

# Motivation and self-concept in windsurfers: A study of professional and recreational participants

Cristian Modroño\* y Félix Guillén\*\*

*MOTIVATION AND SELF-CONCEPT IN WINDSURFERS: A STUDY OF PROFESSIONAL AND RECREATIONAL PARTICIPANTS*

KEYWORDS: Windsurfing, Self-concept, Motivation, Cluster.

ABSTRACT: The purpose of this study was to examine self-determined motivation, achievement goal orientations, and self-concept characteristics of professional, competitive amateur and noncompetitive recreational windsurfers. Questionnaires were administered to a sample of 140 individuals including 79 (54 professionals and 25 non-professionals) individuals who were participants in either a championship or a recreational competition. Also, surveyed were 61 recreational but non-competitive windsurfers. Overall, the results revealed high levels of self-determined motivation. In addition, participants reported a positive physical self-concept, a strong task motivational orientation and a weak ego goal orientation. On the motivational and self-concept dimensions, significant differences were found between competitive windsurfers and non-competitive windsurfers but not between the professional competitors and the amateur competitors. No significant gender differences emerged. Age was negatively related to an ego goal orientation as well as to physical self-concept. Performance outcomes could not be predicted by this set of variables.

Over the course of the past thirty years, the understanding of motivation within sport psychology has focused largely on the achievement goal orientation theory (Ames, 1992; Nicholls, 1989) and, more recently, self-determination theory (Ryan and Deci, 2008). A fundamental concept within the achievement goal orientation theory is that at least two different subjective conceptualizations of success may exist for individuals involved in any achievement setting (Dweck, 1999; Nicholls, 1984), including the sporting context (Duda, 2001; Duda and Ntoumanis, 2005; Roberts, 2001). According to this theory, individuals will be motivated to gain success through the demonstration of ability. However, according to their underlying subjective definition of success, the personal meaning of ability will vary depending on the individual. An individual with an ego-oriented view of success considers success to have occurred when their own performance surpasses that of others. An individual with a task orientation toward motivation considers success to have occurred when they have improved their own performance. Hence, a task orientation is associated with the desire to learn and improve whereas an ego orientation is more strongly associated with the desire to demonstrate greater ability than others. Research conducted in sport psychology has largely supported the contentions underlying this theoretical framework (Castillo, Balaguer and Duda, 2002; Duda, 2005; Duda and Whitehead, 1998; Roberts, 2001; Roberts, Treasure and Conroy, 2007).

Self-determination theory (Deci and Ryan, 1985, 2000) has also been a widely used theory of motivation in sport psychology. According to this theory, different motivational expressions represent different levels of self-determination along a motivational continuum that includes amotivation, various expressions of extrinsic motivation through to fully intrinsic

motivation (Pelletier, Fortier, Vallerand, Tuson, Brière and Blais, 1995). Self-determination theory has been used to understand and explain sport behavior (Hagger and Chatzisarantis, 2007).

Recent research suggests that motivational characteristics of athletes also vary according to the nature of the sport practiced. Diehm and Armatas (2004) compared athletes engaged in high and low risk sports utilizing the *Sport Motivation Scale* (SMS) developed by Pelletier et al. (1995) and found that surfers (representatives of a higher risk sport) had higher levels of intrinsic motivation than did golfers (representatives of a low risk sport) while both groups had similar levels of extrinsic motivation. Bennett and Kremer (2000) found that competitive surfers tended to have more pronounced intrinsic motivation than extrinsic motivation to practice their sport. The three primary forms of motivation that the athletes cited for participating in their sport were for the physical sensations produced by surfing (intrinsic motivation for stimulating experiences), for the challenge and for the satisfaction and fulfillment they experienced while engaged which reflected intrinsic motivation for accomplishment. Some extrinsic forms of motivation that are available to the surfers include sponsorships, travel and competitive opportunities which Diehm and Armatas (2004) consider to reflect introjected, external and identified regulation, respectively. From another perspective, Fortier, Vallerand, Brière and Provencher (1995) found that the competitive athletes had less intrinsic motivation for stimulation and less intrinsic motivation for accomplishment but demonstrated greater identified regulation and more amotivation than the recreational athletes. These findings suggest that differing motivational profiles can accompany different types of sports and forms of involvement (competitive or recreational).

Correspondencia: Félix Guillén, Departamento de Psicología y Sociología, Facultad de Ciencias de la Actividad Física y el Deporte, Universidad de Las Palmas de Gran Canaria. (ULPGC). Campus de Tafira. 35000, Las Palmas de Gran Canaria. E-mail: felix.guillen@ulpgc.es

\* Departamento de Fisiología. Universidad de La Laguna (ULL).

\*\* Facultad de Ciencias de la Actividad Física y el Deporte, Universidad de Las Palmas de Gran Canaria (ULPGC).

Fecha de recepción: 30 de Septiembre de 2014. Fecha de aceptación: 20 de Octubre de 2015.

Theorists consider self-concept (Marsh, 2002; Shavelson, Hubner and Stanton, 1976) to be multidimensional in nature and to reflect one's appraisal of their overall self. Physical self-concept is currently considered to reflect an individual's mental representation of their physical self which includes the physical experiences, sensations and emotions produced by the evaluation (Harter, 2006). The relationship between the physical self-concept and an individual's motivational orientation toward sport has also been a topic of interest for various researchers (Cuevas, Contreras, Fernández and González-Martí, 2014; Hodge and Petlichkoff, 2000; Martín-Albo, Núñez, Domínguez, León and Tomás, 2012; Papaioannou, Marsh and Theodorakis, 2004).

