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Analysis of the Motivational Levels of Men and Women Amateur Runners

Análise dos níveis de motivação de homens e mulheres corredores amadores

Análisis de los niveles de motivación de hombres y mujeres corredores aficionados

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Abstract

Introduction: Running has proved to be one of the most popular physical activity with great benefits for the population health and psychological well being. However, it is also an activity with high discontinuity rates. **Objective:** The present study aimed was to verify if there are differences in the motivational dimensions by sex in a group of Brazilian amateur runners. **Methods:** Two hundred Brazilian runners (33.95 ± 11.38 years old), being 91 women and 109 men, answered The Inventory of Motivation to Regular Physical Activity and Sport (IMPRAFE-54). All volunteers practiced running on a regular basis. All participants answered the questionnaires before starting the training session. **Results:** The dimensions Pleasure and Health; Aesthetics, Sociability and Stress Control; and Competitiveness respectively were more important for the runners. It was found a significant difference ($p < 0.05$), with a higher mean for men, on Sociability dimension. The dimensions statistically higher were Pleasure and Health, with a very similar motivational perception for both sexes. Only the Sociability dimension showed significant difference between men and women. All values of Mean's Rank were superior in the men runners. **Conclusions:** The reasons for the practice of running between men and women Brazilian runners are similar. Only the Sociability dimension showed a significant difference by sex, indicating a higher perception of this dimension among men. Pleasure and Health were the most important factor in both sexes of Brazilian runners.

Keywords: Motivation. Running. Theory of Self-determination.

Resumo

Introdução: A corrida é uma das atividades físicas mais populares, com grandes benefícios para a saúde geral da população e o bem estar psicológico. No entanto, é também uma atividade com altas taxas de descontinuidade. O presente estudo teve como objetivo verificar se existem diferenças nas dimensões motivacionais por sexo em um grupo de corredores amadores brasileiros. **Métodos:** Duzentos corredores brasileiros ($33,95 \pm 11,38$ anos), sendo 91 mulheres e 109 homens, responderam ao Inventário de Motivação à Prática Regular de Atividades Físicas e Esportivas (IMPRAFE-54). Todos os voluntários praticavam a corrida de forma regular. Todos os participantes responderam aos questionários antes do início da sessão de treinamento. **Resultados:** As Dimensões Prazer e Saúde; Estética, Sociabilidade e Controle de Estresse; e Competitividade, foram mais importantes para os corredores. Foi encontrada uma diferença significativa ($p < 0,05$), com uma média maior para os homens, na dimensão Sociabilidade. As dimensões estatisticamente mais elevadas foram o Prazer e a Saúde, com uma percepção motivacional muito semelhante para ambos os sexos. Somente a dimensão da Sociabilidade mostrou uma diferença significativa entre homens e mulheres. Todos os valores do Rank da Média eram superiores nos corredores masculinos. **Conclusões:** As razões para a prática da corrida entre homens e mulheres corredores brasileiros são semelhantes. Somente a dimensão Sociabilidade mostrou uma diferença significativa por sexo, indicando uma maior percepção desta dimensão entre os homens. O Prazer e a Saúde foram o fator mais importante em ambos os sexos dos corredores brasileiros.

Unitermos: Motivação. Corrida. Teoria da Autodeterminação.

Resumen

Introducción: Correr es una de las actividades físicas más populares, con grandes beneficios para la salud general y el bienestar psicológico de la población. Sin embargo, también es una actividad con altas tasas de discontinuidad. El presente estudio tuvo como objetivo verificar si existen diferencias en las dimensiones motivacionales por sexo en un grupo de corredores amateurs brasileños. Métodos: Doscientos corredores brasileños ($33,95 \pm 11,38$ años), 91 mujeres y 109 hombres, respondieron el Inventario de Motivación para la Práctica Regular de Actividades Físicas y Deportivas (IMPRAFE-54). Todos los voluntarios son practicantes con regularidad. Todos los participantes completaron los cuestionarios antes del inicio de la sesión de capacitación. Resultados: las dimensiones del Placer y la Salud; Estética, Sociabilidad y Control del Estrés; y Competitividad, fueron más importantes para los corredores. Se encontró una diferencia significativa ($p < 0.05$), con una media mayor para los hombres, en la dimensión Sociabilidad. Las dimensiones estadísticamente superiores fueron Placer y Salud, con una percepción motivacional muy similar para ambos sexos. Solo la dimensión de sociabilidad mostró una diferencia significativa entre hombres y mujeres. Todos los valores del rango promedio fueron más altos en los hombres. Conclusiones: Las razones de la práctica de la carrera entre corredoras y corredores de Brasil son similares. Solo la dimensión Sociabilidad mostró una diferencia significativa por sexo, lo que indica una mayor percepción de esta dimensión entre los hombres. El Placer y la Salud fueron el factor más importante en ambos sexos en corredores brasileños.

