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# Motivations and Reasons for Exercising in Water: Gender and Age Differences in a Sample of Spanish Exercisers

**Juan Antonio Moreno Murcia, Celestina Martínez Galindo, and Pablo Marcos Pardo**

The purposes of this study were, on the one hand, to relate the reasons for exercising with self-determination and, on the other, to check gender and age differences with a sample of 311 exercisers in water. The data were collected using the Behavioral Regulation in Exercise Questionnaire–2 and Motives for Physical Activities Measure–Revised. A positive and significant correlation was seen between self-determination and the reasons for exercise, with self-determination predicting 22% by enjoyment and 8% by fitness/health reasons. Similarly, the multivariate analysis showed that the women had more self-determination than the men and that they also rated fitness/health, social, enjoyment, and appearance reasons more highly. In addition, older exercisers rated the fitness/health reason more highly than the younger people. It seems that exercising in water is more satisfying for women than for men.

**Keywords:** self-determination, swimming, water activities, aquatic exercise, aquatic fitness

Motivation is a widely studied topic of research in the area of physical activity and sport, because it is considered an important sport-commitment determinant (Iso-Ahola & St. Clair, 2000). As a result, analyzing motivations is very useful for understanding the reasons to adhere to exercise and the reasons for giving it up, with the aim of encouraging the population to adopt active and healthy lifestyles.

If the results found in different studies on reasons for exercising are studied (Derry, 2002; García Ferrando, 2006; Hellín, Moreno, & Rodríguez, 2004), a transfer of values in sport is observed, which has taken place in parallel with social, technological, economic, and ideological changes in postmodern times. This means that reasons based on traditional, competitive, masculine sport with strictly regulated and minority training have made way for others, in which postmodern sports values and new ways of doing and experiencing sport predominate that are mainly characterized by the intrinsic satisfaction of doing sport.

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This new sport focus is in line with new social values aimed at improving our quality of life, concern for physical and mental health, satisfying personal needs, fun, and motivation. All of this leads us to believe, therefore, that the population has new attitudes and interests toward physical activity and sport. These attitudes and interests, together with appreciation of swimming as a physical activity recommended by most health specialists, have led to water activity programs' increasing in demand by various sectors of the population. That is why water activities currently play an important role in the population's physical activity and sport habits, and the number of people doing these activities has increased in recent years (García Ferrando, 2006; Sova, 1998).

Despite this generalized change in attitude in society and the emergence of new physical and sport activities, however, recent data from the World Health Organization (2004), in a study on diet, nutrition, and prevention of chronic diseases, show that the population is still markedly sedentary, which is having serious psychophysiological consequences. The need to continue studying the reasons that lead the population to start sport programs and, even more important, to adhere to them, is therefore obvious.

In sport psychology, there are different foci that have analyzed motivational variables to respond to this need. In the last 3 decades, the perspective of self-determination theory (Deci & Ryan, 1985, 1991, 2000; Ryan & Deci, 2000) has taken on special significance. This is a general personality theory, which assumes there are three primary and universal needs (competence, autonomy, and relatedness) that influence people's motivation and welfare. According to this theory, satisfying these primary needs is subject to different social and contextual factors that encourage different types of motivation in people (Vallerand & Rousseau, 2001), located by Deci and Ryan (1985, 1991, 2000) along a self-determination continuum that ranges from intrinsic motivation (in which the individual participates because of the satisfaction the activity generates) to amotivation (characterized by a lack of interest in exercising and feelings of frustration) and includes external motivation (in which participation is a means to achieve an end that is not inherent in the activity). In turn, in extrinsic motivation the individual might consider the activity important but not pleasurable (identified regulation) and might do it for reasons of guilt (introjected regulation) or simply because of external pressures (external regulation). Consequently, these forms of motivation specify the different reasons for people's sport participation.

In this regard, a lot of research (Standage, Duda, & Ntoumanis, 2005; Vallerand, 2007; Vallerand & Rousseau, 2001) in the area of physical activity and sport has proved that satisfying the three needs leads to more self-determination, characterized by enjoyment of the activity (intrinsic regulation) and rating and recognizing its importance (identified regulation), which gives rise to more positive consequences. The frustration of these needs is linked with less self-determination, characterized by participation in physical and sport activities to avoid feelings of guilt (introjected regulation), the search for recognition and external forces (external regulation), and amotivation. Along these lines, Ryan, Frederick, Lepes, Rubio, and Sheldom (1997), based on self-determination theory, identified different reasons depending on the level of self-determination or internalization. Consequently, they think that people can do sport for more self-determined reasons such as enjoyment, the

feeling of competence, or improving health or for less self-determined reasons such as improvement in physical appearance or social aspects. Similarly, those authors found that in a university context, enjoyment, competence, and fitness/health reasons were connected with attendance and adherence to doing physical activities and sport.