Given the scant amount of attention that has been dedicated toward understanding the motivational and other psychological characteristics of athletes engaged in windsurfing and similar sports (Brymer and Schweitzer, 2013; Modroño and Guillén, 2011; Park, Rhim, Kim, Kim and Yoo, 2014), the purpose of this study is to try to gain a better understanding, in regards to the relationship between the perception of competence and certain forms of motivation, of dispositional motivational and self-concept characteristics of windsurfing participants. Motivational patterns and self-concept will be examined in relation to the type of involvement, the nature of the competitive involvement, as well as in accordance with gender, age, and self-concept variables to identify differences among groups of athletes and in order to understand the influence of the set of predictor variables in explaining performance outcomes.

## Method

### Participants

The participant sample for this study was comprised of 140 individuals, from 25 different countries, including 54 professional competitors (19 women and 35 men) who were involved in the Professional Windsurfers Association (PWA) world championship. An additional 25 participants were competitors in a regional competition. There were an additional 61 recreational windsurfers (3 women, 58 men) included in the study who were active in the sport but not involved in organized windsurfing competitions. The average age of the participants was 29.3 years ( $SD = 8.5$  years) and their ages range from 14 to 60 years. Participants who agreed to participate in the study signed an informed consent form.

### Instruments

*Sport Motivation Scale.* The English-language version of the *Sport Motivation Scale* (SMS) developed by Pelletier et al. (1995) was used in the study. In addition, the Spanish language translation of the scale developed and validated by Núñez, Martín-Albo, Navarro and González (2006) was completed by the Spanish-speaking participants. The scale contains a total of 28 items. A 7-point Likert format is used in which the endpoints of "1" (does not correspond at all) and "7" (corresponds exactly).

*Task and Ego Orientation in Sport Questionnaire (TEOSQ).* The participants completed either the English-language (Duda, 1989) or Spanish-language (Balaguer, Castillo and Tomás, 1996) version of the TEOSQ, which is a measure of ego-oriented and task-oriented dispositions in the sport context. The measure is comprised of 13 items that include a 7-item task orientation subscale and a 6-item ego orientation subscale. Individuals respond along a 5-point Likert scale with endpoints of "completely disagree" to "completely agree".

*Self-Concept Form 5.* The participants completed the two physical self-concept subscales of the Self-Concept Form 5 (SC-5) that was developed by García and Musitu (1999). The entire SC-5 questionnaire assesses five distinct dimensions of self-concept (social, academic/professional, emotional, family, and physical). The physical self-concept dimension of this measure consists of two separate subscales which measure perceived sport ability and satisfaction with the physical self. For those participants preferring the English-language version of the scale, the questions were provided in English through the parallel back-translation method (Brislin, 1986).

### Procedure

The participants were contacted during the event on the island of Gran Canaria, Spain. The professional windsurfers were there to compete in the world championship of the PWA. The amateur windsurfers took part in a regional competition that was held at the same location. Recreational windsurfers were contacted on the beaches of the island and invited to participate. Demographic information was obtained from all participants and their competitive classification during the previous year was obtained from the PWA.

### Data analysis

Descriptive statistics and correlations (Pearson) among the variables were calculated. To determine whether motivational and self-concept differences were related to the nature of the athletes' competitive involvement, a one-way MANOVA was conducted. A Hotelling T squared test and M Box test was conducted for the professional and amateur competitors on motivational and self-concept variables. Similarly, males and females were contrasted on the same set of variables. To identify distinct subgroups of individuals within the study a cluster analysis was conducted using the motivational and self-concept subscales.

## Results

In the descriptive information (Table 1) the most important findings pertained to the strong task orientation of the participants on the whole ( $M = 4.29$ ) and their low tendencies toward an ego orientation ( $M = 2.54$ ). With regard to physical self-concept, the participants had favorable overall feelings of physical self-concept with higher scores for perceived sport ability ( $M = 70.78$ ) than for general physical self-concept ( $M = 66.51$ ) or for satisfaction with physical self ( $M = 62.24$ ). The windsurfers overall had a very low level of amotivation ( $M = 1.85$ ) and had generally higher levels of intrinsic motivation as opposed to extrinsic motivation, with the exception of introjected regulation. Motivation to experience stimulation ( $M = 5.70$ ) was the strongest form of motivation and revealed a strong tendency for intrinsically-motivated involvement.

