

# MOTIVATIONAL FACTORS OF ELDERLY PRACTITIONERS OF PILATES METHOD

*Fatores motivacionais de idosos Praticantes do método Pilates*

*Factores de motivación en mayores practicantes del método Pilates*

Original Article

## ABSTRACT

**Objective:** To evaluate motivational factors of elderly practitioners of Pilates Method. **Methods:** Quantitative cross-sectional study conducted from April to May 2014 with a convenience sample of 39 elderly practitioners of Pilates Method – regardless of sex – in a neighborhood in the northern part of Rio de Janeiro, RJ. We used the *Inventário de Motivação à Prática Regular de Atividades Físicas – IMPRAF-54* (Regular Physical Activity Motivation Inventory), which assesses motivation dimensions (“Stress Control”, “Health”, “Sociability”, “Competitiveness”, “Aesthetics” and “Pleasure”). **Results:** The main motivational aspects described by the elderly were “Health” (mean crude score; women: 34.3 ( $\pm$  4.7); men: 30.3 ( $\pm$  5.2)), “Sociability” (mean crude score; women: 27.8 ( $\pm$  10.2); men: 28.8 ( $\pm$  9.7)), and “Pleasure” (mean crude score; women: 30.8 ( $\pm$  7.5); men: 29.3 ( $\pm$  8.3)); only among men the domain “Sociability” was rated as “high motivation” (70<sup>th</sup> percentile) according to the normative tables of the instrument. **Conclusion:** Factors related to health, sociability and pleasure were a key motivation among the elderly practitioners of Pilates Method assessed.

**Descriptors:** Motivation; Aged; Motor Activity; Exercise.

## RESUMO

**Objetivo:** Avaliar os fatores motivacionais de idosos praticantes do Método Pilates e sua relação com o sexo. **Métodos:** Estudo quantitativo, transversal, realizado no período de abril e maio de 2014, utilizando amostra por conveniência com 39 idosos, independentemente do sexo, praticantes do Método Pilates em um bairro da zona norte do Rio de Janeiro-RJ. Utilizou-se o “Inventário de Motivação à Prática Regular de Atividades Físicas (IMPRAF-54)”, que avalia as dimensões de motivação (“Controle de Estresse”, “Saúde”, “Sociabilidade”, “Competitividade”, “Estética” e “Prazer”). Aplicou-se a estatística descritiva para análise das dimensões. **Resultados:** Os principais aspectos motivacionais descritos pelos idosos foram “Saúde” (escore bruto médio; mulheres: 34,3( $\pm$ 4,7); homens: 30,3( $\pm$ 5,2)), “Sociabilidade” (escore bruto médio; mulheres: 27,8( $\pm$ 10,2); homens: 28,8 ( $\pm$ 9,7)) e “Prazer” (escore bruto médio; mulheres: 30,8( $\pm$ 7,5); homens: 29,3( $\pm$ 8,3)); somente entre os homens o domínio de “Sociabilidade” foi classificado como “motivação alta” (percentil 70), segundo tabelas normativas do instrumento. **Conclusão:** Fatores relacionados à saúde, sociabilidade e prazer foram determinantes motivacionais entre os idosos avaliados praticantes do Método Pilates.

**Descritores:** Motivação; Idoso; Atividade Motora; Exercício.

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## RESUMEN

**Objetivo:** *Evaluar los factores de motivación en mayores practicantes del Método Pilates y su relación con el sexo.*  
**Métodos:** *Estudio cuantitativo y transversal realizado entre abril y mayo de 2014 con un muestreo por conveniencia de 39 mayores independiente del sexo, practicantes del Método Pilates en un barrio de la zona norte de Río de Janeiro- RJ. Se utilizó el “Inventario de Motivación para la Práctica Regular de Actividades Físicas (IMPRAF-54)”, que evalúa las dimensiones de motivación (“Control del estrés”, “Salud”, “Sociabilidad”, “Competitividad”, “Estética” y “Placer”). Se aplicó la estadística descriptiva para el análisis de las dimensiones. Resultados:* *Los principales aspectos de motivación descritos por los mayores fueron “Salud” (puntuación media bruta; mujeres: 34,3(±4,7); hombres: 30,3(±5,2)), “Sociabilidad” (puntuación media bruta; mujeres: 27,8(±10,2); hombres: 28,8 (±9,7)) y “Placer” (puntuación media bruta; mujeres: 30,8(±7,5); hombres: 29,3(±8,3)); según las tablas normativas del instrumento el dominio “Sociabilidad” fue clasificado como “motivación alta” (percentil 70) solamente entre los hombres. Conclusión:* *Los factores relacionados a la salud, la sociabilidad y el placer fueron los determinantes de motivación en los mayores practicantes del Método Pilates.*

