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Motivation for physical activity practice in conventional gyms: a comparative study in Brazil

Motivação para prática de atividade física em academias convencionais: um estudo comparativo no Brasil

Motivación para la práctica de actividad física en gimnasios convencionales: un estudio comparativo en Brasil

Jorge Luiz Soares dos Santos Alves
Universidade Salgado de Oliveira, Brasil - jorge.alves@nt.universo.edu.br
Marco Antonio Alves da Cruz
Universidade Salgado de Oliveira, Brasil, Brasil – marcocruz1005@yahoo.com.br
Carlos Silva
Universidade Iguaçu, Brasil - 0190024@professor.unig.edu.br
Marcio Dutra
Fundação Getúlio Vargas (FGV), Brasil marcio.dutra@nt.universo.edu.br

Abstract
This study investigated the motivational factors that prompt individuals to participate in physical activities in conventional gyms in the cities of Rio de Janeiro (RJ) and Juiz de Fora (MG). A total of 302 practitioners from 18 gyms participated in the research, using the Motives for Physical Activities Measure – Revised (MPAM-R) scale, adapted and validated for Portuguese as Medida de Motivação para a Atividade Física – Revisada (MMAF-R). Results indicated that the Health factor had the highest overall mean (6.39), followed by Competence (5.28) and Appearance (5.19), while the Social factor (3.46) had the lowest mean. Univariate analyses showed significant associations between motivational factors and variables such as sex, age, educational level, and childhood sports participation. Women tended to attribute greater importance to Competence and Appearance, whereas elderly individuals demonstrated predominantly Health-related motivation. The results support existing literature and provide subsidies for gym managers to formulate more effective relationship marketing strategies for customer attraction, retention, and loyalty.
Keywords: Motivation; Physical Activity; Gyms; Self-Determination Theory; Relationship Marketing.

Resumo
Este estudo investigou os fatores motivacionais que levam os indivíduos a participar de atividades físicas em academias convencionais nas cidades do Rio de Janeiro (RJ) e Juiz de Fora (MG). Participaram da pesquisa 302 praticantes de 18 academias, utilizando a escala Medida de Motivação para a Atividade Física – Revisada (MPAM-R), adaptada e validada para o português como Medida de Motivação para a Atividade Física – Revisada (MMAF-R). Os resultados indicaram que o fator Saúde apresentou a maior média geral (6,39), seguido por Competência (5,28) e Aparência (5,19), enquanto o fator Social (3,46) apresentou a menor média. As análises univariadas mostraram associações significativas entre os fatores motivacionais e variáveis como sexo, idade, nível de escolaridade e prática esportiva na infância. As mulheres tenderam a atribuir maior importância à Competência e à Aparência, enquanto os idosos demonstraram predominantemente motivação relacionada à Saúde. Os resultados corroboram a literatura existente e fornecem subsídios para que os gestores de ginásios formulem estratégias de marketing de relacionamento mais eficazes para atrair, reter e fidelizar clientes.
Palavras-chave: Motivação; Atividade Física; Ginásios; Teoria da Autodeterminação; Marketing de Relacionamento.

Resumén

Este estudio investigó los factores motivacionales que impulsan a las personas a participar en actividades físicas en gimnasios convencionales de las ciudades de Río de Janeiro (RJ) y Juiz de Fora (MG). Un total de 302 personas de 18 gimnasios participaron en la investigación, utilizando la escala Medida de Motivación para la Actividad Física – Revisada (MPAM-R), adaptada y validada al portugués como Medida de Motivação para a Atividade Física – Revisada (MMAF-R). Los resultados indicaron que el factor Salud obtuvo la media general más alta (6,39), seguido de Competencia (5,28) y Apariencia (5,19), mientras que el factor Social (3,46) obtuvo la media más baja. Los análisis univariados mostraron asociaciones significativas entre los factores motivacionales y variables como sexo, edad, nivel educativo y participación en deportes durante la infancia. Las mujeres tendieron a atribuir mayor importancia a Competencia y Apariencia, mientras que las personas mayores mostraron predominantemente una motivación relacionada con la salud. Los resultados respaldan la literatura existente y proporcionan información valiosa para que los gerentes de gimnasios formulen estrategias de marketing relacional más efectivas para la captación, retención y fidelización de clientes.
Palabras clave: Motivación; Actividad física; Gimnasios; Teoría de la autodeterminación; Marketing relacional

1. Introduction

Physical activity is essential for health promotion and quality of life. The World Health Organization (WHO) highlights consistent activity as key to preventing chronic diseases, improving cardiorespiratory function, managing body weight, and supporting psychological well-being (WHO, 2003, 2018). Despite these benefits, inactivity has increased in many countries due to technological advances, urbanization, and evolving transportation (WHO, 2018).

