

Goal orientations, motivational climate and stress perception in elite junior football players: a comparison of club levels

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Abstract

This study was based on achievement goal theory and stress theory. Its purpose was to describe elite junior football players' motivation and stress level and to examine how these factors were related to club level, comparing players from level-1 and level-2 clubs. The sample comprised 120 male Norwegian junior football players (mean age = 17.8 yrs, $SD = .78$ yrs) representing six professional football clubs (three top-level clubs; three league-two clubs). Players' ratings of their task orientation and mastery climate were higher than their ratings of ego orientation and performance climate. They reported medium levels of all four facets of stress. Level-1 players gave higher ratings to mastery climate than level-2 players ($p < .01$) whereas the level-2 players reported higher levels of evaluation, performance and development stress ($p < .05$) compared to the level-1 players. These results suggest that there is more emphasis on creating a mastery environment at level-1 clubs, since level-1 players reported a higher mastery climate. This interpretation is corroborated by the fact that the level-2 players reported higher levels of evaluation, performance and development stress. We recommend that coaches focus on creating a mastery climate. Furthermore, level-2 clubs should be aware that their players feel more stress than those in level-1 clubs and this may be related to concerns about their performance and development as footballers.

Keywords: Talent, Development, Motivation, Stress, Performance

Introduction

Belonging to a professional club as a junior football player (aged 15-20 yrs) means that you are close to becoming a professional player. Compared with your age peers your everyday life is privileged, as being in this environment is associated with many advantages, i.e., high-level coaches, skilled teammates and excellent training facilities (Ashworth & Heyndels, 2007). These advantages may contribute to a self-fulfilling prophecy, as they probably increase players' motivation to continue to train for a potential professional career (Fraser-Thomas, Côté, & Deakin, 2008).

Nevertheless players in these extremely competitive environments naturally have to deal with high expectations and demands. As talented football players they are expected to be highly motivated independently of whether they feel successful, to have the right attitude to their own development (Larkin & O'Connor, 2017; Sæther, 2014), to undertake frequent, and in some cases extreme, training (Ericsson, Krampe, & Tesch-Römer, 1993; Sæther & Aspvik, 2014), and to regulate their own development effectively (Toering, Elferink-Gemser, Jordet, & Visscher, 2009). These talented players are therefore dependent of developing skills which could increase their lightly hood of succeeding. Even so, the players are also expected to encounter a range of personal and interpersonal challenges that might affect their development (Richardson, Gilbourne, & Littlewood, 2004).

Coaches are a component of the environment of talented players and vital contributor to their development. Coaches often demand a high level of performance and expect the players to cope with this pressure. Several researchers have emphasised that the coach-athlete relationship plays an important role in reducing athletes' stress, improving their performance and enjoyment of competition (Kristiansen & Roberts, 2010), enhancing their mental toughness (Rodahl, Giske, Peters, & Høigaard, 2015) and increasing their ability to cope with stress (Nicholls, 2011). The players ability to cope with the pressure and expectations could potentially affect the players in two ways. Pressure may improve an athlete's mental toughness and help him to develop strategies for coping with pressure and stress; however it can also be damaging and impair an athlete's development, by causing a loss of self-confidence and self-belief. Both motivation and experience of stress are highly individual and dependent on the player's characteristics (goal orientations, ability to handle stress, expectations of oneself) and environment.

Motivational factors are thought to affect the development process. The purpose of this study, which is rooted in achievement goal theory and stress theory, was to describe Norwegian elite junior football players'

motivation and stress levels and to examine how these factors were related to club level, comparing players from level-1 and level-2 clubs.

Motivational Climate and Goal Orientations

Achievement goal theory assumes that players are motivated through their goal involvement, described as ego or task involvement (Ommundsen, Roberts, Lemyre, & Miller, 2005). The assumption is that players are predisposed to be motivated by egotistical goals or by task goals, where these predispositions are called goal orientations. Task orientation is associated with adaptive behaviour and is characteristic of players who base their assessment of their own ability and the difficulty of a task on their own sense of mastery, understanding and knowledge. Task orientation involves a self-referenced definition of success as an improvement in ability or success at something that is personally challenging (Nicholls, Cobb, Wood, Yackel, & Patashnick, 1990). Ego orientation is characteristic of players who define success in relative terms, as being more able than others, and is associated with maladaptive behaviour (Nicholls et al., 1990).

Compared with task-oriented players, ego-oriented players focus more on winning, recognition and doing better than others and hence less on how well they have performed in absolute terms or relative to their own past performance. Ego-oriented players assess difficulty and their own ability relative to a normative reference group (Ommundsen, Roberts, & Kavussanu, 1998). Achievement goal orientations are described as orthogonal (Roberts, 2012), indicating that players can be higher or lower in both or either orientation at the same time. Earlier studies have found that junior elite football players (Nerland & Sæther, 2016) and elite athletes (Pensgaard & Roberts, 2000) scored high on both ego and task orientations.

