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Goal orientations, contextual and situational motivational climate and competition goal involvement in Spanish athletes with cerebral palsy

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This study examined the relationship between perception of contextual and situational motivational climate, goal orientations and competition goal involvement in Spanish athletes with cerebral palsy. Athletes (N= 57), completed inventories to assess perception of contextual and situational motivational climate, goal orientation and goal involvement. Results show that ego involvement was positively correlated with perception of contextual and situational coach ego involving motivational climate, and ego orientation. Analysis of hierarchical regression, reveled that competition task-involvement was predicted by the contextual task-involving motivational climate and competition ego involving was predicted only by ego orientation. Results are discussed in the context of conceptual basis of achievement goal perspective.

Orientaciones de meta, clima motivacional contextual y situacional y estado de implicación en competición de deportistas españoles con parálisis cerebral. Este estudio examina la relación entre la percepción del clima motivacional contextual y situacional, las orientaciones de meta y la implicación en competición de atletas españoles con parálisis cerebral. Los atletas (N= 57) cumplimentaron varios cuestionarios que valoraron la percepción del clima motivacional contextual y situacional, la orientación de meta y la implicación. Los resultados muestran que la implicación al ego correlaciona positivamente con la percepción de un clima contextual y situacional implicante al ego en el entrenador, así como con una orientación al ego. El análisis de regresión realizado revela que una implicación a la tarea en competición puede ser predicha por un clima motivacional contextual implicante hacia la tarea, mientras que una implicación al ego en competición era predicha sólo por la orientación al ego. Los resultados son discutidos en el marco conceptual de la teoría de las metas de logro.

Recent research in sport and physical education motivation has been developed principally from the achievement goal perspective (Ames, 1992; Cecchini, González, Carmona and Contreras, 2004; Duda, 2001; Roberts, 2001; Roberts, Treasure and Kavussanu, 1997; Treasure, 1997). This perspective considers that the principal premise in an achievement environment such as sport consists of showing competence (Nicholls, 1984, 1989). However, what is understood as competence in sport can vary from one individual to another in such a way that, according to the criterion which is adopted to judge competence (Cecchini, Méndez and Muñiz, 2002), what is known as different types of motivational orientation will appear.

Two different ways of judging competence or ability exist. One consists of judging ability according to social comparison with others; in such a way that success is felt when one shows more ability than others (*ego orientation*). The other is a judgment of ability based on the level of command of the task which is being carried out, in this case ignoring social comparison as a source of competence (*task orientation*).

Several studies has established that task orientation is associated with more positive affective and behavioral patterns, while ego orientation is related to less adaptive motivational patterns (see Castillo, Balaguer and Duda, 2002; Duda, 2001; Duda and Hall, 2000; Roberts, 2001).

Goal orientations (ego and task orientations): are conceptualized as individual dispositions, which are the outcome of childhood socialization experiences i.e. family, school, sports club etc. These experiences may, to an extent, predict different forms of athlete's action (Nicholls, 1989). Ego orientations are typically related to personal goals including doing better then others, doing as well as others, but with less effort, avoiding showing one's weaknesses. Task orientations are typically related to personal goals including learning new skills, doing one's best, solving problems, understanding something more fully and improving.

Task / Ego Involvement: Achievement goal theory also assumes that, in different situations, the participants can use the different concepts of ability indistinctly, in such a way that the participant may adapt to environmental stimuli (Duda, 2001; Nicholls, 1989). This is what is known as a task-involved state and an ego-involved state. The probability of using a task or ego-involved state depends on both dispositional factors (orientations) and situational factors

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(motivational climate). During an ego-involved state, perceptions of demonstrated competence or incompetence are based on external referenced standards, using a normative or peer comparison process. Success is experienced by outdoing i.e., beating the opponents. During a task-involved state, perceptions of demonstrated competence or incompetence are based on self-referenced (personal) standards using a process of temporal comparison, improving one's performance over time, mastering the demands of a task, or achieving the same performance as before, but with the feeling of less effort experiences success.

Some researchers from the social cognitive perspective consider that social influences can affect motivation on different levels (Vallerand and Rousseau, 2000). Specifically, Vallerand and Rousseau (2000) have argued that social dimensions of influence can manifest themselves in three ways: at the global level, at the contextual level and at the situational level. The global level, refers to a general social factors presents in the environment, and determine a «general motivation» like a personality trait. The contextual level includes the social factors related with a specific context like the context of education or work, the interpersonal relationships and leisure (including sport). The situational level, include the social factors perceived in a specific activity at a specific moment in time. These levels are interrelated but have different motivational effects.

