Scand J Med Sci Sports 1999: 9: 358–364
Printed in Denmark · All rights reserved

Scandinavian Journal of
MEDICINE & SCIENCE
IN SPORTS
ISSN 0905-7188

Goal orientations, beliefs about success, and performance improvement among young elite Dutch soccer players

Van-Yperen NW, Duda JL. Goal orientations, beliefs about success, and performance improvement among young elite Dutch soccer players. Scand J Med Sci Sports 1999: 9: 358–364. © Munksgaard, 1999

Extending past work testing goal perspective theory in sport, one purpose of this study was to examine, via a longitudinal design, the relationship of goal orientations to the beliefs about the causes of success in the case of elite male Dutch soccer players. A second purpose was to determine the relationship of goals and beliefs to ratings of performance. Seventy-five male pupils representing five teams from an internationally renowned soccer school in The Netherlands completed the TEOSQ and a measure of their perceptions of the determinants of success in soccer at the onset and conclusion of one season. Assessments of the coaches' appraisal and athletes' self-reported performance in soccer were carried out at the same time. In line with other studies, a positive association between ego orientation and the belief that ability or innate talent are determinants of success was revealed. Task orientation was linked to the beliefs that effort, team play, and parental support contribute to achievement in soccer. An increase in skilled performance over the season (as appraised by the coach) corresponded to a stronger task orientation and the beliefs that soccer success stems from hard work and having supportive parents.

N. W. Van-Yperen[1], J. L. Duda[2]

[1]Department of Social and Organizational Psychology, University of Groningen, Groningen, The Netherlands, [2]Department of Health, Kinesiology, and Leisure Studies, Purdue University, Lambert, West LaFayette, Indianapolis, USA

Key words: goal orientations; beliefs about success; performance improvement; junior elite athletes; soccer

Nico W. Van-Yperen, Department of Social and Organizational Psychology, University of Groningen, Grote Kruisstraat 2/I, 9712 TS Groningen, The Netherlands

Accepted for publication 1 June 1999

When athletes are asked how they define success and judge their competence, the literature on achievement motivation using an achievement goal analysis suggests that the responses can be divided into two distinct, global perspectives, namely a task orientation and an ego orientation (1). A prevailing task orientation entails an emphasis on gaining skill and performing one's best. In contrast, the main concern of primarily ego-oriented individuals is establishing their superiority over others, which makes them more interested in social comparison information (2). Both dimensions have been found to be independent (3, 4), and generalize across different achievement domains (5, 6).

Past research has revealed conceptually consistent associations between dispositional goal perspectives and people's views about what it takes to succeed in sport (7–10). This work suggests that a task orientation is coupled with the belief that exerting effort leads to athletic achievement, while an ego orientation corresponds to the view that the possession of high competence is important to sport success.

Replicating previous work cross-nationally, one purpose of this study was to examine the relationship of goal orientations to beliefs about the causes of success in the case of elite male Dutch soccer players. In line with previous work, we predicted that a task orientation would be associated with the view that hard work is a precursor to soccer success, whereas an ego orientation would be linked to the belief that soccer success stems from ability. Further, the existent literature was extended by looking at the interdependencies between goal orientations and two additional beliefs, namely team play and parental influence. In regard to the significance of the former belief, the results of a meta-analysis suggest that particularly among sports teams, cohesiveness and successful performance are significantly related (11). Moreover, Nicholls (12) has suggested that task-oriented sports teams should be more likely to believe that success follows from team spirit. Strong evidence has also been obtained for the crucial role of parental support in the sports careers of young athletes (e.g., 13–18). Research in the physical education setting showed that task-oriented students believe that teachers are important to be successful, and that success in schools also stems from cooper-

ation with peers (19). The question is whether task- and ego-oriented athletes differ with regard to the beliefs that helping one another and support from significant others contribute to one's sport achievement. It was hypothesized that task orientation would relate to the perception that working well with one's team and support from parents are important determinants of success.