Palabras clave: Motivación. Carrera. Teoría de la Autodeterminación.

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Introduction

Running is the most popular type of physical activity (Michalik et al., 2018; Pedisic et al., 2019). The increase in its popularity worldwide can be attributed to its high accessibility and the fact that it can be done almost everywhere (Fokkema et al., 2019; Parra-Camacho et al., 2020). However, it is also an activity with high discontinuity rates. Injuries and lack of motivation are common reasons for discontinuation of this sports practice. (Baltich et al., 2016; Parra-Camacho et al., 2019; Van Hooren et al., 2019)

Scientific evidence has linked running with a number of physiological improvements associated with health indicators, being an important component of an active lifestyle, with great potential for improving the overall physiological well being (Kok, & Reynolds, 2017; Marson et al., 2016; Pedisic et al., 2019; Ventura et al., 2020). In a regular basis this exercise may reduce and control psychological disorders, such as anxiety and depression (Albuquerque et al., 2018; Huang et al., 2020; LeBouthillier, & Asmundson, 2017). It is estimated that more than 5 million premature deaths a year would be prevented if physically inactive people became sufficiently active. (Alves et al., 2016; Kim, & Nam, 2019; Lee et al., 2012)

Several countries have high participation rates in this physical activity (Deelen et al., 2019; Pedisic et al., 2019; Scheerder et al., 2015). In Brazil, since 1990, running has become popular with non-athletes, presenting an increase in the number of practitioners of 25% per year (Balbinotti et al., 2015). The main international running event in Brazil (*São Silvestre International Running*) has demonstrated massive growth, in 1975 the number of participants was 272, in 2005 was 13.421 (Rojo et al., 2017) and in 2019 approximately 35.000 participants, according to the Brazilian Athletics Confederation (CBAt). Currently, although it is difficult to quantify this number, unofficial data estimate that approximately 4 million Brazilians practice the sport on a regular basis. (Thuany et al., 2020)

Image 1. *In amateur runners, motivation is one of the most important psychological factors that influence training*



Source: Pixabay.com

Ryan, & Deci (2000; 2020), elaborated the Self-determination Theory (SDT), used in several areas of knowledge (Fagundes et al., 2019; Hagger, & Chatzisarantis, 2015). Among these areas, sports and physical activities has a high direct relevance (Pinheiro et al., 2015). The SDT it is an empirically based theory of human motivation with evolutionary tendencies, as predictors of innate psychological needs and contextual conditions favorable to motivation, performance, social functioning and well-being outcomes (Hagger, & Chatzisarantis, 2015; Ryan et al., 2009). It is a theory that focuses on types, rather than just amount of motivation, and claims that the subject can be intrinsically motivated, extrinsically, or even be amotivated. The SDT tries to answer how the motivational behavior is maintained or diminished, as well as which factors contribute to the understanding of this psychological construct (Hagger, & Chatzisarantis, 2015; Ryan, & Deci, 2020). It postulates that human behavior can be explained on the basis of three psychological needs: competence, relatedness and autonomy (Ryan, & Deci, 2020). Competence deals with curiosity, a sense of growth, mastery and trust. Relatedness is based on belonging, a sense of community

and reciprocal care for others. Autonomy addresses the authentic expression of the person; it is supported by experiences of interest and value and underestimated by experiences of being controlled externally. The more an individual feels complete and in satisfaction with his psychological needs, the more he will internalize the patterns that produce these behaviors. Consequently, they will feel motivated to continue engaging their activities with pleasure, interest and joy (Bhat, & Naik, 2016; Ryan, & Deci, 2020). The intrinsically motivated action is not constrained upon any outcome separable from the behavior itself. In contrast, extrinsic motivation refers to the performance as a behavior that is fundamentally dependent on obtaining a result that is separable from the action itself (Zeigler-Hill, & Shackelford, 2018). The third, and last is the amotivation, a motivational construction that can be found in subjects who are not yet adequately able to identify a good reason to perform some activity or not expected to predict engagement and persistence (Hagger, & Chatzisarantis, 2015)

