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Research Paper

Motives of Practice, Self-Determination and Commitment to Fitness Training

Medical Science

KEYWORDS : Self-determination; Exercise Psychology; Motivation; Fitness; Stereotype

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ABSTRACT

Objectives: examining the reasons for practicing exercise: motivation and commitment.
Design: Qualitative – inductive
Method: Sample of 410 volunteer, 100 men and 310 women (43.36 ± 11.89 years-old), gym academies physical activities practitioners in Rio de Janeiro, Brazil. Instruments: Motivation for Physical Activities Measure revised MPAM-R: Scale to measure Intention to be Physically Active, IPAS: Behavioral Regulation in Exercise Questionnaire, BREQ-2: Goal Orientation in Exercise Scale (GOES)
Results: Fitness was the highest reason for practice and compromise followed by enjoyment and appearance.
Conclusion: Social identity is influenced by stereotyped characteristics: High status with identified and introjected motivation; Low status with reason of socialization; Intermediate status depends on personal factors. We suggest a controlled investigation of perceived status comparing the differences in perception of the motives to practice as more or less self-determinates in function of it.

Introduction

Motives of participation in physical activities

The health concept nowadays includes not only the absence of diseases, but the complete physical, psychic and social well-being (W.H.O, 2008). Within this perspective the practice of physical activity expresses the possibility to reach good physical form, to keep and recover the functional capacity, as an escape valve to problems, also helping breaking the monotony as well as to be facilitator of social relations, providing pleasant ludic and wellbeing hours (Murcia and González-Cutre, 2006). These are aspects of the extrinsic motivation that has been defined as the motivation in reply to something external to the task or activity, as for the attainment of social or material rewards, of recognition, or with the objective to answer to commands or pressures of others, or even to demonstrate ability and value (Guimaraes et al., 2002).

Motivation (Murcia et al., 2009) has been a very important object of study among sports and exercise psychologists (Moreno Murcia et al., 2009, Hagger et al., 2009, Keegan et al.). It can be either extrinsic or intrinsic. Intrinsic motivation is characterized by a self-regulated autonomic behavior (Murcia et al., 2008) of performing an activity having its sole pleasure as the goal (Murcia et al., 2007a)Intrinsic motivation describes the inclination towards consolidation, mastery, spontaneous interest and exploration (Murcia et al., 2007b); and it can be divided in three types (Hein et al., 2004): of knowing; of performing; of facing stimulus.

Researches reveal how important is the contribution of physical exercises to improve the psychophysical health and the quality of life of the individuals that keep an active style of life (Varejão et al., 2007, Fraga et al., 2010, Figueira et al., 2012, Figueira et al., 2010, Daniel et al., 2010). It is understood as active life the one that characterizes for the participation in physical, cognitive and social activities that require specific physical effort (Tahara and Silva, 2003, WHO, 2010). Studies underline the necessity to foment healthful habits, including the practice of physical activity (Calmeiro and Matos, 1999, Haskell et al., 2007, Hellín et al., 2004, Matsudo et al., 2005, Mazo et al., 2005, Tahara and Silva, 2003) that carried through in accordance with an adequate relation between volume and intensity fits into healthful habits (Mazo et al., 2005, Batista and Pereira, 2006, Gutiérrez, 2000, Hellín et al., 2004).

Motives, Self-determination and participation

Research on exercise motivation from the perspective of self-determination theory (SDT) has grown considerably in recent years(Teixeira et al.). The relationship between participation motives and engagement in a variety of activity has been studied(Hutzler et al., McEwan and Sweet). Using the Motivation for Physical Activities Measure (MPAM), participants in activities assumed to be focused on the outcome of improving physical appearance (e.g. weight training, aerobics) were compared to participants in individual-sport activities (e.g. tennis, sailing), expected to be more associated with engagement in the activity *per se*. As predicted, the Sport participants showed higher interest/enjoyment and competence motives and lower body-related motives (Frederick-Recascino and Schuster-Smith, 2003). Similarly, in the first of two studies reported by Ryan et al. (Ryan et al., 1997), aerobic class participants scored lower on the enjoyment and competence motives of the MPAM and higher on body-related motives than participants in a taekwondo class.

