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ORIGINAL

TRANSCONTEXTUAL MODEL OF MOTIVATION IN THE PREACHING OF HEALTHY LIFESTYLES

MODELO TRANSCONTEXTUAL DE LA MOTIVACIÓN EN LA PREDICCIÓN DE ESTILOS DE VIDA SALUDABLES

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ABSTRACT

The present paper has examined the application of the Transcontextual Model of motivation in the prediction of healthy lifestyles of veteran athletes. A sample of 682 Portuguese veteran athletes of both sexes, aged between 30 and 76 years ($M = 43.64$; $SD = 8.25$), were administered the following questionnaires: satisfaction of needs basic psychological, self-determination motivation, planned behavioural variables and healthy lifestyles. From the conclusions reached in this work, it is important to emphasize the importance of fostering the basic psychological need of relatedness, since this will favour the intrinsic motivation, promoting greater control of behaviour over the intentions of practitioners, thus generating more healthy eating habits, resting habits and lower tobacco consumption.

KEYWORDS: theory of planned behaviour, theory of self-determination, model of structural equations, sport, veterans.

RESUMEN

El presente trabajo examinó la aplicación del Modelo Transcontextual de la Motivación en la predicción de estilos de vida saludables de atletas veteranos. Se utilizó una muestra de 682 atletas veteranos portugueses de ambos géneros, de edades comprendidas entre los 30 y los 76 años ($M=43.64$; $DT=8.25$), dónde a través de cuestionarios se ha medido: la satisfacción de las necesidades psicológicas básicas, la motivación, las variables del comportamiento planeado y los estilos de vida saludables. De las conclusiones alcanzadas en este trabajo, son de destacar la relevancia de fomentar la necesidad psicológica básica de relación social, ya que ésta favorecerá la motivación intrínseca, promoviendo un mayor control del comportamiento sobre las intenciones de los practicantes, generando así mejores hábitos alimenticios, hábitos de descanso y menor consumo de tabaco.

PALABRAS CLAVE: Teoría de la acción planeada, teoría de la autodeterminación, modelo de ecuaciones estructurales, deporte, veteranos.

INTRODUCTION

Sport is presented as a socially implanted context in countries globally. It is par excellence an educational and socializing tool, which confers to practitioners from an early age to veterans, a whole set of ethical and moral values that can shape personality, the way of being, decision making or even personal ambition (Carvalho, Avelar Rosa & Carvalho, 2014). This sports participation ambition can, in many cases, generate professionals in several areas, with sport being one of them.

This study focuses essentially on veteran sport context, using as a theoretical framework the Motivation Transcontextual Model (Hagger & Chatzisarantis, 2012). Our society is in constant change, observing in the last decades an increase in life expectancy, accompanied by an increase in individuals percentage, over 35 years old, who participate in physical activities of a competitive and non-competitive nature (Silva, Dias & Fonseca, 2011, Batista, Jiménez, Leyton, Aspano & Lobato, 2017b).

Despite the recognized benefits of regular physical activity for health, the individuals' percentage that practices a sufficient amount of physical activity to confer health benefits is low (WHO, 2016). The degenerative effects of the human being aging process, described in detail by the American College of Sport Medicine (ACSM, 2010, Riebe, Franklin, Thompson, Garber, Carol, Whitfield, Magal & Pescatello, 2015), are well known.

As for the veteran sport, it corresponds to the sport practiced by athletes over 35 years old and which continue to compete in sports events, although in many modalities the term used to classify these athletes is "master athletes". However, we can find participation echelons in veteran classes from younger ages, such as swimming, since the age of 28, or in other modalities, from the age of 30, as in the case of triathlon or judo. Veteran participation in sports in Portugal has evolved in number of federated members, indicating a growth from 2002 to 2009 of 150%, unlike the youngest ones, which only doubled, the veteran participation ratio (Instituto do Desporto de Portugal, 2011).

It is relevant to indicate that veteran athletes, as a rule, train and compete for practically their entire lives (Baker, Horton & Weir, 2010), becoming motivation a factor in delaying aging and having a better life quality (Zarauz- Sancho & Ruiz-Juan, 2013, Zarauz-Sancho & Ruiz-Juan, 2015, Batista, Jiménez, Lobato, Leyton & Aspano, 2017a).

This greater or lesser competitive longevity of the athletes, professionals or amateurs, drags us into a reflection field that is related to life quality, very linked to well-being. Well-being notion depends on many aspects on health, but it also depends on psychological aspects such as self-esteem, success perception, goal objectives, or the athlete's achievement levels, productivity and performance, being life satisfaction one of the main indicators of subjective well-being (Diener, 2013), contributing to a healthy lifestyle (Batista, Jiménez, Lobato, Leyton & Aspano (2017a). It is of vital importance that former athletes,

many of them current veteran athletes, continue to find in sport a contextual dimension that provides them with a healthy lifestyle and high satisfaction with life.

The Transcontextual Model (Hagger & Chatzisarantis, 2012) suggests an original contribution to knowledge, illustrating veteran athletes behaviour, through the Self-Determination Theory (Deci & Ryan, 1980, 1985, 1991, 2000), the Hierarchical Model of Motivation (Vallerand, 2007), as well as the Planned Behaviour Theory (Ajzen, 1985), seeking to predict behaviours of healthy lifestyles, demonstrating it through a structural equations model.

The Transcontextual Model approach focuses on explaining the process by which motivation in the educational field can be transferred to external contexts (Hagger & Chatzisarantis, 2012). This model has been widely applied in Physical Education contexts, analysing how the perceived support for motivation in the classroom can influence the motivation to perform physical activity during class, as well as leisure behaviours evidenced in the real physics activity practice outside school (Hagger, Chatzisarantis, Culverhouse & Biddle, 2003, Hagger & Chatzisarantis, 2012, 2016, González-Cutre, Sicilia, Beas-Jiménez & Hagger, 2014). This model's strength lies in the different motivational theories integration (Orbell et al., 2006, Hagger & Chatzisarantis, 2009a), so that an explanation is a complement to motivational processes that are inexplicable isolated (Hagger et al., 2003; Hagger & Chatzisarantis, 2009b).