Sex differences are related to biological and psychological constructs. Biological factors include body size and composition, muscular strength and endurance, aerobic power, anaerobic power (Roberts et al., 2016) and performance (Romero-Ramos et al., 2018). Among the psychological factors can be mentioned the different perceptions of stress (Noce et al., 2014), personality and anxiety (Patsiaouras et al., 2017), and motivation (Czech et al., 2018). Koronios et al. (2016) analyzed Greek half-marathoners in a study attempting to find the motivational factors that lead these runners to participate in running events, and the differences between sexes. The comparative analysis revealed that the aspects health and recreational involvement with running had the strongest effect on the participants. However, there was no significant direct influence of sexes. Waśkiewicz et al. (2019) compared motivation levels among Polish marathon runners using the motivations of marathoner's scales (MOMS) questionnaire. This study showed a significant influence of age and sexes. Women marathon finishers scored lower on competitive motivation ($p < 0.05$) and confirmed that the sex can differentiate motivations in this scenario. In another study, Waśkiewicz et al. (2018) made a comparative analysis of motivation in Polish ultra-marathon runners, also using the MOMS. The main finding was that successful ultra-marathoners differed in motivation from short distance runners, although there was no comparison between sexes. Larumbe-Zabala et al. (2020) described longitudinal trends of self-perceptions in marathoners from Spain and examined their connection to physiological performance parameters over time. The motivation score, measured by the Podium questionnaire in events that occurred in Greece, reflected directly on the internal feeling of commitment and willingness to run, demonstrating the importance of high internal and external motivation sources. (Koronios, 2017)

There are several studies on the motivational aspects of runners in the literature. Nonetheless they are more focused on the investigation of the motivational factors linked to long distance runners from other nationalities (Gabrielli et al., 2018; Koronios, 2017; Koronios et al., 2016; Malchrowicz-Moško et al., 2020; Nikolaidis et al., 2019; Waśkiewicz et al., 2018, 2019). There is no consensus in the literature about the factors related to the motivational aspects of Brazilian runners, and whether there are differences between sexes in relation to the reasons for sports practice (Albuquerque et al., 2018; Balbinotti et al., 2015; Fonseca et al., 2019; Sanfelice et al., 2017). Among the psychological factors that influence training, motivation is among the most important (Vysochina, & Vorobiova, 2019). The interactions between the motivational dimensions are complex and dynamic (Koronios et al., 2016) and therefore, still need to be extensively researched. The identification of the motivational factors of sports practice can be a relevant

and useful tool to study new means of increasing and improving the participation of subjects in training programs and adherence to the modality, therefore contributing to the specific planning of intervention programs, as a vehicle to promote physical activity and a healthy lifestyle in a more effective way (Cortés et al., 2017; Clancy et al., 2017; Koronios et al., 2016). Therefore, the aim of the present study was to verify if there are differences in the motivational dimensions by sex in a group of Brazilian amateur runners.

Methods

Sample and ethical standards

A total of 200 Brazilian amateur runners of both sexes participated in the study. The choice of the sample was for convenience due to the availability of the individuals. The volunteers had ages ranging between 18 and 75 years, with an average of 33.95 (\pm 11.38) years, being 91 women and 109 men. All volunteers had been practicing running for over a month on a regular basis. The study was approved by the Research Ethics Committee a Federal University, CAAE Nr. 17561813.4.0000.5149. All participants signed the Term of Free and Informed Consent. The procedures performed in the study were in strict accordance with the Declaration of Helsinki.