Situational climate: Dweck and Legget (1988, p. 269) indicate that «the dispositional differences determine the *a priori* probability of adopting a particular goal and displaying a particular behavior pattern, and situational factors are seen as potentially altering these probabilities». These situational factors are known, in the achievement goal theory, as *motivational climate* (Ames, 1992; Maehr, 1984). The motivational climate includes all the social and contextual signs with which the social agents, in this case related to athletes, define success and failure.

Papaioannou and Kouli (1999) assessed the state of task involvement through the use of three subscales from the Flow State Scale (Jackson and Marsh, 1996) to assess the motivational characteristics of involvement in a concrete situation (situational climate), in this case a physical education class. These authors also assessed the effect of motivational climate perceptions on task involvement state. Results found, in an experimental work, that when participants were exposed to a task-involving lesson the students had higher perceptions of task-involving motivational climate, and that goal orientation and perception of task-involving motivational climate was predictors of task involvement.

Contextual climate: Previous studies based on achievement goal theory have found that, teachers, coaches, parents and significant others who structure the class, training and the home, where different signs appear in which the keys by which success and failure are defined are implicit (or explicit) (Ames, 1992; Cecchini et al., 2004).

It appears that those environments in which interpersonal competition, public evaluation and normative feedback on the carrying out of tasks are encouraged favor the appearance of an ego-involved state. In contrast, the environments, which emphasize the process of learning, participation, the command of the individualized task and the solving of problems, tend to encourage the appearance of a task-involved state (Butler, 1987, 1988, 1989; Carver and Scheier, 1982). Duda (1996) indicates that, related to dispositional differences, it is important to recognize that appreciation of or exposure to specific goal orientations from significant others are likely to influence athletes' dispositional goal orientations. Highlighting significant others as a major element of the social environment, Duda (1987) and Carr and Weigand (2001) has, therefore, outlined the need for researchers to address the impact that various significant others might have on athletes' goal orientations. However, as postulated in previous studies (Harwood and Swain, 1998), it is necessary to consider not only the usual contextual elements, which occur in training and competition, but also the situational elements which occur at a given moment during sporting experience (Duda and Hall, 2000). Previous studies performed with disabled athletes have shown the theoretical pertinence of the achievement goal perspective in the explanation of the motivation in athletes with some disability (Causgrove, 2000; Cervelló, Fuentes and Sanz, 1999; Pensgaard, Roberts and Ursin, 1999; Skordillis, Koutsouki, Asonitou, Evans, Jensen and Wall, 2001). The results obtained in these investigations, showed that types of disability can affect the motivational process of disabled participants. But, to the date no investigations have been developed that analyze the effects of cerebral palsy on motivational variables.

As a principal objective of this work, we aim to analyse, in a sample female and male athletes with cerebral palsy, whether the dispositional goal orientations, the perception of the usual climate in a sporting context (contextual climate) and the climate perceived in a competition situation (situational climate) can predict the task and ego involved state in competition, as well as determining which of these variables has a greater predictive power. As Duda and Hall indicates (2000), a great amount of investigations have analyzed the effect of the prevailing or prototypical (Kaplan and Maehr, 1999) motivational climate, but is not very extensive research that asses the influence of current environmental factors on athlete's goal state. The analysis of the effect of these differences levels of motivational climate and goal orientation in goal involvement is the central objective of this investigation

Method

Participants

The study sample consists of 57 athletes with cerebral palsy (CP) from the Spanish Championships of Football Indoor (n= 35), Athletics' Track and Field (n= 13) and Swimming (n= 9) of the 2001 season. Ten athletes of this sample participated in the Sydney's Paralympics Games. The distribution of the sample was male (n= 48) and female (n= 9), and their average age was 24.23 years (SD= 5.52). Taking into account the specific classification procedure for the competition in sports for persons with CP (CP-ISRA, 2001), the sample was only composed by athletes of the classes 5 (n= 7), 6 (n= 15), 7 (n= 24) and 8 (n= 11).

