



**CROSS-SECTIONAL AND LONGITUDINAL STUDY OF THE MOTIVATION OF SWIMMERS IN THE PRACTICE OF SWIMMING**

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**ABSTRACT**

The aim of the study is to verify, analyze and identify the main motivations of swimmers for their sporting continuity in swimming. Individuals who practice Swimming have demonstrated a task orientation, high values of self-efficacy and belonging to a group, all of these factors respecting the behavioral dynamics, encouraging their participation and persistence in the modality. In addition, In this cross-sectional and longitudinal study, two groups participated: one with 33 swimmers (aged 10-18 years) and the other with 7 swimmers (ages 15-20). The motivations considered most important by young people were the Maintenance and Development of Skills, General Affiliation and Physical Form, unlike the Statute (as the feeling of being important) being the least valued factor. The results suggest a decrease in the variables considered as more important over the years, and a reinforcement of the values of the emotion variable. All motivations will be important if they promote maximization of the acquisition of knowledge and skills.

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**INTRODUCTION**

It is generally acknowledged that regular and systematic involvement in the physical and sporting context translates into a set of physical, psychological and social benefits in order to develop personality and a healthy lifestyle, so adults seek to make young people their responsibility (Fonseca, 2004), knowing that the multiple benefits of sports practice are conditioned by the continuous and non-punctual or occasional form of it.

Swimming is a very popular sport is one of the recreational and sports activities with more users, being a very competitive modality, regardless of the level to which it participates.

Sport values man socially, provides an improvement of his self-concept, and learning a sports modality is one of the most significant experiences that the human being can live with his own body. The term motivation is used in so many contexts, so often that it seems that everyone knows its meaning (Weiss & Ferrer-Caja, 2002). The purpose of the motivation will be further, since it will be necessary to identify, understand and strengthen it in a way that reinforces the whole sporting context. Young people, in general, demonstrate that their motivations are in the development and improvement of competences, in the fun / pleasure, in the maintenance of the

physical form, as well as in the affiliation (Longhurst & Spink, 1987; Baxter-Jones & Mafulli, 2003; Fonseca, Salselas *et al.*, 2007), the perception of their competences (Salguero *et al.*, 2004) and the orientation towards their objectives (Martin *et al.*, 1995).

Samulski (2002) refers to the motivation as the totality of the factors that determine the updating of forms of behavior directed to a certain objective. The understanding of the socio-cultural world of the individual as the source of the strength of each gesture that influences and is influenced by the way of perceiving his world and what surrounds him. The motivation is the set of psychological factors, conscious or not, of physiological, intellectual or affective order that determine a certain type of conduct in somebody (Universal Dictionary).

The aims of study are identify the main motivations of the swimmers for the continuity of the sport. And Analyze the influence of practice time on swimmers' motivations.

**METHODOLOGY**

**Sample**

The sample is composed of 41 swimmers, divided into two groups, since this study has a transversal slope (group 1) and a longitudinal slope (group 2). In the cross-sectional area group 1 of this study is composed of 33 regional competitive level swimmers of both sexes (27 males and 6 females). This group was also divided into two sub-groups, with the criteria defined by the years of competition.

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The subgroup (A) up to 2 years of competition with 19 swimmers and ages between 10 and 17 years (mean of  $13.32 \pm 2.03$  years) and subgroup (B) with more than 2 years with 14 swimmers and ages ranging from 12 to 20 years (mean of  $15.85 \pm 2.04$  years).

In the longitudinal section the group (group 2) consists of 8 swimmers of both sexes (6 males and 2 females) aged 15 to 20 years (mean of  $15.85 \pm 2.04$  years) . The first moment of data collection took place five years ago.

The youngsters of both groups were alerted about the objectives of the study and the confidentiality of the answers, after prior consent to participate, completed the questionnaire before one of the training sessions.

**Instruments**

The instrument of the study used was the QMAD - Questionnaire of Motivation for Sports Activities adapted by Serpa and Farias (1992) for the Portuguese language of the PMQ - Participation Motivation Questionnaire de Gill *et al* (1983). This instrument was validated by Serpa (1992). This questionnaire consists of 30 items, each of which corresponds to participation in sports activities and its importance is indicated by the subjects on a scale of 1 to 5 values(1 = Not Important; 2 = Not Important; 3 = Important; Important = 5 = Totally Important).

In each of the questionnaires the young people were asked to indicate, based on a Lickert scale, going from value (5) corresponding to totally important, to value (1) corresponding to nothing important, signaling with a cross in the space that they considered corresponding to the its case, the degree of importance that each of the items presented for the subject under analysis has.