Gyms are the primary venues for structured, goal-oriented exercise in Brazil. Since the 1960s and 1970s, when organized spaces for physical conditioning became necessary (Lima & Andrade, 2003), the sector has expanded rapidly. According to the Brazilian Association of Gyms (ACAD, 2014), about 33,000 gyms serve 8 million clients and generate US$ 2.5 billion annually.
Amid sector expansion and competition, managers need to understand the factors that motivate people to adhere to and remain in physical activity programs. Motivation, which shapes behavior toward an end or reward (Samulski, 2002), plays a central role in explaining adherence to physical exercise.

Among theoretical approaches to motivation in physical activity, Self-Determination Theory (SDT) stands out. Deci and Ryan (1985) proposed this theory. SDT claims individuals may be intrinsically motivated, extrinsically motivated, or amotivated. Intrinsic motivation arises from pleasure and interest in the activity itself. Extrinsic motivation stems from rewards or social pressures. Amotivation occurs when individuals lack the intention to act. Researchers widely use SDT in physical activity research. SDT served as the basis for the Motives for Physical Activities Measure – Revised (MPAM-R) scale. This instrument identifies five motivational dimensions: Enjoyment/Interest, Competence, Appearance, Fitness/Health, and Social (Ryan et al., 1997).

The present study intends to identify and understand the motivations of individuals who practice physical activities in conventional gyms in the cities of Rio de Janeiro (RJ) and Juiz de Fora (MG), using the MPAM-R scale, adapted to Portuguese. Specifically, it seeks to: (a) describe the

motivational profiles of practitioners; (b) examine the relationships between motivational factors and sociodemographic variables (sex, age, education level, body mass index); (c) investigate associations with contextual variables (sports practice in childhood, family practice, form of practice); and (d) compare the results with current literature.

This study is relevant because it helps gym managers develop more effective relationship marketing strategies. Retaining existing customers may cost up to five times less than acquiring new customers (Kotler, 2000). Understanding practitioner motivation enables managers to attract new students, build loyalty, reduce dropout rates, and increase business sustainability.

2. Conceptual Framework

2.1 Fundamental Concepts: Physical Activity, Physical Exercise, and Sport

To understand the subject, readers must distinguish concepts that are often used as synonyms. The specialized literature, however, assigns different meanings to these terms.
Caspersen, Powell, and Christenson (1985) define physical activity as any movement produced by skeletal muscles that increases energy expenditure above resting levels. Physical exercise is a subcategory of physical activity. It is planned, structured, repetitive, and performed to improve or sustain physical fitness.

The concept of sport, according to Barbanti (2003), is more complex because of the variety of definitions. In sociology, a widely accepted definition describes sport as a competitive, institutionalized activity. It involves vigorous physical effort or complex motor skills. Participation is motivated by both internal and external factors (p. 228).

Physical fitness deserves conceptual emphasis. Caspersen et al. (1985) define it as the ability to perform physical activity satisfactorily and pleasurably. Barbanti (2003) complements this by defining it as motor fitness associated with physical performance or motor development.
Fitness has two meanings. Performance fitness relates to sports and covers cardiorespiratory function, muscle strength, endurance, and motor abilities. Health-related fitness is the ability to perform daily tasks with energy. It also helps prevent disease (Gauvin et al., 1994, cited by Gonçalves, 2008).

Barbanti (2003) defines physical activity as bodily movements performed by skeletal muscles for objectives such as sports performance, developing physical fitness, recreation, exercise, games, and other activities that increase energy expenditure.

2.2 Historical Aspects of Physical Activity

Humans have practiced physical activities since the beginning of time. In Prehistory, nomadic groups walked long distances in search of shelter and food. They ran, jumped, swam, and fought to survive (Oliveira, 1983). Marinho (1980) explains how survival needs shaped the physical traits of primitive people. Long walks built endurance. Chasing prey developed speed. The need to hit moving targets perfected throwing. Uneven terrain improved jumping skills. Carrying game and heavy objects maintained physical vigor and muscle strength.

