.11
	Identified Regulation	.009		.19	.85
	Introjected Regulation	.040		.80	.42
	External Regulation	.068		1.02	.31
	Amotivation	-.093		-1.73	.09
	Block 3	Autonomy		.181	.31
Competency		.070	1.36	.18	
Relatedness		.042	1.08	.28	
Intrinsic Motivation		.067	1.37	.17	
Integrated Motivation		-.058	-1.23	.22	
Identified Motivation		-.043	-.97	.33	
Introjected Regulation		.077	1.69	.09	
External Regulation		.048	.78	.44	
Amotivation		-.015	-.30	.77	
Positivos Affects		.346	9.39	.00	
Negative Affects		-.213	-6.39	.00	

Correlational Analysis

With the application of the Pearson bivariate correlation test (Table 2), we highlight as the most relevant correlations, where amotivation significantly correlates negatively with the autonomy perception factors, competence perception and relatedness perception, as well as the levels of life satisfaction and positive affects. Although it shows a positive correlation with the production of negative affects.

In turn intrinsic motivation, integrated motivation and identified motivation showed significant positive correlations with the autonomy factors, competence perception, relatedness perception, life satisfaction and positive affect.

The autonomy perception levels, competence perception and relatedness perception correlated significantly positively with the levels of life satisfaction and positive affect.

The satisfaction with life levels associated significantly and positively with the production of positive affects, however negatively with the production of negative affects.

Regression analysis

In the linear regression analysis (Table 3), given that the life satisfaction variable takes the dependent function, to test which variables positively predicted the said variable, we've proved that the collinear statistics (Tolerance and FIV) show that these were not collinear. Thus, life satisfaction is positively and significantly predicted by the positive affect variable and significantly negative by the negative affects. The self-determination variables explain less than 17% of the variance, which when associated with the produced affections in the competitive practice explains 31% of the variance.

Data Discussion

Recalling study objectives, we aim: i) characterize the motivation and satisfaction of basic psychological needs for the practice of veteran sports ii) know the level of satisfaction with life and what kind of affects of veteran athletes iii) realize what self-determination variables connect and influence the levels of life satisfaction.

In the correlational field, the satisfaction perception of the autonomy need, competence and relatedness, by the veteran athletes, would promote intrinsic, integrated and identified motivation levels, that is self-determined motivation, generating high levels of life satisfaction and positive affects, reflecting the psychological well-being can be achieved from the self-determination (Ryan & Deci, 2000) supported by Appel-Silva, Wendt & Argimon (2010). The correlation levels obtained reflect what Moreno- Murcia, Marzo, Martínez-Galindo & Marin (2011) refer, that the satisfaction of the three basic psychological needs promote the development and maintenance of psychological health and / or personal well-being.

The results are consistent with the Motivation Hierarchical Model (Vallerand, 2007), as the satisfaction of basic psychological needs is related with an increase in the autonomous motivation and this will favor the commitment with physical activity and sports. Thus, several studies (Carrasco, Chiroso, Martí, Cajas, & Reigal, 2015; Fortier, Duda, Guerin, & Teixeira, 2012; Taylor, Ntoumanis, Standage, & Spray, 2010; Teixeira, Carraça, Markland, Silva, & Ryan 2012) reflect that when satisfying basic psychological needs of autonomy, competence and relatedness, it is observed an increase in the intrinsic motivation of the participants, and all this favored a higher practice in physical activity and sport.

These results are in agreement with Zarauz Sancho & Ruiz-Juan (2013a, 2015, 2016), the motivations of these athletes are mostly intrinsic, although extrinsic motivations, health reasons, taste for the practice, relatedness and the competition itself is also very important. Thus, when studies inherent to the self-determination degree are performed relating to a series of training habits and athletic history, veterans athletes revealed high levels of intrinsic motivation, moderate extrinsic motivation and almost nothing of amotivation (Ruiz-Juan & Zarauz, 2012) because for these athletes the most important in their

sport practice is the satisfaction by overcoming their limits during training and then, overcome opponents in competitions, hoping for a medal, or even a record (Zaraüz Sancho & Ruiz-Juan, 2014, 2016).