They also identified their gender and age. The items were grouped by motivation factors.

- a. *Statute* (social recognition) are the motivations of liking winning, wanting to be news, doing what is good, liking to gain social status.
- b. *Emotions* (excitement and challenges) include the motivation to enjoy stimulation, to enjoy action, to enjoy challenges, to present the reasons for wanting to overcome tension and want to gain energy.
- c. *Pleasure* is the motivation of the fun, the pleasure and the pleasure of accomplishing something.
- d. *Competition* are the motivations related to liking to compete.
- e. *Developing Skills* (skills) incorporates the motivations to improve skills; learn new skills and go to a higher level;
- f. *Physical form* are the motivations of wanting to stay in shape, enjoy exercising, want to be physically fit.
- g. *General affiliation* are the motivations of liking teamwork, liking team spirit or belonging to a team.
- h. *Specific Affiliation* that includes the influences of friends, parents and coach.

**Statistical procedures**

In addition to the initial exploratory analysis, in order to detect omissions and extreme values that would jeopardize the normality of the data, descriptive statistics were used, through the use of means and standard deviations.To determine the importance of the reasons for the practice sport We used a T-test for independent samples (sub-group A and sub-group B) and a non-parametric Wilcoxon test (group 2) to determine if the differences were (at a significance level of  $p < 0.05$ ). The internal consistency of the group of variables is 0.93 (Cronbach's Alpha) considering a very good internal consistency).

**Presentation and discussion of results**

**Motivations for sports**

According to Serpa (1992), the motives considered to be the most important are those with the highest means ( $> 4$ ), which corresponds to the items of very important and totally important motivation according to the QMAD scale. In relation to the less important ones, those with the lowest means ( $< 2$ ), which correspond, on the QMAD scale, are considered to be those with little or no significant motivation.

The motivations in group 1 obtained mean values (Table 1) higher in the variables of Competence Development (4.16) and General Affiliation (3.99) and reached valuescorresponding to very important factors for practicing sports. Our study is in line with other studies (Longhurst & Spink, 1987) with youngsters, in their respective age groups, in which their physical participation valuesPhysical Fitness, Competence Development and General Affiliation.

**Comparative analysis of motivations according to the years of competition**

In order to verify if the motivations change according to the years of competition, we used a comparative analysis in the sample of group 1 dividing the group of swimmers into two subgroups. Although some differences in mean responses are found, they are not statistically significant ( $p \geq 0.05$ ). We then verified in Table 2 that the variables of Physical Form (4.06), Competence Development (4.15) and General Affiliation (4,20) in the subgroup (B) of more than 2 years of competition, reach values corresponding to very important factors for practicing sports. While in the sub-group (A) of 2 or less years of competition, Competence Development is very important (4,14).

The sub-group (B) of more than 2 years of competition has the means superior to the sub-group (A) in the Emotion variables (likes challenges, presents the reasons of wanting to extravasate tension and want to gain energy), Physical form (staying fit, enjoying exercising, wanting to be physically fit) and General Affiliation (teamwork, liking team spirit, or being a team). The sub-group (A) of less years of competition, the averages are superior to the sub-group (B) in the Statute (like to win, to want to be news, to do what is good, to like to gain a social status) and Specific

**Table 1** Mean and Standard Deviation of QMAD Variables (in group 1)

	<b>Estatute</b>	<b>Emotions</b>	<b>Pleasure</b>	<b>Competition</b>	<b>Physical form</b>	<b>Developing Skills</b>	<b>Specific Affiliation</b>	<b>Specific Affiliation</b>
M	2,76	3,36	3,33	3,73	3,85	4,16	3,99	3,40
St	0,97	0,83	0,79	0,71	0,82	0,65	0,69	0,98

**Table 2** Mean and Standard Deviation of QMAD Variables (Years of Competition)

Years of competition	Estatute	Emotions	Pleasure	Competition	Physical form	Developing Skills	Specific Affiliation	Specific Affiliation
≤ 2anos M	2,91	3,25	3,33	3,74	3,76	4,14	3,86	3,55
St	0,95	0,92	0,85	0,64	0,85	0,56	0,78	0,97
>2anos M	2,55	3,56	3,29	3,71	4,06	4,15	4,20	3,15
St	1,03	0,71	0,76	0,85	0,75	0,79	0,77	1,03

Affiliation (being with friends, meeting new friends, my friends want me to play). The two subgroups (A and B) have similar values in the Competition (the motivations related to competition), Pleasure (motivations related to fun, pleasure) and Skills Development (improving skills, learning new skills).