As a result, to respond to the population's marked sedentary habits, and given that the vast majority of research acknowledges motivation as one of the main factors in continuing or giving up physical exercise, we have related the reasons for exercising in water with self-determination in this study, which has concentrated on the population's new interests and attitudes toward sport activity. We have also studied differences according to the sample's gender and age. Pursuant to the studies reviewed, we hypothesized that the reasons connected with enjoyment, fitness/health, appearance, competence, and social aspect would be positively related to self-determination.

## Method

### Participants

The sample consisted of 311 sportspersons (127 men and 184 women), 18–65 years of age ( $M = 33.25$ ,  $SD = 9.33$ ), in the metropolitan area of a large Spanish city who exercise in water (swimming, aqua gym, aqua fitness, water therapy, aqua bike, etc.). By age, 56 were 18–24 years old, 132 were 25–34, and 123 were 35–73.

### Instruments

**Behavioral Regulation in Exercise Questionnaire–2.** The Behavioral Regulation in Exercise Questionnaire–2 (Markland & Tobin, 2004), which measures behavior in exercise and was translated and validated into Spanish by Moreno, Cervelló, and Martínez Camacho (2007a), was used to measure self-determination. The scale has 19 items, grouped into five factors: intrinsic regulation (“because I think exercise is fun”), introjected regulation (“because I feel guilty if I do not exercise”), identified regulation (“because I value the benefits that physical exercise provides”), external regulation (“to please other people”), and amotivation (“I do not see why I have to do physical exercise”). The answers were closed-ended and measured on a Likert-type scale on which 0 was *not at all true for me* and 4 was *totally true for me*. The  $\alpha$ s obtained were .75 for intrinsic regulation, .85 for identified regulation, .72 for introjected regulation, .82 for external regulation, and .71 for amotivation. The Self-Determination Index (SDI) was used for later analyses because it enables the participants to be grouped into high and low indices of self-determination (Vallerand, 1997), calculated using the following formula:

$$\{ [2 \times (\text{IM toward knowledge} + \text{IM toward accomplishment} + \text{IM toward stimulation})/3] + \text{identified regulation} \} - \{ [(\text{external regulation} + \text{introjection})/2] + [2 \times \text{amotivation}] \}$$

This type of index has been shown to be a valid indicator of self-determination (Kowal & Fortier, 2000; Losier & Vallerand, 1994).

**Motives for Physical Activities Measure–Revised.** We used the Spanish version (Moreno, Cervelló, & Martínez Camacho, 2007b) of the Motives for Physical Activities Measure–Revised scale created by Ryan et al. (1997) to measure the reasons for doing physical activity. This scale consisted of 30 items, grouped into five factors: enjoyment (“I do physical activity because it is fun”), appearance (“I do physical activity because I want to maintain my weight to look good”), social (“I do physical activity because I want to meet other people”), fitness/health (“I do physical activity because I want to improve my cardiovascular fitness”), and competence (“I do physical activity because I like challenges”). The answers were collected on a 7-point Likert-type scale on which 1 corresponds to *not at all true for me* and 7 to *totally true for me*. The Cronbach’s  $\alpha$  values obtained were .79, .86, .78, .70, and .73, respectively.

## Procedure

After we obtained authorization from the centers to administer the questionnaires to participants in the different activities they offered, the exercisers were told how to complete the questionnaire, not to leave any item unanswered, and that their replies would be anonymous. Their participation was completely voluntary. The time required to fill in the questionnaire was approximately 15 min, varying slightly depending on the exerciser’s age. All the questionnaires that were incomplete or poorly filled in were discarded.

## Data Analysis

First, the internal consistency of every one of the instruments used was analyzed. Second, a correlation analysis was performed among all the variables studied, and, next, to check the prediction power of the SDI on reasons for exercise, a linear-regression analysis was performed. A multivariate analysis of variance (MANOVA) was performed to check the main effects of the interaction among the different variables.

## Results

### ***M*, *SD*, and Correlation Analysis**

With regard to the means obtained (Table 1), intrinsic motivation had the highest value in self-determination, followed by identified regulation, and the lowest value was obtained by amotivation. The SDI obtained a mean of 7.26 ( $SD = 2.43$ ). With regard to the reasons for exercising, the scores obtained from more to less were as follows: fitness/health, enjoyment, competence, appearance, and social. Similarly, positive and significant correlations were observed among the different reasons for exercising, as well as among the latter (except appearance) and the SDI.