The main purpose of the present longitudinal study was to extend past work testing goal perspective theory in sport by examining the relationship of goals and beliefs to performance (both coaches' appraisals and self-report). A recent meta-analysis of research in which individual goal perspectives were manipulated and subjects had to perform an experimental task suggests that task involvement leads to better performance than ego involvement, particularly when the experimental task was quite complex (20). These findings were consonant with theoretical predictions (21–23). To date, less is known about the link between goal orientations and achievement behavior in sport (3, 24). In the present study, goal orientations were examined as related to changes in performance over the course of the season. Because previous research has shown that a task orientation is related to greater enjoyment, interest, and persistence (for a review of this literature, see 1, 24), it was hypothesized that task orientation and the related beliefs about success (effort, team play, and parental influence) would be positively associated with performance improvement.

Method

Sample

The sample consisted of 75 male pupils representing five teams from a soccer school with an international reputation (AFC Ajax, Amsterdam). Over the past few decades, a majority of players for the Dutch national team were enrolled at the school and in 1995, the first team of the club became European Champion for the fourth time (having been so earlier in 1971, 1972, and 1973), and World Champion for the second time (the first time being in 1972). At the beginning of the season, the mean age of the total group was 16.4±2.0 years. Most of the students were still in high school (97%), and a few were in college. The majority (81%) lived with both parents, 16% (11 subjects) with their mother only, one subject lived with his widowed father, and one subject lived on his own. Fifty-six percent of the students were White, 29% were Black, and 15% were of "mixed" racial origin.

Procedure

In the week before the season started (which was after three weeks of training: Time 1), and in the last week of the season (Time 2), the athletes were asked to fill out a multi-section questionnaire at a homework session. The return rate was 100% at Time 1. At Time 2, six older players did not participate. Two of these players had been dismissed earlier from their respective teams, two players had signed with another club, and two players had been promoted to the first team of the club. During the same two time periods, the coach of each team was asked to give a detailed appraisal of the performance level of each of his players. None of the coaches refused to participate in the study.

Measures

Dispositional goal perspectives. Individual differences in goal perspectives were assessed by administrating the Dutch-translated Task and Ego Orientation in Sport Questionnaire (TEOSQ; 1). The adequacy of the translation was checked several times by two individuals who have an excellent command of both the Dutch and the English language. The TEOSQ requests subjects to think of when they feel most successful in sport (in this case, as a young soccer player for Ajax) and then to indicate their degree of agreement with 13 items designed to assess task- and ego-oriented criteria. Responses were provided on a five-point scale, ranging from (1) strongly disagree to (5) strongly agree. Mean scale scores were calculated for each of the two subscales and ranged from 1 (low) to 5 (high).

Beliefs about success. To determine the athlete's beliefs about success, each athlete indicated his degree of agreement with 13 items reflecting four different reasons for a young player to succeed at the soccer school (in this case, to become a player of the first team of the club). Athletes were asked to indicate to what extent they believed that success as a young soccer player playing for Ajax depended on items capturing Ability, Effort, Team play, and Parental influence as reasons for achievement. Responses were indicated on a five-point scale ranging from (1) strongly disagree to (5) strongly agree.

Performance level. The coaches of the five teams were asked to assess the performance level of all the players on their team. The measure, which was developed by the technical staff of the club, consisted of 33 dimensions for the field players, and 42 for the goal keepers. Items tapped the players' capacities in regard to technique, mental toughness, physical condition, effort, and several specific soccer skills, such as kicking, dribbling, passing, heading, and tackling. Response categories ranged from 1 (very bad) to 10 (excellent) and corresponded to the categories that are used in the Dutch educational system. The summed score was divided by the number of items, resulting in a total score between 1 and 10. Previous

Table 1. Specified two-factor solution (varimax rotation) of a factor analysis (principal-components method) of the Task and Ego Orientation in Sport Questionnaire (TEOSQ), both at Time 1 (n=73) and Time 2 (n=64)[a]

