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Youth sport dropout from the achievement goal theory

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El abandono del deporte en jóvenes desde la Teoría de las metas de logro. This study examined dropout behavior, using the conceptual framework of achievement goal theory. We hypothesized that dropout could be predicted by a high ego-oriented goal disposition in combination with a low perception of personal skill and the perception that the coach and sport peers maintained ego-oriented sport success criteria. The participants were 134 adolescent athletes involved in high-level competitive sports participation. The results of structural equation modeling (SEM) supported these hypotheses. Furthermore, the variables that directly predicted sport dropout were the participant's ego orientation (positively) and perception of skill (negatively). These findings and the research prospects are discussed.

Este estudio analizó la conducta de abandono deportivo, utilizando el entramado teórico de la teoría de las metas de logro. Así, se hipotetizó que el abandono se podría predecir por una alta orientación al ego, una baja percepción de habilidad comparada, junto con la percepción de criterios de éxito deportivo orientados al ego en el entrenador y los compañeros del grupo deportivo. Los participantes fueron 134 deportistas adolescentes, enrolados en grupos competitivos orientados hacia el alto nivel. El cálculo de un modelo de ecuaciones estructurales (SEM), corroboró las hipótesis de partida, mostrando que el abandono deportivo se predijo positivamente por la orientación al ego y negativamente por la percepción de habilidad. Estos resultados, y las perspectivas de investigación futuras, se discuten en el documento.

Understanding dropout behavior in youth sports has been the object of analysis in the area of sports motivation for the past two decades (Roberts, 1992, 2001). Dropout occurs when young athletes terminate their athletic careers prematurely and before they have reached their top performance. The first studies on sport dropout descriptively analyzed the different reasons underlying the decision of young athletes to quit practicing a sport. These studies found that there are a series of reasons for dropout that has been replicated in diverse studies. These reasons include: conflict of interests, not having fun, low perception of ability or the excessive demands of competition. It is difficult to generalize from these studies, as each study has used different samples, the members of these samples presented different levels of dedication to the sport, and the samples presented a great variety of ages and genders (Fry, McClements, & Sefton, 1981; Gould, 1987; Gould, Feltz, Horn, & Weiss, 1982; Klint & Weiss, 1986; Sapp & Haubenstricker, 1978; White & Coakley, 1986). However, in spite of their limitations, the knowledge base to date provides us with some keys to understanding some of the basic reasons that lead young athletes to dropping out of sports competition (see Weiss & Ferrer Caja, 2002, for an extensive review).

Other investigators have explained sport dropout to be the consequence of a lack of motivation. From this perspective, researchers have considered young people dropping out of competition to be the final result of a process of lack of motivation (Gould, 1996). In line with this postulate, dropout should be analyzed from the general theories of sport motivation.

Achievement goal theory, (Ames, 1992; Dweck, 1986; Nicholls, 1989), has been one of the motivational theories that has produced the most research in the field of sport and exercise psychology (for a review, see Duda, 2001; Duda & Ntoumanis, 2005; Roberts, 2001). Roberts (1992, 2001) used this theory as the framework for a theoretical model that contemplates the variables the achievement goal perspective considers being implicit in the process of sport motivation.

The first of the variables is their goal orientation, or each individual's desire to demonstrate ability and to be successful. However, how individuals construe ability in sports can vary from one person to another, so that the criteria the subject adopts to judge what success is will take the form of the goal orientation he adopts. From the perspective of achievement goal theory, there are two different ways to judge ability. One way consists of judging ability by using social comparison as a reference, so that the person feels successful when he shows more skill than others. This manner of judging ability is considered to reflect an ego-orientation. The second conception of ability is related to the learning and command of the task. In this case, individuals do not compare themselves with any external element, and they see themselves as capable when they learn something new and progress in learning the skill. This conception of ability is called *task-oriented*. Nowadays, we