Procedure

The procedure for filling in the questionnaires was carried out in two phases. In the first one the players were asked before their first participation in the championship to fill in the questionnaires on the measuring the dispositional goal orientation and the perception of the contextual motivational climate before the competition. After this first intervention in the championship they were asked to fill in the questionnaires on the state of involvement

which they had felt during the competition, and also the instruments measuring the situational motivational climate which they had perceived in their coach and sport friends. In some cases, athletes filled out the questionnaires with the assistance of physical education students', under the supervision of the researcher.

Measures

Goal involvement

The assessing of the state of involvement in competition was designed based on the idea proposed by Williams (1998) of asking the athletes which were their achievement goals for the competition they were going to participate in. We however have introduced a nuance, as we asked the players in the past tense. Our introductory question was «In this competition I have felt successful when…», and next the 12 phrases similar to those of the Perception of Success Questionnaire were presented (Roberts and Balagué, 1989, 1991; Roberts, Treasure and Balagué, 1998). We have called the factors obtained *Task Involved* and *Ego Involved*.

Perception of Contextual motivational climate

To measure the athletes' perception of motivational climate in sport, the version translated into Spanish by Balaguer, Guivernau, Duda and Crespo (1997) of the Perception of Motivational Climate in Sport Questionnaire-2 (Newton and Duda, 1993; Newton, Duda, and Yin, 2000) was adapted. The Spanish version of this questionnaire consists of two second-order dimensions which measure the Perception of *Task-Involving Motivational Climate* and the Perception of *Ego-Involving Motivational Climate*. In the Spanish version, the task-involving climate factor is composed of 11 items. Examples of the perception of a task-involving climate included: «On this team, players feel good when they try their best» and «On this team, players help each other learn». The perception of ego-involving climate factor include 13 items (e.g. «On this team, coach has his or her own favorites»).

The studies, carried out on Spanish athletes without disabilities, have shown a factor distribution and internal consistency coefficients similar to those found in athletes and students in other countries (Balaguer et al., 1997; Cervelló and Santos-Rosa, 2000).

Goal orientations

Goal orientations were assessed by responses to the Spanish version (Cervelló, Escartí and Balagué, 1999) of the Perception of Success Questionnaire (Roberts and Balagué, 1989, 1991; Roberts et al., 1998). This 12-item scale measures how much individuals identify with task and ego goal orientations. Six items reflect *Task orientation* (e.g. «I feel successful in sport when I work hard»), and six items reflect *Ego orientation* (e.g. «I feel successful in sport when I win»). Athletes indicated the intensity of their agreement or disagreement with each phrase on a 100-point Likert-type scale ranging from *strongly disagree* (0) to *strongly agree* (100). The Spanish version of POSQ has been found to be valid and reliable (Cervelló et al., 1999). In this previous study the Cronbach Alphas for the task and ego orientation were .82 and .91 respectively, indicating an acceptable internal consistency of the Spanish version of POSQ.

Perception of competition situational motivational climate

In order to measure the situational motivational climate in competition, an adaptation for coach and sport friends of the Perception of Significant Others' Sport Success Criteria Questionnaire (CPCEDOS) was used (Escartí, Roberts, Cervelló and Guzmán, 1999). The athletes completed a set of 2 questionnaires (one for each significant other). The athletes responded to 8 questions reflecting a *Task-involving* perception of coach / sport friends' sport success criteria in a competition situation (e.g. «In this competition my coach / sport friends feel/s that I have had success when I have worked hard») and 8 questions reflecting an *Ego- involving* perception of coach / sport friends sport success criteria (e.g. «In this competition, my coach / sport friends feel/s that I have had success when I have been the best»).

In all questionnaires, replies were formulated on a Likert-type scale in which each item has a response range of 0 to 100. The 0 corresponds to *absolutely disagree* and the 100 to *completely agree* with the formulation of the phrase.

Results

Descriptive atatistics and reliability

Table 1 shows the means, standard deviations, Cronbach's alphas and correlations for all variables in the study. Consideration of these results shows that the athletes of our study exhibit high task orientation and moderate ego orientation. As for the state of involvement (goal involvement) in competition, it can be seen that the players were highly task involved and moderately ego involved. It can also be observed that they perceived a high task involving climate both in their coaches and sport friends, this perception being moderated in the case of the ego involving situational climate.