As a soccer player i feel most successful when	Time 1		Time 2	
	Task	Ego	Task	Ego
1. I learn a new skill and it makes me want to practice more.	0.828		0.769	
2. A skill I learn really feels right.	0.824		0.753	
3. I do my very best.	0.801		0.728	
4. I learn something that is fun to do.	0.774		0.818	
5. Something I learn makes me want to go and practice more.	0.724		0.737	
6. I work really hard.	0.706		0.527	
7. I learn a new skill by trying hard.	0.682		0.605	
8. The others can't do as well as me.		0.867		0.867
9. I can do better than my teammates.		0.842		0.870
10. I'm the best.		0.783		0.671
11. I'm the only one who can do the play or skill.		0.749	0.433	0.569
12. Others mess up and I don't.		0.604		0.698
13. I contribute most to the victory[b].		0.544		0.642
Eigenvalue	4.78	2.81	4.59	2.58
% Variance	36.8	21.6	35.3	19.9

[a] Only structure coefficients greater than 0.40 are given.
[b] The original item was: "I score the most points/goals, etc." (Duda, 1992). This item was reworded to be pertinent to soccer players independent of their position in the team (goal keeper, defender, midfielder, or attacker).

work involving this measure has revealed high agreement between coaches' judgments and those of team managers, high internal reliabilities, high test-retest correlations, and high correlations with simple one-item overall assessments (17). The athletes were also asked to give an appraisal of their own performance level on the basis of the same performance measure.

Results

The 13 items of the TEOSQ (administered at the two time periods) were subjected to principal-components factor analyses (varimax rotation, where similar solutions were obtained with oblique rotations). Table 1 shows that a task and ego orientation factor emerged at both Time 1 and Time 2, accounting for similar percentages of response variance as in prior studies (9, 10, 25). At Time 2, however, one item (#11) cross-loaded, but loaded highest on the factor representing the appropriate construct.

Similarly, the items reflecting beliefs about success were factor analyzed (varimax rotation). The expected factor structure (the emergence of four factors: Effort, Ability, Team play, and Parental influ-

Table 2. Specified four-factor solution (varimax rotation) of a factor analysis (principal-components method) of the beliefs about the causes of success items at Time 1 (n=72) and Time 2 (n=67)[a]

You will succeed as a young soccer player playing for Ajax if	Time 1				Time 2			
	Ability	Effort	Parents	Team	Parents	Effort	Ability	Team
1. You are simply a better player than the others	0.851						0.748	
2. The others are less talented than you are	0.754						0.846	
3. You are more talented than the others	0.716				−0.533		0.413	
4. The abilities of the others are less than yours	0.711						0.808	
5. You work really hard		0.862				0.874		
6. You always do your best		0.791				0.833		
7. You train hard		0.762				0.577		
8. Your parents stand by you			0.883		0.807			
9. You can always fall back on your parents			0.850		0.808			
10. You get a lot of support from your parents			0.883		0.807			
11. The abilities of your teammates perfectly match yours				0.861				0.839
12. You play with teammates who enhance each other's capacities				0.848				0.796
13. You fit in with the team[b]				–				0.644
Eigenvalue	3.34	2.50	1.47	1.32	4.42	2.49	1.35	1.15
% Variance	27.8	20.8	12.2	11.0	34.0	19.1	10.4	8.9

[a] Only structure coefficients greater than 0.40 are given.
[b] Not assessed at Time 1.

Table 3. Alpha coefficients, test-retest correlations, means, and standard deviations[a]

	Time 1 Alpha	Time 2 Alpha	Test-retest r	Time 1		Time 2		*t*-test	
				M	SD	M	SD	df	t
Ego orientation	0.82	0.82	0.67***	3.64	0.73	3.84	0.65	65	2.89**
Task orientation	0.88	0.84	0.58***	3.90	0.64	3.77	0.61	65	−1.87
Ability	0.75	0.71	0.55***	3.43	0.79	3.66	0.76	60	2.44*
Effort	0.78	0.78	0.50***	4.32	0.66	4.18	0.77	63	−1.56
Team	0.71	0.73	0.52***	3.78	0.71	3.73	0.76	63	−0.52
Parents	0.82	0.94	0.70***	4.02	0.90	3.81	1.07	65	−2.22*
Performance: self-report	0.94	0.81	0.74***	7.31	0.53	7.15	0.46	63	−3.59***
Performance: coach's app.	0.94	0.95	0.67***	6.50	0.41	6.54	0.48	63	0.88

* $P<0.05$. ** $P<0.01$. *** $P<0.001$.
[a] The number (n) varies due to structural (six players less at Time 2) and occasional missing data.