The Self-Determination Theory (Deci & Ryan, 1980, 1985, 1991, 2000) explains that motivation is a continuum characterized by different self-determination level that, from highest to lowest, are intrinsic motivation, extrinsic motivation and demotivation. They have considered, therefore, that the innermost motivation dimension was an autonomous motivation for the agent involved, while the external dimension of motivation turned it into a controlled motivation.

More recently, Deci & Ryan (2012) and Vallerand (2015) define the Self-Determination Theory as an empirical theory of human motivation and personality in social contexts, which distinguishes between self-determined and non-self-determined motivation. These self-determination types are specified in demotivation (absence of intention to act), external regulation, introjected and identified (determined by rewards and / or external agents) and intrinsic regulation (pleasure when performing an activity).

According to Ryan (1995), the Self-Determination Theory establishes three needs for psychological growth and well-being, which are: the basic psychological need for autonomy, competence and social relationship, seen as the prerequisite for the ideal functioning of those processes integrative of the organism.

Starting by characterizing the three basic psychological needs, autonomy is the ability to choose what seems to be the most appropriate decision without any external pressure (Moreno-Murcia, Marzo, Martínez-Galindo & Marín, 2011), the ability to initiate tasks or make decisions, volitional control and assume the

consequences of their own behaviour (Simões & Alarcão, 2013). According to Deci & Ryan (2000), several studies about autonomy perception reveal that it is related to greater intrinsic motivation, greater satisfaction, and greater well-being.

In turn, the need of competence perception covers, from the search for survival, the practical activities execution, environment exploration, to the competition in an effective social participation (Deci & Ryan, 2000; Appel-Silva, Wendt & Argimon, 2010). Simplifying, is the ability to execute actions with the certainty that the result is what is expected or desired (Moreno-Murcia et al., 2011), referring to a personal feeling effectiveness (Simões & Alarcão, 2013).

Finally, the need for social relationships refers to the relationship with other people, groups or communities, in search of the activity of loving and being loved (Deci & Ryan, 2000, Appel-Silva, et al., 2010).). This need is the feeling that we can count on the collaboration and acceptance of the people considered important (Moreno-Murcia et al., 2011) and is essential for the acquisition of social rules (norms, rules and values), since it is for the bound with others that learning occurs (Deci & Ryan, 2000).

Vallerand (1997, 2001), based on the Self-Determination Theory proposes the Hierarchical Model of Motivation, based on four fundamental pillars: hierarchical levels of generality, social factors, the triple motivation construct described above and the motivational consequences.

In this way, Vallerand (2007) describes three hierarchical levels of generality in which the different motivation types will be developed: global, contextual and situational. For this author, motivation at a global level reflects a generalized disposition of a person to have more or less self-determined motivation. Motivation at a contextual level is a motivation to engage in behaviours in a specific context, such as physical education, leisure physical activity, or competitive. Motivation at the situational level refers to motivational regulation at a given moment, for example competition. Being at the contextual level where the transfer occurs between the contexts and where we develop the present study.

Second, the motivation determinant factors refer to the human and non-human factors found in the social environment, also differentiated according to the generality level (Vallerand, 1997).

And the motivational consequences can be affective, cognitive and behavioural (Vallerand, 1997). Therefore, the environment social aspects influence motivation according to the basic psychological needs satisfaction, so that a greater satisfaction of basic psychological needs will cause higher levels of self-determined motivation, originating positive consequences on an affective level, cognitive and behavioural (Vallerand, 2001).

On the other hand, the Transcontextual Model applies the Planned Behaviour Theory postulates (Ajzen, 1985), to explain how the self-determined motivation

types form social-cognitive judgments basis about future situational behaviours. Consequently, the Transcontextual Model proposes that intrinsic motivation for physical activity is related to attitudes, subjective norms, and perceived control perception over behaviour (Hagger et al, 2003, Hagger & Chatzisarantis, 2012, 2016 From Ajzen' theory (1985, 2014), attitudes, subjective norms and control or behaviour perception are related to intentions that reflect the amount of effort or intensity that an individual will invest to pursue future results, get involved for example in physical activities, or participate in competitions.

Gurtner, Gulfi, Genoud, Trindade, & Schunacher (2012) have found that individuals tend to align their motivation levels, particularly adaptable, through similar contexts, generating "Transcontextual effects". This alignment and transfer process has also been recognized and supported empirically in other areas (Mata et al., 2009, Pavey & Sparks, 2010, Gurtner et al., 2012).

It seeks to highlight the Transcontextual Model conceptual basis and provide details of how to apply this model in the present study, incorporating the basic psychological needs, and having as a consequence healthy lifestyle behaviours in veteran athletes.

The healthy lifestyle construct constitutes an obstacle to disease (Odgen & Carroll, 2010; Telama, et al., 2014) and includes preventive health, good nutrition and weight control, leisure, regular physical activity, resting and relaxation periods, the ability to face adverse conditions or situations and establish solidarity and citizenship relationships, adopting a position of being and staying in the world with a goal of living well (WHO, 2002).

The healthy lifestyles study can be marked to date by three major periods: a first period beginning in the nineteenth century, until middle of the twentieth century; a period according to the second half of the twentieth century and a third period that focuses on today. During the first period, studies stand out (Veblen, 1994; Adler, 1929; Weber, 1946) that enhance healthy lifestyles, dependent on a sociological vision and individual factors of the individuals that integrate the social strata that can maintain them. In the second period were emphasized studies (Bandura, 1982, Rodríguez-Marín & García-Hurtado, 1995) that report healthy lifestyle incorporation in the health area and studies related to isolated behaviours. In the third period, there has been a development to date, where we must stand out works (Prochaska, Spring & Nigg, 2008, García-Ubaque, 2011) that reflect healthy behaviours integrated in diverse contexts, or, the different dimensions relationship with healthy lifestyles, such as motivation or basic psychological needs, trying to understand self-determination for a certain practice and healthy behaviours adoption.