Concerning the internal consistency coefficients, it can be observed that for all factors analyzed the values exceed .70, due to which these coefficients can be considered highly acceptable (Nunnally, 1978).

Regression analysis

As shows Tables 2 and 3, and based in the postulates of achievement goals theory (Dweck and Legget, 1988; Nicholls, 1989), the scores of competition task and ego involvement were hierarchically regressed on the following variables: (a) contextual variables (perception of contextual motivational climate), (b) dispositional variables (task and ego orientations), and (c) situational factors (perception of coach and sport friends' situational motivational climate). Table 2 shows, for task involvement, that perception of contextual task-involving motivational climate was a positive predictor of competition task involvement. After step 2 with goal orientations in the equation, the R^2 was significantly improved, but only task orientation predicts significantly the competition task involvement. The beta value of perception of contextual task-involving motivational climate was not longer significant suggesting that their effect on

competition task-involvement was mediated by goal orientation. In last step, addition of perception of situational motivational climate not increases significantly the R^2. For competition ego involvement, Table 3 shows that only in step 2, goal orientation offers a positive contribution to competition ego involvement. Contextual and situational perceptions of motivational climate were no longer significant in all steps.

Discussion

The main objective of this work has consisted of determining whether the state of involvement which athletes showed during sporting competition could be predicted by the study of the climate usually perceived in their training group, their dispositional goal orientation and the perception of the other significant's (coaches and peers) competition situational motivational climate. Our results show that the contextual and dispositional aspects are more powerful predictors of the state of involvement than the situational climate perceived in a competition. We can observe that ego involvement is positively related to both the perception of an ego-involving contextual climate, ego orientation and ego-involving perception of situational motivational climate proceeding from coach, but not from peers. This result could be due to the fact that the coach is the social agent with the greatest influence, both contextual and situational, in the ego-involved state of athletes in competition. Other studies have pointed out the importance of the coach as a social agent in sport activities (see Smith and Smoll, 1996, for a review). The results obtained in works about

Table 1
Means, standard deviations, alpha coefficients and correlation of all variables

VARIABLES	M	SD	α	1	2	3	4	5	6	7	8	9	10
Task involved	71.33	25.94	.95		.52**	.58**	-.45**	.60**	.27*	.56**	.58**	.59**	.45**
Ego involved	48.19	27.94	.93			.12	.18	.11	.78**	.24	.52**	.13	.80**
Cont. task-Involving climate	76.26	17.77	.90				-.60**	.69**	-.16	.66**	.27	.74**	.19
Cont. ego-Involving climate	33.47	18.82	.87					-.39**	.42**	-.37*	-.09	-.40*	.03
Task orientation	77.88	18.68	.90						-.12	.74**	.42**	.75**	.19
Ego orientation	48.24	24.38	.90							.06	.45**	-.06	.75**
Task-involving cl. (Sport friends)	71.98	21.86	.96								.49**	.87**	.46**
Ego-involving cl. (Sport friends)	58.26	23.95	.94									.49**	.74**
Task-involving cl. (Coach)	74.12	22.06	.96										.37*
Ego-involving cl. (Coach)	51.01	26.15	.95										

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

Table 2
Summary of hierarchical regression analysis for variables predicting competition task involvement

Variables	B	SEB	ß	ΔR^2
Step 1				.35*
Contextual task-involving climate	.80	.35	.47*	
Contextual ego-involving climate	-.21	.27	-.16	
Step 2				.21*
Contextual task-involving climate	.48	.33	.28	
Contextual ego-involving climate	-.26	.23	-.20	
Task orientation	.49	.21	.40*	
Ego orientation	.29	.13	.30	
Step 3				.04
Contextual task-involving climate	.23	.43	.13	
Contextual ego-involving climate	-.25	.25	-.19	
Task orientation	.26	.28	.21	
Ego orientation	.19	.25	.20	
Situational task-involving climate (sport-friends)	.19	.44	.17	
Situational ego-involving climate (sport-friends)	.13	.25	.14	
Situational task-involving climate (coach)	.13	.45	.12	
Situational ego-involving climate (coach)	-.04	.27	-.05	
Total R^2				.60**

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

Table 3
Summary of hierarchical regression analysis for variables predicting competition ego involvement