have enough knowledge to recognize that a task-orientation is associated with more positive motivational, affective and behavioral patterns than is an ego-orientation. Task-oriented individuals tend to put forth more effort in sports, demonstrate greater persistence, show greater interest, have more fun and express greater satisfaction when practicing sports. In contrast, ego-oriented individuals demonstrate less adaptive motivational patterns characterized by demonstrating less effort in practicing sports, having less fun, and leaving the sport when they encounter small difficulties or see themselves as not very skillful (Castillo, Balaguer, & Duda, 2002; Cervelló, Escartí, & Balagué, 1999; Cervelló & Santos-Rosa, 2001; Duda, 1992; Duda, Chi, Newton, Walling, & Catley, 1995; Treasure & Roberts, 1994).

The second variable addressed by both the model and the theory is the social context and the importance of the significant other in individuals' goal orientation and in forming success criteria. The perception that athletes have of the success criteria used by their parents, coaches and sport friends has proven to be a variable that is strongly related to the goal orientation of the individuals themselves (Escartí, Roberts, Cervelló, & Guzmán, 1999; Smith, Fry, Ethington, & Li, 2005; White, 1996). The important role of significant others in the sports environment, such as the coach and sport peers, regarding goal achievement orientation, has been further highlighted by researchers (Burton, 1992; Cecchini, González, Carmona, & Conteras, 2004; Cervelló, Hutzler, Reina, Sanz, & Moreno, 2005; Piparo, Lewthwaite, & Hasbrook, 1990). Specifically, Burton (1992), proposed the need for investigators to help coaches in ways that would minimize the conditions that lead athletes to dropout, focusing on two types of intervention. One strategy would be to avoid situations that contribute to low perceptions of ability in the athletes and, on the other, to attempt to change stress-inducing perceptions of athletes.

In addition, peers are an extremely important reference group throughout adolescence as they help in establishing athletes' sense of identity and their competence perceptions in this developmental era (Harter, 1998). However, in spite of its importance, very few studies in the context of sports have tried to analyze the influence of the peer group on achievement motivation (Cervelló et al., 2005; Cervelló, Calvo, Ureña, Martínez, & Guzmán, 2006; Vazou, Ntoumanis, & Duda, 2006; Weiss, Smith, & Theeboom, 1996).

Furthermore, one's perceived competence, or the sense that one has the ability to master a task, predicts that those individuals who see themselves as highly competent at a particular skill will persist longer at the skill and continue to be interested in the activity. On the contrary, those individuals who see themselves as having low competence at a particular skill will not maintain task persistence and interest (Roberts, Kleiber, & Duda, 1981; Whitehead, André, & Lee, 2004). Different studies in the area of sport psychology have found that individuals who perceive themselves as having great skill in sports also try harder and persevere more when faced with difficulties and challenges (Duda, 1989; Whitehead et al., 2004). In agreement with Roberts' dynamic model of motivation (1992), individuals who demonstrate a high level of ego orientation and a low perception of ability and perceive high ego orientation from their significant others will tend to demonstrate poorly adapted achievement behaviors that can lead to sport dropout.

Several studies have applied achievement goal theory to the understanding of participation motivation in youth sport (Burton, 1992; Sarrazin, Vallerand, Guillet, Pelletier, & Cury, 2002; White & Duda, 1994; Whitehead et al., 2004).

In a recent prospective study that lasted 21 months with handball players, Sarrazin et al. (2002) found that the perception of a task-involving motivational climate contributed to a higher perception of competence, and stronger feelings of autonomy and relatedness, whereas the perception of an ego-involving motivational climate was not associated with positive changes in these variables. In addition, they found that feelings of low competence, a lack of autonomy and feeling weak relationships with others undermined self-determined motivation and contributes dropping out of the sports activity.

Finally, the work developed by Whitehead et al. (2004), showed that the perception of an ego-involving climate, was strongly related with the persistence in a sample of track and field athletes. The results showed that withdrawal was most likely in low perceived ability athletes who perceived an ego-involving climate, or had a high self-referenced disposition but also perceived an ego-involving climate.