In their studies Frederick and Ryan (Ryan et al., 1997) also examined the relations between motives and self-reported exercise behavior, and found that the interest/enjoyment and competence motives were positively associated with time spent exercising per week. Body-related motives were positively associated with the actual time spent exercising. Ryan et al. (Ryan et al., 1997) found that competence and enjoyment motives prospectively predicted both dropout and class attendance over a 10-week period. Body-related motives, however, were not associated

with adherence. In a second prospective study using the Motivation for Physical Activities Measure's revised version, MPAM-R; (Ryan et al., 1997) authors found that competence, enjoyment, social, and fitness motives were positively associated with attendance over 10 weeks at a fitness center. The beauty improvement motive was not associated with attendance. In addition, competence and enjoyment were associated with longer duration of exercise sessions.

This study analyzed the relationship between self-determination and motives to practice (Ingledew and Markland, 2005), which are connected to effects of different motives on external, introjected, identified, and intrinsic behavioral regulations (Ingledew and Markland, 2008). Motives were assessed using the Exercise Motivation Inventory, EMI-2 (Ingledew and Markland, 2005) and collapsed into three higher-order factors: health/fitness, social engagement, and weight/appearance. They found that health/fitness was unrelated to external regulation, had small positive associations with introjected and intrinsic regulation, and showed a strong positive relationship with identified regulation. Social engagement was also unrelated to external regulation, had a strong positive relationship with intrinsic regulation, and had small positive relationships with both identified and introjected regulation. Finally, weight/appearance had a small positive relationship with external regulation, a stronger positive relationship with introjections, a small positive relationship with identified regulation, and finally was unrelated to intrinsic motivation. The indirect effects of the motives on exercise behavior were that social engagement, health, and fitness increased participation while weight and appearance had no effect.

The objective of the present study therefore was to analyze how the reasons to practice exercise in Brazilian adults relate with the commitment shown in this practice. The second point analyzed was the relationship between the reasons for practice and the types of motivation established within the self-determination continuum (intrinsic motivation, identified extrinsic motivation, introjected extrinsic motivation, extrinsic motivation of external regulation and no motivation).

In this study it was hypothesized that the motives to practice perceived as more self-determinate (that had become related positively with the more self-determined types of motivation and negatively related with the less self-determinate) would lead to a bigger commitment with physical practice. On the other hand, the motives to physical practice that had been perceived as less self-determinate (that had negative relation with the more self-determinate forms of motivation and positively with the less self-determinate) would lead to a minor compromise with the activity.

Material and Methods

Sample

The sample was composed of 410 volunteer practitioners of physical activity, 100 men (24.40%) and 310 women (75.60%), with ages between 20 and 65 years (43.36 ± 11.89 years-old), practitioners of physical activities in gym academies (weight lifting, aerobic, and indoor cycling, amongst others), pertaining to the metropolitan area of Rio de Janeiro city, Brazil.

Instruments

Measurement of Participation Motives (MPAM-R)

One of the most widely adopted instrument to measure participation motives is the Motivation for Physical Activities Measure, MPAM, and it's revised version MPAM-R (Ryan et al., 1997, Goncalves and Alchieri), used it this study. It was specifically developed within a self-determination theory framework to examine motives for both sport and exercise participation, and is composed by 30 items that assess five domains: interest/enjoyment (e.g. I realize physical activity because it's fun), competence (e.g. I like engaging in activities which physically challenge me), fitness (e.g. I want to be physically fit), appearance (e.g. I want to lose or maintain weight so I look better), and social (e.g. I want to be with my friends). The instrument shows seven points in the Likert scale, from 1, totally false to 7, totally true.

Scale to measure Intention to be Physically Active (IPAS)

Composed by five questions measuring the intention of the subject of being physically active (Hein et al., 2004). The questions are about the intention to practice some physical or sportive activities. The answers fit in a Likert scale that oscillates from 1 to 5, 1 corresponding to total disagreement and 5 to total agreement.

The Behavioral Regulation in Exercise Questionnaire (BREQ-2)

This questionnaire (Markland and Tobin, 2004), is composed of 19 questions organized in five factors: intrinsic motivation (e.g. I exercise because it's fun), extrinsic motivation identified (e.g. I evaluate the benefits of exercising), extrinsic motivation introjected (e.g. I feel guilty when I don't exercise), extrinsic motivation of external regulation (e.g. I exercise because other people say I should) and no motivated (e.g. I don't see the point in exercising). The answers had been marked in a scale of five points, varying from 0 (not true for me) to 4 (very true for me).

Goal Orientation in Exercise Scale (GOES)

Developed (Kilpatrick and Bartholomew, 2003) to assess individuals' proneness to endorse task or ego goals (Kilpatrick et al., 2003), the scale is composed by ten questions all of them starting with "I feel more exit performing exercise when..." equally divided into the search of ego orientation and task orientation, in a Likert Scale from 1 (totally disagree) to 5 (totally agree).