Dance ranked among the most significant physical activities of the time. People practiced it for entertainment and religious rituals (Oliveira, 1983). Eastern civilizations also developed physical activity. The Chinese created Kong-Fou (the art of man) as a therapeutic gymnastics that linked bodily movements with respiratory control for disease treatment (Marinho, 1980). The Hindus trained with physical exercises for military purposes, such as running, riding, wrestling, hunting, and swimming.

Ancient Greece is marked in the history of physical activity by the Olympic Games and other competitions. The Greeks held the Olympic Games every four years in Olympia to honor Zeus. These events were part of religious festivals that included athletic, literary, and artistic contests (Oliveira, 1983). Greek gymnasiums and stadiums served both sports and intellectual purposes, except for slaves. Participants engaged in activities such as running, jumping, and throwing without clothes. This tradition gave rise to the term "gymnastics" (from the Greek, meaning the art of developing the naked body).

2.3 Origins of Physical Activity in Brazil

Physical activity in Brazil developed in ways similar to Prehistoric times. The indigenous peoples, as the first inhabitants, practiced activities such as using a bow and arrow, riding, swimming, wrestling, fishing, and running for survival (Oliveira, 1983). Three historical periods reveal the evolution of physical activity in Colonial Brazil (1500-1822). Indigenous peoples developed a range of physical activities, including bow and arrow, swimming, canoeing, running, marching, bullfighting, and riding (Marinho, 1980). In Imperial Brazil (1822-1889), Rui Barbosa influenced physical education by proposing that all students from kindergarten to secondary school participate in mandatory physical education. He distinguished exercises for men (Swedish gymnastics) and for women (calisthenics), and recommended that students exercise at least 30 minutes four times a week. He also emphasized the role of the physical education teacher (Marinho, 1980). In Republican Brazil (1889-1979), athletes developed sports such as rowing, swimming, water polo, basketball, fencing, tennis, and soccer, while gymnastics from German, Swedish, and French traditions gained popularity.

2.4 Physical Activity and Health Benefits

Regular physical exercise provides important mental and physical benefits, including stress reduction, improvements in cardiorespiratory and muscular function, body weight control, and the prevention of cardiovascular and metabolic diseases (Thompson, 2009, cited by Legnani et al., 2011). When associated with adequate nutrition, it contributes to the prevention of chronic diseases, blood pressure reduction, blood glucose maintenance, and body fat reduction (WHO, 2003). Warburton et al. (2006) underscore the benefits not only for health but also for physical conditioning, including improvements in skeletal musculature and prevention of degenerative diseases such as osteoporosis. WHO (2012) recommends that adults perform 300 minutes per week of moderate-intensity activities, 150 minutes of high-intensity aerobic activities, or an equivalent combination.

Paffenbarger et al. (1986), in a longitudinal study of Harvard University alumni, concluded that weekly energy expenditure of 2,000 kcal or more was associated with a significant reduction in deaths from general and cardiovascular causes.

Physical inactivity, on the other hand, constitutes a serious public health problem. It is estimated that 70% of the adult population does not reach the minimum recommended levels of physical activity (Gualano & Tinucci, 2011). Recent data indicate a 70% increase in physical inactivity in some countries, associated with technological development, economic development, and urbanization (WHO, 2018).

2.5 Gyms

The term gym derives from the Greek "gymnos" (naked), which is associated with the practice of physical exercise for which appropriate clothing is used (Barbanti, 2003). In Ancient Greece, Plato founded his academy in 378 BC, in honor of the Athenian hero Academus (Capinussú, 2006). In the contemporary context, gyms are defined as private entities for physical conditioning, sports initiation, and practice, which may be expressed as clubs, centers, and sports gymnasiums (Barbanti, 2003).

The growth of gyms in Brazil began in the 1960s, intensifying in the 1970s with the demand for spaces for work-oriented physical conditioning (Lima & Andrade, 2003). Currently, the sector moves billions of dollars annually, with thousands of establishments throughout the national territory (ACAD, 2014).

2.6 Customer Loyalty and Retention: Relationship Marketing

In a competitive environment, retaining existing customers proves strategically more advantageous than acquiring new ones. Kotler (2000) states that retaining current customers can cost up to five times less than acquiring new ones. Gerson (1999, cited by Michelli, 2008) adds that the cost of acquiring new customers can be up to seven times higher than the cost of retaining existing customers.