**Descriptor:** *Motivación; Anciano; Actividad Motora; Ejercicio.*

## INTRODUCTION

Currently, Brazil is going through an important sociodemographic transition, with an estimated 2-4% annual increase in the population over 65 years over the next 40 years<sup>(1)</sup>. Increased life expectancy is generally associated with the onset of age-related chronic diseases like degenerative processes, musculoskeletal disorders, cerebrovascular and heart diseases; additionally, it can also be linked to rising health-care costs and the increased risk of institutionalization and dependence among the elderly<sup>(2)</sup>.

The aging process promotes several physiological adaptations that contribute to the functional decline of the cardiovascular, musculoskeletal and nervous systems. Such modifications can contribute to the reduction in the physical, cognitive and functional capabilities of the elderly, generating a major impact on quality of life (QoL)<sup>(3,4)</sup>. The literature states that the practice of physical activity targets muscle strengthening, improved flexibility and aerobic fitness, offering benefits to functional autonomy in individuals over 60 years<sup>(5)</sup>.

In this context, the Pilates Method (PM) is a form of exercise that is growing in popularity and gaining ground both in sport and in rehabilitation, preferably in the elderly population. The PM was developed by German Joseph

Hubertus Pilates (1880-1967) during World War I, but it only became recognized internationally in the 1980s, and in the 1990s it gained popularity mainly in the field of rehabilitation<sup>(6,7)</sup>.

Because of the necessities found in the aging process and the great adherence to the PM, this research is based upon the Self-Determination Theory (SDT) to assess motivational factors<sup>(8)</sup>. It is widely used in various fields of study, including sport and physical activity<sup>(6)</sup>, and explains the different factors/motivational dimensions that lead an individual to join, keep or give up the practice of physical activity<sup>(9)</sup>.

According to the theory, the motivation may vary in three ways: intrinsic motivation, extrinsic motivation, and amotivation<sup>(9)</sup>. Intrinsically motivated is an individual who adheres to physical activity of his/her own will; extrinsic motivation occurs when physical activity is carried out with another objective, not coming from the individual him/herself; and the individual who does not see physical activity as something satisfactory that can bring some kind of benefit falls within the concept of amotivation<sup>(9,10)</sup>.

The conceptions presented converge with the concept of active aging promotion propagated by the World Health Organization, characterized by the positive experience of longevity, preserving capabilities and the individual development potential so that living conditions and social policies guarantees become a prerogative<sup>(11)</sup>. At the national level, the National Policy for the Elderly reinforces the importance of active and healthy aging, prioritizing actions that motivate and facilitate the adherence to a healthy lifestyle, considering the regular physical activity at all levels of care<sup>(12)</sup>.

Some studies on motivation and regular physical activity may be reported in the literature, but none has reported the PM so far<sup>(13-17)</sup>. Moreover, the demand of elderly people practicing PM<sup>(18)</sup> and the importance of identifying the motivational factors for active and healthy aging<sup>(19,20)</sup> justifies the development of the present study. That said, the aim of this study was to evaluate motivational factors of elderly practitioners of Pilates Method and its relationship with sex.

## METHODS

This is a quantitative cross-sectional research conducted with a nonprobability convenience sample of 39 elderly PM practitioners, regardless of sex. Inclusion criteria were: MP practice for at least three consecutive months and age over 60 years. Individuals who for whatever reason were not able to complete the evaluation questionnaire were excluded from the study.

All pilates facilities, including studios, gyms and clinics, located in a neighborhood in the northern part of Rio de Janeiro, RJ were invited to participate in the study conducted between April and May 2014. Elders were recruited from nine places that agreed to participate and allowed the application of questionnaires. Only one visit was held in each of these facilities to invite them to participate.