Procedure

For the accomplishment of this research it was adopted the strategy of inverse translation of Hambleton (Hambleton, 1996): translations from English to Portuguese of the instruments were made and later a group of translators translated to English to observe the coincidence with the original version. The battery was submitted to evaluation of three experts in the topic (Lynn, 1986), verifying then the relevancy of the items to measure the construct for what they had been created, as well as the correct writing of them.

After that, the complete battery of questionnaires was administered to a sample composed by 20 individuals, with the purpose of checking that all items were understood, not presenting confusion or ambiguity. Finally, consented participation sheet was signed by the participants. The filling of the questionnaires by the subjects had the supervision of the main investigator, aiming to clarify any doubt that could appear in the understanding of the items that compose the questionnaires.

The instructions previously established and the filling of the questionnaires made reference to the aim of the study. It underlined the importance of answering the questions with honesty as the anonymity was assured. The time spent to complete the questionnaires was around 10 to 15 minutes. The research attended Helsinki (Goodyear et al., 2007, WMA, 2008) Ethical Principles for Research Involving Human Subjects.

Data Analysis

With the purpose to prove the psychometric properties of the instruments used in the study, it was estimated the analysis of *Goal Orientation in Exercise Scale*, GOES, main components, external regulation and reason fitness/health and it was also carried through the analysis of internal consistency and simple correlations and finally an analysis of linear regression.

Results

Reasons for practice and compromise

The reliability of the dimensions was adequate as showed by the Cronbach's alpha coefficients, Means showed that fitness was the highest motive to practice physical activity, followed by interest/enjoyment and appearance. Competence and social motives were the less important motives. All motives were positively correlated, although the relationships were higher between appearance and competence and between appearance and social motives (table 1). #

Table 1. α coefficients, descriptive and correlations between the motives to motives to practice.

	α	M	SD	(1)	(2)	(3)	(4)
(1) Interest/enjoyment	.75	5.81	.88				
(2) Competence	.75	4.87	1.38	.156**			
(3) Fitness	.70	6.26	.94	.715***	.318***		
(4) Appearance	.76	5.39	1.12	.401***	.440***	.418***	
(5) Social motives	.73	3.98	1.47	.483***	.294***	.109*	.379***

*** p<.001; ** p<.01; * p<.05

To analyze how the motives to practice predicted the commitment a linear regression analyzes was performed (Table 2). The ANOVA One Way was significant (F= 53.81; p<.001). The motivations to interest/enjoyment, competence and appearance predicted commitment positively. Social motivation and fitness were inversely related.

Table 2. Regression coefficients to commitment in function of motives to motives to practice

	Non-standardized coefficients		Typified coefficients		
	B	Error tip.	Beta	t	Sig.
(Constant)	.86	.24			
Interest/enjoyment	.49	.07	.52	7.15	<.001
Competence	.11	.03	.18	3.76	<.001
Fitness	-.33	.06	-.38	-5.56	<.001
Appearance	.29	.03	.56	11.69	<.001
Social motives	-.18	.03	-.32	-5.94	<.001

Motives to Motives to practice and self-determination

According to theory of the self-determination, the motives to practice affect commitment and adherence to sport as they are perceived by the person as self-determined. With the purpose of studying the relationships between the motives to practice and their self-determination perception an analysis of correlation between the motives to practice and the types of motivation proposed by self-determination theory was performed.

The trustworthiness of the measures of motivation was proper as can be noted at table 3. The Cronbach's alpha coefficients got values between .68, for the introjected extrinsic motivation and .83, for the extrinsic motivation of external regulation. The questions 4, 10, 13, 17, 11 and 14 were eliminated to guarantee the trustworthiness of subscales.

Table 3. r Coefficients between motives to practice and self-determination types

	MI	ME Identified	ME Introjected	ME External reg.	Amotivation
Interest/enjoyment	.07	.39***	-.13	-.03	-.18*
competence	.29***	-.23***	-.08	.29***	.18**
Fitness	-.35***	-.25***	-.07	-.05	.26**
appearance improvement	-.20***	.21**	.34***	-.26***	-.38***

Correlations showed interest/enjoyment positively related with the identified motivation and negatively with amotivation; therefore it could be considered that the subjects interpreted it as a self-determinate motivation.

The competence motive positively correlated with intrinsic motivation (MI) and negatively with identified motivation, could be considered to mutually neutralize each other. On the other hand, it was positively related with motivation of external regulation and amotivation. In summary, it can be said that in general it was considered as a non-self-determined motive.