Although athletes are predisposed to act in a task- or ego-involved way in an achievement context, the motivational dynamics of the context and the group to which they belong - referred to as the 'motivational climate' - will also influence their choice of goal orientation. Motivational climate is a term for how the participants perceive the goal structure of a particular setting (Ommundsen et al., 2005) and two types of motivational climate can be distinguished, performance and mastery climates. A mastery climate is characterised by coping and learning and is one in which athletes are allowed to fail because this may promote self-determination and choices (Ommundsen et al., 2005).

In a mastery climate coaches will strive to give equal recognition, time and attention to all players. In a mastery climate the emphasis is on self-referenced criteria for success and task involvement rather than on interpersonal competition (Ames, 1992), although the climate will, of course, be different in training from during competitions, with more emphasis on performance during competition. A performance climate is one in which interpersonal competition is promoted and the emphasis is on achieving good results and public recognition of skill (Ames, 1992); in a performance climate the athletes have little opportunity for self-determination. A performance climate is associated with ego-involvement and maladaptive behaviour; the best players get the most attention and constructive feedback, and the criteria for success are winning and doing better than others (Roberts, 2012). In an earlier study elite junior football players reported that their environment had more of the characteristics of a mastery climate than a performance climate (Nerland & Sæther, 2016).

Stress

A simple definition of stress is that it is an imbalance between the situation and the individual's resources (Lazarus & Folkman, 1984). This definition highlights the individuality of the experience of stress; different individuals experience different intensities and durations of stress and respond differently (Grant et al., 2003). Players who want to pursue a career in professional sport must learn to cope with stressors (Holt & Dunn, 2004) since failure to do so can lead to decreased performance (Lazarus, 2000) and the stress-recovery balance is related to injuries and illnesses in junior elite football players (Brink et al., 2010). An understanding of the environmental aspect of stress is, however, also essential to an overall understanding of stress. Stress should be conceived the outcome of a complex interaction involving stressors, appraisals, strains and coping responses (Fletcher, Hanton, & Mellalieu, 2006). Fletcher et al. (2006) also noted that a stressor is an environmental demand or stimulus encountered by an individual, whereas the individual's negative response to stressors (e.g., burnout, dropout) can be termed strain.

Elite junior football players are at a crucial stage in their sporting career and the transition from high-level junior football to professional football is a good example of a source of stress (Finn & McKenna, 2010). It is reasonable to suggest that players' perceptions of that stress may vary according to their skill (Reeves et al., 2009), since the fear of failure regarding performance and development is threatening (Sager, Busch, & Jowett, 2010). This stressful situation could potentially contribute to reduced well-being (Ivarsson et al., 2015) loss of hope (Gustafsson, Skoog, Podlog, Lundqvist, & Wagnsson, 2013) and player burnout (Gustafsson & Skoog, 2012; Raedeke & Smith, 2004).

In earlier studies elite junior football players reported low levels of four types of stress, performance stress, development stress, evaluation stress and academic stress (Sæther & Aspvik, 2016), but the same study also showed that players who played fewer matches had higher levels of evaluation and performance stress than those who played in all their team's matches.

Material and methods

Participants

The sample comprised 120 male Norwegian junior football players (mean age = 17.8 yrs, $SD = .78$ yrs) representing six professional football clubs, three top-level clubs (54.1%) and three league-two clubs (45.9%).

Procedure

The data were collected in the players' clubs, after a training session at the start of their season. Before they answered the questionnaire all participants were told the purpose of the study and informed that participation was voluntary and would be anonymous, and that all information would be treated confidentially. The study was approved by the Norwegian Social Science Data Services and conducted in accordance.

Instruments

Goal orientations. A Norwegian version of the Perception of Success Questionnaire (POSQ; Roberts, Treasure, & Balague, 1998) consisting of 12 statements was used to assess athletes' goal orientations. All POSQ items share the same stem, in this case "When I play football, I feel most successful when..." and they are organised into two 6-item subscales measuring task orientation (e.g. "I show personal progress"; Cronbach's alpha = .703) and ego orientation (e.g. "I do it better than my opponents"; Cronbach's alpha = .685). Responses were given using a five-point scale ranging from 1 = strongly disagree to 5 = strongly agree. This measure has been used in a similar Norwegian context with acceptable alpha values (Nerland & Sæther, 2016).

