

# The Dark Side of a Mastery Emphasis: Can Mastery Involvement Create Stress and Anxiety?

Frank Eirik Abrahamsen & Elsa Kristiansen\*

*Norwegian School of Sport Sciences*

## Abstract

The purpose of this investigation was to examine the potential associations of motivational fluctuations during a full season with football players from one Premier Division team in Europe. Using correlational analyses we examined whether such motivational changes would mirror changes in stress perceptions (media and organizational) and performance anxiety levels. We used Achievement Goal Theory and Cognitive Activation Theory of Stress in the examination. In the elite sport setting, the endorsement of mastery involvement is recommended in order to avoid unnecessary stress and performance anxiety among athletes. 27 players (18-31 years old,  $M_{age} = 22.26$  years,  $SD = 4.21$ ) answered the questionnaires monthly over a season. We found that the athletes' scores fluctuated over the season with interesting variations in the variables at time 2 (before season start) and time 7 (after the summer break) with a combination of high task orientation, high mastery climate perceptions and higher anxiety scores. The present findings revealed that stress may occur when there is a discrepancy between set values (what usually is) and actual value (what is). If the athletes are more accustomed to being evaluated normatively for the team roster, a sudden emphasis on personal improvement and maximum effort is very different – and may simply stress athletes even in a mastery environment.

Key words: Professional football players, motivational climate, stress, anxiety

## Introduction

The endorsement of mastery involvement is often recommended in order to avoid unnecessary stress and performance anxiety (e.g., Roberts, 2012). The research supporting this statement ranges from youth sports (e.g., Cecchini, Gonzalez, Carmona, & Contreras, 2004; Ommundsen & Pedersen, 1999; Smith, Smoll, & Cumming, 2007), through adolescent and PE (e.g., Papaioannou & Kouli, 1999; Williams, 1998) and well into elite sports (e.g., Abrahamsen & Pensgaard, 2012;

Abrahamsen, Roberts, & Pensgaard, 2008; Kristiansen, Halvari, & Roberts, 2012; Kristiansen, Roberts, & Abrahamsen, 2008; Pensgaard & Roberts, 2000; Pensgaard & Roberts, 2002).

The research in the past suggests (e.g., Roberts, 2012) that a task involving climate will generate constructive psychological and behavioral responses, compared to an ego involving climate. In recent research also biological markers of stress and anxiety, in the form of cortisol responses, has been found to be related with an ego involving climate more than with a mastery involving climate (Hogue, Fry, Fry, & Pressman, 2013). These authors argue that the motivational climates have a significant impact on both

physiological and psychological parameters of the athletes. In a similar vein, Kristiansen and Roberts (2011) found that athletes' performance climate perceptions were related with both organizational stress and negative media stress, whereas mastery climate perceptions were related with less perceptions of organizational stress. However, is it always the case that ego involved athletes are more stressed? Could it be that there are certain exceptions to this, and that mastery involvement may be related to stress and performance anxiety as well? In that case, what would the mechanisms be?

One theory that could explain the influence that the environment may have on athletes' emotional reactions is the Achievement Goal Theory (AGT; e.g., Nicholls, 1984, 1989), where the research previously presented originate from. We have chosen to use AGT to illustrate potential associations between motivation, stress and anxiety. According to Dweck (1986) AGT outlines the reasons why athletes engage in achievement situations at the outset; to demonstrate competence or at least avoid displaying incompetence. However, there are two ways that competence might be proven. When athletes are said to be ego involved, then competence is believed to be demonstrated through being superior to others and when athletes are said to be mastery involved, then demonstration of competence is self-referenced, entailing improvement, effort and learning new skills. Because mastery involved athletes have better control over their competence success criteria (effort and learning vs. outperforming others), it is reasoned that mastery involved athlete will be better guarded against performance anxiety (e.g., Roberts, 1986). As evident above, the empirical research generally supports this assumption.