This knowledge base helps to explain the enormous practical utility of applying goal theory in order to understand participation and dropout in youth sports. However, and in spite of the large amount of research that has been carried out in the area of sports based on achievement theories, few studies have analyzed sport dropout from this point of view. The purpose of this research was to empirically analyze the predictive power of the different Roberts' dynamic motivation model (1992) with regard to leaving sports, thus analyzing the phenomenon of dropout from a goal theory perspective. Our hypotheses were that those individuals who have a low perception of their own competence, are highly ego oriented and perceive task oriented sports success criteria in their significant others (coach and sport friends) would be more likely to dropout of the sport activity. For this purpose, as in previous studies (Sarrazin et al., 2002), we used a prospective type design in which we tried to determine the predictor variables of sport dropout.

Method

Participants

The participants were 134 Spanish competitive athletes who had participated in competitive sport programs for at least the two previous years. These athletes participated in a program for talented sport young people and competed at the superior level for their ages. The study population was constituted by 196 subjects and 134 participated voluntarily in the study. All participants had maintained the same coach for at least two years. This was essential to insure that the coach's achievement-oriented beliefs were sufficiently influential as a form of social influence. Of the youngsters involved in the sample, 90 participated in track and field (57 males and 33 female), 44 were tennis players (33 males and 11 females). The ages of the athletes ranged between 14 and 18 years, the mean age being 15.23 years.

Instruments

Measure of athletes' goal orientations

Goal orientations were assessed through responses to the Spanish version (Cervelló et al., 1999) of the Perception of Success Questionnaire (Roberts, Treasure, & Balagué, 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 at sports when I work hard»), and six items reflect ego orientation (e.g., «I feel successful at sports when I win»). Athletes indicated the intensity of their agreement or disagreement with each statement on a 100-point Likert-type scale ranging from strongly disagree (0) to strongly agree (100). The Spanish version of the POSQ has been found to be valid and reliable (Cervelló et al., 1999). In this previous study, the Cronbach alpha levels for the task and ego orientation were .82 and .91, respectively, indicating an acceptable internal consistency of the Spanish version of the POSQ.

Measure of athlete's perception of the criteria of success used by significant others

The Perception of Significant Others Sport Success Criteria Questionnaire (PSOSSCQ) was designed to measure the participant's perception of the sport success criteria that his or her significant others use in sports. In order to measure the Perception of Significant Others' Sport Success Criteria Questionnaire (Escartí et al., 1999), the athletes responded to 8 questions reflecting a Task-Oriented perception of Coach / Sport Friends sport success criteria (e.g. My coach / sport friends, has/have felt that I was successful, when I fulfilled an objective) and 8 questions reflecting an Ego-Oriented perception of Coach / Sport Friends sport success criteria (e.g., My coach / sport friends has/ have felt that I was successful when I performed better than the others). The athletes completed a questionnaire in relation for both their coach and their sport friends. Responses were recorded on a 100-point Likert scale (0= strongly disagree, 100= strongly agree). Previous studies conducted with Spanish competitive (Cervelló et al., 2005; Escartí et al., 1999) and recreational athletes (Cervelló & Santos-Rosa, 2001), have demonstrated high indices of reliability for the instrument. In these studies the alpha coefficient was between .80 and .93 for the Perception of Task-Oriented Sport Success criteria factors and between .82 and .96 for the Perception of Ego-Oriented Sport Success criteria factors, indicating acceptable internal consistencies for all factors.

Perceived ability

Perceived ability was measured as a single item in relation to how participants evaluated their own ability compared with that of others, following the recommendation of Nicholls, Cobb, Wood, Yackel, and Patashnick (1990). That is, respondents rated their perceptions of ability on a Likert type scale from 0 to 100, where 0 corresponds to «I am one of the worst» and 100 to «I am one of the best».

Dropout behavior

Dropout behavior was considered to occur when the subjects stopped attending the training sessions and competitions during the sports season. It was not considered to be a circumstance of dropout in cases where athletes had stopped practicing the sport due to reasons out of their control (e.g., injuries, family had moved). Those subjects who remained in the program were considered active athletes.