In this context, relationship marketing acts as a fundamental strategy. Gummesson (2010) defines relationship marketing as a variable within the marketing strategy that, through the relationship between customer and company, aims to build durable bonds. Oliveira and Agrello (2017) highlight that relationship marketing seeks to "reach" and conquer old and new customers, making the relationship last through understanding of consumer needs, desires, and attractions.

Among relationship marketing tools, CRM (Customer Relationship Management), database marketing, direct marketing, and loyalty programs stand out (Gordon, 2002, cited by Oliveira & Agrello, 2017). The Marketing Mix, composed of the 4Ps (Price, Place, Product, and Promotion), is a fundamental strategy for delivering products and services.
Barreto and Crescitelli (2013) point out five points to create durable bonds: conquest (loyalty of existing customers and conquering new ones), activation (making the customer use the brand), loyalty (making the customer loyal), retention (keeping the customer active), and recovery (reconquering inactive customers).

2.7 Motivation for Physical Activity Practice

Motivation, derived from Latin "movere" (to move), refers to what makes the organism move, initiate, and maintain directed behaviors (Gazzaniga & Heatherton, 2001, cited by Gonçalves, 2008). Samulski (2002) defines motivation as the set of internal and external factors that determine activity or behavior directed toward an end or reward.

Barbanti (2003) conceptualizes motivation as the energy, needs, and desires that drive human behavior to achieve objectives, associating it with intrinsic (pleasure, desire to show ability) and extrinsic (money, trophies) psychological aspects. Several theories have sought to explain motivation, including cognitivist theories (control of the will), hedonist theories (the search for pleasure), instinct theories (based on evolution), and drive theories (homeostasis).

Maslow's Hierarchy of Needs explains motivation through a hierarchy of needs: physiological, safety, love and belonging, esteem, and self-actualization. Allport's Personality Theory (1961) proposes functional autonomy, subdivided into perseverative (repetitive actions) and proprium (motives that remain because they bring esteem and pleasure). Csikszentmihalyi's Flow Theory (1992, 1999) defines motivation as an emotional state of short duration and high activation, aimed at specific objectives through focused, mastery-oriented action.

Legnani et al. (2011), in a study with university students, identified the main motivational factors for exercise practice: disease prevention, body weight control, personal appearance, stress control, well-being, and pleasure.

2.7.1 Self-Determination Theory (SDT)

The Self-Determination Theory (Deci & Ryan, 1985) serves as the central conceptual framework for this study. SDT is a macro theory of human motivation psychology, subdivided into micro theories: cognitive evaluation theory, organismic integration theory, basic needs theory, and causality orientations theory (Moreno & Martinez, 2006).

Intrinsic motivation occurs when the individual seeks the activity for personal interest, pleasure, knowledge, or the experience of the modality. Extrinsic motivation appears when the activity is performed for reasons external to personal interest. Amotivation is characterized by a lack of motivation to engage in physical activity (Ryan & Deci, 2000).

The organismic integration theory classifies types of motivation on a self-determination continuum: external regulation (most basic form, external control to avoid punishment or obtain reward), introjected regulation (internal pressure such as guilt or anxiety), identified regulation (practice for the outcome, even without liking the activity), integrated regulation (most self-determined form, recognition of the activity's importance) (Gonçalves, 2008).

The basic needs theory identifies three innate psychological needs: autonomy (organizing experiences and behaviors), competence (feeling capable of performing behaviors), and relatedness (desire to be with other people). The causality orientations theory subdivides into autonomy orientation (capacity for choice), control orientation (behavior resulting in obligation), and impersonal orientation (feeling of incompetence) (Deci & Ryan, 1985).

The Motives for Physical Activities Measure – Revised (MPAM-R) scale, developed by Ryan et al. (1997) based on SDT, identifies five motivational factors: Enjoyment/Interest, Competence, Appearance, Fitness/Health, and Social. This scale was adapted and validated for Portuguese by Gonçalves (2008) as Medida de Motivação para a Atividade Física – Revisada (MMAF-R).