Below we present some studies that investigated the same integral variables of the Transcontextual Model and healthy lifestyles, which we propose in our study.

The aging process degenerative effects of the human being, described in detail by the American College of Sport Medicine (ACSM, 2010), are known.

However, it is very interesting to note that veteran athletes in general, train and compete for practically their entire lives (Baker, Horton, & Weir, 2010), so the motivation to delay aging and have a better life quality, could be one of the highest motivations of this athletes type, according to indicators obtained by Zarauz-Sancho & Ruiz-Juan (2013, 2015, 2016).

Some works (Moreno, Moreno & Cervelló, 2007, DeFreese & Smith, 2013) have shown the relationship between physical-sporting activities practice and more self-determined motivation. In case of veteran athletes, motivation must also be considered a psychological determinant that can interfere with the athlete's athletic performance. According to Da Silva (2009) and Zarauz-Sancho & Ruiz-Juan (2015), the motivations of these athletes are mainly intrinsic, although extrinsic motivations, health reasons, taste for practice, social relationships and the competition itself are also very important.

Hodge, Allen & Smellie (2008) have analysed practitioners from six different sports, aged between 29 and 77 years, where they observed that they had a high perception of their ability and the majority showed an intrinsic motivation, regardless of the sport type.

Studying specifically veteran athletes who trained and competed routinely in athletics, Da Silva (2009) has found that his motivations were fundamentally intrinsic, although extrinsic motivations, health reasons, social relationships and competition also had importance.

In studies inherent to the self-determination degree based on a series of training habits and athletic history, veteran athletes have revealed high levels of intrinsic motivation, moderate levels of extrinsic motivation and almost null demotivation (Ruiz-Juan & Zarauz-Sancho, 2012), because for these athletes the most important thing in their sport is the satisfaction of overcoming their limits during training and then, overcoming the adversaries in competitions, waiting for a medal, or even a record (Sancho & Ruiz -Juan, 2014, 2016).

In a study on veteran judo athletes conducted by Batista, Jiménez-Castuera, Honório, Petrica & Serrano (2016b), the authors have obtained high levels of basic psychological needs, with main attention for social relationships perception, high motivation autonomy, as well as reduced values of controlled motivation and demotivation level.

In the same line of research, Batista, Jiménez, Leyton, Aspano & Lobato (2017b), but through various modalities, have obtained higher values in autonomous motivation, particularly in the intrinsic motivation dimension, as well as in the psychological basic need perception of social relations.

When we compared the genders in veteran athletes, Batista, Jiménez, Lobato, Leyton & Aspano (2017a) observed that there were no significant differences in terms of self-determined motivation. However, the female athletes presented significant differences in their favour, in the basic psychological needs satisfaction.

In a study by Leyton et al. (2012), where a sample of elderly women was used, it was concluded that the self-determined motivation levels presented a positive relation, with the lifestyle variables that enhance health, such as eating habits, resting, and a negative relation, with the lifestyles variable that harm health, particularly with tobacco consumption.

In turn, another study (Leyton, 2014) used a sample of 135 women aged between 40 and 88 years to carry out a physical exercise program, with nutritional education and promotion of intrinsic motivation, with the objective of improving lifestyle variables that enhance health of adults and elderly people, it was proved that the promotion of intrinsic motivation favoured, positively, the increase in basic psychological needs satisfaction of autonomy and competence, the most self-determined motivation and eating habits forms.

Pizarro (2014) with a 94 women sample, aged between 42 and 88 years, determined that intrinsic regulation, integrated regulation and identified regulation were positively and significantly related to lifestyle variables that enhance health (resting and healthy eating habits). Demotivation was related in a positive way, but, not significantly with the harmful to health lifestyle variable, tobacco consumption.

Another study carried out by Moreno, Hernández & González-Cutre (2009) has shown that satisfaction needs of autonomy and relationship with others predicted, positively, intrinsic motivation. It is also necessary to mention that several authors (Ruiz-Juan et al., 2014; Vega et al., 2015) have indicated that tobacco consumption is a factor that predisposes to alcohol consumption significantly.

More recently, Batista et al. (2016a) with a sample of 684 veteran athletes, between 30 and 90 years, where they wanted to relate motivational determinants with healthy lifestyles, have obtained values of intrinsic motivation, identified regulation, integrated regulation, eating habits and resting quite high. The values of external regulation and tobacco consumption were quite low. The results have revealed that eating habits and resting factors were correlated, positively, with intrinsic motivation, integrated regulation, identified regulation factors; the tobacco consumption factor was correlated, positively, with introjected regulation, external regulation and demotivation factors.

Motivation determines the meaning, intensity and persistence of behaviours, explaining why people do or participate in certain activities and with what determination and how much time they invest in them (Iso-Ahola & St.Clair, 2000). Motivation is closely connected to the behaviour intentional dimension and is a determining construct to analyse the physical activity promotion context (Hagger et al., 2007a) particularly in veteran sports (Zarauz-Sancho & Ruiz-Juan, 2015; Batista et al., 2017b). The practice of physical activity is assumed as an intentional behaviour that is directly affected by motivational backgrounds (Hagger & Chatzisarantis, 2009a), where in this line the motivation Transcontextual Model has been developed (Hagger et al, 2003, Hagger &

Chatzisarantis, 2012; Hagger & Chatzisarantis, 2016). The present study will analyse if the model can be replicated in this culturally singular context, as well as perform an extension of the Self-Determination Theory (Deci & Ryan, 1991).

