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## MOTIVATIONAL FACTORS RELATED TO THE PRACTICE OF PHYSICAL ACTIVITIES OF THE ELDERLY

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**ABSTRACT.** The aim of this study was to investigate the motivational factors for older adults to practice physical activities regularly. The sample consisted of 77 elderly of both genders, aged 55 to 90 years and who were practicing physical activities for at least a month in centers of sports and leisure in the city of Indaiatuba. The inventory IMPRAF-54 (Motivation for the Regular Practice of Physical Activity Inventory) was used for data collection. This instrument covers 6 dimensions of motivation for the practice of physical activities: stress control, health, sociability, competitiveness, aesthetic and pleasure. The results showed that the main motivational factor for the elderly is health. After health, sociability, pleasure and control of stress appear tied and, finally, aesthetics and competitiveness. With these results, it is possible to know what encourages older adults to attend classes and to plan for them properly, including their interests and considering them holistically.

**Keywords:** Motivation; elderly; physical activity.

## FATORES MOTIVACIONAIS RELACIONADOS À PRÁTICA DE ATIVIDADES FÍSICAS EM IDOSOS

**RESUMO.** O objetivo deste estudo foi investigar os fatores motivacionais de idosos para praticarem atividades físicas regularmente. A amostra foi composta por 77 idosos de ambos os sexos, com idade entre 55 e 90 anos, que estavam praticando atividades físicas há pelo menos um mês nos núcleos de esporte e lazer do município de Indaiatuba. Para a coleta dos dados, foi utilizado o IMPRAF-54 (Inventário de Motivação para a Prática Regular de Atividades Físicas), um instrumento que abrange seis dimensões da motivação para a prática de atividades físicas: controle do estresse, saúde, sociabilidade, competitividade, estética ou prazer. Os resultados mostram que o principal fator motivacional para os idosos é a saúde. Depois da saúde, aparecem empatados a sociabilidade, o prazer e o controle do estresse e, por fim, a estética e a competitividade. Com esses dados, é possível conhecer o que estimula os idosos a frequentarem as aulas e planejá-las de forma apropriada, abarcando os seus interesses, considerando-os de maneira integral.

**Palavras-chave:** Motivação; idosos; atividade física.

## FACTORES DE MOTIVACIÓN RELACIONADOS CON LA ACTIVIDAD FÍSICA EN LOS ADULTOS MAYORES

**RESUMEN.** El objetivo de este estudio fue investigar los factores motivacionales de los adultos mayores a la práctica de actividad física regular. La muestra consistió en 77 hombres y mujeres de edad avanzada, comprendidas entre 55 y 90 años y que practicaban actividad física durante al menos 1 mes en los núcleos de deporte y el ocio en la ciudad de Indaiatuba. Para recopilar los datos, se utilizó el IMPRAF-54 (Inventario de Motivación para La Actividad Física Regular), un instrumento que cubre 6 dimensiones de la motivación para la actividad física: manejo del estrés, salud, sociabilidad, competitividad, estética y placer. Los resultados muestran que el principal factor de motivación para las personas mayores es la salud. Después de salud, aparecerá atada sociabilidad, placer y manejo del estrés y, por último, la estética y la

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competitividad. Con estos datos, es posible saber que anima a las personas mayores para asistir a clases y planificar de manera adecuada, más abarcadora de sus intereses, considerándolos de manera integral.

**Palabras-clave:** Motivación; adultos mayores; actividad física.

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## Introduction

In recent years, the number of older adults has increased significantly in Brazil and in the world. As reported by the Brazilian demographic census of 2010, the amount of individuals over 60 years old surpassed the mark of 20 million (Silva, Brasil, Furtado, Costa, & Farinatti, 2014). According to the United Nations Fund, life expectancy will further increase until 2050, reaching 82 years for men and 86 for women in developing countries. Considering the increase in life expectancy, there is a need for preventing physiological losses caused by the aging process, and for promoting quality of life of the elderly.

In this sense, it is necessary to delay the functional aging process that makes the elderly dependent on others, even to fulfill simple everyday tasks, such as getting up, climbing stairs, carrying groceries, i.e., daily life activities (Mazo, Lopes, & Benedetti, 2009).