Briefly, the state of involvement is thought to be influenced by personal dispositions to be task or ego involved (often termed ego and task orientation) and corresponding environmental influences (often termed performance and mastery climate) that emphasize different criteria of success. Mostly, it is argued that the

dispositions are orthogonal (e.g., Roberts, 2012), and research has corroborated that elite athletes typically are both highly ego and highly task oriented (e.g., Abrahamsen & Pensgaard, 2012; Kristiansen et al., 2008; Pensgaard & Roberts, 2000). In contrast, it is purported that one may only have one goal state at any one time, although this is dynamic and can change from moment to moment as information from the environment is processed (Gemignon, d'Arripe-Longueville, Delignières, & Ninot, 2004). Thus an athlete can be highly task involved, suddenly experience that key persons in the environment emphasize normative ability, and then shift focus to a normative criteria of success.

Because elite athletes often are both highly ego and highly task oriented, some researchers have argued that elite athletes might be particularly sensitive to influences of the motivational climate (e.g., Abrahamsen et al., 2008; Abrahamsen, Roberts, Pensgaard, & Ronglan, 2008; Pensgaard & Roberts, 2002). Abrahamsen and Pensgaard (2012) found that changes through the season in motivational climate perceptions, through self-confidence, affected anxiety in elite handball players, as predicted by AGT. Longitudinal (e.g., Williams, 1998) and experimental research (e.g., Yoo, 2003) with less elite athletes have demonstrated that climate changes might affect performance anxiety as assumed (for an overview, see Roberts, Abrahamsen, & Lemyre, 2009). Kristiansen, Murphy and Roberts (2012) found that soccer players in their sample were always sensible to the ego involving elements in an elite soccer club. For instance, one of the players in their study commented: "If two guys are competing for the same spot, they are not going to be best friends" (Kristiansen et al., 2012, p. 215).

Several reasons exist to why the perceived motivational climate could alter stress levels and performance anxiety. One route has already been elucidated; that the two success criteria at play give athletes different feelings of control. In line with this, typical stress definitions describe stress as a perceived imbalance between situational demands and response

capabilities (demands may tax or exceed response capabilities, e.g., Lazarus, 1966; McGrath, 1982). Performance anxiety is regarded to be a stress response (e.g., Spielberger, 1966). Theoretically, both ego and task involving goals could tax or exceed the athletes perceived ability to meet the demand. As McGrath (1982) pointed out, stress will occur when what is demanded is not accomplished and this unfulfilled situational demand could lead to some aversive consequences. For a soccer player, missing to be on the roster could be such a negative effect. When stress is defined this way, externally imposed demands such as improving ones capacity could lead to performance anxiety too.

The Cognitive Activation Theory of Stress (CATS; Ursin & Eriksen, 2004) is a contemporary stress theory. CATS explains how changes in the environment could create stress and performance anxiety. In sport, an environmental change could for instance be motivational climate changes. In their paper, Ursin and Eriksen (2004, p. 570) highlights that stress has been used for four different characteristics of “stress: (1) the stress stimuli (historically termed load or stressor); (2) the stress experience; (3) the non-specific, general stress response; and finally (4) the experience of the stress response. As these authors contend (p. 567), the stress response (3) is a “general alarm in a homeostatic system, producing general and unspecific neurophysiological activation from one level of arousal to more arousal”. For instance Hogue and colleagues (2013) reported that those who were in an ego-involving climate reported significantly more cortisol responses than those in task-involving climate. In addition, those in an ego-involving climate reported significantly higher levels of negative affect (such as anxiety, stress, and shame), in addition to self-consciousness compared to those in a task-involving climate. Furthermore, the task-involving climate participants also reported more enjoyment and effort, higher self-confidence, and interest in the activity (Hogue, et al., 2013, p. 85).

The stress alarm will according to CATS (Ursin &

Eriksen, 2004) occur when there is something missing, for instance a homeostatic imbalance, or in more generic terms when something is different from the “normal” condition; such as a shift in the psychological make-up of the perceived motivational climate. In formal terms there is a discrepancy between the variable value that should have been (set value) and the real value (actual value) of the same variable (Ursin & Eriksen, 2004). Although unpleasant, the stress load is not harmful in itself according to CATS (Ursin & Eriksen, 2004). The alarm is helpful and necessary in order to elicit behaviors to deal with the discrepancy, and is accompanied by physiological arousal (Ursin & Eriksen, 2004). Arnold and Sarkar (2014) give examples of some ways that coaches could impact the motivational climate in aversive ways, as interpreted by sport psychologists. As one sport psychologist commented (p. 6):

There is the pressure from the coach, either intended or not. At this stage they both want an Olympic medal; neither wants to let the other down. The coaches feel their own pressure at the event, their jobs are on the line too and they have a lot less control. Sometimes that anxiety trickles down to the athlete.