Taking into account the revision and the exposed tendencies, the present study has been designed with the objective of testing the motivation Transcontextual Model in the prediction of veteran athletes' healthy lifestyles.

MATERIAL AND METHODS

This is a cross-sectional study that will determine the Transcontextual Model through the application of a structural equations model, following the reference authors' recommendations (Hu & Bentler, 1999, Schunacker & Lomax, 2010).

Participants

The study sample consisted of 682 Portuguese veteran athletes of both genders, aged between 30 and 76 years ($M = 43.64$, $DP = 8.25$), of which 80% (545 individuals) were male and 20% (137 individuals) female, competitors of several sport modalities. In this study there are data referring to collective modalities practitioners, such as football (27.8%), skate hockey (3.2%), rugby (7.3%), basketball (2.1%), as well as Individual modalities, in particular, tennis (9.7%), judo (15.2%), athletics (13.2%), cycling / mountain biking (9.1%), triathlon / duathlon (4.4%), horse riding (1.5%) and swimming (2.2%). The sampling type used for the sample selection of the present study has been non-random, since it does not settle on a probabilistic basis, being inherent in the data collection an intentional choice of subjects with certain specific characteristics (Cubo-Delgado, Martín-Marin & Ramos-Sanchez, 2011).

Instruments

Next will be described variables and measurement instruments.

- Basic Psychological Needs. To measure basic psychological needs satisfaction, it was applied the Portuguese version of the Basic Psychological Needs Exercise Scale (BPNES) (Vlachopoulos & Michailidou, 2006), validated by Pires, Cid, Borrego, Alves & Silva (2010). This scale is constituted by 12 items distributed in 3 dimensions that reflect the basic psychological needs of the Self-Determination Theory: autonomy, competence perception and social relations perception, each dimension being composed of 4 items that can be classified taking into account a Likert scale, between 1 (totally disagree) and 5 (totally agree). Moutão, Cid, Alves, Leitão & Vlachopoulos (2012) through a confirmatory analysis have verified the suitability of the adaptation made. In the present study, the measurement model has revealed acceptable adjustment values: $\chi^2 = 50.95$, $p \leq 0.01$, $\chi^2 / gl = 4.63$, $CFI = 0.98$, $NNFI = 0.95$, $SRMR = 0.03$, $RMSEA = 0.02$, obtaining the following internal reliability indexes: autonomy perception ($\alpha = 0.78$), competence perception ($\alpha = 0.71$), social relation perception ($\alpha = 0.78$).

- Motivation. To measure motivation, it was used the Behaviour Regulation Sport Questionnaire (BRSQ) Monteiro et al. (2013), based on the questionnaire of Lonsdale, Hodge & Rose (2008). This questionnaire is made up of 24 items which are answered on a 7 levels Likert scale, which vary between 1 ("totally disagree") and 7 ("totally agree"). The items are then grouped into 6 factors (with 4 items each), which reflect the motivation types underlying the motivational continuum of the Self-Determination Theory (SDT) (Deci & Ryan, 1985, 2000). For the present study, the previously validated version has been used for the Portuguese population (Monteiro, Moutão, Batista & Cid, 2014), with a confirmatory factor analysis, in a sample of 623 soccer modality athletes, presenting their model of measurement (6 factors with 3 items each). In the present study the following adjustment values were obtained: $\chi^2 = 177.366$, $p \leq 0.01$, $\chi^2 / gl = 4.32$, CFI = 0.97, NNFI = 0.95, SRMR = 0.04, RMSEA = 0.07, as well as internal reliability indexes: demotivation ($\alpha = 0.81$), autonomous motivation ($\alpha = 0.88$), controlled motivation ($\alpha = 0.89$).

- Planned Behaviour. To measure planned behaviour variables associated with sports (intentions, attitudes, subjective norms and control perception) it was applied the questionnaire already used by other authors (Courneya & Bobick, 2000, Palmeira & Teixeira, 2004, Palmeira, Teixeira, Branco, Martins, Minderico, Barata, Serpa & Sardinha, 2007). This is constituted by 17 standard items, validated for Portuguese by Palmeira & Teixeira (2004), elaborated from Ajzen's guidelines (1991), divided into four dimensions, using a 7 points Likert scale to proceed with its classification .

In this study, the measurement model has revealed acceptable adjustment values: $\chi^2 = 200.68$, $p \leq 0.01$, $\chi^2 / df = 3.40$, CFI = 0.94, NNFI = 0.92, SRMR = 0,05, RMSEA = 0.06, obtaining the following internal reliability indexes: attitudes ($\alpha = 0.79$), subjective norms ($\alpha = 0.79$), control perception ($\alpha = 0.73$), intentions ($\alpha = 0.71$).

- Healthy Lifestyles: To measure healthy lifestyles it was used the Healthy Lifestyles Questionnaire (HLQ) (Batista, Jiménez, Leyton, Lobato & Aspano (2016a). This Healthy Lifestyles Questionnaire (HLQ) results from the translated and adapted to Spanish version, from the questionnaire designed by Wold (HBSC) (1995).

HLQ presents the 20-item version, respectively, in the way that it measures eating habits, specifically eating habits with respect to meal times; eating habits with respect to a balanced diet; Tobacco use and resting habits. In this study it was used a Likert-type scale, that ranges between "totally disagree" (1) and "totally agree" (5). In the present study, the measurement model has revealed acceptable adjustment values: $\chi^2 = 632.68$, $p \leq 0.001$, $\chi^2 / gl = 2.01$, CFI = 0.94, IFI = 0.94, GFI = 0,92, SRMR = 0.06, RMSEA = 0.07, with an internal reliability index: eating habits ($\alpha = 0.80$); resting habits ($\alpha = 0.84$) and tobacco consumption ($\alpha = 0.91$).