Instruments

The Inventory of Motivation to the Regular Practice of Physical Activity and/or Sports (IMPRAFE-54) based on SDT and validated by Balbinotti, & Barbosa (2008) was applied. It is an instrument developed in the Brazilian reality and it is a reduced version of the IMPRAFE-126. This new version allows a more agile evaluation, through validity and reliability indexes and has been tested with different sports (Balbinotti, & Capozzoli, 2008; Balbinotti et al., 2015; Pinheiro et al., 2015; Rosa et al., 2015). The IMPRAFE-54 evaluates six motivational dimensions: Stress Control (e.g. anxiety and stress in daily life); Health (e.g. physical condition); Sociability (e.g. to be part of a group, club or to relate with other subjects); Competitiveness (e.g. win competition); Aesthetics (e.g. maintain an attractive body); and Pleasure (e.g. feeling of well-being). The questionnaire contains a 5 point Likert scale, ranging from (1) "This motivates me very much" to (5) "This motivates me very little".

Procedures

Different running groups from an urban center in Brazil participated in the study. The evaluation was conducted in the training centers of the running groups and the psychometric test was performed in an environment without external intervention. All the questionnaires were answered in the same day, before the training session, under the supervision of the same researcher. This procedure was made as criteria for standardization and to avoid any interference from the training in the responses.

Statistical analysis

Descriptive statistics (mean, standard deviation) were used for the statistical analysis. The Alpha of Cronbach coefficient was used to check the internal consistency of the items that compose the dimensions

of the study. Then, the Shapiro-Wilk test was used to check the normality of the data. The normality test pointed to a non-parametric distribution. The Friedman test with Dunn's Post-Hoc was used to evaluate the motivational perception and compare whether there is a difference in the six dimensions evaluated by IMPRAFE-54. For the purpose of comparing the dimensions between the sexes, the nonparametric Mann-Whitney test was used. The data were analyzed by the Statistical Package for Social Sciences (IBM Corp. Released 2016. IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY: IBM Corp.). The significance level adopted was $p < 0.05$.

Results

Pleasure and Health achieved the highest average posts (5.20 and 4.73, respectively) and that the Competitiveness dimension had the lowest average post (1.43). (Table 1)

Table 1. *Means' Rank per IMPRAFE-54 dimention*

Dimension	Mean's Rank
Pleasure	5,20a
Health	4,73a
Aesthetics	3,70b
Stress Control	2,98b
Sociability	2,98b
Competitiveness	1,43c

Equal letters correspond to statistically equal means' rank. Different letters represent significant differences between each means' rank. Significance level $p = 0.001$.

Comparing the six dimensions, Pleasure = Health > Aesthetics = Sociability = Stress Control > Competitiveness was obtained. This result was found for both men and women amateur runners. Table 2 presents the results obtained in each of the six dimensions in the study, according to the sexes of the participants. (Table 2)

Table 2. *Comparison of the six dimensions under study between the sexes*

Dimension	Women Mean's Rank	Men Mean's Rank
Sociability	76,06*	120,90*
Health	93,35	106,47

Competitiveness	96,16	104,12
Stress Control	97,68	102,85
Pleasure	98,12	102,49
Aesthetics	100,44	100,55

* Significant difference between means' rank for the Sociability dimension ($p < 0.05$).

Only the Sociability dimension showed a significant difference ($p < 0.05$) between the sexes, with a higher mean for men. No significant differences by sex were found in the other constructs.

Discussion

This study aimed to compare the motivational dimensions of Brazilian amateur runners, both men and women. Several studies have indicated that motivational level influence the commitment to physical activity (Rosa et al., 2015). The dimensions that achieved the highest values were Pleasure and Health, presenting the major reasons for encouragement to maintain adherence to exercise. The Pleasure dimension measures the degree to which people consider physical activity a source of satisfaction and see it as a form of self-realization. The Health dimension identifies the level a person uses regular physical activity to maintain general health and prevent illnesses related to physical inactivity. (Pinheiro et al., 2015)

Our results corroborate the findings of Balbinotti et al. (2015), in runners with different practice experience. Health and Pleasure were also found as the dimensions of greatest motivational factor in another study made with Brazilian runners (Fonseca et al., 2019). Previous studies claim that Pleasure is the motivational dimension that could represent intrinsic motivation and can explain SDT in the context of sport (Polozzi, & Chiminazzo, 2019; Ryan, & Deci, 2007; Waśkiewicz et al., 2018). Runners with a strong intrinsic motivation are focused on pleasure and satisfaction developed and achieved during the training process and starting activity. (Waśkiewicz et al., 2019)

