

Motivational climate and goal orientations as predictors of perceptions of improvement, satisfaction and coach ratings among tennis players

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One purpose of this work was to study the relationship of goal orientations and the perceived motivational climate created by the coach in relation to 219 competitive Spanish tennis players: a) perceived improvement in different facets of the game, b) satisfaction with their competitive results, overall level of play, and coach, and c) ratings of their coach. The second purpose was to examine whether the dependent variables were best predicted by the perceived situationally emphasized goal structure created by the coach and/or the athletes' dispositional goal perspective. Intermediate (N=70), advanced (N=124), and professional (N=25) level players completed Spanish versions of the TEOSQ and the PMCSQ-2 and items assessing perceived improvement specific to tennis, satisfaction and coach ratings. The results were consistent with the tenets of goal perspective theory and provide further support for the promotion of a task-involving atmosphere in sport.

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During this past decade, goal perspective theory (1–3) has played an important role in the study of achievement motivation in sport (4–6). This theory holds that there are two primary goal perspectives operating in this achievement activity (namely, task and ego involvement), which relate to different ways of defining success and judging one's competence. When task-involved, perceived ability is self-referenced and emphasis is placed on task mastery, the exertion of effort, and development of one's skills or knowledge of the activity. When ego-involved, individuals are concerned with demonstrating normatively referenced high ability and, thus, perceive a successful event when they think that they have surpassed others or performed equally with less effort.

Researchers (1–3) suggest that social situations created by significant others (such as teachers, coaches, parents) can impact the probability of whether an athlete will be task- or ego-involved when she participates in sport. Environments that are highly competitive (within and between teams) entail the public

evaluation of skills, emphasize normatively based feedback which favors the highly able, and/or are punitive when mistakes are made are more likely to be perceived as ego-involving (7, 8). In contrast, situations emphasizing effortful involvement over outcome, personal improvement, and collective contributions tend to be viewed as task-involving.

It is assumed that whether an athlete is task- and/or ego-involved in sport is also impacted by dispositional goal perspectives or her/his degree of task and ego orientation. According to Nicholls (3), these "individual differences in proneness to the different types of involvement" (p. 95) are orthogonal and sport research has supported his assertion (6).

The literature to date suggests that an examination of goal perspectives (whether operationalized as dispositional goal orientations, and/or the perceived motivational climate) provides insight into variations in the motivational processes of individuals involved in athletic activities. For example, task and ego orientations have been found to differentially predict ath-

letes' perceptions of the purposes of sport, beliefs about the causes of success, enjoyment of and interest in the activity, sportspersonship attitudes, participation motives, and anxiety and coping strategies in a conceptually consistent manner (6, 9, 10). Further, perceptions of the motivational environment operating on sport teams have been linked to variability in enjoyment, satisfaction with team membership, intrinsic motivation, beliefs about the determinants of success, self-efficacy, and perceived functions of sport participation (6). In general, and consistent with theoretical tenets (1-3), this work has indicated that a focus on task-involved goals is associated with adaptive motivation-related cognitions, emotional responses, and beliefs in the sport context (5).

Less attention, however, has been given to examining the potential impact of goal perspectives on performance and other variables fundamental to persistence in sport and physical activities (6). This is particularly true in the context of skilled athletic performance (11). Currently, in the goal perspective literature, there is an interesting debate regarding whether the motivation-related advantages of task involvement (and disadvantage of ego involvement) hold for samples including elite competitors (11-13). One purpose of this study was to extend previous work and examine the relationship of the perceived motivational climate created by the coach and dispositional goal orientations to intermediate, advanced, and professional level tennis players': 1) perceived improvement in the technical, tactical, physical and psychological facets of their tennis performance, 2) satisfaction with their recent competitive results, level of play, and degree of individualized training provided by their coach, and 3) ratings of their coach in reference to an ideal (preferred) coach and the importance of the coach with respect to the athlete's learning and improvement. These variables would be critical if we are interested in the likelihood of skilled athletes staying with a particular coach and the probability of their persisting and improving in the sport in question.