Procedure

It was carried out a selection of sports centres, such as clubs and associations, based on an intentional sample (Cubo Delgado, Martín-Marín & Ramos-Sánchez, 2011). For information collection, we put ourselves in direct contact with the veteran athletes to request their collaboration in the study requesting, the signature of an informed consent. The definitive questionnaire administration, which has agglutinated the scales described above, was carried out in the presence of the principal investigator, to briefly explain the objectives and structure, as well as the form of completion.

During the process, the principal investigator was available for any problems that might arise. The approximate completion time was approximately thirty minutes.

Data Analysis

A normality assumption analysis was carried out through the Kolmogorov Smirnov test, obtaining a normal distribution of data in the sample. Secondly, a descriptive correlation analysis of all the study variables was carried out. In third place, to verify the relationship between the proposed variables, the two-step method proposed by Anderson & Gerbing (1988) has been applied. In the first step, the measurement model validity construct was tested through a confirmatory factor analysis (measurement model). The items that composed the latent factors were divided into two random groups, performing this analysis based on the measurements observed in the latent constructs that freely correlate (Anderson & Gerbing, 1988). In a second step, it was carried out a structural equations model with which the predictive relationships among the analysed variables were examined. All the analyses have been developed through the statistical programs SPSS 21.0 and EQS 6.1.

RESULTS

Descriptive and reliability analysis of all the variables

In Table 1 we can observe the descriptive analysis and the analysis variables reliability. With respect to the Self-Determination Theory variables, in basic psychological needs, basic psychological need of social relationship perception has been the most punctuated variable, obtaining a 4.31 mean, autonomy perception has presented a 4.05 mean and basic psychological need perception for competence has obtained a 4.02 mean. In the motivation domain, intrinsic motivation has been the most highly rated with a mean of 6.07 points, the integrated regulation has obtained a 5.40 mean, identified regulation 5.45, introjected regulation 2.37, external regulation 1.78 and demotivation a 2.26 mean.

Of the Planned Behaviour Theory variables, intentions has been the most valued variable by veteran athletes, obtaining a 6.21 mean value. The attitudes variable has presented a 6.13 mean, in the variable subjective norms, a 5.76

mean has been obtained and in control perception, a 5.60 mean has been obtained.

In healthy lifestyles variables, eating habits revealed a 3.75 mean, resting habits 3.42, and tobacco consumption 1.61.

Table 1. Descriptive statistics and reliability analysis.

Variable	Scale	Mín.	Máy.	M	DT	Cronbach' Alfa
1. Autonomy Perception	1-5	2,00	5,00	4,05	0,59	0,78
2. Competence Perception	1-5	2,00	5,00	4,02	0,50	0,71
3. Social Relationship Perception	1-5	1,75	5,00	4,31	0,55	0,78
4. Intrinsic Motivation	1-7	1,00	7,00	6,07	0,88	0,81
5. Integrated Regulation	1-7	1,00	7,00	5,40	1,12	0,79
6. Identified Regulation	1-7	1,00	7,00	5,45	1,01	0,70
7. Introjected regulation	1-7	1,00	7,00	2,37	1,32	0,78
8. External Regulation	1-7	1,00	7,00	1,78	1,05	0,90
9. Demotivation	1-7	1,00	7,00	2,26	1,25	0,85
10. Attitudes	1-7	1,25	7,00	6,13	0,74	0,79
11. Subjective Norms	1-7	1,00	7,00	5,76	1,11	0,79
12. Control Perception	1-7	2,25	7,00	5,60	1,02	0,73
13. Intentions	1-7	1,00	7,00	6,21	0,97	0,70
14. Food Habits	1-5	1,13	5,00	3,75	0,70	0,80
15. Resting Habits	1-5	1,00	5,00	3,42	0,97	0,84
16. Tobacco Consumption	1-5	1,00	4,40	1,61	0,91	0,91

In Table 2 we observed the Pearson correlation analysis, which determined that the variables basic psychological need perception for autonomy, basic psychological need perception for competence, basic psychological need perception for social relationships, intrinsic motivation, integrated regulation, identified regulation, attitudes, subjective norms, control perception, intentions and eating and resting habits correlated positively and significantly with each other. The variables introjected regulation; external regulation and demotivation have presented negative and mostly significant correlations with the other variables, with the exception of the tobacco consumption variable, with which it has been obtained negative and significant correlations.

Table 2. Pearson correlation coefficient between the study variables.

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Autonomy Perception	.715**	.462**	.337**	.405**	.277**	-.002	-	-	.158**	.208**	.383**	.219**	.295**	.211**	-.047
2. Competence Perception		.550**	.339**	.385**	.309**	.004	-	-	.217**	.250**	.369**	.247**	.330**	.279**	-.045
3. Social Relationship Perception			.305**	.341**	.240**	-.071	-	-	.119**	.281**	.180**	.183**	.195**	.156**	-.052
4. Intrinsic Motivation				.594**	.581**	-	-	-	.166**	.188**	.233**	.127**	.284**	.176**	-.034
5. Integrated Regulation					.636**	-.028	-	-	.125**	.255**	.224**	.216**	.184**	.073	-.014
6. Identified Regulation						.096*	-	-	.282**	.194**	-	-	-	-	.048
7. Introjected regulation							.674**	.498**	-	.054	-	-.011	-	-.071	.126**
8. External Regulation									.095*	-	.121**	-	.077*	-	.104**
9. Demotivation									.749**	-	-	-	-	-	.099**
10. Attitudes										.138**	.086*	.235**	.143**	.182**	.114**
11. Subjective Norms											-.041	-	-	-	-
12. Control Perception											.232**	.213*	.173**	.164**	.118**
13. Intentions												+	-	-	-
14. Food Habits										.151**	.239**	.217**	.220**	.168**	-.066
15. Resting Habits											.195**	.306**	.163**	.040	-.028
16. Tobacco Consumption												.269**	.428**	.267**	-
													.201**	.153**	-.251**
														.076*	-
														.582**	.140**
															-
															.092*
															-