Variables	B	SEB	ß	ΔR^2
Step 1				.02
Contextual task-involving climate	.40	.49	.20	
Contextual ego-involving climate	.17	.37	.12	
Step 2				.57**
Contextual task-involving climate	.49	.37	.25	
Contextual ego-involving climate	-.12	.25	-.08	
Task orientation	.00	.23	.00	
Ego orientation	.87	.15	.79**	
Step 3				.11
Contextual task-involving climate	.67	42	.34	
Contextual ego-involving climate	-.02	.24	-.06	
Task orientation	.18	.27	.13	
Ego orientation	.42	.24	.38	
Situational task-involving climate (sport-friends)	.28	.42	.23	
Situational ego-involving climate (sport-friends)	.10	.25	.09	
Situational task-involving climate (coach)	-.87	.44	-.72	
Situational ego-involving climate (coach)	.45	.26	.45	
Total R^2				.71**

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

socialization in the goal theory with Spanish athletes (Escartí et al., 1999) found that the adult influences appear to emphasize ego-involving criteria more clearly than their training peers.

Regression analysis, both for ego and task involvement, shows that the contribution of the perception of the situational climate in the prediction of the state of involvement is much less important than the importance of the contextual climate. These results indicate that the contextual climate which is usual during training is acting indirectly upon the state of involvement through motivational orientation, this aspect being the most powerful predictor of the involvement state. This result is coherent if we consider that, on occasions and during sporting competition, athletes cannot always receive evaluative feedback from the coach. However, the coach, in his daily work, can clearly express his competitive objectives in an implicit or explicit way. The results show that, indeed, the motivational contextual climate influences the task-involved state through task orientation, while the ego-involved state is predicted only by ego orientation. In this respect, the study performed by Pensgaard, et al. (1999) has shown, by means of the qualitative methodology of interviews, the relevance of the task-involving motivational climate in athletes with disabilities, a relevance which appears to be linked to the situation of disability. These results were also partly endorsed in a later study in elite athletes without any disability (Pensgaard and Roberts, 2002). Our results also show the preponderant relevance of task-involving motivational climate in the competition task-involvement.

The descriptive statistics show that the athletes of our study possess high levels of task involvement, and moderate levels in the ego-involved state. In previous studies with elite athletes with disabilities, high levels of ego and task orientation have been found, similar to elite athletes without disabilities (Pensgaard et al., 1999). In contrast to disabled athletes not considered to be elite, the results of different studies show a greater dsiposition of task orientation than ego orientation (Cervelló et al., 1999; Skordilis et al., 2001). Our results similarly show that athletes from our study show greater levels of task orientation than ego orientation, the same as in the state of involvement. It would be interesting to challenge this result, to determine if the best athletes are those who show a greater task involvement for competition (it should be remembered that the athletes from our study are the best Spanish s athletes in their specialties) or, in contrast, it is a feature of our participants. One limitation of this study is the focus only on the psychological constructs reported by the participants. In future studies the objective result of the competition should be considered as a mediator of the replies *a posteriori* to the state of involvement. It could be possible that, faced with a bad result objective in competition, the replies referring to the task-involved state might increase, faced with the scores of the ego-involved state, to preserve a high level of self-esteem, an aspect emphasized in other works which analyze this psychological construct (Fox, 2002).

Therefore, the contextual climate which coaches usually promote in their sport groups should be monitored and taken into consideration. Coach's continuous stimuli appear to be more influential than the situational stimuli, which, at a given moment and a specific context, peer sportsmen and women may offer. Therefore, the coach must be encouraged to consciously control the stimuli offered to athletes in order to achieve a state of optimum involvement for competition, aspects already commented upon previously in different works on goal theory (Duda, 2001; Roberts, 2001).

Furthermore, we must point out that the present study has corroborated, from an empirical perspective, the postulates of the achievement goal perspective (Dweck and Legget, 1988; Nicholls, 1989), which considers that the state of involvement in a specific situation is the result of the conflict between motivational orientation and contextual-situational factors. We have found that this is obviously the case, but also that the usually signs designating success and failure, are more powerful predictors than the signs offered in a particular competition, and in a specific way.

We therefore believe that this study should be replicated with athletes of different sport disciplines, several levels of functional classification (possessing higher vs. lower degrees of functional ability), different disabilities and nationalities, in order to determine, in a more consistent way, the relations which exist between the motivational variables.

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