Correlational data was examined for the motivational variables to determine if logical patterns of relationships existed among the set of self-determined motivational and goal orientation variables (Table 2). Correlations among the seven subscales generally conformed to expectations with stronger correlations present among the set of intrinsic motivation variables than within the set of extrinsic motivation variables. Intercorrelations among the three intrinsic motivation subscales ranged from  $r = .55$  (intrinsic motivation to know with intrinsic motivation to experience stimulation,  $p < .001$ ) to  $r = .67$

(intrinsic motivation to know with intrinsic motivation for accomplishment,  $p < .001$ ). Amotivation was significantly correlated with external regulation ( $r = .39; p < .001$ ), with identified regulation ( $r = .37, p < .001$ ) and negatively correlated with intrinsic motivation to experience stimulation ( $r = -.17; p = .041$ ). The SMS motivational subscales scores also predicted goal orientations in that a task goal orientation was positively and significantly related to the three subscales of intrinsic motivation: intrinsic motivation to experience stimulation ( $r = .35; p < .001$ ); for accomplishment ( $r = .36; p < .001$ ); and to know ( $r = .44; p < .001$ ). However, the task goal orientation was not significantly correlated with any of the extrinsic motivation subscales or with amotivation. An ego orientation was positively and significantly

correlated with intrinsic motivation for accomplishment ( $r = .19; p = .028$ ) as well as with two subscales of extrinsic motivation: identified regulation ( $r = .20; p = .017$ ) and external regulation ( $r = .29; p = .001$ ). A significant correlation did not exist between ego orientation and amotivation. Similarly, a correlation was not evident between task and ego orientations. No significant relationships were found between years of experience in windsurfing and any of the motivational characteristics. Age was negatively correlated with external regulation ( $r = -.33; p < .001$ ), identified regulation ( $r = -.18; p = .032$ ), intrinsic motivation for accomplishment ( $r = -.20; p = .021$ ) and with ego orientation ( $r = -.31; p < .001$ ), and positively correlated with introjected regulation ( $r = .24; p = .005$ ).

Variable	Mean	SD	Range
Stimulation	5.70	1.02	1-7
Accomplishment	5.25	1.16	1-7
Knowledge	4.76	1.42	1-7
Identified	3.56	1.37	1-7
Introjected	5.02	1.59	1-7
External	2.56	1.38	1-7
Amotivation	1.85	1.10	1-7
Task	4.29	0.53	1-5
Ego	2.54	0.99	1-5
Physical Self-Concept (overall)	66.51	16.65	1-99
Perceived sport ability	70.78	17.65	1-99
Satisfaction with physical self	62.24	20.16	1-99

Table 1. Descriptive Statistics for All Variables.

	2	3	4	5	6	7
1. Stimulation	.62***	.55***	.25**	.40***	.07	-.17*
2. Accomplishment		.67***	.45***	.37***	.27***	.01
3. Knowledge			.55***	.43***	.39***	.14
4. Identified				.27***	.55***	.37***
5. Introjected					.13	.10
6. External						.39***
7. Amotivation						

Note. \*  $p = .05$ ; \*\*  $p = .01$ ; \*\*\*  $p = .001$ .

Table 2. Correlations Among Motivational Variables.

In order to determine whether motivational and self-concept differences were related to the nature of the athletes' competitive involvement, a one-way MANOVA was conducted to determine significant differences between competitors and non-competitors. A significant main effect for competitors/non-competitors group

[Wilks'  $\Lambda = 0.559, F(11, 124) = 8.892; p < .001, \eta^2 = 0.44$ ] was found. Follow-up tests revealed that competitors scored higher in identified regulation, external regulation, ego orientation and the two physical self-concept dimensions than non-competitors. However, non-competitors scored higher in introjected regulation.

A Hotelling T squared test and M Box test was conducted for the professional and amateur competitors on motivational and self-concept variables. Both tests were non-significant ( $p > .05$ ). Similarly, males and females were contrasted on the same set of variables. No significant differences appeared relative to gender on any of these variables. In the analyses conducted, no significant relationships emerged in the stepwise regression analysis between the set of motivational characteristics and self-concept characteristics and performance.

Significant correlations were found between general physical self-concept and ego orientation ( $r = .34$ ;  $p < .001$ ); with age ( $r = -.32$ ;  $p < .001$ ); with intrinsic motivation for accomplishment ( $r = .29$ ;  $p = .001$ ); with external regulation ( $r = .28$ ;  $p = .001$ ); with intrinsic motivation to experience stimulation ( $r = .20$ ;  $p = .019$ ); and with intrinsic motivation to know ( $r = .20$ ,  $p = .018$ ). Perceived sport ability was positively related to an ego orientation ( $r = .30$ ,  $p < .001$ ); with intrinsic motivation for accomplishment ( $r = .28$ ,  $p = .001$ ), to experience stimulation ( $r = .19$ ;  $p = .026$ ), to external regulation ( $r = .20$ ;  $p = .023$ ); and negatively with age ( $r = -.26$ ;  $p = .003$ ). Satisfaction with physical self was correlated with age ( $r = -.31$ ;  $p < .001$ ), ego orientation ( $r = .30$ ;  $p < .001$ ), external

regulation ( $r = .30$ ;  $p < .001$ ), intrinsic motivation toward accomplishment ( $r = .24$ ;  $p = .005$ ) and to know ( $r = .20$ ;  $p = .023$ ).

For Cluster analysis, the three intrinsic and the three extrinsic motivational dimensions, as well as the measure of amotivation from the SMS scale were included, and the self-concept variables. The TEOSQ dimensions of ego and task orientation were not included at this stage of the analysis but were included subsequently as it was anticipated that a stronger task or ego orientation should be predicted through the cluster compositions. At the first step, the data were inspected to identify outliers. In this regard, all of the cluster variables were standardized in a profile diagram. Of the observed values for the 140 participants, two participants had scores on variables that were greater than three standard deviations from the overall mean for that variable. The Shapiro-Wilk test was subsequently employed to test the normality of the data and the corresponding value of .12 supported the normality of the data.

