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


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.

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 existing 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 be-
liiefs that helping one another and support from sig-
nificant 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 perspec-
tive theory in sport by examining the relationship of
goals and beliefs to performance (both coaches’ ap-
praisals and self-report). A recent meta-analysis of
research in which individual goal perspectives were
manipulated and subjects had to perform an experi-
mental task suggests that task involvement leads to
better performance than ego involvement, particu-
larly 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 be-
havior 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 persist-
ence (for a review of this literature, see 1, 24), it was
hypothesized that task orientation and the related be-
liiefs about success (effort, team play, and parental in-
fluence) would be positively associated with perfor-
ance 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 sea-
son, 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 ses-
sion. 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 ap-
praisal 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 indi-
viduals who have an excellent command of both the
Dutch and the English language. The TEOSQ re-
quests subjects to think of when they feel most suc-
cessful in sport (in this case, as a young soccer player
for Ajax) and then to indicate their degree of agree-
ment 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 be-
liiefs 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 soc-
cer player playing for Ajax depended on items captur-
ing Ability, Effort, Team play, and Parental influence
as reasons for achievement. Responses were indicated
on a five-point scale ranging from (1) strongly dis-
agree 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 de-
veloped 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 con-
dition, 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
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 3. Alpha coefficients, test-retest correlations, means, and standard deviations

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th></th>
<th></th>
<th>Time 1</th>
<th></th>
<th></th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Alpha</td>
<td>Alpha</td>
<td>r</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Ego orientation</td>
<td>0.82</td>
<td>0.82</td>
<td>0.67**</td>
<td>3.64</td>
<td>0.73</td>
<td>3.84</td>
<td>0.65</td>
</tr>
<tr>
<td>Task orientation</td>
<td>0.88</td>
<td>0.84</td>
<td>0.59**</td>
<td>3.90</td>
<td>0.64</td>
<td>3.77</td>
<td>0.61</td>
</tr>
<tr>
<td>Ability</td>
<td>0.75</td>
<td>0.71</td>
<td>0.55**</td>
<td>3.43</td>
<td>0.79</td>
<td>3.66</td>
<td>0.76</td>
</tr>
<tr>
<td>Effort</td>
<td>0.78</td>
<td>0.78</td>
<td>0.50**</td>
<td>4.32</td>
<td>0.66</td>
<td>4.18</td>
<td>0.77</td>
</tr>
<tr>
<td>Team</td>
<td>0.71</td>
<td>0.73</td>
<td>0.52**</td>
<td>3.78</td>
<td>0.71</td>
<td>3.73</td>
<td>0.76</td>
</tr>
<tr>
<td>Parents</td>
<td>0.82</td>
<td>0.94</td>
<td>0.70**</td>
<td>4.02</td>
<td>0.90</td>
<td>3.81</td>
<td>1.07</td>
</tr>
<tr>
<td>Performance: self-report</td>
<td>0.94</td>
<td>0.81</td>
<td>0.74**</td>
<td>7.31</td>
<td>0.53</td>
<td>7.15</td>
<td>0.46</td>
</tr>
<tr>
<td>Performance: coach’s app.</td>
<td>0.94</td>
<td>0.95</td>
<td>0.67**</td>
<td>6.50</td>
<td>0.41</td>
<td>6.54</td>
<td>0.48</td>
</tr>
</tbody>
</table>

* P<0.05. ** P<0.01. *** P<0.001.

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

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ego orientation</td>
<td>0</td>
<td>0.25*</td>
<td>0.48***</td>
<td>-0.02</td>
<td>-0.03</td>
<td>0.26**</td>
<td>-0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>2. Task orientation</td>
<td>0.31**</td>
<td>0</td>
<td>0.10</td>
<td>0.47***</td>
<td>0.24*</td>
<td>0.42***</td>
<td>0.31***</td>
<td>0.15</td>
</tr>
<tr>
<td>3. Ability</td>
<td>0.55**</td>
<td>0.20*</td>
<td>0.10</td>
<td>-0.03</td>
<td>0.10</td>
<td>0.20*</td>
<td>0.00</td>
<td>0.14</td>
</tr>
<tr>
<td>4. Effort</td>
<td>-0.11</td>
<td>0.36**</td>
<td>-0.02</td>
<td>0.17</td>
<td>0.39**</td>
<td>0.10</td>
<td>-0.19</td>
<td></td>
</tr>
<tr>
<td>5. Team</td>
<td>0.10</td>
<td>0.27**</td>
<td>0.18</td>
<td>0.34***</td>
<td>-</td>
<td>0.28**</td>
<td>0.13</td>
<td>0.11</td>
</tr>
<tr>
<td>6. Parents</td>
<td>-0.09</td>
<td>0.37***</td>
<td>-0.08</td>
<td>0.60***</td>
<td>0.43</td>
<td>-</td>
<td>0.11</td>
<td>0.02</td>
</tr>
<tr>
<td>7. Performance: self-report</td>
<td>0.07</td>
<td>0.12</td>
<td>-0.21*</td>
<td>-0.02</td>
<td>0.03</td>
<td>0.04</td>
<td></td>
<td>0.26*</td>
</tr>
<tr>
<td>8. Performance: coach’s app.</td>
<td>0.04</td>
<td>0.08</td>
<td>0.04</td>
<td>0.13</td>
<td>-0.03</td>
<td>0.19</td>
<td>0.24*</td>
<td></td>
</tr>
</tbody>
</table>

* P<0.05. ** P<0.01. *** P<0.001.

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)

<table>
<thead>
<tr>
<th></th>
<th>Task dimension</th>
<th>Ego dimension</th>
<th>Task dimension</th>
<th>Ego dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task orientation</td>
<td>0.775</td>
<td>0.583</td>
<td>0.593</td>
<td>0.442</td>
</tr>
<tr>
<td>Effort</td>
<td>0.785</td>
<td>0.922</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents</td>
<td>0.726</td>
<td>0.856</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team</td>
<td>0.529</td>
<td>0.652</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ego orientation</td>
<td></td>
<td>0.860</td>
<td></td>
<td>0.874</td>
</tr>
<tr>
<td>Ability</td>
<td></td>
<td>0.838</td>
<td></td>
<td>0.837</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>2.20</td>
<td>1.42</td>
<td>2.19</td>
<td>1.77</td>
</tr>
<tr>
<td>% Variance</td>
<td>36.7</td>
<td>23.7</td>
<td>36.5</td>
<td>29.6</td>
</tr>
</tbody>
</table>

* 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

<table>
<thead>
<tr>
<th>Performance</th>
<th>Coaches¹ judgment²</th>
<th>Self-report</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ego orientation</td>
<td>0.06</td>
<td>0.09</td>
</tr>
<tr>
<td>2. Task orientation</td>
<td>-0.29*</td>
<td>-0.16</td>
</tr>
<tr>
<td>3. Ability</td>
<td>-0.07</td>
<td>-0.03</td>
</tr>
<tr>
<td>4. Effort</td>
<td>0.26*</td>
<td>0.01</td>
</tr>
<tr>
<td>5. Team</td>
<td>0.05</td>
<td>-0.18</td>
</tr>
<tr>
<td>6. Parents</td>
<td>0.33**</td>
<td>0.04</td>
</tr>
</tbody>
</table>

* P<0.05. ** P<0.01. *** P<0.001.

¹ 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: R²-change=0.04, F(3,59)=2.30, P<0.10), and beliefs at Time 1 (step 3: R²-change=0.07, F(7,55)=2.07, P<0.10), revealed that task orientation (β=0.20, P<0.05) and parental influence (β=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). 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