Note. * $P < .05$. ** $P < .01$. P.= Perception; M.= Motivation; R.= Regulation; N.= Norms; H.= Habits; C.= Consumption

Measurement model

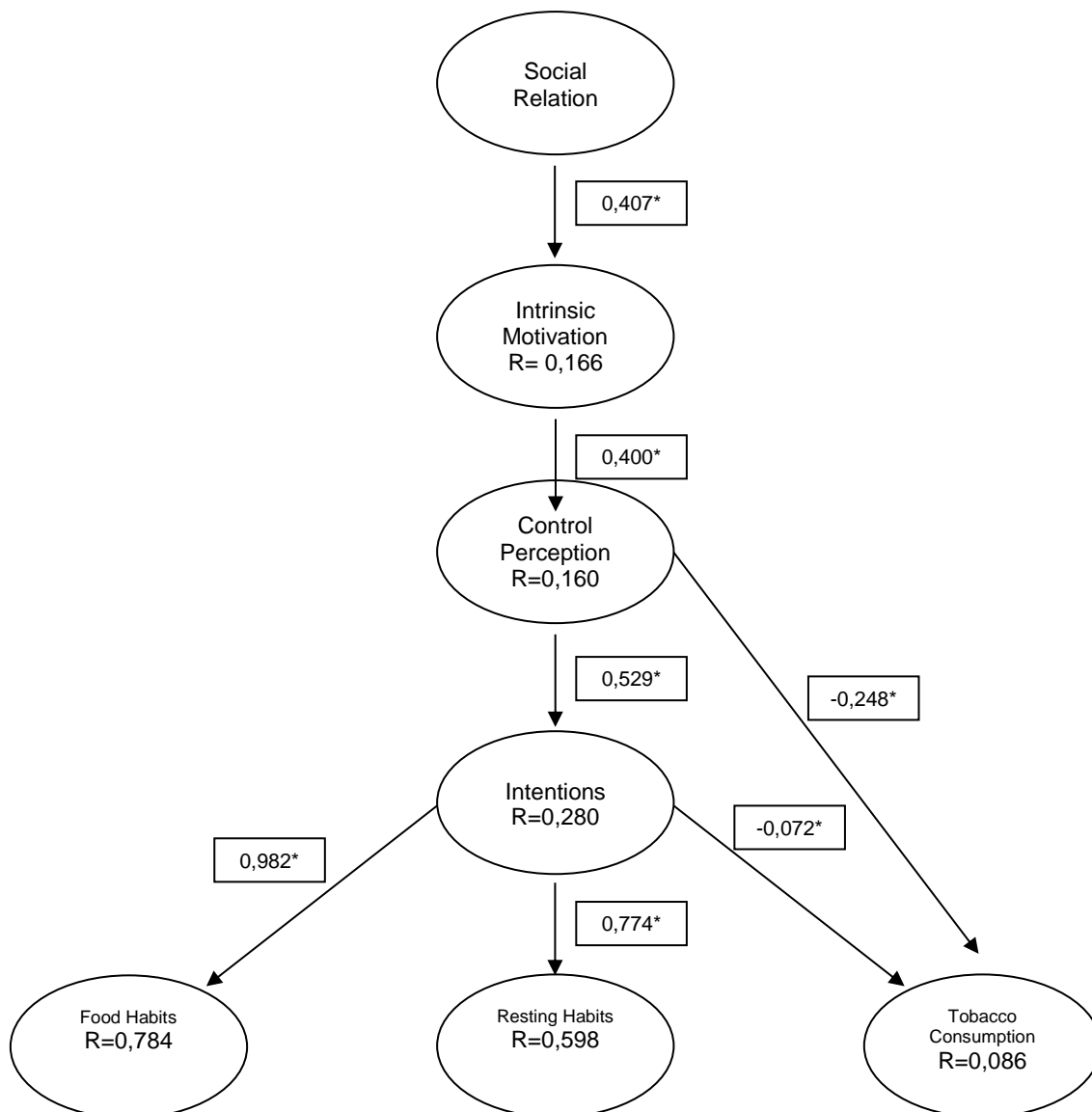
In order to perform the measurement model analysis and to test the structural equation model (SEM), the number of latent variables by factor has been reduced. This process is specially recommended when the sample size is not particularly large compared to the variables number in the model (Marsh, Richards, Jonson, Roche & Tremayne, 1994, Vallerand, 2001, 2007). This reduction can be done by combining the items in pairs. Thus, half of the first three items of each subscale have been measured to form the first item block, in the second half two items have been processed in the same way for the second item block, and so on until the last. Marsh et al. (1994) have proposed the use of item pairs because the results of these are more reliable, tend to be distributed more normally, and because the ratio of the measured variables number and the number of the study participants have been reduced by half in the model.

It has been considered a series of fit coefficients to evaluate the goodness of fit of the measurement models with the empirical data. Therefore, based on different authors contributions (Bentler, 1990, Bollen & Long, 1993, McDonald & Marsh, 1990), the fit indexes or goodness-of-fit indexes that have been

considered to evaluate the goodness of measurement model have been: χ^2 , χ^2 / gl RMSEA (Root Mean Square Error of Approximation), RMSR (Root Mean Square Residual) and the incremental indexes (CFI, IFI and TLI). These goodness of fit indexes are considered acceptable when or χ^2 / gl is less than 5, the incremental indexes (CFI, IFI and TLI) are greater than .90 and the error rates (RMSEA and RMSR) are less than .08 (Browne & Cudeck, 1993; Hu & Bentler, 1999). The obtained indexes after the analysis were: $\chi^2 = 519.174$, $p < .001$; $\chi^2 / gl = 3.04$; CFI = .95; IFI = .95; TLI = .94; GFI = .94; RMSEA = .55; SRMR = .41. The model's discriminant validity has also been examined, respecting that the correlation between the latent variables, attenuated by the measurement error (+/- 2 times the measurement error), has been lower than 1.0. Therefore, according to the above indications, the results have shown that the measurement model was adequate.