3. Method

3.1 Type of Research

This study is characterized as descriptive research, which, according to Gil (2006, p. 44), "has as its primary objective the description of characteristics of a given population or phenomenon or the establishment of relationships between variables." Regarding technical procedures, it is a survey-type research, which "identifies flaws or errors, describes procedures, discovers trends, and recognizes interests and other behaviors, mainly using the questionnaire" (Mattos, Rosseto Júnior & Blecher, 2008, p. 35).

3.2 Participants

A total of 302 individuals practicing physical activities in 18 conventional gyms located in the cities of Rio de Janeiro (RJ) and Juiz de Fora (MG) participated in the research. The sample consisted of 54.30% women and 45.70% men, with a predominance of adults aged 25-35 (33.12%). Regarding origin, 60.93% of participants resided in the state of Rio de Janeiro and 39.07% in Minas Gerais.

3.3 Instruments

Two instruments were used for data collection:
a) **Anamnesis questionnaire**: designed for sociodemographic characterization of participants, covering variables such as sex, age, education level, marital status, sports practice in childhood, family practice, and form of practice (alone/accompanied).
b) **MPAM-R/MMAF-R Scale**: the Motives for Physical Activities Measure – Revised (Ryan et al., 1997), adapted and validated for Portuguese as Medida de Motivação para a Atividade Física – Revisada by Gonçalves (2008), composed of 30 items distributed across five factors: Enjoyment/Interest, Competence, Appearance, Fitness/Health, and Social. Items are answered on a 7-point Likert scale (1 = not at all motivated to 7 = extremely motivated).

3.4 Ethical Procedures

The research met the ethical criteria of privacy, anonymity, confidentiality, and researcher responsibility (Thomas, Nelson & Silverman, 2012). Participants signed an Informed Consent Form in accordance with the ethics committee's norms at Universidade Salgado de Oliveira.

3.5 Data Analysis

For data tabulation and analysis, R software, version 3.5.0 (2018-04-23) was used. Descriptive analyses (measures of central tendency and dispersion) and univariate inferential analyses (ANOVA) were performed. Statistical significance was set at p-value ≤ 0.10.
Variables were categorized as proposed by Gonçalves and Alchieri (2010), with adaptations to avoid underrepresentation (Agresti & Kateri, 2011). Education level was categorized as: Up to high school, Incomplete Higher Education, Complete Higher Education, and Postgraduate. Age group was disaggregated into: Young (18-20 years), Initial Young Adult (21-25 years), Full Young Adult (26-35 years), Final Young Adult (36-40 years), Adult (41-54 years), and Elderly (>55 years). Body Mass Index (BMI) was classified according to Quetelet's criteria (Eknoyan, 2007): Underweight (< 18.5), Normal (18.5-24.9), Overweight (25-29.9), Obesity 1 (30-34.9), Obesity 2 (35-39.9), and Obesity 3 (≥ 40).

4. Results

4.1 Descriptive Analysis of Motivational Factors

Table 1 presents the means and standard deviations of the motivation factors by sex, age, and BMI.

Table 1. Means and Standard Deviations of Motivation Factors as a Function of Sex, Age, and BMI

Overall	-	4.66 (1.49)	5.28 (1.46)	5.19 (1.58)	6.39 (0.91)	3.46 (1.71)
Sex	Female	4.67 (1.46)	5.32 (1.42)	5.33 (1.56)	6.40 (0.91)	3.44 (1.70)
	Male	4.65 (1.52)	5.23 (1.51)	5.02 (1.60)	6.38 (0.91)	3.49 (1.73)
Age	Young (18-20)	5.18 (1.18)	5.45 (1.47)	5.73 (1.15)	6.27 (0.91)	4.13 (1.57)
	Initial Young Adult (21-25)	4.68 (1.41)	5.28 (1.37)	5.31 (1.57)	6.31 (0.95)	3.53 (1.70)
	Full Young Adult (26-35)	4.77 (1.46)	5.36 (1.39)	5.33 (1.48)	6.47 (0.82)	3.50 (1.73)
	Final Young Adult (36-40)	4.45 (1.41)	5.18 (1.38)	4.99 (1.56)	6.48 (0.85)	3.35 (1.68)
	Adult (41-54)	4.45 (1.45)	5.22 (1.52)	4.85 (1.71)	6.51 (0.79)	3.23 (1.57)
	Elderly (>55)	3.54 (1.57)	4.64 (1.71)	4.04 (1.58)	6.58 (0.79)	2.57 (1.38)
BMI	Underweight	4.92 (0.91)	4.79 (1.53)	6.00 (0.59)	6.33 (0.77)	4.08 (1.97)
	Normal	4.71 (1.44)	5.30 (1.42)	5.28 (1.59)	6.40 (0.89)	3.57 (1.73)
	Overweight	4.59 (1.55)	5.27 (1.47)	5.04 (1.58)	6.40 (0.92)	3.32 (1.70)
	Obesity 1	4.71 (1.59)	5.43 (1.62)	5.25 (1.57)	6.36 (1.01)	3.37 (1.63)
	Obesity 2	4.76 (1.72)	5.24 (1.33)	5.18 (1.48)	6.33 (0.99)	3.12 (1.67)
	Obesity 3	4.55 (1.62)	5.05 (1.68)	5.72 (0.95)	6.20 (1.24)	4.42 (1.54)