Fitness was negatively related with the more self-determined types of motivation, the intrinsic and identified motivation, and positively with the less self-determined type, amotivation. Thus, these relationships suggest that it was considered as a non-self-determined motive.

Although appearance improvement was negatively related with intrinsic motivation, it was positively related with identified and introjected motivations, and negatively with motivation of external regulation and amotivation. Despite the inverse relation with the intrinsic motivation, its relationship with the remaining portion of types of motivation suggests that in general it was considered as a self-determinate motive.

Finally, the motive of social relation was negatively related with identified motivation, introjected motivation, motivation of external regulation and amotivation. In general, it may be considered that this profile of relations adjusts to a motive less self-determinate.

Discussion

The motives to practice that were considered by the practitioners as more self-determined (interest/enjoyment and appearance improvement) positively predicted the compromise to practice. However the reasons that were considered as less self-determined (fitness and social motives) predicted it negatively. The case of the competence, which could be considered of intermediate self-determination, positively predicted commitment to practice.

On the other hand, the results of this study when compared (table 4) with those obtained by Ingledew & Markland (Ingledew and Markland, 2005), showed a different interpretation of the motives to practice. However in this study fitness and social motives were considered as less self-determined, in the quoted study these reasons were considered as self-determined. Also, the appearance motive, which showed a medium self-determination in the quoted study, was more self-determined in the present study.

Table 4. Comparison of the correlation between studies

Study	Motives	MI	ME Identified	ME Introjected	ME Ext. regulation	Amotivation
Ingledew & Markland (Ingledew and Markland, 2005)	health/fitness	+	++	+	No	No
	social engagement	No	++	++	No	No
	weight/appearance	No	+	++	No	No
Present study	Interest-enjoyment	No	++	No	No	-
	Competence	++	--	No	++	-
	Fitness	--	--	No	No	+
	appearance	--	++	++	--	--
	Social engagement	No	-	++	++	++

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A theoretical explanation to these results could be provided by the Theory of Social Identification (Tajfel, 1972, Turner and Reynolds, 2001) and the self-categorization theory (Turner, 1999, Turner et al., 1987). Both starts from the social identification, defined as the knowledge by the subject that belongs to certain social groups together with the emotional signification of the belonging value. The self-categorization is a process that consists basically of the vision of oneself in a depersonalized form and with a bigger percipient identity with the members of the group itself. It is a process of self-stereotypy. Stereotypy that can lead to underperform at tasks when thinking about the negative performance expectations for their group (Hively and El-Alayli, 2014). The salience of a social self-categorization depends on its accessibility for a concrete individual, or on the easiness with whom it creates this self-definition, in function, for example, of the degree of identification with it, with the past experiences or with the values and goals of the persona.

Status is a structural characteristic of the groups that strongly influence in the stereotypes (Rowley et al., 2007), and the basic dimensions that structuralize the content of stereotype of the groups are competence and sociability; as status affects perception in a way that the groups of high status perceive themselves high in competence and low in sociability, whereas those with less status perceive themselves incompetent but sociable. Beside that this stereotypic perception could be applied to people of the exo-group as well as the ones of the endo-group (Betancor et al., 2005), and in function of the self-categorization this stereotyped perception can be extended to the persona itself.

This way, the hypothesis that could explain the differences found between the actual study and the studied one (Ingledew and Markland, 2005) would be: the social identity is influenced by its growing up group stereotyped characteristics. High status will tend to identify itself with the reason of competence that also become related with the identified motivation and with the introjected. Low status groups will tend to identify with the perceived as more identified reason of socialization, and less with the competence reason, that will be perceived as more external. The intermediate status groups present a less clear identification that would depend more of personal factors.

To validate this hypothesis we suggest a controlled investigation of the control of perceived status by the group would comparing the differences in perception of the motives to practice as more or less self-determinates in function of it. The main relevance of this study is that it shows the possibility that the motives to practice may be a different perception of self-determination, and the hypothesis that these differences may be based in the theory of the self-categorization. A study to advance in the verification of this hypothesis is proposed.

PERSPECTIVE

This research concluded that:

1. **Enjoyment and appearance motivates exercise practice**. Researchers are discussing which factors motivate the most for exercising (Harjumaa et al., 2009, Puente and Anshel, Prichard and Tiggemann, 2008)

2. **Stereotyped characteristics influences social identity**. This is quite an actual theme (Hogg, 2006, Burke and Stets, 2009, Hogg and Reid, 2006)

3. **Distinct social status relates with distinct motivation**. That is a conclusion with potential impact of the present finding, for its novelty in literature.

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