Table 4. Intercorrelations (pairwise deletion) between all variables; values above the diagonal are the zero-order correlations at Time 1, and those below the diagonal are Time 2 correlations[a]

	1	2	3	4	5	6	7	8
1. Ego orientation	–	0.25*	0.48***	−0.02	−0.03	0.26**	−0.02	0.01
2. Task orientation	0.31**	–	0.10	0.47***	0.24*	0.42***	0.31***	0.15
3. Ability	0.55**	0.20*	–	−0.03	0.10	0.20*	0.00	0.14
4. Effort	−0.11	0.36***	−0.02	–	0.17	0.39***	0.10	−0.19
5. Team	0.10	0.27**	0.18	0.34***	–	0.28**	0.13	0.11
6. Parents	−0.09	0.37***	−0.08	0.60***	0.43	–	0.11	0.02
7. Performance: self-report	0.07	0.12	−0.21*	−0.02	0.03	0.04	–	0.26*
8. Performance: coach's app.	0.04	0.08	0.04	0.13	−0.03	0.19	0.24*	–

* $P<0.05$. ** $P<0.01$. *** $P<0.001$.
[a] The number (n) varies due to structural (six players less at Time 2) and occasional missing data.

ence) was observed at both assessment periods (see Table 2), indicating a robust factor pattern over the course of the season. At Time 2, however, one item (#3) loaded higher on an inappropriate factor.

Table 3 presents the internal reliabilities (Cronbach's Alpha) and test-retest correlations for all constructs, including the coaches' and athletes' performance appraisals. The scale means on the beliefs about success scales indicated that working hard and support from parents were considered as most important to becoming a successful soccer player (All differences in means, except the difference between Ability and Team play at Time 2, were significant ($P<0.05$)). During the course of the season, the athletes attributed success more to ability and less to parental influence. Furthermore, they were more ego-oriented at the end of the season and judged their performance level to be significantly higher at the beginning of the season than at the end of the season. At both points in time, the athletes rated their performance level as significantly higher than their coaches (Time 1: $t(64)=11.66$, $P<0.001$, and Time 2: $t(62)=7.75$, $P<0.001$).

Intercorrelations between all variables, at both points in time, are shown in Table 4. Coaches' appraisals were transformed into z-scores to standardize the mean and the variance. In contrast to previous research (9), the task and ego orientation scales were not found to be orthogonal but positively related.

The correlations between goal orientations and beliefs about success were aligned with the hypotheses. At both points in time, ego orientation was linked to the belief that ability was a determinant of achievement, while task orientation was consistently related to the belief that effort was a cause of success. Task orientation was also positively associated with the views that team play and parental support contribute to a soccer player's accomplishments.

The above-reported correlations between goal orientations and beliefs about success support the assumption that athletes' goal orientations are consistent with their beliefs about success in sport. To provide further support for the existence of task and ego goal-belief dimensions, a second order principal-components factor analysis (varimax rotation) on the two goal orientation and belief scale scores was conducted at both Time 1 and Time 2. A two-factor solution emerged in each case, suggesting that strongly task-oriented athletes tended to believe that success stems from working hard, being part of a team, and receiving support from parents (see Table 5). An ego orientation was linked to the belief that the pos-

Table 5. Specified two-factor solution (varimax rotation) of a factor analysis (principal-components method) of the TEOSQ and beliefs about the causes of success subscales at Time 1 (n=72) and Time 2 (n=60)[a]

	Time 1		Time 2	
	Task dimension	Ego dimension	Task dimension	Ego dimension
Task orientation	0.775		0.583	0.442
Effort	0.785		0.822	
Parents	0.726		0.856	
Team	0.529		0.652	
Ego orientation		0.860		0.874
Ability		0.838		0.837
Eigenvalue	2.20	1.42	2.19	1.77
% Variance	36.7	23.7	36.5	29.6

[a] Only structure coefficients greater than 0.40 are given.