These differences may be related to the fact that motivation is determined by personal and situational factors, being dependent on the physiological, affective, intellectual, psychological, social and cultural needs of each subject, as well as from their past or recent experiences, often in interaction As well as the importance of motivation to be a dynamic factor (Brito, 2001; Dosil, 2001; Weiss & Ferrer-Caja, 2002; Samulski, 2002; Escarti & Brustad, 2002; Another possible explanation may be related to the actions of the individual that are determined by the nature of the elements that integrate and that are oriented towards the objectives and conscious intentions (Vasconcelos Raposo, 2006). As in previous studies (Fonseca & Brito, 2001; Fernandes, 2004), the results point out that individuals who practice sports are influenced by certain motivations such as Physical Form, Competence Development and belonging to a group (General Affiliation ). These are the motivations most valued by individuals, unlike the Statute (as the feeling of being important) that is the variable of Motivation less valued.

Giмено (2002), based on a series of studies on the motivations of sports participation, finds that the most important variables are those who seek competence and affiliation, but also points out that rarely do sportspeople indicate a single motivation to play sports, otherwise there are several factors that lead them to practice sports.

**Comparative analysis of motivations according to sex**

The following analysis refers to the motivations according to gender, we used a comparative analysis in group 1. Although some differences in mean values are found, they are not statistically significant ( $p \geq 0.05$ ). We then verified in Table 3 that the variable of Competence Development (4.21) in the group of males reaches values corresponding to very important factors for practicing sport. While in the group of female subjects, the General Affiliation is very important (4,13). Comparing the mean values between sex found that the male group of individuals averages are higher on the variables of the Statute (like to win, wanting to be news, do what is good, like to gain social status), Emotions ( likes challenges, introduces the reasons for wanting to overcome tension and want to gain energy), and Skills Development (improving skills, learning new skills).

**Table 3** Mean and Standard Deviation of QMAD Variables (Sex)

	Estatute	Emotions	Pleasure	Competition	Physical form	Developing Skills	Specific Affiliation	Specific Affiliation
Mas. M	2,80	3,40	3,33	3,74	3,88	<b>4,21</b>	3,97	3,38
St	0,89	0,88	0,77	0,66	0,82	0,56	0,66	0,92
Fem M	2,60	3,28	3,25	3,66	3,88	3,89	<b>4,13</b>	3,42
St	1,41	0,71	1,00	1,00	0,84	0,98	0,85	1,39

In the group of female subjects the means are higher in General Affiliation (teamwork, team spirit, or team membership) as in several studies (Fernandes, 2004; Salselas *et al.*, 2007). preference of Affiliation motivations, may be concerned here not only with a cultural, but also with a social and psychological aspect.

The two groups have similar values in physical form (get fit, enjoy exercising, want to be physically fit) in the Competition (motivations related to the competition), the Pleasure (motivations related to fun, pleasure) and Membership Specific (influence of parents, coaches and friends).

In a study carried out by Fernandes (2004) in swimmers, the results pointed to the valorization of the motivations such as Physical Form, Competence Development and General Affiliation, as in our study in the factors that reached the best average and where the highest value low was the variable of the Statute (as the feeling of being important). Fonseca and Brito (2001) point out a possible differential impact in the process of structuring the intentions of young men and women in relation to sports practice, in which social variables promote greater participation of males.

**Comparative analysis of motivations after five years of Competition**

The following analysis refers to motivations at the end of five years of competition, we used a nonparametric analysis in group 2. Although some differences in mean responses were found, they were not statistically significant ( $p \geq 0.05$ ). Table 4 shows that the variables of Physical Form (4.14), Competence Development (4.33) and General Affiliation (4.34) reach values corresponding to very important factors for practicing sports, as in other studies (Dosil, 2002, Dosil *et al.*, 2004, Fernandes, 2004).

All variables, both in the first and second moments of the data collection, obtain mean values of important or very important, except for the variable Statute, which in the second moment has a decrease in the average, reaching values of little importance.

It is noteworthy that the emotion variable is the only one that increased the value of its average in the second moment, almost all obtained lower results in the second moment, with the exception of the Skills Development that maintained the average of very important and the motivations with the Competition that kept values important.