When the total load (physical and/or psychological) is not too severe or too prolonged, it might lead to training of the ability to manage a load of that magnitude (Ursin & Eriksen, 2004). Prolonged alarm responses may lead to illness through pathophysiological processes (Ursin & Eriksen, 2004).

CATS (Ursin & Eriksen, 2004) outline that the alarm level is reliant on expectations (from learning, hence cognitive) about the outcome of (a) the stimulus and (b) the capability to respond to this stimulus. This theory is different from most stress theories in the way it defines coping; as Positive Outcome Expectancy (PROE; Ursin & Eriksen, 2004). PROE is not about the ways of coping, rather whether athletes have positive expectancies about solving the situation or not (Eriksen,

Murison, Pensgaard, & Ursin, 2005; Ursin & Eriksen, 2004). When generalized across situations, this is very similar to the self-efficacy (Ursin & Eriksen, 2004) concept of Bandura's theory (Bandura, 1977).

Based on the CATS (Ursin & Eriksen, 2004) premises, that changes in the environment might cause stress, one may assume that an athlete might be stressed by being measured on individual goals rather than normatively as usual. In other words, the success criteria is different than what it usually is (set value = normative vs actual value = personal improvement). Thus, being in an environment where one is considered to be talented is very different from being in an environment where individual progress is accentuated. To our knowledge there are no studies investigating whether a shift to more of a mastery climate could stress athletes.

However, we have experienced that several coaches have mentioned that working with athletes that are predominantly ego oriented makes individual progress goals difficult to cultivate, because these athletes sometimes try to contest such changes. During our applied work with elite athletes we have sometimes witnessed similar instances. The reason for this is in line with AGT: ego oriented athletes that do not succeed may blame their failure to external factors and resist working on imperfections, because doing otherwise would be to admit a lack of normative ability. It is not surprising then, that task oriented athletes, more so than ego oriented, have reported more effective achievement strivings, adaptive coping strategies and also demonstrated more effort after meeting difficulties (for an overview, see Roberts, 2012). Based on these observations, we intended to examine to see whether changes in these elite soccer players' perception of the motivational climate would mirror their perceptions of stress (media and organizational) and performance anxiety during the season, and to see whether these changes were in line with theoretical predictions from AGT and CATS.

## Method

In this research project we used mixed methods because we wanted to exemplify and go into detail about the motivational and emotional fluctuations within a team. This paper focuses on the teams overall score during a season, a season in which the players responded 12 times to the questionnaires. Due to this intensive testing and discussion with the coaching team, we have first-hand observations to their sentiments at all test days, and the two authors monthly discussed the findings and the authors' observations during testing, which was then written down and used when discussing the results. These observations helped contextualize and understand the athletes' experiences and perceptions. The present examination intends to highlight how the entire team perceived the season and their fluctuation in motivation, stress and performance anxiety.

### Participants

Participants were football players from one men's team in a Premier Division in Europe ranging from 18-31 years old ( $M_{age} = 22.26$  years,  $SD = 4.21$ ). The year of the data collection, the club won the national cup trophy and ended 7<sup>th</sup> in the series. Like any Premier Division of professional football in Europe, there were international players from several countries on the teams, and these were mixed with locally produced players due to being a club with limited resources. Altogether, 27 different players answered the questionnaires.

### Procedure

Informed consent was obtained from all participants and the investigation was conducted in accordance with ethical research guidelines. The second author visited the team after their morning training, where the football players completed a questionnaire package. The athletes were willing to participate after the purpose of the investigation was specified. Because some players were injured or transferred to another team during the season,

the number and persons who took part in the testing varied (usually 17-18 each time). In the case of missing data, we chose to replace with mean scores because this is regarded as a conservative procedure (e.g., Tabachnick & Fidell, 2007).