All those who accepted to participate voluntarily signed the Free Informed Consent Form and then answered the *Inventário de Motivação à Prática Regular de Atividades Físicas – IMPRAF-54* (Regular Physical Activity Motivation Inventory)<sup>(21)</sup>. The questionnaire consists of 54 items in nine blocks subdivided into six domains (“Stress control”, “Health”, “Sociability”, “Competitiveness”, “Aesthetics” and “Pleasure”) assessed using a Likert scale with specific scores for each domain, in which the lowest value refers to the answer “this motivates me very little”, and the highest value refers to “this motivates me a lot.” This instrument was developed in Brazil and allows the evaluation and classification of individuals aged 13-83 years<sup>(21)</sup>.

The normality of data was assessed using the Shapiro-Wilk test; and homoscedasticity was assessed by Bartlett criterion. Given the normal distribution of variables and homoscedasticity, data underwent descriptive analysis using mean and standard deviation, minimum and maximum values and percentiles derived from the raw scores of each domain of the instrument by sex. Normative tables are provided in the instrument user's guide, allowing the comparison of an individual's performance with the expected performance for each category of motivation

classification according to age and sex<sup>(21)</sup>. The 60 percentile was considered the cutoff point for the classification of individuals within the age group of the present study, who were analyzed in two categories: Percentile  $\geq 60$  “high motivation” and Percentile  $< 60$  “low motivation”<sup>(10)</sup>. Data were tabulated and processed in SPSS 17.0 software.

The study was approved by the Research Ethics Committee of the Castelo Branco University, Rio de Janeiro, RJ, according to Resolution 466/12 of the National Health Council, process No. 2012/004.

## RESULTS

The mean age of the 39 individuals assessed was 70 ( $\pm 7.8$ ) years, with 29 (74.3%) women and 10 (25.7%) men. With regard to the raw scores of the six domains related to the participants' motivation for physical activity, women obtained the lowest and the highest mean raw scores for “Competitiveness” (9.8  $\pm 2.8$ ) and “Health” (34.3  $\pm 4.7$ ), respectively, while among men, “Aesthetics” (15.6  $\pm 8.7$ ) was the domain with the lowest mean and “Competitiveness” (80.3  $\pm 26.6$ ) was the one with the highest mean. It was also found that women had higher means than men in all aspects, except for “Competitiveness” and “Sociability” (Table I).

By analyzing the values of percentiles based on the cutoff points of the normative table of the instrument, it was found that “Sociability” presented the highest percentile among women (48 percentile), but all the domains analyzed were classified as “low motivation”. As to men, only the “Sociability” domain (70 percentile) was classified as “high motivation” (Table II).

Table I - Mean and minimum and maximum standard deviation of the evaluation score of older people's motivation for PM practice (*IMPRAF – 54*). Rio de Janeiro, RJ, 2014.

Domain	Women (n=29)			Men (n=10)		
	Mean ( $\pm$ SD)	Minimum	Maximum	Mean ( $\pm$ SD)	Minimum	Maximum
Stress control	24.1 ( $\pm 8.9$ )	8	38	16.3 ( $\pm 7.7$ )	8	32
Health	34.3 ( $\pm 4.7$ )	22	40	30.3 ( $\pm 5.2$ )	24	40
Sociability	27.8 ( $\pm 10.2$ )	8	40	28.8 ( $\pm 9.7$ )	14	40
Competitiveness	9.8 ( $\pm 2.8$ )	8	16	80.3 ( $\pm 26.6$ )	38	120
Aesthetics	21.2 ( $\pm 8.6$ )	8	40	15.6 ( $\pm 8.7$ )	8	32
Pleasure	30.8 ( $\pm 7.5$ )	10	40	29.3 ( $\pm 8.3$ )	8	38

SD: standard deviation.

Table II - Classification by percentiles for domains of older people's motivation for Pilates Method practice, according to normative tables of the *IMPRAF* - 54, by sex. Rio de Janeiro, RJ, 2014.