This study also examined the degree to which the dependent variables of interest were a function of dispositional goal orientations, the perceived situational goal structure, or both factors. Duda and Nicholls (14) have argued that, as these variables are more dispositional and stable in nature, overall attitudes toward and views about sport will primarily be predicted by athletes' goal orientations. Perceptions and cognitive responses tied to the sport context at hand (or, especially in the case of younger athletes; 15) are expected to be best predicted by the perceived motivational climate operating in the particular athletic context. Cognizant of Duda and Nicholls' (14) suggestions and recognizing that the current sample was composed of adolescents, we hypothesized that vari-

ations in perceptions of the motivational climate would emerge as the best predictor of indices of perceived improvement, satisfaction, and coach ratings examined in this study. More specifically, we expected that the tennis players would perceive greater improvement in dimensions of their game, be more satisfied with their results, level of play and coach's individualized training, indicate a greater preference for their coach, and rate their coach as more important in the athletes' development when the atmosphere created by their coach is deemed more task-involving.

Method

Sample. A total of 219 tennis players (73 female and 116 male) from clubs throughout Spain participated voluntarily in this study. Their mean age was 15.6 ± 2.1 years and mean years of tennis experience was 7.3 ± 2.7 years. The subjects ranged in skill level representing the intermediate (32.1%), advanced (56.6%), and professional (11.3%) levels of tennis competition.

Assessments and procedure. In the training setting, the subjects were given (by the third author or a trained assistant) a multi-section inventory containing measures of the perceived situationally emphasized goal perspective in their training environment, goal orientations, and items assessing perceived improvement specific to tennis, satisfaction and coach ratings. The inventory took approximately 30 min to complete.

Situational goal perspectives. The players responded to a Spanish version (16) of the Perceived Motivational Climate in Sport Questionnaire (7, 17) specific to tennis. The instrument contained 23 items examining the degree to which the climate created by the coach was deemed to be more or less task- and ego-involving. Each item was preceded by the stem "In my training group or team". Mean scale scores for the task- and ego-involving climate scales were calculated.

Goal orientations. The Spanish version (18) of the Task and Ego Orientation in Sport Questionnaire (19) was used to assess the tennis players' dispositional proneness for task and ego involvement in their sport. In previous work, this instrument was found to exhibit acceptable factorial validity and internal reliability. When completing the Spanish version of the TEOSQ, subjects were requested to think of when they felt most successful in tennis. Mean scale scores were calculated for both the task and ego orientation scales.

Perceived improvement, satisfaction, and coach ratings. The tennis players' evaluation of their personal level of improvement in the technical, tactical, physical, and psychological aspects of the game and overall results was examined. The areas of improvement

Table 1. Descriptive statistics (M, SD and range for all the variables)

	M	SD	Range
Motivational climate			
Task-involving	3.99	0.55	2.45-5
Ego-involving	2.62	0.70	1.09-5
Goal orientations			
Task orientation	4.32	0.57	2-5
Ego orientation	3.26	0.86	1-5
Perceived improvement:			
Technical	5.77	0.96	1-7
Tactical	5.37	1.00	2-7
Physical	5.50	1.23	1-7
Psychological	4.98	1.33	1-7
Satisfaction with:			
Results this year	4.45	1.57	1-7
Level of play	4.85	1.37	1-7
The coach	5.66	1.39	1-7
Coach ratings:			
Coach like I want to have	3.93	0.89	1-5
Importance of coach in training process	4.42	0.76	2-5

were evaluated on a 7-point Likert scale ranging from 1="I have gotten worse" to 7="I have gotten much better." The athletes' level of satisfaction with their competitive results during the current year, level of play, and degree of individualized instruction provided by their coach was indicated on a 7-point Likert scale ranging from 1="very dissatisfied" to 7="very satisfied." In regard to the tennis players' opinion of his/her coach, each athlete rated: a) whether his/her current coach is like the one the athlete would prefer to have (responses were provided on a 5-point Likert scale ranging from 1="doesn't coincide at all with the coach I would like to have" to 7="is my ideal coach") and b) the perceived importance of the coach in regard to the athlete's learning and improvement (responses were provided on a 5-point Likert

scale ranging from 1="not important at all" to 5="extremely important").