One of the most important causes of functional decline and loss of independence in older adults is sarcopenia (Walston, 2012). Defined as the decline of muscle mass, strength and power during aging process, sarcopenia is directly related to the fragility of the elderly (Fried, Ferrucci, Darer, Williamson, & Anderson, 2004). Though irreversible, the effects of sarcopenia can be mitigated with the practice of physical activities.

Several studies have shown the efficiency of traditional strength training to increase muscle mass and hypertrophy in older adults and reduce their chances of falling (Seguin & Nelson, 2003; Persch, Ugrinowitsch, Pereira, & Rodacki, 2009). In addition to training, balance exercises (Sherrington et al., 2008), Tai Chi (Li et al., 2005) and aquatic activities (Bocalini, Serra, Murad, & Levy, 2008) also appear as efficient strategies in the development of physical abilities and promotion of quality of life of the elderly.

Even though there are many benefits for the elderly in the regular practice of physical activities, the motivation of individuals to start exercising or to remain in a regular program of exercises is still a great challenge for professionals of the area (Phillips, Schneider, & Mercer, 2004). In this sense, studies have been conducted with the goal of better understanding the aspects related to the motivation of older adults for the practice of physical exercises and to propose strategies that allow better adhesion and, consequently, an improvement in the quality of life of individuals (Chao, Foy, & Farmer, 2000; Phillips et al., 2004).

Motivation is defined as an intentional action, directed towards a goal and regulated by environmental and personal factors (Borges et al., 2015; Coimbra et al., 2013; Meurer, Benedetti, & Mazo, 2012). The Self-Determination Theory – SDT (Deci & Ryan, 1985) is the most comprehensive theory for studies on motivation, and is the most used one in the context of the practice of physical activities (Niven & Markland, 2016; Borges et al. 2015; Coimbra et al., 2013; Meurer et al., 2012; Teixeira, Carraca, Markland, Silva, & Ryan, 2012).

This theory comprises a process called self-determination *continuum*, constituted by different categories of motivation, ranging from demotivation (or non-motivation) to intrinsic motivation (Deci & Ryan, 1985). As the term indicates, in demotivation there is no motivation to act according to an external regulation, because it is not enough to provide meaning/significance in a comprehensible manner for the subject (Appel-Silva, Wendt, & Argimon, 2010). This is the lowest level of self-determination and participation in physical activities tend to cease (Niven & Markland, 2016).

On the other side of the *continuum* is the intrinsic motivation, which comes from an internal interest and is related with something positive, pleasant, provided by the practice of physical activities (Coimbra et al., 2013). In this case of autonomous orientation, the behavior is self-determined, motivated by internal values. Between these two extremes, there is the extrinsic motivation, which has external regulation, focused on the consequences of the activity, and not on the activity itself (Teixeira et al., 2012).

To perform a research with older adults who practice physical activities, first we must understand the different motivational factors that lead them to the practice and then how to stimulate them to persist in

physical activities, valuing them as individuals in society. This information contributes to a better professional intervention with this group. Thus, the aim of this study was to identify the motivational aspects of the elderly to practice physical activities in public centers for sports and leisure of the city of Indaiatuba, State of São Paulo, Brazil.

## Method

### Participants

The individuals who have agreed to participate in the research signed an Informed Consent; they should fit the proposed profile, which was to be older adults of both genders, aged 55 to 90 years, practitioners of physical activities for at least a month. Thus, the sample consisted of 77 elderly individuals, practitioners of physical activities in the public areas for sports and leisure of the city of Indaiatuba.

To analyze the motivation of individuals in different age groups, the participants were divided into 3 groups: Group 1 (G1) with 18 individuals from 55 to 64 years old; Group 2 (G2) with 41 individuals from 65 to 74 years old; and Group 3 (G3) with 15 individuals from 75 to 84 years old. The group of more advanced age, with individuals older than 84 years, was discarded for the statistical analysis, since it had only three representatives.

### Instruments

Two questionnaires were used for data collection: the Identification Form and the Motivation for the Regular Practice of Physical Activities Inventory (IMPRAF-54). The profiles of the elderly volunteers was established through the Identification Form, a questionnaire consisting of 19 basic items (name, age, education, health status etc.).