Structural equation model

With the aim of analysing the existing relationships between variables belonging to the model that is planned (basic psychological need perception for social relationship, intrinsic motivation, control perception, intentions, eating habits, resting habits and tobacco consumption), has used the Structural Equation Model. The model's goodness test has shown the following adjustment indexes: $\chi^2 = 749,060$, $p < .001$, $\chi^2 / gl = 4.44$, CFI = .91; IFI = .91; TLI = .90; GFI = .91; RMSEA = .071; SRMR = .069. These data are adjusted to the established parameters, so that the proposed model can be accepted as adequate (Hu & Bentler, 1999). Similarly, the contribution of each of the factors for the prediction of other variables has been examined through standardized regression weights. The "t" value associated with each weight has been taken as a contribution measure, so that values higher than 1.96 are considered significant. In picture 1 we observed that the basic psychological need perception for social relationship predicts positively and significantly the intrinsic motivation. In turn, it predicts positively and significantly the control perception, predicting this, positively and significantly intentions and negatively and significantly tobacco consumption. Intentions positively and significantly predict eating habits and resting habits and significantly and negatively tobacco consumption.



Picture 1. Structural equations model application of the Transcontextual Model to veteran sport. All regression weights are standardized and statistically significant.

DISCUSSION

The main goal of this work was to apply the motivation Transcontextual Model in the prediction of veteran athletes' healthy lifestyles. The performed structural equations analysis results showed its compliance.

There are few investigations, up to date, that have analysed the proposed relationships outside physical education context. Most of the Transcontextual Model studies have focused on verifying that the motivation developed in the students, based on autonomy in physical education classes, can be transferred to the practice of diverse physical activities in leisure context. The research also reveals excellent indicators regarding the autonomy given by the relatives to the practitioners, in the sense of being a predictor for adherence to physical or sports activity practice. Most of the carried out studies in the field of veteran sport have focused on checking some of the relationships proposed by the Self-

Determination Theory. This study will allow knowing more about the motivational mechanism that leads veteran athletes to stay in the physical-sporting practice.

The descriptive results obtained in this research, in the Self-Determination Theory variables, specifically in the basic psychological needs, determine that the basic psychological need perception of social relationship has been the variable with the most mean obtained, followed by basic psychological need perception for autonomy and basic psychological need perception for competence, assuming the same tendency in the studies by Batista et al. (2016a, 2016b), and Batista et al. (2017a; 2017b).

In the motivation domain, autonomous motivation has been highly valued, corroborating the studies of Da Silva (2009), Hodge, Allen, & Smellie (2008), Ruiz-Juan & Zarauz-Sancho (2012), or Sancho & Ruiz-Juan (2015), Batista et al. (2016a, 2016b), Batista et al. (2017a, 2017b). Controlled motivation has obtained lower values, according to Ruiz-Juan & Zarauz-Sancho, (2012), Batista et al. (2016a, 2016b), Batista et al. (2017a, 2017b), who have found moderate values of extrinsic motivation and almost no demotivation. Dodd & Spinks (1995) concluded that veteran athletes presented the two types of motivation, intrinsic and extrinsic.

In the Planned Behaviour Theory variables, intentions have been the highest valued variable by veteran athletes. This finding is found in relation to what was exposed by Ajzen (1985), Courneya & Bobick (2000), Palmeira & Teixeira (2004) or Palmeira et al. (2007), where intentions are presented as the main behaviour predictor, as far as, intentions reflect the amount of effort or intensity that an individual will invest to pursue future results.

In healthy lifestyles variables, high values have been obtained in the eating and resting habits and lower values in tobacco consumption, such as the findings of Batista et al. (2016a), which leads us to adopt the idea that individuals highly associated with sports or physical activity assume behaviours related to healthy lifestyles and eliminate behaviours that condition health.

Regarding now on the correlations analysis, this has revealed that the variables autonomy perception, competence perception, social relation perception, the variable intrinsic motivation, integrated regulation, identified regulation, variables attitudes, subjective norms, control perception, intentions and eating and resting habits correlated positively and significantly with each other. The variables introjected regulation; external regulation and demotivation have revealed negative and mostly significant correlations with other variables, except for the variable tobacco consumption, with which negative and significant correlations have been obtained. It has been observed, therefore, that autonomous motivation variables (intrinsic motivation, integrated regulation and identified regulation) have presented a positive relation with basic psychological needs, with the planned behaviour variables and with healthy life style behavioural variables. In turn, the variables that constitute the controlled motivation (introjected regulation and external regulation) have an inversely proportional relationship with the variables mentioned above, with the exception

of the behavioural variable prejudicial to health - tobacco consumption. In a global way, these tendencies among variables respect the Transcontextual Model of Hagger et al. (2003), having obtained Batista et al. (2016a; 2016b) and Batista et al. (2017b) in their studies, analogous results.

Similar observations have been obtained in other studies (Leyton, 2014, Pizarro, 2014, Hagger et al., 2014), where they have found that the promotion of intrinsic motivation favoured, positively, the increase in the basic psychological needs satisfaction of autonomy and competence, the most self-determined forms of motivation and eating habits. The practice of physical activity predicts, in a positive and significant way, a balanced diet and respect for the meal schedule and, without evidencing statistical significance, resting habits.

In our study, the positive correlations between healthy resting and nutritional habits with self-determined motivation reflect the tendencies pointed out by other authors (Prochaska, Spring & Nigg, 2008, García-Ubaque, 2011, Pizarro, 2014, Hagger et al. , 2014), evidencing integrated healthy behaviours in veteran sport context, in parallel with a self-determination towards practice. The results obtained favoured the most self-determined motivation levels in the realization of sports practice for the own pleasure that this entails, thus increasing a healthy lifestyle. Leyton et al. (2012) have observed that the motivation levels more self-determined had a positive relationship with lifestyle variables that enhance health.