Still concerning the dimensions of the basic psychological needs variable, parametrically all dimensions revealed very high values, an indicator that the individuals in this study sample show an apparent satisfaction of basic psychological needs. The results obtained are in accordance with Appel-Silva, Wendt & Argimon (2010), showing that the three requirements have intrinsic «equifinality», ie they are interdependent and the development of one generates the development of others.

In the life satisfaction variable, apparently the Portuguese veteran athletes reveal a relative satisfaction with life, as well as a similar promotion of positive affects and inverse of negative affects.

The results allowed us to also observe in the veteran athletes, that the greater the perception of psychological basic needs satisfaction, life satisfaction and positive affects, the lower their amotivation is. Moreno-Murcia, Blanco, Galindo, Villodre & Coll (2007) reflect this analogy, where they say that the less self-determined motivation can cause feelings of boring, unhappiness and sports abandonment.

When analyzed the models where we evaluated the predictive power of the study variables about life satisfaction, the perception of basic psychological needs satisfaction presented a good explanatory basis, respecting the Vallerand (2007) model. The model associated the self-determination variables with the promotion of positive affects, presented itself as the best explanatory model, which respects the works of Diener, Emmons, Larsen & Griffin (1985) or Siqueira & Padovam (2008), which appealed for the emergence of positive and negative affections, which influence in the subjective well-being dimension, of life satisfaction (Diener, Suh, Lucas & Smith, 1999).

In our study, and in line with the previously mentioned studies, led by Diener, the production of positive affects is very related to satisfaction with life. Thus, apparently, it suggests that the practice of sport by the veteran collective presents itself as a medium that favors the production of positive affects and consequently satisfaction with life. From the variables of self-determination, autonomy seems to be the variable that best explains the level of satisfaction with the lives of veteran athletes, suggesting that sports practice is a salutary way of living, more important than perceived competence or perceived relatedness.

This study presents itself as a contribution to the understanding of the sports function in the well-being promotion and as social modeling role in veteran population. As practical application, we believe that it is likely the work for the improvement of life satisfaction in this collective. Although the basic psychological needs evidencing a good predictor of life satisfaction, we believe that the promotion of autonomous and specific work on the technical and tactical field during the training of veteran athletes may lead to an improvement in the perception of the basic psychological needs and consequently to life satisfaction.

Conclusions

With this study we obtained results that indicate that the sport by veteran athletes favours the satisfaction of basic psychological needs, as well as levels of life satisfaction. Apparently, the motivation that keeps competitive modalities practice constant by Portuguese veteran athletes lies in a practice motivated intrinsically.

The results were favourable in which, in the veteran athletes, the satisfaction of basic psychological needs leads to autonomously motivated behaviours, promoting these, high levels of satisfaction with life.