Results

The descriptive statistics for each of the variables assessed in this study are presented in Table 1. The tennis players, as a group, perceived the motivational climate on their team /in their training group to be highly task-involving. They also endorsed task-oriented goals in tennis. In general, the athletes felt that they were improving in their game, especially in regard to the technical aspects. They were satisfied with their competitive results, level of play and, in particular, the degree of individualized training provided by their coach and rated this individual in a positive manner overall.

Simple correlations (Table 2) indicated that tennis players who perceived that their coaches created a more task-involving environment also perceived they had improved in regard to the tactical, technical and psychological facets of their game. Perceptions of a task-involving environment were also significantly and positively associated with satisfaction with one's coach, level of play and match results. On the other hand, a perceived ego-involving environment was linked to greater dissatisfaction with the coach and positively correlated to reported satisfaction with level of play (Table 2). In regard to the coach ratings, when tennis players viewed their training/team environment as more task-involving, they also perceived that their coach was like the one they would prefer to have and felt their coach played a significant role in their learning and improvement. The coach rating variables were significantly and negatively correlated with perceptions of an ego-involving climate.

Task orientation was positively correlated with reported satisfaction with the individualized teaching

Table 2. Simple correlations between perceptions of the motivational climate and goal orientations with perceived improvement, satisfaction and coach ratings

	Climate		Orientation	
	Task	Ego	Task	Ego
Perceived improvement:				
Technical	0.14*	-0.10	0.05	-0.01
Tactical	0.13*	-0.03	0.11	-0.01
Physical	0.02	0.07	0.11	0.08
Psychological	0.26***	-0.05	0.09	0.06
Satisfaction with:				
Results this year	0.23**	-0.16*	0.14*	0.00
Level of Play	0.23**	0.13*	0.12	0.03
The coach	0.41***	-0.41***	0.25***	-0.02
Coach ratings:				
Coach like I want to have	0.32***	-0.33***	0.26***	-0.05
Importance of coach in training process	0.32***	-0.35***	0.39***	0.03

* P<0.05; ** P<0.005; *** P<0.001.

and support provided by one's coach and competitive results (Table 2). When tennis players endorsed a strong task orientation, they were also more likely to indicate that their coach is like the one they would prefer to have and is more important in terms of their development in tennis.

In order to determine whether indices of perceived individual improvement, satisfaction, and ratings of the coach were best predicted by dispositional goal orientations (i.e., task and ego orientation), perceptions of the motivational climate (i.e., perceived task-involving and ego-involving climate), or both factors, we performed a series of hierarchical stepwise regressions. In the first analysis, dispositional goal orientations (task and ego) were entered in Step 1 of the regression equation and motivational climate (task climate and ego climate) was entered in Step 2. A subsequent hierarchical stepwise procedure entered the perceived motivational climate in Step 1 and dispositional goal orientations in Step 2.

Subjective performance

As shown in Table 3, perceptions of the motivational climate emerged as a significant predictor of psychological improvement regardless of which step this variable was entered in the regression analysis. More specifically, perceptions of a task-involving training environment (created by the coach) corresponded to greater perceived improvement in the psychological facets of one's tennis game. The amount of variance accounted for, however, was limited (7%). Goal orientations did not emerge as significant predictors of any of the indices of subjective performance.