Motivational climate. A Norwegian version of the Perceived Motivational Climate in Sport Questionnaire (PMCSQ; Roberts & Ommundsen, 1996) was used to measure perceived motivational climate. All 19 items share the same stem, in this case "During soccer training at the academy, I find that...", and are organised into a mastery climate subscale (9 items, e.g. "Efforts are rewarded"; Cronbach's alpha = .80), and 10 and a performance climate subscale (10 items; e.g. "The coaches favour certain players"; Cronbach's alpha = .76). Responses were given using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. This measure has been used in a similar Norwegian context with acceptable alpha values (Nerland & Sæther, 2016).

Stress. Stress was assessed using the newly developed Perception of Stress Questionnaire in Sports (PSQS), which is based on the Adolescent Stress Questionnaire (Byrne, Davenport, & Mazanov, 2007; Moksnes, Byrne, Mazanov, & Espnes, 2010). The PSQS has been used in two previous studies of similar elite junior players in Norway (Sæther & Aspvik, 2016; Sæther, Aspvik, & Høigaard, *accepted*). The introduction to the questionnaire was: "Here are some statements about things or situations that you may find stressful. Please tell us how stressful each of these things or situations have been for you over the past year." Responses were given using a five-point scale: 1 = not stressful or not applicable; 2 = a little stressful; 3 = moderately stressful; 4 = stressful; 5 = very stressful.

The 12 items were subjected to principal component analysis (PCA) using Stata 14.0 after their suitability for factor analysis had been confirmed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 and above. The Keiser-Meyer-Olkin value was .88, exceeding the recommended threshold of .6, and Bartlett's test of sphericity was significant ($p < .05$), supporting the factorability of the correlation matrix (Tabachnick & Fidell, 2001).

The different factor combinations were labelled as 'evaluation stress', which represented stress related to evaluation of one's performance by coaches or teammates (Cronbach's alpha = .63), 'performance stress', which represented stress related to performance in training and matches (Cronbach's alpha = .91), 'development stress', which represented stress related to coaches' and one's own expectations for one's development (Cronbach's alpha = .70), and 'academic stress', which represented stress related to school attendance and not having time for other activities (Cronbach's alpha = .63). For further analysis, the three items in each subscale were collapsed into single values.

Analysis

All analyses were conducted in Stata 14.0. Means and standard deviations were calculated for goal orientations, motivational climate and the four types of stress. The significance level (alpha) was set at .05 and the data were screened for missing values, potential outliers and violations of normality. Sample means were computed for all the questionnaires. The Results presents descriptive statistics and Pearson product-moment correlation coefficients. Information about scale reliability is presented above as part of the Method section.

Results

Table 1 presents descriptive statistics for all variables. As Table 1 shows, the players had higher scores for task orientation and mastery climate than for ego orientation and performance climate. They reported medium levels of all types of stress (2.18-2.75), with the level of performance stress being highest.

Table 1: Descriptive statistics for goal orientations, perceived motivational climate and perceived stress

	<i>N</i>	Min	Max	Mean	<i>SD</i>
Task orientation ^a	122	3.17	5.00	4.39	.476
Ego orientation ^a	122	2.50	5.00	4.13	.613
Mastery climate ^a	122	2.22	5.00	3.99	.578
Performance climate ^a	122	1.60	4.70	3.24	.621
Evaluation stress ^b	122	1.00	4.67	2.18	.843
Performance stress ^b	122	1.00	5.00	2.75	1.112
Development stress ^b	122	1.00	4.67	2.35	.815
Academic stress ^b	122	1.00	5.00	2.53	.931

^a 1 = Strongly disagree; 5 = Strongly agree

^b 1 = Not stressful or not applicable to me; 5 = Very stressful

Correlation coefficients are reported in Table 2. The correlation coefficients show that all the stress dimensions were positively correlated with each other. There were also positive correlations between task orientation and mastery climate and between performance climate and evaluation stress, as well as negative correlations between ego orientation and development stress and between mastery climate and academic stress.

Table 3 presents the results of independent-samples Students *t*-tests, which show that the level-1 players had higher mastery climate scores ($p < .01$), whilst the level-2 players reported higher levels of evaluation, performance and development stress ($p < .05$).

Table 2: Pearson correlations between goal orientations, perceived motivational climate and perceived stress

	Task	Ego	MC	PC	ES	PS	DS	AS
Task	1							
Ego	.048	1						
MC	.278**	.040	1					
PC	.015	.172	.011	1				
ES	-.060	-.076	-.136	.219*	1			
PS	-.012	-.144	-.093	.141	.659**	1		
DS	-.020	-.183*	-.173	-.036	.657**	.592**	1	
AS	-.092	.026	-.185*	-.153	.546**	.490**	.408**	1

* $p < .05$.