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Referencias

- American College of Sports Medicine (2010). Selected Issues for the Master Athlete and the Team Physician: A Consensus Statement. *Medicine & Science in Sports & Exercise*, 42(4), 820-833.
- Albuquerque, A. S., & Tróccoli, B. T. (2004). Desenvolvimento de uma escola de bem-estar subjetivo. *Psicologia: Teoria e Pesquisa*, 20(2), 153-164.
- Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: The development and measurement of perceptual indicators*. New York: Plenum.
- Appel-Silva, M., Wendt, G. W., & Argimon, I. I. (2010). A teoria da autodeterminação e as influências socioculturais sobre a identidade. *Psicologia em Revista*, 16(2), 351-369.
- Araújo, J. (2011). Introdução aos estudos quantitativos utilizados em pesquisas científicas. *Revista Práxis*, 3(6), 59-62.
- Baker, J., Horton, S., & Weir, P. (2010). *The masters athlete: Understanding the role of sport and exercise in optimizing aging*. New York: Routledge.
- Biddle, S. J., & Mutrie, N. (2001). *Psychology of physical activity: Determinants, well-being and interventions*. London: Routledge.
- Carrasco, H., Chiroso, L. J., Martí, I., Cajas, B., & Reigal, R. E. (2015). Effects of a small sided games extracurricular program on motivation and basic psychological needs in physical education classes. *Revista Iberoamericana de Psicología del Ejercicio y el Deporte*, 10(1), 23-31.
- Coimbra, D. R., Gomes, S. S., Oliveira, H. Z., Rezende, R. A., Castro, D., Miranda, R., & Bara Filho, M. G. (2013). Características motivacionais de atletas brasileiros. *Motricidade*, 9(4), 64-72.
- Cubo Delgado, S.; Martín Marin, B. & Ramos Sanchez, J. L. (2011). *Métodos de Investigación y Análisis de Datos en Ciencias Sociales y de la Salud*. Madrid: Pirámide.
- Da Silva, E. R. (2009). *Motivação de atletas idosos na associação de veteranos de atletismo do Estado do Rio de Janeiro*. Tesis Doctoral sin publicar. Universidad de Niterói, Rio de Janeiro, Brasil.
- Deci, E. & Ryan, R. (1985). *Intrinsic motivation and Self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (2000). The «what» and «why» of goal pursuits: human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268.
- Deci, E. L., & Ryan, R. M. (2002). Self-determination research: Reflections and future directions. En E. L. Deci & R. M. Ryan (Eds), *Handbook of self-determination research* (pp. 431-44). Rochester, NY: University of Rochester Press.
- Diener, E. (1994). Assessing subjective well-being: progress and opportunities. *Social Indicators Research*, 31(2), 103-157.
- Diener, E., Emmons, R., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125, 276-302.
- Fernandes, H., Lázaro, J., & Vasconcelos-Raposo, J. (2005). Razões para a não prática desportiva em adultos. Estudo comparativo entre a realidade rural e urbana. *Motricidade*, 1(2), 106-114.
- Fonseca, G. M., Zechin, F., & Mangini, R. E. (2014). O abandono do futsal na iniciação esportiva. *Revista Brasileira de Futsal e Futebol*, 6(21), 169-176.
- Fonseca, A. (1993). *Motivação para a Prática Desportiva*. Porto: Faculdade de Ciências do Desporto e Educação Física. Universidade do Porto.
- Fonseca, A. (2004). Da motivação para a prática desportiva juvenil ao seu abandono ou das perspectivas ou das influências dos realizadores aos comportamentos dos actores. *Revista Portuguesa de Ciência do Desporto*, vol.4, nº 2, 52-53.
- Fortier, M. S., Duda, J. L., Guerin, E., & Teixeira, P. J. (2012). Promoting physical activity: Development and testing of self-determination theory-based interventions. *International Journal of Behavioral Nutrition and Physical Activity*, 9(20), 1-14.
- Galinha, I. C., & Pais-Ribeiro, J. L. (2005). Contribuição para o estudo da versão portuguesa da Positive and Negative Affect Schedule (PANAS): I - Abordagem teórica ao conceito de afecto. *Análise Psicológica*, 2(23), 209-218.
- Guedea, M. T., Albuquerque, F. J., Tróccoli, B. T., Noriega, J. A., Seabra, M. A., & Guedea, R. L. (2006). Relação do bem-estar subjetivo, estratégias de enfrentamento e apoio social em idosos. *Psicologia: Reflexão e Crítica*, 19(2), 301-308.