Level of satisfaction

With respect to the satisfaction variables, the perceived motivational climate emerged as the major predictor. Although the percentage of variance accounted for was low (5–6%), perceptions of a task-

Table 3. Percentage of variance accounted for in indices of perceived improvement

Step	Variable	Beta	RsqCh	RsqCu	F-value	P
Technical						
1	Ego orientation	-0.01				
	Task orientation	-0.07	0.00	0.00	0.12	0.88
2	Ego climate	-0.03				
	Task climate	0.18	0.02	0.02	2.50	0.08
1	Ego climate	-0.03				
	Task climate	0.18	0.02	0.02	2.28	0.10
2	Ego orientation	-0.01				
	Task orientation	-0.07	0.00	0.02	0.36	0.70
Tactical						
1	Ego orientation	-0.01				
	Task orientation	0.06	0.01	0.01	0.87	0.42
2	Ego climate	0.01				
	Task climate	0.07	0.00	0.01	0.36	0.69
1	Ego climate	0.01				
	Task climate	0.07	0.01	0.01	0.99	0.37
2	Ego orientation	-0.01				
	Task orientation	0.06	0.00	0.01	0.25	0.78
Physical						
1	Ego orientation	0.04				
	Task orientation	0.12	0.01	0.01	1.34	0.26
2	Ego climate	0.09				
	Task climate	-0.02	0.01	0.02	0.76	0.47
1	Ego climate	0.09				
	Task climate	-0.02	0.01	0.01	0.80	0.45
2	Ego orientation	0.04				
	Task orientation	0.12	0.01	0.02	1.30	0.28
Psychological						
1	Ego climate	0.07				
	Task orientation	-0.08	0.01	0.01	1.19	0.31
2	Ego climate	-0.00				
	Task orientation	0.30	0.07	0.08	7.24	0.001
1	Ego climate	0.00				
	Task orientation	0.30	0.07	0.07	7.77	0.001
2	Ego climate	0.07				
	Task orientation	-0.08	0.01	0.08	0.76	0.47

Table 4. Percentage of variance accounted for the indices of satisfaction and coach ratings among tennis players

Step	Variable	Beta	RsQCh	RsQCu	F-value	P
Satisfaction with results						
1	Ego orientation	0.02				
	Task orientation	0.04	0.03	0.03	2.64	0.07
2	Ego climate	-0.13				
	Task climate	0.16	0.04	0.07	4.02	0.02
1	Ego climate	-0.13				
	Task climate	0.16	0.06	0.06	6.59	0.00
2	Ego orientation	0.02				
	Task orientation	0.04	0.00	0.06	0.20	0.82
Satisfaction with level of play						
1	Ego orientation	0.04				
	Task orientation	-0.03	0.01	0.01	1.11	0.33
2	Ego climate	-0.08				
	Task climate	0.22	0.05	0.06	4.76	0.01
1	Ego climate	-0.08				
	Task climate	0.22	0.05	0.05	5.74	0.00
2	Ego orientation	0.04				
	Task orientation	-0.03	0.00	0.05	0.21	0.81
Satisfaction with the coach						
1	Ego orientation	0.07				
	Task orientation	0.03	0.08	0.08	8.31	0.00
2	Ego climate	-0.34				
	Task climate	0.28	0.18	0.26	24.42	0.00
1	Ego climate	-0.34				
	Task climate	0.28	0.26	0.26	34.04	0.00
2	Ego orientation	0.07				
	Task orientation	0.03	0.01	0.27	0.75	0.47
Coach I prefer						
1	Ego orientation	-0.00				
	Task orientation	0.12	0.09	0.09	9.40	0.00
2	Ego climate	-0.26				
	Task climate	0.17	0.09	0.18	11.03	0.00
1	Ego climate	-0.27				
	Task climate	0.17	0.17	0.172	20.19	0.00
2	Ego orientation	-0.00				
	Task orientation	0.12	0.01	0.18	1.16	0.31
Importance of coach in training						
1	Ego orientation	0.07				
	Task orientation	0.25	0.15	0.15	17.60	0.00
2	Ego climate	-0.25				
	Task climate	0.13	0.07	0.22	8.94	0.00
1	Ego climate	-0.25				
	Task climate	0.13	0.17	0.17	20.16	0.00
2	Ego orientation	0.07				
	Task orientation	0.25	0.05	0.22	6.64	0.00

involving climate positively related to greater satisfaction with one's competitive tennis results and level of play (Table 4). An examination of the beta weight indicated that perceptions of ego climate were negatively associated with satisfaction with one's match results. In terms of the tennis players' degree of satisfaction with the degree of individualized training provided by their current coach, greater satisfaction was positively linked to perceptions of a task-involving environment and negatively related to a perceived ego-involving atmosphere ($R^2 = .18-.26$).