IMPRAF-54 (Balbinotti & Barbosa, 2006) is an instrument developed to assess which motivational factors are involved in the practice of physical activities. Covering six dimensions, the instrument reveals if the individual practices physical activities with the following purposes: stress control, health, sociability, competitiveness, aesthetics or leisure. The inventory comprises 54 items that will complete the affirmation: "*I perform physical activities to...*", using a *Likert* scale, through which the participant demonstrates his/her level of acceptance for each item. This scale offers five possible answers for each sentence: 1) It motivates me very little; 2) It motivates me a little; 3) More or less – I do not know – I have doubts; 4) It motivates me a lot; and 5) It motivates me very much. The affirmations containing the dimensions of motivation were distributed equally and in the same order in eight columns (the 9th column repeats one item of each dimension for validation purposes). Therefore, there are eight sentences for each dimension, which, in turn, result in the sum of a minimum of 8 and a maximum of 40 points.

### Procedures

The research was performed under approval of the Research Ethics Committee of the State University of Campinas (Registration No. 669,473). After receiving authorization of the Sports and Leisure Department of Indaiatuba, we visited the gymnastics, hydrogymnastics, weight training, physical conditioning and stretching classes of the public centers for sports and leisure of the city. The following items were presented in each survey: the theme, the objectives, the justification and the methods of the research, when the inclusion and exclusion criteria have been clarified. Afterwards, the instruments were applied, always under the same conditions to all participants.

### Statistical Analyses

After data collection, they were recorded in a Microsoft® Excel 2010 spreadsheet, and then imported into the software MATLAB 7.0, in which all the statistical analyses were performed.

The measures of position (mean and median) and dispersion (standard deviation, minimum, maximum, quartiles) were used to summarize the collected databank. The non-normality of quantitative variables (dimensions of IMPRAF-54) was checked using the statistical test *Lilliefors*. The *Kruskal-Wallis* test, followed by *Dunn's* post-hoc test, was applied to assess the differences among the motivations of participants in the six dimensions of IMPRAF-54. The same test was used to assess the motivations of participants of different physical activities and different age groups. The *Mann-Whitney* test was used to compare the motivation between genders. A significance level of 5% was adopted in this study.

## Results

From the 77 participants of the research, 61 were female (79%) and 16 were male (21%). Regarding age, the general mean age was 70.0 ( $\pm 7.4$ ) years old, with minimum and maximum ages of 58 and 89 years, respectively. The analysis of genders presented a mean age of 69.2 ( $\pm 7.1$ ) years for women and 72.8 ( $\pm 8.2$ ) years for men. More than 60% of the sample practiced another physical activity regularly (with or without supervision). Of the 77 individuals, 71 (92%) were not exercising paid activity, or were retirees or pensioners. Depression was one of the illnesses detected, through the question about health status in the Identification Form, among other pathologies.

Table 1 presents the motivational characteristics of all respondents in the six dimensions of IMPRAF-54. It was found that the motivations in these dimensions of the questionnaire presented statistical differences among themselves. Health was the factor that presented greater motivation for the practice of physical activities, followed by sociability, leisure and stress control, which presented no statistical differences among themselves. Aesthetics, followed by competitiveness, were the last factors to motivate the elderly to exercise.

**Table 1.** Features of the motivations presented by the participants in the six dimensions of IMPRAF -54.

	Mean	S.D.	Minimum	Maximum	Median	Quartile 1	Quartile 3	p-value
SC	31.5	7.2	9	40	33	28	37	<0.001
HE	37.0	3.9	21	40	38	36	40	
SO	33.9	7.0	11	40	36	30	40	
CO	18.0	9.5	8	39	15	9	24	
AE	27.1	8.8	8	40	28	20	34	
LE	33.5	6.3	10	40	35	31	38	

Caption: SC = Stress Control; HE = Health; SO = Sociability;

CO = Competitiveness; AE = Aesthetics; LE = Leisure, p-value = Kruskal-Wallis test.

The analysis of motivational factors for the practice of physical activities by gender are presented in Table 2. The analysis of motivation between genders revealed that only regarding the dimensions health and sociability women are more motivated than man for the practice of physical activities. In the other dimensions (stress control, competitiveness, aesthetics and leisure) there were no differences in motivation between genders.

**Table 2.** Features of the motivations presented by men and women in the six dimensions of IMPRAF-54.

	Men (n=16)	Women (n=61)	p-value
SC	28.3 (9.2)	32.3 (6.4)	0.145
HE	34.5 (6.0)	37.6 (2.8)	0.034
SO	30.0 (9.8)	35.0 (5.7)	0.011
CO	19.2 (11.4)	17.7 (9.0)	0.787
AE	26.5 (11.5)	27.2 (8.0)	0.997
LE	31.6 (8.7)	34.0 (5.5)	0.596

Data presented in Mean (Standard Deviation).