** $p < .01$.

Table 3: Group differences in goal orientations, perceived motivational climate and perceived stress (Student's *t*-test)

	Level	<i>N</i>	Mean	<i>SD</i>	<i>t</i>
Task orientation	Level-2	56	4.38	.452	-.174
	Level-1	66	4.39	.498	
Ego orientation	Level-2	56	4.08	.674	-.751
	Level-1	66	4.16	.559	
Mastery climate	Level-2	56	3.81	.631	-3.305**
	Level-1	66	4.14	.482	
Performance climate	Level-2	56	3.22	.667	-.255
	Level-1	66	3.25	.584	
Evaluation stress	Level-2	56	2.32	.781	1.784*
	Level-1	66	2.05	.879	
Performance stress	Level-2	56	3.02	1.094	2.490**
	Level-1	66	2.52	1.084	
Development stress	Level-2	56	2.57	.746	2.887**
	Level-1	66	2.15	.827	
Academic stress	Level-2	56	2.61	.898	.877
	Level-1	66	2.46	.959	

* $p < .05$.

** $p < .01$

Discussion

Previous research has shown that there are relationships between task orientation and perceived mastery climate (Appleton, Hall, & Hill, 2009; Dunn, Causgrove Dunn, & Syrotuik, 2002; Hall, Kerr, & Matthews,

1998; Ommundsen et al., 2005) and between ego orientation and perceived performance climate. A distinction has also been drawn between adaptive (task orientation plus mastery climate) and maladaptive motivational profiles (ego orientation plus performance climate) (Ommundsen et al., 2005). In earlier studies elite junior football players (Nerland & Sæther, 2016) and elite athletes (Pensgaard & Roberts, 2000) had high scores on both task and ego orientations. Our results are consistent with the earlier studies as our sample had high scores for task orientation and mastery climate, although they also had high scores for ego orientation and performance climate. As we have already highlighted, it is important to consider the combination of task and ego orientation, rather than focusing on whether an athlete is task- or ego-orientated. However, if an athlete scores high on ego orientation and low on task orientation, he is at greater risk of burnout and diminished motivation in the event of failure (Ommundsen et al., 1998); high task orientation is important as it can act as a safety net when results are poor. High task orientation can be vital to the development of young talents whose performance is unstable. An interesting result from this study, however, is that the level-1 players had higher scores for mastery climate than the level-2 players although the two groups had similar scores for task and ego orientations and performance climate.

As in earlier studies, the players reported a low level of the four types of stress (Sæther & Aspvik, 2016), although levels of performance stress were lower in this study. As elite junior football players operate in a competitive environment where expectations are high one might expect those playing at the highest junior level to feel the least performance stress because they belong to the nation's top clubs (Finn & McKenna, 2010). This is what we found: the level-2 players reported higher levels of evaluation, performance and development stress, confirming that perceptions of stress vary according to players' level of skill (Reeves et al., 2009), since the fear of failure regarding performance and development is more threatening (Sager, Busch, & Jowett, 2010).

We found positive correlations between task orientation and mastery climate, as expected on the basis of earlier studies. We also found a positive correlation between performance climate and evaluation stress, which should perhaps be expected, as one would expect a focus on performance to be accompanied by a focus on evaluation of the performance. If coaches create a performance climate it implies that they want to assess players' performance relative to other members of the team (Ames, 1992). The negative correlation between ego orientation and development stress could also be seen as a natural consequence, as ego-oriented players compare themselves to members of a normative reference group (Ommundsen et al., 1998). Furthermore, there was a negative correlation between mastery climate and academic stress. One potential explanation for this is that players who experience a climate that can broadly be classed as a mastery climate feel less stressed about their academic performance, especially if they feel successful as football players.

Conclusions

These results suggest that top-level clubs focus more on creating a mastery environment than lower level clubs, given that level-1 players had higher scores for mastery climate and this is confirmed by the fact that the level-2 players reported higher levels of evaluation, performance and development stress. As earlier studies of elite junior players have found that they score higher on task orientation and mastery climate than on ego orientation and performance climate this is not that surprising (Nerland & Sæther, 2016). A potential explanation could however be as Nicholl's claims that mastery motivation leads to better performance and this may be why the level 1 players demonstrate greater mastery motivation. It is unsurprising that the players reported higher levels of performance stress than other types of stress, as they operate in a highly competitive environment. The fact that the results showed a significant covariance between performance climate and evaluation stress could potentially have a negative effect on the players development, with a highly focus on performance and evaluation (Ames 1992). These results may be limited to Norwegian football and may not transfer to other countries with different organization. We recommend, however, that coaches focus on creating a mastery climate. Level-2 clubs should also be aware that their junior players experience higher levels of stress than those in level-1 clubs, which could indicate that they are more stressed about their performance and development as footballers.

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