Procedure

Contact was made previously with the coaches (n= 23) of the participants, and they were informed about the general purposes of the research. They were told at the beginning of the sports season that the athletes would be administered some questionnaires and at the end of the season we would again get in touch with them to analyze the performance of the athletes and check on whether anyone had dropped out. The 134 participants in the research study completed the questionnaires in the month of October during a training session and in groups of five. Questionnaires completed assessed the athlete's goal orientations, the athlete's perception of the criteria of success significant others used and their perceptions of ability. When the next season began in the month of September, contact was made again with the coaches to see which subjects had left competitive practice of the sport. The coaches were asked to complete a document that described the current situation of the athletes in their training group with regard to whether they were active subjects or subjects who had left the program. Of the 134 athletes who completed the questionnaires at the beginning of the season, 16 had left the program and 118 continued to be active after one sports seasons. All subjects participated voluntarily in the investigation

Results

The results section contains the descriptive statistics and internal consistency coefficients of the instruments used in the study. An analysis of structural equations (SEM) was carried out with the purpose of predicting sport dropout based on the following variables: motivational orientation of the subjects, the perception of the success criteria held by the significant others, and the subjects' perception of ability.

Descriptive statistics and reliability

Table 1 shows the means, standard deviations and Cronbach alphas for all variables and for the two groups in the study. These results show that the athletes in our study demonstrated both high task and high ego orientations, and they also perceived high levels of task and ego oriented criteria of sport success in their coaches and sport friends. We also observed that the athletes in the study had moderate perceptions of ability.

Regarding the coefficients of internal consistency, we can observe that for all the factors analyzed the values are above .70, so that we can consider these scales to have demonstrated acceptable internal consistency (Nunnally, 1978).

Structural equation modeling

The relationships among the dispositional goal orientations, the perception of the criteria of sport success used by the coaches and sport friends, the perception of ability and sport dropout were examined by using Structural Equation Modeling (SEM). For this purpose, version 4.0 of the AMOS program was used. An initial hypothetical model was proposed, and the data were analyzed using maximum likelihood analysis. This method, assumes multivariate normality. Due that data violated the multivariate normality (Mardia= 42.86), the bootstrapping (Byrne, 2001) technique to improve non-normality of data was employed. This

approach, calculates the parameter estimates from an empirical sampling distribution, rather than the theoretical distribution of statistics test as chi-square and normality test (Mooney & Duval, 1993).

To evaluate the adequacy of the model's fit to the data, some fit indices were contemplated from those provided by the AMOS, such that they were capable of assessing the overall fit of the model in relation to the size of the sample (Cea, 2002). Consequently, diverse indices of fit were used including the Chi-square statistic (χ^2), the Relative Chi-square (χ^2 / df), the CFI index (Comparative Fit Index), the Tucker-Lewis Index (TLI), the Incremental Fit Index (IFI) and the RMSEA (Root Mean Square Error of Approximation).

The hypothetical model analyzed shows, in line with previous research (Duda, 2001; Smith, Fry, Ethington, & Li, 2005), that the perceptions of the different criteria of sports success held by the significant others are related and that the perceptions of the ego-oriented criteria of sports success of the coach and the sports friends would be predictors of ego orientation, and contribute to the formation of athletes' perceptions of ability. In the same way, it was anticipated that the perception of task-oriented sports success criteria used by the coach and teammates would predict the athlete's orientation toward the task. Finally, it was hypothesized that the predictors of sport dropout would be ego orientation and perception of ability. The sample size was sufficient for the present study given that the recommendation has been made to include a minimum of ten cases for each observed variable (Jaccard & Wan, 1996). Furthermore, although latent variable were not included in the model, it is not essential that latent variables be present for structural equation modeling to be conducted (MacCallum, 1995).