**Table 4** Mean and Standard Deviation of QMAD Variables (5 years of competition)

	Estatute	Emotions	Pleasure	Competition	Physical form	Developing Skills	Specific Affiliation	Specific Affiliation
Pre test M	3,11	3,43	3,68	3,68	4,14	4,33	4,34	3,64
St	1,18	0,60	0,89	0,84	0,56	0,33	0,40	1,03
Post test M	2,46	3,62	3,43	3,64	3,71	4,33	4,11	3,36
St	0,81	0,65	0,93	0,69	0,62	0,43	0,72	0,94

The swimmers who performed this study during these five years obtained values similar or superior to the swimmers of group 1 of the sample, in which their motivations are focused on the Physical form (to be in form, to like to do exercises, to want to be physically fit), in Skills Development (improve skills, learn new skills), in General Affiliation (teamwork, liking team spirit or belonging to a team). It should be noted that swimmers over time, although there are no statistically significant differences in their motivations, the involvement of the competitive and sporting context, as well as the social and welfare aspects will have some influence on their perceptions (Salguero *et al*, 2004 ) and the results of their motivations.

**Comparative analysis of the motivations between the two groups (1 and 2)**

The following analysis refers to the motivations between the two groups of the sample, in order to verify if the motivations change according to the years of competition, we used a comparative analysis of the responses to the QMAD items of the swimmers of group 1 (data collected once), from group 2 (data collected at first) and from group 2 (data collected after five years), thus forming three groups. Although there were some differences in motivation (analyzing the means of the answers), group 2 had, at the first moment, the collection of higher mean data than group 1 in all variables, except for the motivations of the Statute . At the second moment of data collection, group 2 in all variables decreased, except for motivations related to Skills Development, which maintained their values after 5 years and the motivations related to Emotions that increased values of your average. However, the sportsman's approach to athletics is not limited by the acceptance of risk but also by his intentional search (Serpa, 2002), which leads young people to look for certain stimuli in the change of some routines.

Thus, the motivations related to Affiliation seem to be very important for the individuals in this sample. In fact, when we look at the ages of the young, we understand the need to develop relationships with their peers, which will explain the results, as in a study by Baxter-Jones and Mafulli (2003) that emphasizes the important role of involvement of young sportsmen. If all activity has an emphasis on promoting and maximizing the acquisition of skills and knowledge in it, it will be advantageous in the long run, also fostering the acquisition of other skills, both physical and psychological. However, it is curious that there are no differences in motives depending on the groups (longitudinal and transverse studies). In fact, the studies mentioned in the literature review (Fernandes, 2004; Salgero *et al*, 2004) seem to show that motivations change according to the age of the individuals, so it can be assumed that throughout the years of competition the same thing would happen. Our results are in agreement with other studies that value the motivations related to the development of competences, the physical form and the affiliation (Fonseca & Brito, 2001; Estriga & Cunha, 2003; Fernandes, 2004).

Martin *et al.* (1995) points out that for swimmers sport is important and that they have a strong personal identity and a great spirit of sacrifice geared towards their goals, and that not only identify with their role as athletes, a strong desire to achieve their goals.

**Study limitations**

The limitations of this study will have to be considered, especially with regard to the distribution of the subjects in the sample by the respective groups that delimited the work, given the uneven distribution of the groups (number of individuals per group). Thus, swimmers should only be considered for the sample studied and analyzed taking into account the limitations and specificity of the presented study. Martin *et al.* (1995) points out that for swimmers sport is important and that they have a strong personal identity and a great spirit of sacrifice geared towards their goals, and that not only identify with their role as athletes, a strong desire to achieve their goals.

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**CONCLUSIONS**

The Swimming is a modality with very special and specific characteristics, in which the participation of the individuals requires a lot of persistence and sometimes a lot of passion. According to the data collected, we conclude that there are differences throughout the practice of sports and that certain motivations are strengthened and continue over time. Skills Development (improving ability, learning new skills), General Affiliation (teamwork, liking team spirit, or belonging to a team) to a team) are those that have to be more encouraged because they are those that obtain better averages and are related to the two samples, but it should be mentioned that the motivations related to Emotion increase their value in the sample that carried out the longitudinal study (like stimulation, liking action, liking challenges, wanting to vent tension and wanting to gain energy). We can not forget the range of ages included in the sample, in which young people seek the endorsement of their peers and the irreverence of situations that provoke moments of challenge. The practice oriented to increase the representations, passing the athlete to have a deeper knowledge of what it does, practice to achieve the desired effects can not be by quantity but mainly by quality (Alves, 2004). The motivations of each swimmer can and should be reinforced, as we must always keep in mind the changes of interest, the needs of the factors that are involved in the motivation, it is something very complex that has to be put into practice, if necessary opt by a new path. Changes in achievement goals will correspond to

changes in engagement, so your commitment to the activities will be directly related to your motivation. The need to understand the swimmer as an individual with a complex system of transformation, availability and use of energy (Villas-Boas, 2000). The commitment to sporting activities for as long as the modality of swimming is only possible if it has a personal meaning and commitment on the part of the athlete (Serpa, 2002).

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