Note. Values represent Mean (Standard Deviation).

The Health factor had the highest overall mean (6.39), showing its importance to conventional gym users. Appearance (5.19) and Competence (5.28) showed similar levels, while the Social factor (3.46) obtained the lowest means.

When disaggregated by sex, women tended to attribute greater importance to Competence (5.32), Appearance (5.33), and Enjoyment (4.67), while men showed slightly higher means in the Social factor (3.49).

By age group, the Health factor progressively increases with age, reaching its maximum among the elderly (6.58). Young people (18-20 years) had the highest means for Enjoyment (5.18), Appearance (5.73), and Social (4.13). The elderly, in turn, showed the lowest means in all factors, except Health.

Regarding BMI, the extreme categories (Underweight and Obesity 3) attributed greater importance to the Appearance factor (6.00 and 5.72, respectively), this being more effusive for those with underweight.

Table 2 presents the means and standard deviations for education level, practice type, family practice, and childhood practice.

Table 2. Means and Standard Deviations of Motivation Factors as a Function of Education Level, Form of Practice, Family Practice, and Childhood Practice

Education	Up to high school	4.70 (1.47)	5.19 (1.63)	5.26 (1.72)	6.44 (0.89)	3.73 (1.72)

	Incomplete Higher	4.66 (1.48)	5.30 (1.41)	5.22 (1.51)	6.35 (0.92)	3.56 (1.74)
	Complete Higher	4.65 (1.53)	5.28 (1.46)	5.27 (1.64)	6.42 (0.91)	3.41 (1.69)
	Postgraduate	4.62 (1.47)	5.30 (1.40)	5.00 (1.50)	6.41 (0.89)	3.20 (1.64)
Form of practice	Alone	4.64 (1.50)	5.22 (1.47)	5.13 (1.60)	6.38 (0.93)	3.41 (1.71)
	Accompanied	4.73 (1.46)	5.51 (1.41)	5.40 (1.52)	6.44 (0.84)	3.66 (1.69)
Family practices	Yes	4.58 (1.51)	5.14 (1.51)	4.96 (1.67)	6.44 (0.89)	3.45 (1.73)
	No	4.69 (1.48)	5.38 (1.42)	5.36 (1.51)	6.35 (0.92)	3.44 (1.69)
Childhood practice	Yes	4.72 (1.49)	5.35 (1.44)	5.19 (1.59)	6.38 (0.94)	3.50 (1.73)
	No	4.50 (1.45)	5.09 (1.48)	5.20 (1.56)	6.43 (0.81)	3.35 (1.65)

Education levels did not show significant differences, although postgraduates had slightly lower means, especially in the Social factor (3.20). Practitioners who attend the gym had higher means across all factors, particularly Competence (difference of 0.29). Regarding family practice, it was observed that Enjoyment, Competence, and Appearance are more important for users without practicing family members, while Health and Social are more influential for those with practicing family members. Sports practice in childhood was associated with slightly higher Competence scores (difference of 0.26).

4.2 Participant Profile

Table 3 presents the sample frequencies for each proposed category, showing the profile of conventional gym practitioners.