The results showed a poor fit of the hypothetical model to the empirical data, with the coefficients found being: [χ^2 (14)= 44.135, $p < .001$; (χ^2 / df)= 3.15; CFI= .991; TLI= .97 ; IFI= .99; RMSEA= .127 ($p < .05$)]. To improve the fit of the model, diverse modification indices were calculated. The criteria for accepting these modification indices were that they had to improve the fit of the proposed model and that there had to be theoretical coherence in the relationships proposed (Cea, 2002).

The original model was modified in a manner that was consistent with current theory. From the perspective of achievement goal theory, it has been argued that contextual variables affect the conception of ability (Ames, 1992; Duda,

2001). In this regard, it is highly probable that when one has a coach with a task orientation that the athlete is likely to have a more favorable perception of ability than an ego-oriented individual because the coach provides feedback to the individual in relation to the athlete's own self-referenced ability criteria. In accordance with this perspective, a path was drawn from the perception of success criteria of significant others to the athlete's own perception of ability. In this regard, when athletes perceive that their coach and sport friends use success criteria based upon social comparison that it is more likely that they will tend to have lower self-perceptions of ability because their self-perceptions of ability are evaluated relative to the ability of others and no longer under their control. Using this same reasoning, there should be paths between perceptions of task-oriented success criteria used by significant others and the athletes' perception of ability, with stronger perceptions of others' task orientations associated with higher perceived ability. However, the model did not allow for the prediction of this path. As such, it was decided to correlate the error between the variables, which is reasonable given the sources of error ought to be distinct between ability perceptions based on social comparison and success criteria based upon task completion. As such, a negative relationship was hypothesized between the errors associated with ability perceptions and task orientation.

With these considerations, we found that the model improved considerably given that the errors of approximation were minimized to a non significant level (Cea, 2002). Similarly, the rest of the fit indices showed that the final model could be accepted (Figure 1); [χ^2 (11)= 19.09, $p < .059$; (χ^2 / df)= 1.73; CFI= .99; TLI= .99; RMSEA= .074 ($p > .21$)].

In table 2, the significance of the standardized coefficients appearing in the revised model is indicated. In this table we can observe that the perception of ego-oriented sports success criteria of the coach significantly predicted ego orientation, while the perception of task-oriented sports success criteria of the coach and sport friends predicts task orientation. We also see how the perception of ego-oriented sports success criteria of the coach significantly predicted the perception of ability and how the perception of ability predicts ego orientation. Finally, we observe how ego orientation and the perception of ability appear as significant predictors of the sport dropout behavior.

Variables	M (All)	SD (All)	M (Actives)	SD (Actives)	M (Dropouts)	SD(Dropouts)	α
<i>Goal orientation</i>							
Task orientation	86.87	10.77	87.98	11.03	85.53	12.95	.82
Ego orientation	73.69	19.40	69.17	14.65	84.21	17.43	.91
<i>Perc. of significant others' sport success criteria</i>							
Task-oriented (Coach)	84.41	12.30	85.45	12.92	83.47	11.14	.87
Ego-oriented (Coach)	67.43	20.71	62.54	19.43	73.34	21.02	.92
Task-oriented (Sport friends)	79.29	15.19	81.23	16.50	80.02	14.82	.91
Ego-oriented (Sport friends)	77.59	17.53	78.34	17.34	76.30	17.45	.91
<i>Perception of ability</i>							
Perception of ability	62.68	17.47	69.34	18.34	56.87	16.32	—