Overall, as a result of the found results, and taking into account the Self-Determination Theory (Deci & Ryan, 1980, 1985, 1991, 2000, 2012) on which this work is based, they seem to respect the tendency also found by other authors (Moreno, Moreno & Cervelló, 2007; DeFreese & Smith, 2013), who have demonstrated the relationship between the physical-sporting activities practice and the more self-determined motivation, which, apparently, is observed in our study, given the tendency of the surveyed athletes for a motivational base of more self-determined behaviours, having as consequence, healthy lifestyles maintenance (Nutbeam, Aaro & Catford, 1989).

Turning to the interpretation of the structural equations model obtained in our study, it has revealed that basic psychological need for social relation is an intrinsic motivation predictor. This indicator is related to the findings of Barkoukis Hagger, Labropoulos & Tsorbatzoudis (2010), where the basic psychological need satisfaction for social relationships has been a mediator in leisure physical activity context, although in our study, competition as a predictor, just like these authors.

In turn, intrinsic motivation has revealed to be a behavioural control perception predictor. Hagger et al. (2003), point out that the most autonomous types of motivation in leisure physical activity practices positively predict attitudes, as well as behavioural control perception.

This last variable has been a predictor of intentions, as Ajzen (1985) proposed. Eating habits and resting habits variables have been positively predicted by intentions, and tobacco consumption has been predicted negatively by attitudes and by control perception, assuming in our study, a value of greater predictive emphasis in control perception followed by attitudes, respecting the original model proposed by Ajzen (1985) with similar results as in the studies of Courneya & Bobick (2000), Palmeira & Teixeira (2004) or Palmeira et al. (2007). Hagger & Chatzisarantis (2016), point out that global satisfaction acts as a mechanism for which autonomous motivation in sport context can promote autonomous motivation outside of that context, being an excellent indicator of behavioural conduct overlooking a full health state by veteran athletes.

In our opinion, the achievement of these results seems to meet a greater basic psychological need perception for social relationship by veteran athletes as age increases, ceasing to be determinants the perceived competence and autonomy, since the experience accumulated over the years will give them a solid support for their behaviour either in training, or in competition. Basic psychological need for social relationship is the feeling that we can count on the collaboration and acceptance of the people considered important (Moreno-Murcia, et al., 2011) and is essential for the acquisition of social regulations (norms, rules and values), it is through bonding with others, how learning develops (Deci & Ryan, 2000). This tendency of satisfaction level of the basic psychological needs as motivation predictive mechanisms and consequently of well-being and healthy lifestyles, have been shown identically in leisure physical activities practitioners and in practitioners with higher ages (Leyton et al. , 2012, Moutão, Alves & Cid, 2012, Leyton, 2014, Pizarro, 2014, Hagger et al., 2014, Batista et al., 2016a, 2016b, 2017b).

As limitations of this study, it must first be pointed out that due to the fact that it is a correlational study, causal correlations cannot be established even though it provides an explanatory model, which allows a greater and better understanding of the existing relationship between the different analysed variables. It also points out the problem of equivalent models that present the structural equations technique (Hersberger, 2006), which assumes that the model presented in this study would not be more than one of the possible models.

In a perspective of improvement for future studies, the fact of applying only questionnaires, it would be interesting to obtain information through another methodology that allows a data triangulation, through interviews, focus groups, training frequency records, or other information sources. Thus, it would be advisable in the future to carry out longitudinal studies and experimental designs through which the effect of certain interventions could be verified, such as programs application where basic psychological needs and motivation are worked on, as well as understanding the importance of other variables in the veteran athletes' perception.

As practical application proposals, the structural equations model obtained in this research has revealed that basic psychological need of social relation is a predictor of intrinsic motivation. The results determine the importance that the

sports practice context implies for veteran athletes, since it is crucial that they feel closeness and support by the coach. It is essential that athletes feel support from the training leader and that he is available to help them. Another strategy for the development of social relationships is based on organizing tasks in which athletes can participate and unite for a common purpose. The experience transfer from the most to the least experienced is something that both in training and in competition should be a reality. In this way, the strategies use, particularly in training, where there may be a strategies distribution to proposed problems may be a habit to implement. Leisure time is essential for the well-being and adoption of health behaviours in any individual. Therefore it will be equally important to promote leisure time with the training group, apart from the sporting context, which is where they normally interact.

Intrinsic motivation is a predictor of behavioural control perception. It is important to work with veteran athletes on an autonomous motivational basis, in the way that this will lead to the desired and more adaptive consequences. It should be promoted a practice whose goal is fun and the pleasure of its experience.

As intentions predictor variable, the one with the greatest emphasis is control perception. Intentions reflect desired stadiums representations, which we understand that a good objectives formulation will be a good strategy to reach those same objectives. Naturally, in this objectives formulation, the control perception over behaviours will be important, which requires an analysis of the obligations and schedules to be met by each individual, so that he / she can carry out the training and / or competitions that are proposed.

The eating and resting habits variables have been predicted by intentions; however, tobacco consumption has been predicted negatively by intentions, as well as by control perception.

These last ones have generated as a consequence an adaptive process of a behavioural nature, healthy habits where each veteran athlete can feel with encouragement, well-being or happiness, generating positive cognitive, affective and / or behavioural adaptations

CONCLUSIONS

Having as a study objective the research of applying the motivation Transcontextual model in the prediction of veteran athletes' healthy lifestyles, it has been possible to create a model of structural equations that explain the athletes healthy lifestyles from the integration of different theories.

In conclusion, the study results show that it will be crucial to promote the basic psychological need for social relationships, since this will favour intrinsic motivation, promoting greater behavioural control over practitioners' intentions, thus generating healthy eating habits, adequate resting habits and lower tobacco consumption.

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