Table 3. Frequency of Categories by Group for Conventional Gym Users

Sex	Female	164	54.30
	Male	138	45.70
Region	Rio de Janeiro	184	60.93
	Juiz de Fora	118	39.07
Age	Young (18-20)	32	10.60
	Initial Young Adult (21-25)	71	23.51
	Full Young Adult (26-35)	100	33.12
	Final Young Adult (36-40)	30	9.93
	Adult (41-54)	53	17.55
	Elderly (>55)	13	4.30
	Not informed	3	0.99
BMI	Underweight	6	1.99
	Normal	144	47.68
	Overweight	109	36.10
	Obesity 1	31	10.26
	Obesity 2	8	2.65
	Obesity 3	3	0.99
	Not informed	1	0.33
Education	Up to high school	55	18.21
	Incomplete Higher	107	35.43
	Complete Higher	72	23.84
	Postgraduate	68	22.52

Marital Status	Single	181	59.93
	Married	97	32.12
	Separated/Divorced	17	5.63
	Widowed	2	0.66
	Not informed	5	1.66
Form of practice	Alone	241	79.80
	Accompanied	58	19.21
	Not informed	3	0.99
Family practices	Yes	134	44.37
	No	160	52.98
	Not informed	8	2.65
Childhood practice	Yes	227	75.17
	No	69	22.84
	Not informed	6	1.99

The sample featured a female majority (54.30%), residing in Rio de Janeiro (60.93%), with a predominance of adults aged 25 to 35 (33.12%). Approximately 60% of practitioners are between 20 and 35 years old, while only 21% are over 35, showing a reduced presence of users of advanced age.

Regarding BMI, the mode was found in normal weight (47.68%), followed by overweight (36.10%). Education level showed high educational attainment: only 18.21% have completed high school, 35.43% are attending higher education, 23.84% have completed higher education, and 22.52% are postgraduates. The majority practice alone (79.80%), do not have practicing family members (52.98%), and practiced sports in childhood (75.17%).

4.3 Univariate Analysis

Tables 4, 5, and 6 present the results of univariate analyses (ANOVA) to verify associations between motivational factors and the investigated variables.

Table 4. Univariate Analysis of Motivation Factors as a Function of Sex, Age, and BMI

Sex	0.924	0.071	0.111	0.837	0.786
Age	0.001	0.436	0.001	0.005	0.010
BMI	0.959	0.841	0.337	0.996	0.389

Note. Values represent p-values. Significant values ($p \leq 0.10$) are in bold.

The only factor associated with sex was Competence ($p = 0.071$). For age, all factors presented significant associations, except Competence: Enjoyment ($p = 0.001$), Appearance ($p = 0.001$), Health ($p = 0.005$), and Social ($p = 0.010$). BMI was not significantly associated with any motivational factor.

Table 5. Univariate Analysis of Motivation Factors as a Function of Education Level, Region, and Marital Status

Education	0.993	0.958	0.045	0.819	0.238

Region	0.764	0.094	0.469	0.496	0.281
Marital Status	0.320	0.683	0.068	0.460	0.247

Note. Values represent p-values. Significant values ($p \leq 0.10$) are in bold.

Considering education level as the response, only the Appearance factor showed a significant association ($p = 0.045$). For the region, the Competence factor was significant ($p = 0.094$). Marital status was associated only with the Appearance factor ($p = 0.068$).

Table 6. Univariate Analysis of Motivation Factors as a Function of Form of Practice, Family Practice, and Childhood Practice

Form of practice	0.665	0.183	0.254	0.676	0.312
Family practices	0.520	0.072	0.058	0.098	0.093
Childhood practice	0.049	0.068	0.962	0.570	0.516

Note. Values represent p-values. Significant values ($p \leq 0.10$) are in bold.

The practice form (alone/accompanied) showed no significant association with any factor. The variable "family practices" was significantly associated with Competence ($p = 0.072$), Appearance ($p = 0.058$), Health ($p = 0.098$), and Social ($p = 0.093$). Sports practice in childhood was associated with Enjoyment ($p = 0.049$) and Competence ($p = 0.068$).

5. Discussion

The results obtained indicate that the Health factor constitutes the main motivation for practicing physical activities in conventional gyms, corroborating previous studies that identified the search for well-being, disease prevention, and physical conditioning as central reasons for adherence and permanence in exercise programs (Castro et al., 2010; Liz & Andrade, 2016). The high mean of the Health factor (6.39 on a 7-point scale) suggests that practitioners are aware of the benefits of physical activity for health, in line with WHO recommendations (2003, 2012, 2018) and with the findings of Paffenbarger et al. (1986) on the relationship between energy expenditure and mortality reduction.