- Guimarães, S. É., & Boruchovitch, E. (2004). Estilo motivacional do Professor e a motivação intrínseca dos estudantes: uma perspectiva da teoria da autodeterminação. *Psicologia: Reflexão e Crítica*, 17(2), 143-150.
- Instituto do Desporto de Portugal. (2011). Estatísticas do Desporto de 1996 a 2009. Lisboa: Instituto do Desporto de Portugal, IP.
- La Guardia, J. G., & Patrick, H. (2008). Self-determination theory as a fundamental theory of close relationships. *Canadian Psychology*, 49, 201-209.
- Lonsdale, C., Hodge, K., & Rose, E. A. (2008). The Behavioral Regulation in Sport Questionnaire (BRSQ): Instrument Development and Initial Validity Evidence. *Journal of Sport & Exercise Psychology*, 30, 323-355.
- Lopes, M. D. (2012). *Hábitos de vida dos adolescentes: Género, ano de escolaridade e prática de atividade física*. Dissertação de Mestrado, Faculdade de Motricidade Humana, Universidade Técnica de Lisboa, Lisboa.
- Monteiro, C., Dias, C., Corte-Real, N., & Fonseca, A. M. (2014). Atividade física, bem-estar subjetivo e felicidade: um estudo com idosos. *Ciências do Desporto*, 19(1), 57-76.
- Monteiro, D., André, E., Saraiva, A., Simões, J., Moutão, J., & Cid, L. (2013). Tradução e validação do Behavioral Regulation Questionnaire (BRSQ) numa amostra de atletas portuguesas. *III Congresso Galego-Português de Psicologia da Atividade Física e do Desporto e XIV Jornadas da Sociedade de Psicologia do Desporto* (p. 86). Maia: Instituto Superior da Maia.
- Moreira, N. B. (2014). *Percepção da qualidade de vida em atletas do Basquetebol Master: Associação com o nível de atividade física, dependência de exercício físico e lesões esportivas*. Dissertação de Mestrado, Universidade Federal do Paraná, Sector de Ciências Biológicas, Curitiba.
- Moreno-Murcia, J., Marzo, J., Martínez-Galindo, C. & Marín, L. (2011). Validación de la Escala de «Satisfacción de las Necesidades Psicológicas Básicas» y del Cuestionario de la «Regulación Conductual en el Deporte» al contexto español al contexto español. *International Journal of Sport Science*. VII : 355-369 .
- Moreno-Murcia, J. A., González-Cutre, D., Martín-Albo, J. & Cervelló, E. (2010). Motivation and performance in physical education: an experimental test. *Journal of Sports Science and Medicine*, 9 (1), 79-85.
- Moreno-Murcia, J. A., Blanco, M. L., Galindo, C. M., Villodre, N., & Coll, D. G. (2007). Efeitos do género, idade e a frequência de prática na motivação e o desfrute do exercício físico. *Fitness & Performance Journal*, 6(3), 140-146.
- Moreno-Murcia, J. A., Gimeno, E., & Coll, D. (2007). Analizando la motivación en el deporte: Un estudio através de la teoría de la autodeterminación. *Apuntes de Psicología*, 25(1), 35-51.
- Morris, C., & Maisto, A. (2004). Introdução à Psicologia. São Paulo: Prentice Hall.
- Mota, M. M. (2010). Metodologia de Pesquisa em Desenvolvimento Humano: Velhas Questões Revistadas. *Psicologia em Pesquisa*, 4(2), 144-149.
- Moutão, J., Cid, L., Leitão, C., & Alves, J. (2008). Tradução e validação preliminar da versão portuguesa do Basic Psychological Needs in Exercise Scale (BPNEsP). In J. Díaz, I. Díaz, & J. Dosil, II Congresso da Sociedade Iberoamericana de Psicologia do Desporto. Consolidando la Psicología del Deporte Iberoamericana. (p. 314). Torrelavega: SIPD.
- Moutão, J., Cid, L., Alves, J., Leitão, J., & Vlachopoulos, S. (2012). Validation of the Basic Psychological Needs in Exercise Scale in a Portuguese Sample. *The Spanish Journal of Psychology*, 15(1), 399-409.
- Ntoumanis, N., & Standage, M. (2009). Motivation in physical education classes: A self-determination theory perspective. *British Journal of Education Psychology*, 7(2), 194-202.
- Núñez, P. R., Picada, H. F., Schulz, S. T., Habitante, C. A., & Silva, J. V. (2008). Motivos que levam adolescentes a praticarem futsal. *Revista da Faculdade de Educação Física da UNICAMP*, 6(1), 67-78.
- Núñez, J., Martín-Albo, J., Navarro, J., & González, V. (2006). Preliminary validation of a Spanish Version of the Sport Motivation Scale. *Perceptual and Motor Skills*, 102(1), 919-930.
- Nutbeam, D., Aaro, L., & Catford, J. (1989) Understanding childrens' health behaviour: the implications for health promotion for young people. *Social Science and Medicine*, 29, 317-325