Table 6. Partial correlations (pairwise deletion) between ego and task orientation and beliefs about the causes of success at Time 1 and performance at Time 2, controlling for Time 1 performance

	Performance	
	Coaches' judgment[a]	Self-report
1. Ego orientation	0.08	0.09
2. Task orientation	0.29*	0.16
3. Ability	−0.07	−0.03
4. Effort	0.26*	0.01
5. Team	0.05	−0.18
6. Parents	0.33**	0.04

* P<0.05. ** P<0 .01. *** P<0.001.
[a] Appraisals of the diverse coaches were transformed into z-scores.

session of high ability results in success. It should be noted that task orientation cross-loaded on the ego goal-belief dimension at Time 2.

To determine the potential influence of goal orientation and related beliefs on performance, we examined to what extent an athlete's dispositional goal perspective and beliefs about success were linked to performance improvement during one soccer season, i.e., to changes in performance over the course of the season as rated by the coach and the athletes themselves. Partial correlations were then computed between goal orientations and beliefs at Time 1 and Time 2 performance, controlling for Time 1 performance (cf. 16). Significant partial correlations were only observed with the performance appraisal of the coach as the dependent variable. Table 6 shows that positive associations were revealed between performance improvement (according to the coach), task orientation, and the beliefs that effort and parental influence contribute to soccer success. Multiple hierarchical regression analysis, regressing Time 2 performance on Time 1 performance (step 1: $F(1,61)=47.44$, $P<0.001$), goal orientations (step 2: R^2-change=0.04, $F(3,59)=2.30$, $P<0.10$, and beliefs at Time 1 (step 3: R^2-change=0.07, $F(7,55)=2.07$, $P<0.10$), revealed that task orientation ($\beta=0.20$, $P<0.05$) and parental influence ($\beta=0.25$, $P<0.05$) were the strongest predictors of changes in performance over the course of the season. All other predictors were non-significant ($P>0.10$).

In addition, the reversed partial correlations between Time 1 performance (coaches' judgment and self-report) and Time 2 goal orientation (and associated beliefs), controlling for Time 1 goal orientation (and associated beliefs), were all non-significant. These results suggest that a task orientation (and related views about the determinants of success, particularly parental influence) corresponds to performance improvement over a sports season rather than the reverse.

Discussion

The present study extends previous work cross-nationally by confirming the stable structure underlying the TEOSQ scales as well as a correspondence between ego orientation and the belief that ability or innate talent is a determinant of success, and between task orientation and the belief that effort contributes to athletic success. More importantly, however, are the findings that two additional beliefs relate to task orientation, namely that personal success may come from cooperative and supportive relationships with others such as one's team members and parents. Consistent with past work, parents were generally perceived as playing a significant role in a young athlete's path toward success in sport (13–18). The present study demonstrates that this is particularly true for young athletes with a strong task orientation.

The results also revealed a link between task orientation and related beliefs about success (effort and parental influence) on the one hand, and an increase in skilled performance over the course of the season on the other. Although no methods for ensuring the correctness of causal inferences from non-experimental studies are available, the present data suggest that an athlete's dispositional task orientation has an effect upon performance improvement over the course of the season (cf. 20). It is important to note that the performance criterion, in this case, is performance as rated by the coach. No significant associations were found between goal orientations/beliefs and self-appraisals of performance improvement.