A model-based cluster analysis was used for the present data based upon the recommendations of Fraley and Raftery (2002). Through this approach, a four-cluster solution was obtained (Table 3).

Variables	Cluster 1 "Highly intrinsically motivated"			Cluster 2 "Extrinsically motivated"			Cluster 3 "Weakly Extrinsically motivated"			Cluster 4 "Amotivated"		
	Mean	SD	Z	Mean	SD	Z	Mean	SD	Z	Mean	SD	Z
Stimulation	6.55	.36	.83	5.44	.74	-0.25	5.84	.60	.14	4.22	1.30	-1.44
Accomplishment	6.24	.53	.85	5.33	.84	.07	5.22	.86	-.02	3.46	.99	-1.53
Knowledge	5.88	.75	.96	4.74	1.09	.16	4.24	.97	-.19	2.50	1.09	-1.41
Identification	4.59	.60	.75	4.99	.85	1.04	2.67	.68	-.65	2.00	.80	-1.14
Introjection	5.70	1.18	.43	5.14	1.36	.08	5.11	1.43	.06	3.40	1.78	-1.03
External regulation	3.17	1.26	.45	3.61	1.38	.76	1.81	.86	-.54	1.88	1.24	-.49
Amotivation	1.66	.82	-.17	1.51	1.38	-.30	1.50	.64	-.31	2.89	1.22	.95
Cluster Characteristics												
Cluster Age	29.23	10.86		25.47	6.89		30.72	6.62		30.90	9.52	
Cluster <i>n</i>	35			30			53			20		
Males <i>n</i> (%)	26 (74.3)			22 (73.3)			49 (92.5)			19 (95.0)		
Females <i>n</i> (%)	9 (25.7)			8 (26.7)			4 (7.5)			1 (5.0)		
Competitive (%)	23 (65.7)			24 (80.0)			21 (39.6)			9 (45.0)		
Non competitive (%)	12 (34.3)			6 (20.0)			32 (60.4)			11 (55.0)		
Practices years	8.97	6.85		8.19	5.70		7.69	6.45		7.63	7.22	
Week-hours training	14.08	10.24		16.00	12.57		10.47	9.30		9.12	9.30	
Perceived sport ability	78.47	11.38	.44	69.63	21.44	-.07	69.56	14.2	-.07	62.22	24.1	-.49
Satisfaction with physical self	69.97	19.65	.39	61.10	19.56	-.06	59.33	17.5	-.15	58.02	25.8	-.21

Table 3. Cluster Means, Standard Deviations, and Z-Scores for the Four-Cluster Solution of the Model-based Cluster Analysis.

To examine the predictive validity of the cluster solution that was obtained, the values on the latent variables of task and ego orientation were contrasted using a one-way MANOVA. The results showed significant differences among the four clusters on the dependent variables, Wilks'  $\Lambda = .702$ ;  $F(6, 266) = 8.598$ ;  $p < .001$ ,

$\eta^2 = .162$ . Table 4 provides the mean for the sample as well as the standard deviations and z scores for each of the variables in the clusters. Follow-up ANOVAs for task,  $F(3, 134) = 14.416$ ;  $p < .001$ , and ego,  $F(3, 134) = 3.453$ ;  $p = .18$ , were significant only for task. Thus, the predictive validity of the cluster solution was supported.

Variables	Cluster 1			Cluster 2			Cluster 3			Cluster 4		
	Mean	SD	Z	Mean	SD	Z	Mean	SD	Z	Mean	SD	Z
Task	4.59	.31	.57	4.11	.53	-.32	4.37	.42	.16	3.79	.69	-.94
Ego	2.87	.84	.32	2.76	.85	.21	2.25	.98	-.29	2.44	1.27	-.10

Table 4. Significance Testing of Cluster Differences in Ego and Task Orientation.

In order to examine whether these four clusters differed in self-concept, age and gender, a one-way MANOVA was conducted using two of five subscales of SC-5 (sport self-concept and physical attractiveness self-concept), age, gender and competence level as the dependent variables and the clusters as the independent variable. The results showed significant

differences between the three clusters on the dependent measures, Wilks'  $\Lambda = .765$ ,  $F(15, 353.753) = 2.409$ ,  $p < .002$ ,  $\eta^2 = .09$ . The effect size was moderate. Follow-up ANOVAs revealed that except for age, gender and physical attractiveness self-concept significant differences between the four clusters were found in sport self-concept and competence level ( $p < .01$ ).