Domain	Women (n=29)	Men (n=10)
Stress control	36	31
Health	47	37
Sociability	48	70*
Competitiveness	24	12
Aesthetics	29	18
Pleasure	44	47

\* classified as "high motivation"

## DISCUSSION

Seeking to describe the perception of motivation domains related to PM practice by a specific population of elderly people from a neighborhood in the northern part of Rio de Janeiro, RJ, the present study raises the discussion of a theme that has not been explored thoroughly in the literature.

The motivation and perspectives in relation to physical activity in older people is a matter of utmost importance evidenced in the literature. Authors point out that some older people still believe that physical activity is unnecessary or even potentially harmful. Others recognize the benefits of physical activity, but have reported a number of barriers to practice. Six main barriers have been cited, and motivation was among them<sup>(22)</sup>.

In Brazil, a study conducted in the city of Florianópolis, SC, in 2008, with 111 elderly men and women found that "Health" and "Sociability" were the factors classified as "high motivation"<sup>(14)</sup>. With regard to the present study, similar findings can be verified: women presented higher percentiles of "Sociability" and "Health", and men presented the percentile of "Sociability" as the highest one. According to the Self-Determination Theory, it is understood that health is motivated by that person interested in acquiring, maintaining and improving health; and sociability evidences the motivation of people who find into physical activity an opportunity to be with friends<sup>(21)</sup>.

When considering the elderly population of the present study, the presence of diseases and the doctor's recommendation, it is identified that the motivation for health has, initially, an external regulation. In turn, the literature indicates that, over time, the individual can move on to take a regulation identified or integrated with such motivational factor, especially when one starts to consider it important and appreciates the results of the participation in such activity<sup>(23)</sup>.

Another study carried out in the city of Recife, PE with 120 elderly participants of health programs linked to the public system, evaluated by a tailored questionnaire on motivation for sport practice, observed that factors related to health and physical performance were also the most reported motivational factors among the elderly, both for adherence and for maintenance of physical activity<sup>(24)</sup>.

In 2014, a study compared the motivational factors for physical activity between Brazilian and Portuguese elderly citizens with a predominantly female sample in both countries, and health was perceived as a common concern for both cultural realities<sup>(25)</sup>. Another recent study conducted with 150 Swedish elderly males aged 50-86 years also found that the main reason for physical activity is related to health<sup>(26)</sup>. The same study<sup>(26)</sup> verified that the social reasons were among the least cited as a motivational factor for physical activity, in contrast to the findings of the present study and others that report social reasons as the most important<sup>(27,28)</sup> or the second most important<sup>(29,30)</sup> factor. It should be considered that men were underrepresented in most of these studies as well as in the research in question; moreover, cultural factors must be strongly considered within socialization.

In this context, no studies have specifically evaluated motivation for PM practice. However, motivational factors that lead the elderly to practice other forms of physical activity seem to be the same as those for PM identified in the present study.

Evidence on the benefits of PM for physical fitness and well-being of older people is consolidated in the literature, demonstrating major prominence, especially regarding the gain and improvement of muscle strength, walking and marching performances, activities of daily living, mood states and QoL<sup>(31)</sup>. Thus, the PM seems to act in a timely manner in the major demands of the aging process, becoming a strong tool for exercise prescription for older people and individuals seeking a differentiated regular practice of physical activity<sup>(32)</sup>.



The findings of this study and the identification of motivational factors for physical activity among older people contribute to the development of tools to meet the expectations of this population and assist in maintaining these individuals active in long term. Moreover, they collaborate in planning health promotion strategies for older people, aiming at a healthy and functional aging.

It stands out that the present study has limitations. The sample size was a limiting factor with important influence on statistical power. The completion of the study in a specific region, with convenience sample, does not enable the results to be extrapolated to other populations. More elaborate comparative analysis between the sexes could not be carried out due to the sample size, but seem to be an interesting analysis strategy, considering different motivational factors for men and women. Another issue to consider refers to the fact that although the instrument used has been validated for the elderly population, difficulties inherent to old age, such as visual impairments, may hinder the self-completion of a questionnaire.

Future studies with larger samples and more sophisticated research designs are a key to obtaining more robust results and a long-term evaluation of these motivational factors within the practice of PM.

## CONCLUSION

Factors relating to health, sociability and pleasure were motivational determinants among the elderly practitioners of Pilates evaluated.

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