### **Regression Analysis**

The summary of the linear-regression analysis of the SDI pursuant to the reasons for exercising (Table 2) shows that all the reasons were predicted positively by the

**Table 1** *M*, *SD*, Cronbach's  $\alpha$  Coefficient, and Correlations Among Variables

	<i>M</i>	<i>SD</i>	$\alpha$	1	2	3	4	5	6	7	8	9	10	11
<b>1. Amotivation</b>	2.34	.61	.71	—	.62**	.15**	-.16**	-.13*	-.71**	-.07	-.00	.07	-.14*	.05
<b>2. External regulation</b>	2.38	.62	.82	—	—	.27**	-.15**	-.13*	-.59**	-.11	.09	.06	-.03	.01
<b>3. Introjected regulation</b>	2.75	.80	.72	—	—	—	.24**	.04	-.20**	.12*	.18**	.10	.11*	.15**
<b>4. Identified regulation</b>	4.09	.44	.85	—	—	—	—	.42**	.49**	.30**	.15**	.11*	.37**	.20**
<b>5. Intrinsic regulation</b>	5.21	.71	.75	—	—	—	—	—	.74**	.65**	.16**	.40**	.29**	.37**
<b>6. SDI</b>	7.26	2.43	.80	—	—	—	—	—	—	.47**	.08	.19**	.29**	.19**
<b>7. Enjoyment</b>	5.14	.94	.79	—	—	—	—	—	—	—	.38**	.58**	.44**	.62**
<b>8. Appearance</b>	4.56	1.24	.86	—	—	—	—	—	—	—	—	.38**	.43**	.37**
<b>9. Social</b>	4.08	1.41	.78	—	—	—	—	—	—	—	—	—	.26**	.56**
<b>10. Fitness/Health</b>	5.98	.77	.70	—	—	—	—	—	—	—	—	—	—	.40**
<b>11. Competence</b>	4.67	1.17	.73	—	—	—	—	—	—	—	—	—	—	—

*Note.* SDI = Self-Determination Index.

\* $p < .05$ . \*\* $p < .01$ .

**Table 2 Summary of the Multiple-Regression Analysis of the Motives for Physical Activities According to Motivation Self-Determination**

Motive	B	SEB	$\beta$	$\Delta R^2$
Enjoyment	3.81	.14		.22***
Self-Determination Index	.18	.01	.47***	
Appearance	4.25	.22		.00
Self-Determination Index	.04	.02	.08	
Social	3.26	.24		.03***
Self-Determination Index	.11	.03	.19**	
Fitness/Health	5.30	.13		.08***
Self-Determination Index	.09	.01	.29***	
Competence	3.97	.20		.03***
Self-Determination Index	.09	.02	.19***	

\*\* $p < .01$ . \*\*\* $p < .001$ .

SDI, except appearance. Although every variable explained a significant amount of variance on the SDI, the enjoyment reason showed more prediction power (22%), followed by fitness/health (8%).

### Main Effects and Effects of Interaction of Gender and Age

A MANOVA was performed between gender and age as independent variables and every one of the factors forming the instruments used as independent variables (Table 3). With regard to gender, the results showed significant differences, Wilks's  $\Lambda = .92$ ,  $F(6, 300) = 3.81$ ,  $p < .01$ . Specifically, there were differences in the factors enjoyment ( $F = 4.98$ ,  $p < .01$ ), appearance ( $F = 6.54$ ,  $p < .01$ ), social ( $F = 6.25$ ,  $p < .01$ ), fitness/health ( $F = 14.30$ ,  $p < .001$ ), and SDI ( $F = 7.69$ ,  $p < .01$ ). These differences were seen more in the women than in the men. With regard to age, significant differences, Wilks's  $\Lambda = .92$ ,  $F(12, 600) = 2.12$ ,  $p < .01$ , were only obtained for the fitness/health factor ( $F = 3.25$ ,  $p < .01$ ; Table 4). The a posteriori test (Tukey's test) performed on the fitness/health factor showed differences in favor of the 25–34 age group compared with the 18–24 and 35–73 age groups (Table 5). No significant differences were found in the gender and age interaction, Wilks's  $\Lambda = .96$ ,  $F(12, 600) = .83$ ,  $p > .05$ .

## Discussion

With the clear aim of revealing and outlining ways that people can be influenced to increase their motivation to be active and healthy, the objective of this research was to relate the reasons for exercising in water with self-determination, as well as to observe gender and age differences in these reasons for exercising. As hypothesized, we observed positive and significant correlations among the different reasons for exercising, as well as among the latter (except appearance) and self-determination.