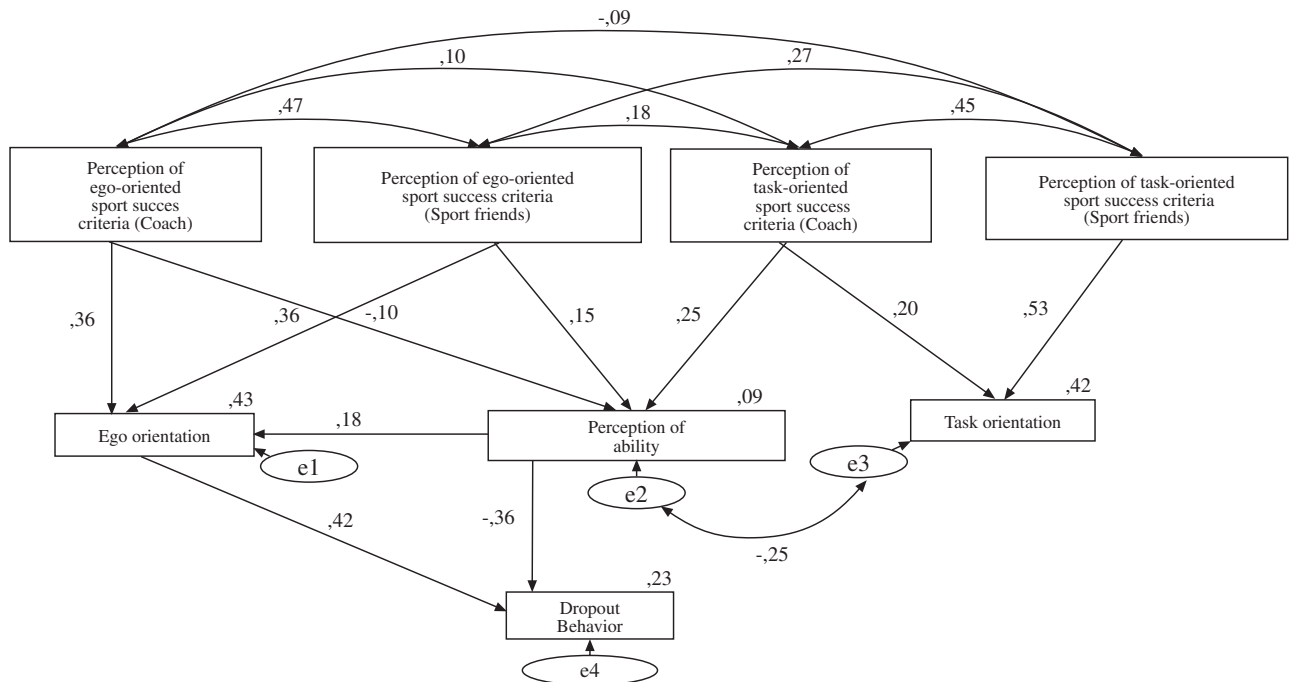


Figure 1. Revised model of relationship between perception of significant others' sport criteria, goal orientations, perception of ability and dropout behavior and standardized regression coefficients

Variable	Standardized coefficients	p
Ego-oriented sport success criteria (Coach) → Ego orientation	.36	.000
Ego-oriented sport success criteria (Sport friends) → Ego orientation	.35	.000
Ego-oriented sport success criteria (Coach) → Perception of ability	-.09	.285
Ego-oriented sport success criteria (Sport friends) → Perception of ability	.15	.097
Task-oriented sport success criteria (Coach) → Task orientation	.19	.004
Task-oriented sport success criteria (Sport friends) → Task orientation	.53	.000
Task-oriented sport success criteria (Coach) → Perception of ability	.24	.003
Perception of ability → Ego orientation	.18	.005
Ego orientation → Dropout	.42	.000
Perception of ability → Dropout	-.36	.000
Ego-oriented sport success criteria (Coach) √ Ego-oriented sport success criteria (Sport friends)	.47	.000
Task-oriented sport success criteria (Coach) √ Ego-oriented sport success criteria (Sport friends)	.18	.041
Task-oriented sport success criteria (Coach) √ Ego-oriented sport success criteria (Coach)	.10	.234
Task-oriented sport success criteria (Sport friends) √ Ego-oriented sport success criteria (Sport friends)	.27	.003
Task-oriented sport success criteria (Sport friends) √ Task-oriented sport success criteria (Coach)	.45	.000
Task-oriented sport success criteria (Sport friends) √ Ego-oriented sport success criteria (Coach)	-.09	.301
Error 3 √ Error 2	-.25	.004