## The Questionnaires

The questionnaire included background variables, measures of motivational orientation, the perceived motivational climate, multidimensional trait anxiety, and perceptions of media and organizational stress. The different instruments have all been used successfully in Norway previously, and due to the low number of athletes we do not present psychometrics for the present sample. The specific questionnaires were Perception of Success Questionnaire (POSQ; Roberts, Treasure, & Balague, 1998), Perceived Motivational Climate Questionnaire (PMCSQ; Seifriz, Duda, & Chi, 1992), the Belief Questionnaire (Pensgaard, 2004), Sport Anxiety Scale-2 (Smith, Smoll, Cumming, & Grossbard, 2006), Coach-athlete Stressors in Football Questionnaire (CASFQ; Kristiansen et al., 2012), and Media Stress in Football Questionnaire (MSFQ; Kristiansen et al., 2012).

Dispositional goal orientations were measured with the Perception of Success Questionnaire (POSQ; Roberts et al., 1998). POSQ is a 12-item questionnaire which measures task (6 items) and ego (6 items) goal orientations in sport, with phrases such as "I work hard" and "I win" to reflect the criteria of success used by the participants on a 5-point Likert scale.

The motivational climate was measured with the Perceived Motivational Climate in Sport Questionnaire (PMCSQ; Seifriz et al., 1992), and it consists of two subscales that has proven valid and reliable in Norwegian in the past (Abrahamsen & Pensgaard, 2012; Abrahamsen, Roberts, & Pensgaard, 2008); the mastery (11 items) and performance climate scales (9 items). The athletes were told to reflect upon how they experience the climate in their team, and phrases such as "Players feel good when they do better than team-mates" and "The coach wants us to try new skills"

to reflect the criteria of success the players perceived used by the coach(es). The stem "on this team..." preceded each item to make it team specific on a 5-point Likert scale.

The Belief Questionnaire (Pensgaard, 2004) asks the athletes "how confident they are in physical, mental, tactical and technical abilities compared to other athletes in their sport" that they generally compete against. For each ability the athletes respond by writing a percentage (0= minimal belief, to 100%= strong belief), and a mean score is then added to represent their general self-confidence as a footballer.

Anxiety was measured by the Sport Anxiety Scale-2 (SAS-2; Smith et al., 2006). The instrument consists of three subscales intended to tap somatic anxiety (five items), worry (five items) and concentration disruption (five items). Participants respond to items with the stem, "Before or while I compete in sports: "my body feels tense"; "I worry that I will not play well"; "it is hard for me to focus on what I am supposed to do". The athletes responded to the items on a 4-point Likert scale (1= not at all, to 4= very much).

Media- and organizational stress (Kristiansen et al., 2012) has previously been used by Kristiansen and colleagues to measure negative media- and organizational stress. The Media Stress in Football Questionnaire (MSFQ) consists of 4 items with stems such as "I take what the media writes about my team and me personally" and "the media creates a pressure for winning which I find stressful". The questionnaire does not measure frequency, duration, intensity or meaning; the items simply measure a perceived demand placed on the players from the media. Responses were indicated on a 5-point Likert scale. The internal consistency (Cronbach's alpha) of the 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Coach-athlete Stressors in Football Questionnaire (CASFQ) consists of 23 items and includes phrases such as: "The coach and team agree on the strategy for the team", and "The coach is good at communicating with us players".

## Results

### Descriptive Statistics

Table 1 presents the mean, median and standard deviation of the variables of interest for the variables at every time point. Highest and lowest scores are presented with bold and italic text respectively. As can be seen in the table, there are a many uppermost scores at time 2. Although the differences are not significantly

different from the other scores, the discussion with the players and coach, in addition to the observations, give in-depth insight into why time 2 is different: the players were retested for personal improvement on several physical variables. The combination of high task orientation and high mastery climate perceptions, combined with higher anxiety scores should be noted. There are some other interesting time points as well, if one makes the connection between data, time of the year, placing in the series, and the observations made.