Table 3 presents motivational characteristics according to the practice of different physical activities. When the motivation for the practice of five different physical activities was analyzed, there was a significant difference only regarding the dimensions of stress control and competitiveness. The elderly engaged in weight training presented lower motivation for the practice of this activity with the purpose of stress control than the practitioners of gymnastics or hydrogymnastics. In addition, practitioners of weight training are also less motivated in relation to competitiveness than the practitioners of stretching.

**Table 3.** Features of the motivations in the dimensions of IMPRAF-54 presented by individuals who practice five different physical activities.

	G (n=5)	H (n=27)	WT (n=25)	PC (n=9)	S (n=11)	p- value
SC	36.2(6.3)*	33.6 (5.7)*	27.7 (7.2)	31.9 (5.3)	32.3 (9.1)	0.005
HE	38.6 (3.1)	36.5 (4.5)	36.5 (4.0)	37.8 (2.6)	37.7 (3.3)	0.332
SO	36.2 (4.1)	34.4 (6.9)	31.9 (8.2)	33.4 (6.4)	36.7 (5.0)	0.417
CO	16.2 (8.9)	19.6 (7.4)	14.4 (9.0)	17.0 (10.2)	24.3 (11.7)*	0.025
AE	24.6 (10.9)	27.8 (8.4)	25.6 (9.6)	25.3 (7.8)	31.3 (7.2)	0.416
LE	36.2 (3.3)	33.6 (5.7)	32.5 (7.8)	32.4 (4.1)	35.2 (6.4)	0.409

Caption: G=Gymnastics; H=Hidrogymnastics; B=Weight Training; PC=Physical Conditioning; S=Stretching.  
Caption: Data presented in Mean (Standard Deviation).

\*statistically significant difference compared with the group  
Weight Training ( $p < 0.05$ ).

Table 4 presents the motivational characteristics of the elderly from different age groups, which shows that they have the same motivation for the practice of physical activities. Only regarding aesthetics, the individuals of the group 65-74 years old presented themselves more motivated than the group 55-64 years old.

**Table 4.** Features of the motivations in the dimensions of IMPRAF-54 presented by elderly people of different age groups.

	55 – 64 (n=18)	65 -74 (n=41)	75 - 84 (n=15)	p-value
SC	30.8 (5.9)	32.5 (6.7)	29.8 (9.4)	0.352
HE	37.2 (3.8)	37.6 (3.3)	35.3 (5.1)	0.163
SO	33.0 (5.3)	34.7 (7.5)	32.9 (8.0)	0.236
CO	13.3 (5.8)	19.6 (10.2)	19.5 (9.9)	0.111
AE	22.0 (6.7)	29.4 (8.9)	27.3 (9.0)	0.009
LE	32.6 (6.3)	34.8 (5.5)	31.3 (8.2)	0.192

Data presented in Mean (Standard Deviation).

## Discussion

The aim of this study was to analyze the motivational aspects of the elderly for the practice of physical activities. According to the results, health was the main motivator aspect, followed by the dimensions sociability, leisure and stress control. In the study of Cardoso (2014), the order of motivational factors obtained was identical. Another study that applied the same inventory in a research with older adults showed that the dimension health came first, followed by leisure and sociability (Meurer et al., 2012), which were also among the three main dimensions in the present study. Stiggelbout, Hopman-Rock and Mechelen (2008) also point to health as the main reason for the engagement in programs of physical activities for the elderly. Thus, our results corroborate previous studies, showing that health promotion is the main reason why the elderly perform physical activities.

The aging process results in physical limitations for the performance of daily tasks; therefore, we understand that the dimension health is the main source of motivation for the practice of physical activities, because, by exercising, the elderly try to avoid functional aging and to promote a better quality of life (Mazo et al., 2009; Chao et al., 2000; Phillips et al., 2004). These results indicate an awareness of the elderly about the importance of physical activities, even with an external locus of control (health benefits), featuring an extrinsic motivation for the practice of physical activities. In addition, in many cases, medical advice is also an external factor of motivation, since health professionals have influence on the decisions of the elderly (Okuma, Miranda, & Velardi, 2007). Therefore, the primary motivational factor in this research comes from an extrinsic motivation.