Assuming that performance improvement is an important selection criterion for coaches working with young talented athletes, the present findings suggest that in the final stages of a talent development program, strongly task-oriented athletes will outnumber their peers who are low in task orientation. It should be noted, though, that pupils of the soccer school are

confronted with a rather high chance of dismissal at the end of each season (18). In essence, they participate in an environment which involves interpersonal competition, public evaluation, and normative feedback; features which can diminish a task orientation and foster an ego orientation (cf. 1, 22). To survive in this highly competitive environment, it would seem that players should be high in both ego and task orientation. Indeed, in this particular sample of highly skilled young athletes who are on their way to a professional sports career, a positive and significant correlation emerged between the two goal orientations. It has been suggested, though, that the degree of interdependence between the two goal orientations may depend on cultural differences (27). Thus, we cannot be sure if the observed association is a function of this particular sample of young elite athletes or cultural variation in goal perspectives.

An interesting question is why a task orientation was found to be related to performance improvement. The answer may be that highly task-oriented athletes believe that success is primarily determined by effort and collaboration, which implies that they believe that one's behavioral outcomes are more under their personal control. Thus, they should be less inclined to make performance attributions to uncontrollable factors, which may lead to maladaptive patterns of achievement behaviors, such as reduced effort (28, 29). Other work has suggested that a task orientation corresponds to effective strategy use in training and competition (30). The stress literature (e.g., 31, 32) indicates that, under conditions of high perceived control, subjects' perceptions and experiences of stress (which is likely to occur from time to time in a highly competitive sports climate) evoke problem-focussed coping behaviors, including information gathering, advice seeking, goal setting, the employment of mental skills, and spending more hours in practice. These problem-focussed behaviors, which have been linked to a task orientation in recent sport research (e.g., 33, 34), should decrease the probability of performance stagnation, or even performance decline. In contrast, an ego orientation has been found to correspond to a greater propensity for competitive stress in the sport setting (35). Heightened anxiety, coupled with ineffective coping behaviors, would be expected to lead to performance impairment and, if chronic, dropping out of sport.

Future work in this area might focus on the prediction of competitive performance throughout the season. Moreover, it would be interesting to determine whether young elite athletes' goal orientations and beliefs about the causes of success predict who will succeed in reaching the next competitive level (15). In an extension of the present investigation, athletes' perceptions of the motivational climate created by the coach (28, 36) together with their dispositional goal orientations, might be examined as potential explanatory variables regarding performance improvement.

References

1. Duda JL. Motivation in sport settings: A goal perspective approach. In: Roberts GC, ed. Motivation in sport and exercise. Champaign, Ill.: Human Kinetics Books, 1992: 57–91.
2. Williams L. Goal orientations and athletes' preferences for competence information sources. Journal of Sport & Exercise Psychology 1994: 16: 416–30.
3. Duda JL, Whitehead J. Measurement of goal perspectives in the physical domain. In Duda JL, ed. Advances in sport and exercise psychology measurement. Morgantown, WV: Fitness Information Technology, 1998: 21–48.
4. Roberts GC, Treasure, DC, Kavussanu, M. Orthogonality of achievement goals and its relationship to beliefs about success and satisfaction in sport. The Sport Psychologist 1996: 10: 398–408.
5. Duda JL, Nicholls JG. Dimensions of achievement motivation in schoolwork and sport. Journal of Educational Psychology 1992: 84: 290–9.
6. Guivernau M, Duda JL. Domain generality of goal orientations, beliefs about success, perceived ability, and interest among Spanish student-athletes. European Yearbook of Sport Psychology 1998: 2: 56–72.
7. Biddle S, Akande A, Vlachopoulos S, Fox K. Towards an understanding of children's motivation for physical activity: Achievement goal orientations, beliefs about sport success, and sport emotion in Zimbabwean children. Psychology and Health 1996: 12: 49–55.
8. Duda JL, Fox KR, Biddle SJH, Armstrong N. Children's achievement goals and beliefs about success in sport. Br J Educ Psychol 1992: 62: 313–23.
9. Duda JL, White SA. Goal orientations and beliefs about the causes of sport success among elite skiers. The Sport Psychologist 1992: 6: 334–43.
10. Newton M, Duda JL. Elite adolescent athletes' achievement goals and beliefs concerning success in tennis. Journal of Sport & Exercise Psychology 1993: 15: 437–48.
11. Mullen B, Copper C. The relation between group cohesiveness and performance: An integration. Psychol Bull 1994: 115: 210–27.
12. Nicholls JG. The general and the specific in the development and expression of achievement motivation. In: Roberts GC, ed. Motivation in sport and exercise. Champaign, Illinois: Human Kinetic Books, 1992: 31–56.
13. Bloom BS. Developing talent in young people. New York: Ballantine Books, 1985.
14. Brustad RJ. Integrating socialization influences into the study of children's motivation in sport. Journal of Sport & Exercise Psychology 1992: 14: 59–77.
15. Carlson R. The socialization of elite tennis players in Sweden: An analysis of the players' background and development. Sociology of Sport Journal 1988: 5: 241–56.
16. Hill GM. Youth sport participation of professional baseball players. Sociology of Sport Journal 1993: 10: 107–14.
17. Van-Yperen NW. Interpersonal stress, performance level, and parental support: A longitudinal study among highly skilled young soccer players. The Sport Psychologist 1995: 9: 225–41.
18. Van-Yperen NW. Being a Sport Parent: Buffering the effect of your talented child's poor performance on his or her subjective well-being. International Journal of Sport Psychology 1998: 29: 45–56.