**Table 1.** Mean, Median and Standard Deviation from the Whole Soccer season

Variable		Data gathering point											
		1	2	3	4	5	6	7	8	9	10	11	12
Month		December	December	February	March	April	May	June	July	September	October	November	November
Number in the league		Test	Retest	Just before	2	4	11	10	7	5	9	7	7
Ego orientation	Mean	<u>3.72</u>	3.83	3.96	3.93	3.88	3.93	3.98	4.03	4.03	<b>4.13</b>	3.89	4.10
	Median	3.92	4.08	<b>4.17</b>	4.00	<u>3.83</u>	4.00	4.00	4.00	4.00	4.00	4.00	4.00
	St. dev.	.84	1.00	.83	.80	.80	.79	.61	.65	.73	.63	.91	.78
Task orientation	Mean	4.55	<b>4.78</b>	4.55	<u>4.42</u>	4.55	4.45	4.55	4.67	4.47	4.58	4.46	4.58
	Median	4.75	<b>5.00</b>	4.83	<u>4.50</u>	4.67	4.58	4.83	4.67	4.67	4.83	4.83	4.67
	St. dev.	.57	.33	.51	.54	.50	.63	.56	.41	.71	.59	.87	.54
Performance climate	Mean	3.48	3.38	3.60	3.44	3.57	3.43	3.40	3.62	<b>3.94</b>	3.75	3.75	3.86
	Median	3.58	3.58	3.50	3.50	3.83	<u>3.33</u>	3.50	3.58	3.67	3.83	3.83	<b>4.17</b>
	St. dev.	.78	.91	.95	.79	.77	.79	.71	.80	.71	.69	.76	.79
Mastery climate	Mean	4.36	<b>4.64</b>	4.50	4.46	4.58	<u>4.14</u>	4.31	4.41	4.37	4.33	4.24	4.41
	Median	4.50	<b>4.70</b>	4.60	4.60	4.60	4.50	4.50	<u>4.40</u>	4.50	4.60	<u>4.40</u>	<u>4.40</u>
	St. dev.	.56	.44	.42	.49	.40	.82	.68	.57	.67	.64	.62	.47
Self confidence	Mean	<u>79.66</u>	80.58	83.31	<b>85.55</b>	84.62	84.63	85.38	83.68	82.64	83.22	84.23	84.30
	Median	<u>78.13</u>	78.75	85.00	<b>87.50</b>	85.00	83.13	85.25	82.50	85.50	87.25	85.00	86.25
	St. dev.	12.01	12.38	12.46	9.20	8.50	10.84	11.26	12.31	11.00	13.89	12.11	11.49
Somatic anxiety	Mean	1.53	<b>1.56</b>	1.50	1.48	1.48	1.38	<u>1.36</u>	1.41	1.48	1.54	1.38	1.44
	Median	1.40	<b>1.70</b>	1.40	1.40	1.40	<u>1.20</u>	1.40	1.40	1.50	1.40	<u>1.20</u>	1.40
	St. dev.	.36	.42	.37	.41	.37	.34	.30	.35	.39	.48	.37	.38
Worry	Mean	1.68	<b>2.38</b>	1.70	1.61	<u>1.47</u>	1.57	1.50	<u>1.47</u>	1.58	1.57	1.55	1.49
	Median	1.90	<b>2.00</b>	1.60	1.50	<u>1.20</u>	1.60	1.50	1.30	1.60	1.60	1.75	1.25
	St. dev.	.50	1.29	.51	.70	.46	.56	.52	.48	.53	.57	.49	.59
Concentration dis. <sup>1</sup>	Mean	<b>1.55</b>	1.52	1.50	1.34	1.37	1.43	1.36	1.48	1.42	1.47	1.37	<u>1.33</u>
	Median	<b>1.40</b>	<b>1.40</b>	<b>1.40</b>	<b>1.40</b>	<u>1.20</u>	<b>1.40</b>	<b>1.40</b>	<b>1.40</b>	<b>1.40</b>	<b>1.40</b>	<b>1.40</b>	<u>1.20</u>
	St. dev.	.60	.34	.33	.24	.39	.27	.22	.39	.37	.41	.38	.31
Organizational stress	Mean	4.13	4.16	<b>4.24</b>	4.19	4.23	<u>3.91</u>	<b>4.24</b>	4.14	4.06	4.12	3.99	4.03
	Median	4.14	4.07	4.14	4.29	4.14	<u>3.92</u>	<b>4.36</b>	4.21	4.14	4.29	4.29	4.00
	St. dev.	.43	.45	.39	.46	.51	.57	.44	.51	.56	.56	.69	.41
Media stress	Mean	3.11	2.98	<u>2.77</u>	2.97	<b>3.59</b>	3.25	3.20	3.31	3.33	3.33	2.63	2.75
	Median	3.25	3.25	<u>2.75</u>	3.00	<b>3.75</b>	3.25	3.25	3.50	3.25	3.00	3.00	3.00
	St. dev.	.72	.62	.65	.65	.69	.50	.54	.66	.69	.69	.93	.87