The Appearance (5.19) and Competence (5.28) factors presented intermediate means, indicating that, although relevant, they are not as determining as Health. Liz and Andrade (2016), in a qualitative study of weight-training practitioners, also identified body aesthetics as a secondary motive alongside well-being and health. The Social factor, with the lowest mean (3.46), suggests that the relational dimension does not constitute a central motive for practice in gyms, unlike what occurs in collective sports modalities.

The differences observed between sexes, although modest, indicate that women attribute greater importance to Competence, Appearance, and Enjoyment, while men value the Social aspect slightly more. These results partially resemble those of Legnani et al. (2011), who found personal appearance as an important factor among university students, although in a predominantly male sample.

The association between age and motivational factors showed distinct patterns: young people (18-20 years) presented higher means in Enjoyment, Appearance, and Social, while the elderly (>55 years) demonstrated motivation almost exclusively focused on Health. This finding is consistent with the literature on changes in motivational processes throughout adult life (Santos & Antunes,

2007). The progressive valuation of health with advancing age may reflect greater awareness of the vulnerabilities and diseases associated with aging.

The lack of a significant association between BMI and motivational factors warrants reflection. As discussed in the conclusion of this study, BMI has restrictions in differentiating weight associated with fat from that associated with muscle mass. In gym contexts, where strength training is predominant, individuals with high muscle mass may be misclassified as overweight or obese, distorting analyses. Future studies should employ more precise methods of body composition assessment, such as bioimpedance or skinfolds.

The high educational level of the sample (22.52% of postgraduates, compared with less than 0.1% of the national average according to Capes, 2015) suggests that practice in conventional gyms may be associated with higher socioeconomic and educational levels. This observation aligns with the findings of Duca et al. (2009), who identified an association between economic level and physical activity across different domains.

The association between childhood sports practice and the Enjoyment and Competence factors indicates that early experiences with physical activities may influence motivation in adulthood, possibly by developing motor skills and a sense of competence, as postulated by SDT (Deci & Ryan, 1985).

The results present practical consequences for gym managers. Given that Health is the main motivational factor, marketing and communication tactics should stress the benefits of exercise for health and well-being, rather than aesthetics alone. For different target audiences, specific approaches may be more effective: for young people, programs that integrate fun and social aspects; for women, emphasis on competence and appearance; for the elderly, exclusive focus on health.

The lower importance attributed to the Social factor suggests that relationship marketing efforts should focus on service quality, infrastructure, and customer service rather than on social events. However, the fact that accompanied practitioners present higher means in all factors indicates that strategies encouraging group or pair practice can potentiate motivation.
Finally, the association between family practice and multiple motivational factors implies that the family environment influences adherence to physical activity, denoting potential for programs involving the whole family.

6. Conclusion

This study investigated the motivational factors for physical activity practice in conventional gyms in the cities of Rio de Janeiro and Juiz de Fora, using the MPAM-R/MMAF-R scale based on Self-Determination Theory. The results indicated that the Health factor constitutes the main motivation of practitioners, followed by Competence and Appearance, while the Social factor proved less relevant.

Univariate analyses showed significant associations between motivational factors and variables such as sex, age, education level, marital status, region, family practice, and childhood sports

practice. The strong association between age and multiple factors stands out: young people value Enjoyment, Appearance, and Social, while the elderly focus exclusively on Health.

The predominant profile of practitioners was defined by women and young people with a high level of education, who practice alone and practiced sports in childhood. The low elderly representation (4.30%) underscores the need for targeted strategies to attract and retain this audience.
Study limitations comprise the use of BMI as a measure of body composition, which does not differentiate between fat and lean mass, and the sample's concentration in only two cities, which limits the generalizability of the results. Future studies should employ more precise methods of body assessment, expand geographical coverage, and longitudinally investigate the relationship between motivation and observance.

For gym managers, the results suggest that relationship marketing strategies ought to prioritize communicating health benefits, adapt their approaches to the public profile, and consider the influence of family context and prior experiences with physical activity. Customer retention, more economical than acquiring new customers (Kotler, 2000), can be enhanced by aligning practitioners' motivations with the services offered.

To summarize, understanding practitioners' motivation is a crucial instrument for success and sustainability inside the competitive gym market, contributing not only to financial results but primarily to the health and quality of life of the population.

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Marco Antonio Alves da Cruz
marcocruz1005@yahoo.com.br