Ratings of the coach

Motivational climate, mainly a perceived ego-involving environment, emerged as the primary predictor of the ratings of the coach (Table 4). The variance accounted for (17%) was considered statistically significant and meaningful (20). In relation to the conceptualization of their coach as an ideal one, tennis players revealed a greater preference for their present coach if their coach-created training environment was high in task-involving features and low in its ego-in-

volving characteristics. Moreover, when the climate was more task-involving and less ego-involving, the athletes rated their coach as being more significant to their development in tennis (i.e., their learning and improvement). Goal orientations also emerged as a significant predictor of the players' ratings of whether their current coach is like the one they would prefer to have and the importance of the coach in regard to their tennis. In this case, task orientation was positively related to the players' evaluations of their coach.

Discussion

A major focus of this research was to determine whether variations in dispositional and situational goal perspectives correspond to tennis players' estimations of the growth in their game and attitudes toward their coach in a conceptually consistent manner. Perceptions of the motivational climate were primarily linked to the indices of subjective performance. However, the perceived situational goal structure emerged as a significant predictor of perceived improvement in the psychological dimension only. In particular, when the environment created by the coach was deemed more task-involving, the tennis players felt that they were progressing more in the psychological facet of their game. This result is consistent with previous work which has found an emphasis on task goals to be positively associated with the reported salience of mental skills training, the amount of practice of mental skills, and the use of mental skills to counter performance-related stress among intercollegiate athletes (21, 22).

The tennis players' reported satisfaction with their competitive results for the year and current level of play was negatively associated with a perceived ego-involving climate and, in particular, positively associated with perceptions of a task-involving atmosphere. These findings make sense if we consider the characteristics and motivational implications of an environment which is viewed as being more task-involving and less ego-involving. Such a coach-created climate should promote more task involvement among the tennis players which, in turn, means that they will be more self-referenced and mastery-focused in how they conceive their ability and judge success. As task-involved conceptions of ability and subjective success are more within the athlete's personal control, such a perspective should foster a more positive outlook on one's competitive record as well as the athlete's current performance level.

When entered first in the regression analysis, perceptions of the motivational climate accounted for a significant amount of variance in the tennis players' satisfaction with the degree of individualized instruction exhibited by their coach. More specifically, when

the environment created by the coach was deemed more task-involving and less ego-involving, the athletes were more satisfied with the amount of teaching and personalized treatment they were receiving. This result is in agreement with recent work by Balaguer et al. (23), who found that athletes felt that their coaches *engaged* in more teaching and instruction and provided greater social support when they viewed the motivational climate as promotive of task involvement. The present finding also is compatible with the work of Smith and colleagues (24, 25). They demonstrated that athletes who played for coaches who had undergone coach effectiveness training (CET) (and, thus, instructed to use more positive reinforcement, provide less punishment and do more teaching) rated their coaches as better teachers and indicated a greater desire to play for such coaches than control group athletes. Chaumeton and Duda (26) have argued that the principles of CET are endemic to a task-involving motivational climate.

In a similar vein, the perceived motivational atmosphere induced by the coach also emerged as the best predictor of the tennis players' degree of preference for their present coach. That is, when the athletes deemed the atmosphere to be more task-involving, and especially, less ego-involving, they reported that their current coach was closer to their "ideal" coach.

If entered before dispositional goal perspectives, perceptions of the motivational climate accounted for more variance in the athletes' rating of the significance of the coach to their learning and performance improvement. Once again, a more positive evaluation was tied to a perceived coach-created environment which is stronger in its task-involving features and less pronounced in its ego-involving attributes. However, dispositional goal orientations (namely, task orientation) added significant variance in the prediction of the tennis players' appraisal of the coach's importance to their progress in tennis. This finding is consonant with research by Walling and Duda (27) in the physical education (PE) context. They reported a link between task orientation and the belief that having an effective PE teacher is an important determinant of students' success.