Bold underlined = highest number.

Italic underlined = lowest number.

<sup>1</sup> Concentration disruption

## Correlations

In order to see whether the variables changed, we made a new dataset where the variables were kept as variables, whereas the scores at different time points were computed as data. There were some significant correlations (Pearson's 2-tailed): Ego orientation was positively correlated with performance climate perceptions ( $r = .60$ ,  $p < .05$ ), mastery orientation was positively correlated with performance worry ( $r = .61$ ,  $p < .05$ ) and mastery climate ( $r = .59$ ,  $p < .05$ ), mastery climate was positively correlated with somatic anxiety ( $r = .64$ ,  $p < .05$ ) and organizational stress ( $r = .69$ ,  $p < .05$ ). Furthermore, self-confidence was negatively correlated (Pearson's 2-tailed) with all anxiety variables (somatic anxiety,  $r = -.68$ ,  $p < .05$ ; worry,  $r = -.63$ ,  $p < .05$ ; and concentration disruption,  $r = -.84$ ,  $p < .01$ ). Somatic anxiety was positively correlated with worry ( $r = .58$ ,  $p < .05$ ).

## Discussion

Informed by the framework of Achievement Goal Theory (AGT) and Cognitive Activation Theory of Stress (CATS), we examined the potential associations of motivational fluctuations during a full season with elite football players. The quantitative findings were also supported by observations during the season (and also the two previous seasons). The team's coach has a reputation for being very pedagogical and caring for all his players (Kristiansen & Abrahamsen, under preparation), though, the side effect of this would be that they must (or seems to try) to perform at their very best even in pre-season. Regardless of the perceived mastery climate, there might be an ongoing competition with oneself and the others on the team that may easily create stress. The pre-season lacks the regular rhythm typical for the regular season. They are to learn new formations fast in order to keep their position on the team, this irregular rhythm seemed to affect some of the players more than others.

The players underwent a similar process right after the summer holiday time 7 (two weeks of only individual training) as in the pre-season time 2, and it seemingly affecting the players similarly. The time 2 scores show higher scores on both mastery climate and the sub scales of anxiety, which are in strong opposition to the typical hypotheses of AGT and empirical findings (e.g., Abrahamsen & Pensgaard, 2012). In contrast to previous research that has supported the endorsement of task orientation and mastery climate in order to avoid excessive stress and performance anxiety (e.g., Cecchini et al., 2004; Ommundsen & Pedersen, 1999; Papaioannou & Kouli, 1999; Smith et al., 2007; Williams, 1998), also with elite athletes (e.g., Abrahamsen & Pensgaard, 2012; Abrahamsen et al., 2008; Kristiansen et al., 2012; Kristiansen et al., 2008; Pensgaard & Roberts, 2000; Pensgaard & Roberts, 2002), the present study revealed that an imbalance between situational demand and perceived capacity to meet those demands might be associated with performance anxiety (Lazarus, 1966; McGrath, 1982).

Theoretically, mastery involved athletes could experience stress and performance anxiety due to situational demands, such as maximum effort expenditure and personal improvement. The present findings support that task oriented athletes, and also mastery climate perceptions, could tax or exceed athletes' apparent response capabilities. It is impossible to draw any conclusions from these longitudinal data to cause and effect, and stronger inferences might be found in future studies. Although the present findings warrant careful consideration of conclusions, the findings solicit further examinations.

As acknowledged, there are counterarguments towards the explanation proposed above. Even though the findings are at odds with the tenets and the majority of the empirical findings from AGT, stress theories might explain the results. In particular, CATS (Ursin & Eriksen, 2004) gives valuable insight into the reasons why the findings might not be so surprising after all.