Malchrowicz-Mósko (2020) showed that amateur runners' main participation motives were related to health. Similar findings were found with marathon runners (Waśkiewicz et al., 2019). Nikolaidis et al. (2019) indicated that high motivation in running is related to intrinsic motivational factors, such as meaning of life, self-esteem and also orientation towards health. This observation was in agreement with a general trend in the different motivations between recreational and professional athletes. Normally, amateur runners are more connected to health and pleasure, while professional athletes have their motivation linked to performance and competition. (Nikolaidis et al., 2019)

The least perceived dimension by runners in this study was Competitiveness. This dimension expresses the desire to achieve prizes, money, prestige in competitions and prominence in a group (Balbinotti, & Barbosa, 2008). These findings represent a feature of amateur runner profiles. Balbinotti, & Capozzoli (2008) indicated that Competitiveness is not an important dimension that motivates men and women to

engage in regular physical activities in Brazilian amateur running groups. As well, Balbinotti et al. (2015), da Silva et al. (2017), Hanson et al. (2015) and Waśkiewicz et al. (2018) found Competitiveness and recognition as one of the least motivates factors for the regular practice of physical and sport activities. Although, Competitiveness can turn to be higher with practice time (Balbinotti et al. 2015), Balbinotti et al. (2015) pointed that samples where individuals are not professional athletes, the practice of sports presents a less competitive character. Thus, the subjects are less concerned with victories and demonstrations of their abilities in competitive situations. Parra-Camacho et al. (2019) investigated Spanish runners to identify groups with different motivations towards the practice of running. Competitiveness was not among the more important motivations factors, by contrast, one group had strong social competitors characteristics and manifested social recognition as an important motive.

Physical exercise motivation can be equal in both sexes (Kubaisy et al., 2015), however the motivational dimensions of men and women might be different (Czech et al., 2018). Comparative analyzes by sex in this study showed that men and women who run have similar motivational reasons. Nikolaidis et al. (2019) also suggests that amateur athletes of both sexes run for mostly the same reasons. Other factors tend to influence motivation, such as age (Waśkiewicz et al., 2019) and experience. (Malchrowicz-Mośko et al., 2020)

In the present study, only the Sociability dimension was higher for men ($p < 0.05$), indicating that they were more interested in social issues. This dimension measures the motivation for physical activity seen as an opportunity to meet and talk with friends, to belong in a group (Balbinotti, & Barbosa, 2008). Corroborating with this finding, Malchrowicz-Mośko, & Poczta (2019) reported that the most indicative factor as motivating men to participate in a half-marathon is the desire to feel unique and to integrate with other people, as well as to experience emotions associated with participation. Albuquerque et al. (2018) found Sociability to be the major factor of importance to motivate Brazilian runners. These authors found that in running the connection between practice and socialization is very frequent and that this dimension can be responsible for causing the feeling of other dimensions, such as Pleasure. On the contrary, the findings of Da Silva et al. (2017), showed a relevance in Sociability for women. Nonetheless, in this last study the participants had an average age of 70.0 years (± 7.4), which may suggest a change in the scale of motivational relevance with the age factor (Waśkiewicz et al., 2018). This human behaviour can be explained according to the human psychological needs, cited by the SDT (Ryan, & Deci, 2020). Taking part in a sporting event usually involves a strong sense of community with other participants (Malchrowicz-Mośko, & Poczta, 2019). Analyzing our results and also those of other studies, one can hypothesize that perhaps the cultural factors and also the competitive level (amateur x professional) can maximize or minimize the importance of some motivational factor of SDT.

The limitations of this study were that no stratifications of motives by age group were made and no other race groups were evaluated either, in addition to being a cross sectional evaluation type. However, this study brings essential information about psychological aspects in runners from Brazil. And it produces preliminary indications that in amateur runners the differences in motivational dimensions may not present differences by sex. The knowledge about these motives may contribute to the professionals involved being more assertive about their interventions, reducing the possibility of dropout by practitioners.

Conclusion

The Brazilian men and women have similar motivational dimensions for the practice of running, with only the sociability dimension showing differences between the sexes. This showed that men have a higher perception of sociability than women in this activity. Among the motivational components evaluated, pleasure and health were indicated as the most important factors. Professionals involved in this sport could use data about motivation to prepare programs that cater to specific needs and to direct each approach to relevant target populations. Also, marketers and sports event organizers can use the knowledge regarding participants' motives and expectations in their plans and decisions.

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