The adopted goal perspective in achievement situations is presumed to be dependent on individual differences in proneness to task and ego involvement as well as the situational goal structure at hand. Whether the person or situational dimension is most salient depends on a number of factors, such as the contextual-specificity of the variables being predicted and age group sampled. In accordance with the suggestions of Duda and Nicholls (14) and Treasure and Roberts (15), it was hypothesized that perceptions of the motivational climate would emerge as the major predictor of the current sample of tennis players' perceived performance improvement in tennis, satisfac-

tion with how one is doing in tennis, and contentment with and the evaluation of one's tennis coach. In general, the present findings supported this hypothesis (although limited support emerged for the indices of subjective performance). Only in the case of the athletes' rating of the relevance of the coach to the athletes' training and development did dispositional goal perspectives also emerge as a significant, albeit less important, predictor. The latter result can be explained by the observation that this particular variable seemed to encompass a belief (i.e., that a coach's contribution is pertinent to one's achievement in a sport) as well as a situation-specific evaluation (i.e., I am satisfied with my coach's influence on my tennis development). Beliefs have been found to be more closely associated with dispositional differences in goal perspectives than perceptions of the prevailing motivational atmosphere operating in one's sport (e.g., 7, 14).

The overall results concerning the superior prediction provided by perceptions of the motivational climate have important applied implications. Recent research (28) has indicated that the situationally emphasized goal structure can be modified in sport and that such interventions have a theoretically consonant effect on indices of motivation. It is reasonable to assume that it is easier to alter situational in contrast to dispositional goal perspectives. That is, we would expect that there is a need to change the former to impact the latter over time (3, 5, 9).

It should be noted, however, that perceptions of the motivational climate and goal orientations captured a limited amount of variance in facets of performance improvement ($R^2=.01-.07$) and reported satisfaction with match results and personal level of play ($R^2=.05-.06$). It appears that other factors, besides dispositional and situationally emphasized goal perspectives, influence subjective ratings of performance and satisfaction with competitive outcomes and one's tennis play among the present sample of athletes (e.g., the athlete's objective level of tennis talent, and the difficulty of the competition the athlete has faced).

Situationally emphasized goals were a better predictor of the three items which related to the coach ($R^2=.17-.26$) than the other dependent variables examined in this study. As suggested above, we would expect a greater interdependence between athletes' perceptions of the goal perspectives manifested at the contextual level and their evaluation of the major determinant of that climate, namely the coach.

As a whole, the present findings are in accordance with the tenets of goal perspective theory (1-3) and previous sport research (5, 9, 10), and provide further support regarding the motivational advantages of a task-involving atmosphere. Some researchers have argued that the promotion of task involvement (and curtailing of ego involvement) may not be an appro-

priate strategy at the higher levels of athletic competition (11), while others, such as Pensgaard and Roberts (29) in their work involving Norwegian Olympic athletes, have noted the adaptive qualities of a task-involving climate. This study's results suggest that climates which are more task-involving and less ego-involving may be more beneficial for skilled athletes (at least in their own minds). Slightly over two-thirds of the current sample were at the advanced level of tennis proficiency or beyond. It should be noted that MANOVA revealed no differences in the variables of interest in this study as a function of competitive level. Further, the observed relationships between perceptions of the motivational climate, goal orientations, and the items assessing perceived improvement, satisfaction, and coach ratings did not significantly vary among the intermediate, advanced, and professional level tennis players.

In future research, it would be interesting to examine the predictive utility of dispositional and contextual goals to current *and* subsequent objective indices of competitive performance (11) among such skilled groups of athletes. Additionally, subsequent work might look at the capacity for perceptions of the motivational climate and goal orientations to discriminate between those younger, talented athletes who continue to participate and move up the competitive ladder and those who do not (30).

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