19. Walling M, Duda JL. Goals and their associations with beliefs about success in and perceptions of the purposes of physical education. Journal of Teaching in Physical Education 1995: 14: 140–56.
20. Utman CH. Performance effects of motivational state: A meta-analysis. Personality and Social Psychology Review 1997: 1: 170–82.
21. Dweck CS. Motivational processes affecting learning. American Psychologist 1986: 41: 1040–8.
22. Dweck CS, Leggett EL. A social-cognitive approach to motivation and personality. Psychol Rev 1988: 95: 256–73.
23. Nicholls JG. The competitive ethos and democratic education. Cambridge, MA: Harvard University Press, 1989.
24. Duda JL. Maximizing motivation in sport and physical education among children and adolescents: The case for greater task involvement. Quest 1996: 48: 290–302.
25. Duda JL. 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 1989: 11: 318–35.
26. Weinstein ND, Nicolich M. Correct and incorrect interpretations of correlations between risk perceptions and risk behaviors. Health Psychology 1993: 12: 235–45.
27. Li F, Harmer P, Chi L, Vongjaturapat N. Cross-cultural validation of the task and ego orientation in sport questionnaire. Journal of Sport & Exercise Psychology 1996: 18: 4: 392–407.
28. Ames C. Achievement goals, motivational climate and motivational processes. In: Roberts GC, ed. Motivation in sport and exercise. Champaign, Illinois: Human Kinetic Books, 1992: 161–76.
29. Roberts GC. Motivation in sport and exercise: Conceptual constraints and convergence. In: Roberts GC, ed. Motivation in sport and exercise. Champaign, Illinois: Human Kinetic Books, 1992: 3–30.
30. Lochbaum MR, Roberts GC. Goal orientations and perceptions of the sport experience. Journal of Sport and Exercise Psychology 1993: 15: 160–71.
31. Jones JG, Hardy L. Stress and performance in sport. Chichester: John Wiley & Sons, 1990.
32. Lazarus RS, Folkman S. Stress, appraisal and coping. New York: Springer Publishing Company, 1984.
33. Pensgaard AM, Roberts GC, Ursin H. Motivational factors and coping strategies of Norwegian paralympic and olympic winter sport athletes. Adapted Physical Activity Quarterly 1999: 16: 238–50.
34. Kim MS, Duda JL. Achievement goals, motivational climates, and the occurrence of and responses to psychological difficulties and performance debilitation among Korean athletes. Journal of Sport and Exercise Psychology 1998: 20 (Suppl.): S124.
35. White SA, Zellner SR. The relationship between goal orientation, beliefs about the causes of sport success, and trait anxiety among high school, intercollegiate, and recreational sport participants. The Sport Psychologist 1996: 10: 58–72.
36. Seifriz JJ, Duda JL, Chi L. The relationship of perceived motivational climate to intrinsic motivation and beliefs about success in basketball. Journal of Sport and Exercise Psychology 1992: 14: 375–91.