- Palmeira, A. L. (2010). Análise do poder preditivo da teoria do comportamento planejado na adesão ao exercício. *Revista Gymnasium*, 1(3), 98-120.
- Pires, A., Cid, L., Borrego, C., Alves, J., & Silva, C. (2010). Validação preliminar de um questionário para avaliar as necessidades psicológicas básicas em Educação Física. *Motricidade*, 6(1), 33-51.
- Plonczynski, D. J. (2000). Measurement of motivation for exercise. *Health Education Research: Theory & Practice*, 15(6), 695-705.
- Rijo, J. M. (2014). *Estratégias motivacionais do professor e necessidades psicológicas básicas dos alunos na educação física*. Dissertação de Mestrado, Universidade Lusófona de Humanidades e Tecnologias, Faculdade de Educação Física e Desporto, Lisboa.
- Roberts, G. (2001). *Advances in motivation in sport and exercise*. Champaign Illinois: Human Kinetics.
- Ruiz-Juan, F., & Zarauz, A. (2012). Predictor variables of motivation in Spanish master athletes. *Journal of Human Sport and Exercise*, 7(3), 617-628.
- Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality*, 63(3), 397-427.
- Ryan, R. M., & Deci, E. L. (2002). Overview of Self-determination Theory: An Organismic Dialectical Perspective. In E. L. Deci, & R. M. Ryan, *Handbook of Self-Determination Research* (pp. 3-33). Rochester: University of Rochester Press.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- Samulski, D. (2002). *Psicologia do Esporte*. São Paulo: Manole.
- Sebire, S., Standage, M., Gillison, F. B., & Vansteenkiste, M. (2013). Coveting thy neighbour's legs: a qualitative study of exercisers' experiences of intrinsic and extrinsic goal pursuit. *Journal of Sport and Exercise Psychology*(35), 308-321.
- Simões, A. (1993). São os homens mais agressivos que as mulheres? *Revista Portuguesa da Pedagogia*, 27(3), 387-404.
- Simões, F., & Alarcão, M. (2013). Satisfação de necessidades psicológicas básicas em crianças e adolescentes: adaptação e validação da ESNPBR. *Psicologia: Reflexão e Crítica*, 26(2), 261-269.
- Siqueira, M. M., & Padovam, V. A. (2008). Bases teóricas de bem-estar subjetivo, bem-estar psicológico e bem-estar no trabalho. *Psicologia: Teoria e Pesquisa*, 24(2), 201-209.
- Taylor, I., Ntoumanis, N., Standage, M., & Spray, C. (2010). Predictores motivacionales del esfuerzo de los estudiantes de educación física, las intenciones de práctica de ejercicio físico en el tiempo de ocio: Un análisis multinivel crecimiento lineal. *Journal of Sport and Exercise Psychology*, 32, 99-120.
- Teixeira, P. J., Carraça, E. V., Markland, D., Silva, M. N., & Ryan, R.M. (2012). Exercise, physical activity, and selfdetermination theory: A systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, 9(78), 1- 30.
- Vallerand, R. J. (2007). A hierarchical model of intrinsic and extrinsic motivation for sport and physical activity. In M. S. Hagger, & N. Chatzisaratis, Intrinsic motivation and self-determination in exercise and sport (pp. 255-280). Champaign: Human Kinetics.
- Vlachopoulos, S. P., & Michailidou, S. (2006). Development and initial validation of a measure of autonomy, competence, and relatedness in exercise: The basic psychological needs in exercise scale. *Measurement in Physical Education and Exercise Science*, 10(3), 179-201.
- Watson, D., Clarck, L. A., & Tellegen, A. (1988). Development and validation of Brief Measures of Positive and Negative Affect: The PANAS Scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070.
- Zaraüz Sancho, A., & Ruiz-Juan, F. (2016). Motivación, satisfacción, percepción y creencias sobre las causas del éxito en atletas veteranos españoles. *Revista Iberoamericana de Psicología del Ejercicio y el Deporte*, 11(1), 37-46.
- Zaraüz Sancho, A., & Ruiz-Juan, F. (2015). Factores determinantes de la motivación en atletas veteranos españoles. *Revista Latinoamericana de Psicología*, 47(1), 34-42.
- Zaraüz Sancho, A., & Ruiz-Juan, F. (2014). Análisis de la motivación el atletismo: un estudio con veteranos. *Universitas Psychologica*, 13(2),501-515.
- Zarauz, A., & Ruiz-Juan, F. (2013a). Motivaciones de los maratonianos según variables socio-demográficas y de entrenamiento. *Retos*, 24, 50-56.