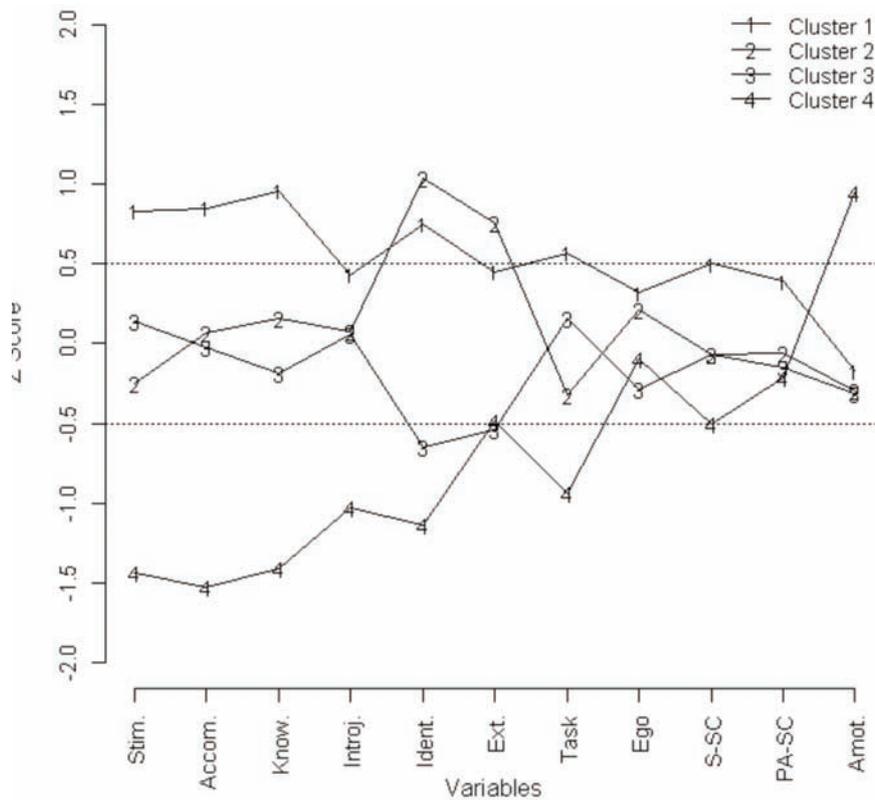


Figure 1. Cluster profiles for the 4-cluster solution of cluster-based model analysis, with Z-scores for task, ego, sport and physical attractiveness self-concept, and the intrinsic, extrinsic and amotivation variables.

Figure 1 presents a visual portrayal of the four-cluster solution as well as the z-scores for the intrinsic, extrinsic and amotivation variables; and the two dimensions of physical self-concept. Z scores of +/- .5 or greater were used as criteria to describe whether a cluster scored relatively 'high' or 'low' in comparison to their peers. The first cluster was labeled, "strongly intrinsically motivated" and was characterized by intrinsic motivation for knowledge ( $z = .96$ ), intrinsic motivation for

accomplishment ( $z = .85$ ), intrinsic motivation for stimulation ( $z = .83$ ) and identified regulation ( $z = .75$ ). This cluster was representative of the overall sample as a whole in terms of gender representation (74% males and 26% females). This cluster had the highest levels of all forms of intrinsic motivation and the second highest levels of identified regulation.

The second cluster was labeled "extrinsically motivated" and was comprised of 30 individuals, including 22 males and 8

females which was consistent with the distribution within the sample as a whole. This cluster had the highest levels of identified regulation ( $z = 1.04$ ) and external regulation ( $z = .76$ ) and levels of intrinsic motivation were not notably different than the overall sample mean. However, this cluster had the highest percentage of competitors (80%) relative to noncompetitors (20%).

The third cluster was labeled “lacking extrinsic motivation” and was comprised of 53 individuals. This cluster was characterized by lower than normal levels of extrinsic motivation, specifically on the dimensions of identified regulation ( $z = -.65$ ) and external regulation ( $z = -.54$ ). On all other variables, these individuals did not differ meaningfully from the overall mean. This cluster had the highest percentage of noncompetitors (60%) to competitors (40%) of any of the clusters and a high percentage of males (92.5%) to females (7.5%).

The fourth cluster was labeled “amotivated” and was comprised of 20 individuals. This cluster deviated substantially from the overall sample mean of six variables. They were substantially lower than the rest of the sample on the intrinsic motivation variables of accomplishment ( $z = -1.53$ ), stimulation ( $z = -1.44$ ) and knowledge ( $z = -1.41$ ). In addition, they were considerably lower than the sample as a whole on the extrinsic motivation variables of identification ( $z = -1.14$ ) and introjection ( $z = -1.03$ ). This cluster had the highest mean of any cluster on amotivation ( $z = .95$ ) and the profile of this group reflected a general lack of motivation. Surprisingly, 45% of the individuals in this cluster were competitors.

## Discussion

The results of this investigation reveal that practitioners of windsurfing tend to have high levels of intrinsic motivation and, in particular, intrinsic motivation to experience stimulation. These results are consistent with those obtained by other researchers examining individuals competing in the sport of surfing (Diehm and Armatas, 2004). When this observation is combined with the knowledge that these participants also have very low amotivation and high levels of task orientation, we can conclude that windsurfing is a sport characterized by stimulating intrinsic experiences that can be realized through jumps, pirouettes and maneuvers conducted on the waves. These results also revealed that windsurfing adherents tend to have moderate levels of extrinsic motivation and ego goal orientation and quite favorable levels of physical self-concept.

Competitive and non-competitive windsurfers did not differ significantly in their levels of intrinsic motivation. Nevertheless, competitive windsurfers tended to have greater extrinsic motivation for identified regulation and external regulation, had stronger ego orientations and more favorable physical self-concepts than their counterparts who were not engaged in competition. The non-competitive windsurfers had greater introjected regulation than did the competitive windsurfers. These results are generally consistent with those obtained by Bennett and Kremer (2000) with surfers as intrinsic motives greatly outweighed extrinsic motives in driving the athletes' sport involvement.