Discussion and conclusions

The main objective of this study was to analyze dropout based on a series of variables including dispositional goal orientation, the perception of the success criteria used by the coaches and sport friends and the athlete's perception of ability. For this purpose, we started from a conceptual base of achievement goal theory and the

dynamic model of motivation proposed by Roberts (1992). The results of the study indicated that dispositional goal orientation and perception of ability predict dropout behavior. The model indicated that a high dispositional orientation toward ego and a low perception of ability positively predict dropout behavior. These findings were consistent with the study by Ewing (1981) which found that individuals with a high ego orientation and low

perception of ability would be those who would be more likely to abandon the sports activity. The results of our study support this hypothesis.

On the other hand, as in other studies on the socialization of the dispositional goal orientations (Cervelló et al., 2005; Cervelló et al., 2006; Smith et al., 2005; Weiss, Smith, & Theboom, 1997), we found that significant relationships exist between perceptions of the success criteria used by the significant others and the dispositional goal orientation. In this regard, when athletes perceive that their coaches and sport friends utilize ego-oriented success criteria, they are more likely to adopt an ego-oriented dispositional goal orientation. This same tendency is found in the task orientation. Our data highlight the importance of significant others in the dispositional goal orientation of young athletes.

The findings also indicate that the perception of ability predict the dispositional goal orientation toward the ego, data which are quite consistent with the postulated concepts of goal theory, which indicate that the conception of ability held by the subject is directly related to his or her motivational orientation. As highlighted by Treasure, Duda, Hall, Roberts, Ames, and Maehr (2001), the use of the concept of differentiated or undifferentiated ability is much related to the achievement goal in a specific situation. Along these lines, and taking into account that our athletes are competitive athletes, it seems reasonable to suppose that when they feel more capable than others, they tend to use competitive parameters related to a dispositional motivational orientation.

From our data it can be seen that the perception of the sports success criteria used by significant others, such as the coach and sport friends, the dispositional goal orientation and the perception of ability are especially important variables for understanding dropout behavior in sports. The model fit obtained has shown that it is necessary, in order to try to reduce sport dropout behavior, for the coaches to foster success criteria oriented toward the task. These results lead us to consider the need to carry out future experimental studies that analyze in the sports domain the different components that shape a success criterion oriented toward the task compared to an ego-oriented success criterion, as well as the way to operationalize these constructs and modify

them. An interesting line of study is the one initiated by Ames (1992) in the educational context regarding motivational climate. This approach has been successfully applied in the sports area, and there is currently extensive literature, both in the sports area and in physical education classes, that demonstrates the possibility of successfully manipulating motivational climates (Papaioannou & Kouli, 1999; Solmon, 1996; Treasure & Roberts, 2001).

The findings of this study and the findings of other studies that have studied similar variables (e.g., Vazou et al., 2006) provide evidence for the relevance of peer-created motivational climate in youth sport, along with the coach-created motivational climate. From a practical perspective, the obtained results indicate that assessing only the coach motivational climate is not sufficient when examining young athletes' motivation, because peers are also important sources of motivational influence. The coaches must consider the effect that the motivational climate that they generate in his training, not only affects directly the athletes, but that can have an effect in the «motivational style» that is marked in the sport group. This idea would mark the necessity to contemplate intentionality the manipulation of the motivational climate towards task-involving criteria. In fact, in a recent study developed by Viciano et al. (2003), results showed that positive feedback in physical education classes significantly increased the enjoyment, the task-commitment and the perceptions of task-involving motivational climate of students.

As considers Vazou et al. (2006), the existing literature on perceived motivational climates in sport has focused almost exclusively on the influence of adults ignoring the potential impact of peers. As a consequence, these studies might have missed out social situational factors influencing the experiences and motivational responses of young athletes.

However, more studies, from a longitudinal perspective, are needed to analyze the way to increase the motivation toward practicing sports in adolescents and to avoid sport dropout behavior. Consideration of both dispositional and situational factors, and the relationships between the different social agents related to motivation would lead to a more complete understanding of dropout behavior.

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