**Table 3 Multivariate Analysis of the Motives for Physical Activities by Gender and Age**

Variable	Main Effects		Effect of Interaction
	Gender	Age	Gender × Age
Enjoyment	4.98**	2.18	2.00
Appearance	6.54**	1.47	.38
Social	6.25**	.84	2.48
Fitness/Health	14.30***	3.25**	.68
Competence	1.30	1.77	2.95
Self-Determination Index	7.69**	.88	.30
<i>Multivariate analysis</i>			
Wilks's $\Lambda$	.92	.92	.96
<i>F</i> multivariate	3.81**	2.12**	.83

\*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 4 M and SD by Gender**

Motive	Men (n = 127)		Women (n = 184)	
	M	SD	M	SD
Enjoyment	4.94	1.01	5.28	.86
Appearance	4.29	1.25	4.75	1.20
Social	3.77	1.37	4.29	1.41
Fitness/Health	5.78	.76	6.12	.76
Competence	4.52	1.17	4.77	1.16
Self-Determination Index	6.73	2.58	7.63	2.25

**Table 5 M and SD by Age**

Motive	18–24 years old (n = 56)		25–34 years old (n = 132)		35–73 years old (n = 123)	
	M	SD	M	SD	M	SD
Enjoyment	5.16	.95	5.26	.93	5.01	.93
Appearance	4.83	1.25	4.57	1.26	4.44	1.22
Social	4.19	1.26	4.15	1.43	3.95	1.46
Fitness/Health	5.77	.90	6.03	.71	6.02	.76
Competence	4.88	1.05	4.69	1.19	4.55	1.19
Self-Determination Index	6.95	2.53	7.48	2.43	7.17	2.37

Furthermore, all the reasons except appearance were predicted positively by self-determination. The enjoyment reason showed the most prediction power (22%), followed by fitness/health (8%).

The positive relation found between self-determination and the enjoyment reason is in line with results obtained by different studies conducted in both sport and



educational environments (Ntoumanis, 2002; Standage et al., 2005; Vlachopoulos & Karageorghis, 2005; Vlachopoulos, Karageorghis, & Terry, 2000). Those studies, supported by cluster analyses, showed that students integrated in a self-determined profile showed more enjoyment of the exercise performed. Moreover, the positive relation found between self-determination and the fitness/health reason coincides with results obtained by Balaguer, Castillo, Tomás, and Duda (1997); Edmunds, Ntoumanis, and Duda (2007); and Wilson, Rodgers, Blanchard, and Gessell (2003). In turn, the data obtained in this study are in keeping with the hypotheses put forward by self-determination theory, whose main contribution is the importance of taking into account people's reasons for doing physical activity and sport, so that they will continue to participate in physical activity and sport programs.

The results concerning women and the enjoyment, appearance, social, and fitness/health variables are completely in line with studies conducted on the reasons for exercising (Derry, 2002; García Ferrando, 2006; Hellín et al., 2004; Moreno & Marín, 2002). According to those studies, the reasons most valued by women are those related to health, the release of accumulated energy, and personal image. Similarly, studies such as those performed by Blasco, Capdevila, Pintanel, Valiente, and Cruz (1996); García Ferrando; Hellín et al.; and Hicks, Wiggins, Crist, and Moode (2001) showed more positive attitudes of women toward physical activities that emphasized appearance, improved health, and social relations. In this respect, health was the reason most valued by exercisers 25–34 years old. In this regard, some studies (García Ferrando; Netz & Raviv, 2004) on people's physical activity and sport habits in recent times observed an increase in physical exercise among people 25–44 years old, an aspect that could be linked to the pursuit of good health by doing physical activity found in this study. Similarly, Hellín et al. revealed that the reasons older participants were exercising were fun, relaxation, and relatedness, and reasons based on body image and appearance decreased in this age group. These aspects were highlighted by Hirvensalo, Lampinen, and Rantanen (1998). Other studies performed on adults' physical activity and sport habits found similar results (Martínez del Castillo et al., 2002). They determined that health, fun, and the possibility of meeting other people are the reasons most cited by the general population to do physical activity.

In general, these results point to the need to promote enjoyment and health-improvement reasons for doing sport, because these are the reasons that characterize the profile that the literature has related to more positive consequences, which include commitment to sport. These data serve as a basis, therefore, for future studies to experimentally analyze the cause-and-effect relation between reasons for doing physical exercise and sport and different situation factors, with the clear objective of reversing the current population's predominant sedentary habits and increasing regular commitment to physical exercise and sport, which will enable them to adopt more active and healthy lifestyles.

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