Despite the differences that existed between competitive and non-competitive windsurfers, significant differences did not appear between professional and amateur windsurfers. Gender differences were anticipated in this study because Núñez et al. (2006) found differences between men and women on various

dimensions of the SMS with their sample of 275 athletes participating in eight different sports (track and field, tennis, swimming, water polo, soccer, basketball, handball, and volleyball) or the results obtained by Dieppa, Machargo, Luján and Guillén (2008) who found a stronger tendency for male athletes to have a better physical self-concept. However, the results obtained in the present study seem to be more similar to those of Etnier, Sidman and Hancock (2004) who did not find gender differences in soccer players.

The correlational analyses involving the SMS scale conformed to expectations that the subscales that were more closely related with each other on the intrinsic/extrinsic motivational continuum would be more highly correlated than would be the more distal subscales (Núñez et al., 2006). One exception involved introjected regulation which had a stronger correlation with the three subscales of intrinsic motivation than it did with the other subscales of extrinsic motivation. We can also see that external regulation had a stronger correlation with identified regulation than with amotivation. Similar findings for introjected regulation have been reported by the developers of the original scale (Brière, Vallerand, Blais and Pelletier, 1995) and a similar outcome occurred with the Spanish-language version of this scale (Núñez et al., 2006) which suggests that there might be an overlap between some of the intrinsic and extrinsic motivation variables. However, mean values for self-determined motivation were very high among the participants in this sample suggesting that windsurfers generally have strong intrinsic motivation to participate.

With regard to the relationships between motivational variables, it was found that a task goal orientation was related to intrinsic motivational characteristics from the SMS scale. Meanwhile, an ego goal orientation was related to extrinsic motivational characteristics on this scale. These results are essentially consistent with those previously obtained, as summarized by Moreno, Cervelló and González-Cutre (2007). Nonetheless, in the case of these windsurfers, an ego orientation was also related to the intrinsic motive for accomplishment.

Age-related changes in motivation have been recently reported in surfers (Wiersma, 2014). In the present study, results indicated that the younger participants were more motivated by the motive to accomplish (IM), by external regulation (EM) and by identified regulation (EM) than were the older participants who had a greater level of introjected regulation than their younger counterparts. Age-related differences in introjected regulation may be caused by older athletes' desire to maintain their physical conditioning whereas younger athletes may be more motivated by achieving success and mastering the skills of the sport.

As noted by Halliburton and Weiss (2002), previous research has found positive relationships between a task orientation and objective performance outcomes. In the present case, none of the motivational or self-concept variables were associated with performance outcomes. Highlighting the positive relationship between physical self-concept and the intrinsic motivation components as well as with the extrinsic motivation variable of external regulation is one of the objectives of this paper. León, Núñez, Domínguez and Martín-Albo (2013) previously noted this positive relationship when studying exercise practitioners.

The results of the cluster analysis are consistent with those obtained by other authors. The task orientation has been found to be positively associated with various indicator of motivation,

including intrinsic motivation (Duda, Chi, Newton, Walling and Catley, 1995) while the relationship between ego orientation and these motivational characteristics is less clear (Whitehead, 1995).

In summary, this study has examined self-determined motivation, achievement goal orientations, and self-concept characteristics of practitioners of windsurfing, and has highlighted the importance of intrinsic motivation in this sport. In this regard, these findings are consistent with previous research on surfers and suggest that similar patterns will emerge for participants engaged in other challenging individual sports.

The present study has some limitations. First, the number of female participants is low, especially in the recreational category. Second, studying the finest professional windsurfers in the world is highly interesting. However, it would possibly be more relevant to study what occurs in lower levels or to analysis the evolution of windsurfers from the beginning using longitudinal studies.

There is much work yet to be done to investigate risk sports. A fruitful area of future research may be to investigate different risk sports to discover the behavior of different psychological variables depending on the sport. Hence, the psychological counseling offered would be more adequate.

#### MOTIVACION Y AUTOCONCEPTO EN WINDSURFISTAS: UN ESTUDIO DE PARTICIPANTES PROFESIONALES Y RECREACIONALES

PALABRAS CLAVES: Windsurfing, Autoconcepto, Motivación, Cluster.

RESUMEN: El propósito de este estudio fue examinar las características de la motivación autodeterminada, la orientación de metas y el autoconcepto de windsurfistas profesionales, amateurs competitivos y recreacionales no competitivos. Los cuestionarios fueron administrados a una muestra de 140 individuos incluyendo 79 (54 profesionales y 25 no profesionales) que participaron en algún campeonato o competición. También fueron entrevistados 61 windsurfistas recreacionales no competitivos. En general, los resultados revelaron altos niveles de motivación autodeterminada. Además, los participantes informaron de un autoconcepto físico positivo, una fuerte orientación motivacional a la tarea y una débil orientación de meta ego. En las dimensiones de motivación y autoconcepto, se encontraron diferencias significativas entre los windsurfistas competitivos y no competitivos, pero no entre los competidores profesionales y los aficionados. No se encontraron diferencias significativas según el género. La edad se relacionó negativamente con la orientación de meta ego, así como con el autoconcepto físico. Los resultados no pueden predecirse por este conjunto de variables.