This result is extremely important for professionals who develop physical activity programs for the elderly, since the activities must be planned following the principles of training, such as overloading, to promote gradual improvements of their physical abilities. The permanence in a training program that does not promote improvement in physical abilities, and hence on the quality of life of individuals, might demotivate them.

Sociability appeared as the second motivational factor in the scale of importance, showing that these individuals do not want to be isolated, but wish to be inserted in social conviviality. This social issue contemplates the principles of SDT, which understands social relationships as one of the items that compose the basic psychological needs. When these needs are fulfilled, they result in improvement in the development of autonomous motivation (Wilson & Rodgers, 2002). Another issue to be considered is that, according to Carvalho (2014), the dissociation of social habits and personal contacts precedes the establishment of anxiety and depression. Thus, the practice of physical activities results not only in physiological benefits, but also psychological, since it promotes social interaction, allowing the elderly to feel included in the group and, consequently, valued.

The dimension leisure also appeared in second place as motivational factor presented by the elderly for the practice of physical activities. According to SDT (Deci & Ryan, 1985), leisure is inserted in the context of intrinsic motivation, in which the individual is completely satisfied with the activity (Ryan & Deci, 2000). In addition, SDT indicates that the more self-determined is the motivation, the greater is the length of stay in the activity. Therefore, leisure becomes important to maintain the elderly in the practice of physical activities (Teixeira et al., 2012). With this motivation, which characterizes a locus of internal control (intrinsic motivation), there is an improvement in their self-esteem, encouraging them to remain longer in the practice physical activities (Meurer, Benedetti, & Mazo, 2011). In this way, sociability and leisure are elements that, when taken into consideration, can enhance the success of training programs.

Aesthetics and competitiveness were the dimensions that presented less motivation for the practice of physical activities for the elderly, respectively. Seemingly, these dimensions are configured as extrinsic motivation, because they are characterized as external adjustment factors. Ryan, Frederick, Lepes, Rubio and Sheldon (1997) suggest that extrinsic motivation is important to start the practice of a physical activity, but is loosely related with its continuity. Therefore, it is important that the motivation for the practice of physical activity be developed autonomously. Dantas, Paz, Straatmann and Lima (2015) also found in their research the lowest score for competitiveness as a motivation for the practice of physical activities of elderly women. Thus, it is evident that, in general, the elderly do not practice physical activities in order to participate in competitions; nevertheless, Ryan et al. (1997) describe that extrinsic motivation is effective for the adhesion in these practices.

The data obtained indicate that women are more motivated to practice physical activities than men, regarding health and sociability. According to Ribeiro et al. (2012), elderly men usually avoid precautions related to the prevention and treatment of health problems in general. The authors also reflect on the importance of the choice of activities, because elderly men might consider the activities insufficient, falling short of their abilities or needs, which contributes to their choice of not practicing them. Another issue brought by the authors is the prejudice that the elderly may have with respect to some practices that would not be appropriate for the male audience, and also the possibility of older men finding more opportunities and leisure spaces than older women.

It was also found that the dimension aesthetics do not motivate different age groups equally, having greater influence on people from 65 to 74 years old. As occurs with other stages of life, motivation depends on variables that surround the individuals and their choices; therefore, there is not an obligatory standard for age or gender.

Studies on the motivational factors of the elderly for the practice of physical activities are extremely important. According to the theoretical assumptions of SDT, the more self-determined is a behavior, the closer it is to intrinsic motivation; hence, the engagement and adhesion to the proposed activity also will be greater (Ryan & Deci, 2000; Ryan et al., 1997).

## Final considerations

Based on the data collected and analyzed, it is concluded that the elderly population of the city of Indaiatuba is motivated to practice physical activities in public centers for sport and leisure mainly because of health. However, it is noteworthy that these practices also contribute to the improvement of interpersonal relationships.

The results suggest that elderly women are more motivated for the practice of physical activity with regards to health and sociability than men. Concerning aesthetics, this study revealed that this dimension seems to have different influence on the age groups, which is greater on people from 65 to 74 years old.

This stage of life is no longer considered a period of restricted options in terms of leisure, studies and functions, at least in academic considerations. It is important that the scientific production about motivation of the elderly for the practice of physical activities continue to provide answers, because access to this knowledge will certainly contribute to meet and fulfill the aspirations of this population that is embedded in the society and also have the right to be well attended.

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