#### MOTIVAÇÃO E AUTOCONCEITO EM WINDSURFISTAS: UM ESTUDO COM PARTICIPANTES PROFISSIONAIS E RECREATIVOS

PALAVRAS-CHAVES: Windsurf, Autoconceito, Motivação, Cluster.

RESUMO: O objetivo deste estudo foi examinar as características da motivação autodeterminada, a orientação por objetivos e o autoconceito de windsurfistas profissionais, amadores competitivos e recreativos não competitivos. Os questionários foram administrados a uma amostra de 140 participantes incluindo 79 (54 profissionais e 25 não profissionais) que participaram em algum campeonato ou competição. Também foram entrevistados 61 windsurfistas recreativos que não competiam. Em geral, os resultados revelaram níveis elevados de motivação autodeterminada. Além disso, os participantes indicaram um autoconceito físico positivo, uma forte orientação motivacional à tarefa e uma fraca orientação ao ego. Nas dimensões de motivação e autoconceito, foram encontradas diferenças significativas entre os windsurfistas competitivos e os não competitivos (recreativos), mas não se revelaram diferenças entre os windsurfistas profissionais e os amadores. Não se encontraram diferenças significativas em quanto ao gênero. A idade relacionou-se negativamente com a orientação ao ego e com o autoconceito físico. Os resultados não se podem prever por este conjunto de variáveis.

## References

- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, 84, 261-271.
- Balaguer, I., Castillo, I. and Tomás, I. (1996). Analysis of the psychometric properties of the Spanish-language version of the Task and Ego Orientation in Sport Questionnaire. *Psicologica*, 17, 71-81.
- Bennett, R. and Kremer, P. (2000, July). *The psychology of peak performance among elite surfers*. Paper presented at the 2<sup>nd</sup> Monash Sport Psychology Conference, Melbourne, Australia.
- Brière, N. M., Vallerand, R. J., Blais, M. R. and Pelletier, L. G. (1995). Development and validation of a measure of intrinsic/extrinsic motivation and amotivation in the sporting context: The Sport Motivation Scale. *International Journal of Sport Psychology*, 26, 465-489.
- Brislin, R. W. (1986). The wording and translation of research instruments. In W. Lonner and J. Berry (Eds.), *Field methods in cross-cultural research* (pp. 137-164). Beverly Hills, CA: Sage.
- Brymer, E. and Schweitzer, R. (2013). The search for freedom in extreme sports: A phenomenological exploration. *Psychology of Sport and Exercise*, 14(6), 865-873.
- Castillo, I., Balaguer, I. and Duda, J. L. (2002). Goal orientations of adolescents in the sport context. *Psicothema*, 14, 280-287.
- Cuevas, R., Contreras, O., Fernández, J. G. and González-Martí, I. (2014). Influencia de la motivación y el autoconcepto físico sobre la intención de ser físicamente activo. *Revista Mexicana de Psicología*, 31(1), 17-24.
- Deci, E. L. and Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.
- Deci, E. L. and Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227-268.
- Diehm, R. and Armatas, C. (2004). Surfing: An avenue for socially acceptable risk-taking, satisfying needs for sensation seeking and experience seeking. *Personality and Individual Differences*, 36, 663-677.
- Dieppa, M., Machargo, J., Lujan, I. and Guillén, F. (2008). Autoconcepto general y físico en jóvenes españoles y brasileños que practican actividad física vs. no practicantes. *Revista de Psicología del Deporte*, 17, 221-339.

- Duda, J. L. (1989). The relationship between task and ego orientation and the perceived purpose of sport among male and female high school athletes. *Journal of Sport & Exercise Psychology*, *11*, 318-335.
- Duda, J. L. (2001). Goals perspectives research in sport: Pushing the boundaries and clarifying some misunderstandings. In G. C. Roberts (Ed.), *Advances in motivation in sport and exercise* (pp. 129-182). Champaign, IL: Human Kinetics.
- Duda, J. L. (2005). Motivation in sport: The relevance of competence and achievement goals. In A. J. Elliot and C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 318-335). New York: Guilford Publications.
- Duda, J. L. and Ntoumanis, N. (2005). After-school sport for children: Implications of a task-involving motivational climate. In J. L. Mahoney, R. W. Larson and J. S. Eccles (Eds.), *Organized activities as contexts of development: Extracurricular activities, after-school and community programs* (pp. 311-330). Mahwah, NJ: Erlbaum.
- Duda, J. L. and Whitehead, J. (1998). Measurement of goal perspectives in the physical domain. In J. L. Duda (Ed.), *Advances in sport and exercise psychology measurement* (pp. 21-48). Morgantown, WV: Fitness Information Technology.
- Duda, J. L., Chi, L., Newton, M. L., Walling, M. D. and Catley, D. (1995). Task and ego orientation and intrinsic motivation in sport. *International Journal of Sport Psychology*, *26*, 40-63.
- Dweck, C. S. (1999). *Self-theories: Their role in motivation, personality, and development*. Philadelphia: Taylor & Francis.
- Etnier, J. L., Sidman, C. L. and Hancock, L. C. (2004). An examination of goal orientation profiles and motivation in adult team sport. *International Journal of Sport Psychology*, *35*, 173-188.
- Fortier, M. S., Vallerand, R. J., Brière, N. M. and Provencher, P. J. (1995). Competitive and recreational sport structures and gender: A test of their relationship with sport motivation. *International Journal of Sport Psychology*, *26*(1), 24-39.
- Fraley, C. and Raftery, A. E. (2002) Model-Based Clustering, Discriminant Analysis, and Density Estimation. *Journal Statistical Association*, *97*, 611-631.
- García, J. F. and Musitu, G. (1999). *AF5. Self-concept Form 5*. Madrid: TEA ediciones.
- Hagger, M. S. and Chatzisarantis, N. L. D. (2007). Advances in Self-determination theory research in sport and exercise. *Psychology of Sport & Exercise*, *8*, 597-599.
- Halliburton, A. L. and Weiss, M. R. (2002). Sources of competence information and perceived motivational climate among adolescent female gymnasts varying in skill level. *Journal of Sport & Exercise Psychology*, *24*, 396-419.
- Harter, S. (2006). Developmental and individual perspectives on self-esteem. In D. K. Mroczek, and T. D. Little (Eds.), *Handbook of Personality* (pp. 311-336). Mahwah, NJ: Lawrence Erlbaum Associates.
- Hodge, K. and Petlichkoff, L. (2000). Goal profiles in sport motivation: A Cluster analysis. *Journal of Sport & Exercise Psychology*, *22*, 256-272.
- León, J., Núñez, J. L., Domínguez, E. G. y Martín-Albo, J. (2013). Motivación intrínseca, autoconcepto físico y satisfacción con la vida en practicantes de ejercicio físico: análisis de un modelo de ecuaciones estructurales en el entorno de Programación R. *Revista Iberoamericana de Psicología del Ejercicio y el Deporte*, *8*(1), 39-58.
- Marsh, H. W. (2002). A multidimensional physical self-concept: A construct validity approach to theory, measurement, and research. *Psychology: The Journal of the Hellenic Psychological Society*, *9*, 459-493.
- Martín-Albo, J., Núñez, J. L., Domínguez, E., León, J. and Tomás, J. M. (2012). Relationships between intrinsic motivation, physical self-concept and satisfaction with life: A longitudinal study. *Journal of Sports Sciences*, *30*, 337-347.
- Modroño, C. and Guillén, F. (2011). Anxiety Characteristics of Competitive Windsurfers: Age, Gender, Performance Outcome. *Journal of Sport Behavior*, *34*, 281-294.
- Moreno, J. A., Cervelló, E. and González-Cutre, D. (2007). Analizando la motivación en el deporte: Un estudio a través de la teoría de la autodeterminación. *Apuntes de Psicología*, *25*, 35-51.
- Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice and performance. *Psychological Review*, *21*, 328-346.
- Nicholls, J. G. (1989). *The competitive ethos and democratic education*. Cambridge, MA: Harvard University Press.
- Núñez, J. L., Martín-Albo, J., Navarro, J. G. and González, V. M. (2006). Preliminary validation of a Spanish version of the Sport Motivation Scale. *Perceptual & Motor Skills* *102*, 919-930.
- Papaioannou, A. G., Marsh, H. W. and Theodorakis, Y. (2004). A multilevel approach to motivational climate in physical education and sport settings: An individual or a group level construct? *Journal of Sport & Exercise Psychology*, *26*, 90-118.
- Park, S. S., Rhim, Y. T., Kim, M. J., Kim, S. K. and Yoo, J. I. (2014). The influence of perceived risk on participation motivation and re-participation intention in marine sports. *Journal of Coastal Research*, *72*, 96-100.
- Pelletier, L. G., Fortier, M. S., Vallerand, R. J., Tuson, K. M., Brière, N. M. and Blais, M. R. (1995). Toward a new measure of intrinsic motivation, extrinsic motivation, and amotivation in sports: The Sports Motivation Scale (SMS). *Journal of Sport & Exercise Psychology*, *17*, 35-53.
- Roberts, G. C. (2001). Understanding the dynamics of motivation in physical activity; the influence of achievement goals on motivational process. In G. C. Roberts (Ed.), *Advances in motivation in sport and exercise*. (pp. 1-50). Champaign, IL: Human Kinetics.
- Roberts, G. C., Treasure, D. C. and Conroy, D. E. (2007). Understanding the dynamics of motivation in sport and physical activity: An achievement goal interpretation. In G. Tenenbaum and R. C. Eklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 3-30). Hoboken, NJ: John Wiley & Sons.
- Ryan, R. M. and Deci, E. L. (2008). Self-determination theory and the role of basic psychological needs in personality and the organization of behavior. In O. P. John, R. W. Robbins y L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 654-678). New York: The Guilford Press.
- Shavelson, R. J., Hubner, J. J. and Stanton, J. C. (1976). Self-concept: validation of construct interpretations. *Review of Educational Research*, *46*, 407-441.
- Whitehead, J. (1995). Multiple achievement orientations and participants in youth sport: A cultural and developmental perspective. *International Journal of Sport Psychology*, *26*, 431-452.
- Wiersma, L. D. (2014). A phenomenological investigation of the Psychology of big-wave surfing at Maverick's. *The Sport Psychologist*, *28*(2), 151-163.