According to CATS, stress may occur when there is a discrepancy between set values (what usually is) and actual value (what is). If the athletes are more accustomed to being evaluated normatively for the team roster, a sudden emphasis on personal improvement and maximum effort is very different. The potential importance of climate shift with elite athletes has been underscored previously (e.g., Abrahamsen & Pensgaard, 2012; Pensgaard & Roberts, 2002). Self-confidence was negatively related with performance anxiety variables, and this finding is in concert with previous research (e.g., Abrahamsen & Pensgaard, 2012; Abrahamsen et al., 2008) and the tenets of CATS. Again, the findings warrant further research.

Second, one could argue that the findings in the present study is in fact measuring an ego involving climate in time two because the results may be known publicly in the rest of the team. Considering that the organization (coach, board, and other important persons in the team) expects improvement on tests could be a viable explanation for these findings. The observations support that intra-team rivalry (that often happens in the pre-season), may be even more stressful than inter-team rivalry that occurs during the season. The players seemed, which were supported quantitatively, most unsecure during the roster, which has been reported previously (Kristiansen et al., 2012). During the roster, the athletes might be uncertain about their position and what criteria that will be the deciding argument for the start line-up. In a previous study Kristiansen and colleagues (Kristiansen et al., 2012) reported that the intense competition for a place in the team was a major source of stress because the constant normative comparison led to a performance climate perception. Some players almost wept when they discussed the perceived stress from that situation (the interviews were conducted in pre-season), also former Olympic gold medal winners. It seems that self-confidence from previous years does not always trickle down into the next season, helping the athletes during this phase of the roster. In CATS, positive outcome expectancies are

based on previous accomplishments and experiences, and it may be that the success criteria extant in the environment are very different from season start to season end. Thus, expectancies to solve the situation might be very different at different time points. For instance Abrahamsen and Pensgaard (2012) reported that perceived changes of the climate was related to changes in self-confidence and performance anxiety. That the coach created climate could affect self-confidence and stress has been proposed previously (e.g., Pensgaard & Roberts, 2000).

A third argument contrary to the findings in time 2 might be that the data gathering point is close to the start of the series. However, then time 3 should be even worse and the players should not report the highest mastery orientation and task motivational climate perceptions at time 2. A similar insecurity of upcoming changes may be the reason for the highest scores on organizational stress just after their summer break (time 7). That mastery climate perceptions were positively correlated with perceptions of organizational stress strengthens the unusual findings of higher task orientation/higher mastery climate perceptions and higher performance anxiety scores. One could argue that it is the effect of organizational stress that caused the elevation of performance anxiety; however there is still a link with task orientation and mastery climate perceptions. Kristiansen and colleagues (2012) discussed whether coaches and staff may experience pressure themselves (e.g., from the board/management) and that this pressure to perform overrides the motivational orientations of the players. When the results become more important for a team, for instance a possibility to win a trophy or fighting to avoid being relegated, the result might be an environment that changes the performance criteria of success quickly (e.g., Kristiansen & Roberts, 2010). Similarly, Williams (1998) reported the differences in climate perceptions in training and competition, and that those changes were followed by performance anxiety levels. Thus, it might be viable to see coaches as both potential "problem solvers" (Frey,



2007), but that they may be a potent source of stress for athletes as well (Giacobbi, Foore, & Weinberg, 2004; Kristiansen & Roberts, 2010; Pensgaard & Roberts, 2002).

### Closing thoughts

Finally, it is worth noting that this team had a rather unusual and unexpected success this season. They won the cup trophy, and for the first time they managed to continue doing well even after a good start at a season. Because we stayed close to this team for several years, it was interesting to see how they learned from their experiences. Though, the best can always become better. This might have caused the rather unusual findings presented here, that contradicts previous research on these issues. Pressure and a willingness to improve has negative consequences that we must be aware of, and we believe our results is a product of that – and not that this group of elite athletes are any different. Although the general recommendation from AGT of endorsing task involving success criteria still rings true, there are reasons to believe that a strong mastery environment can be stressful for athletes under certain circumstances as well – such as the period when the internal “fight for positions” takes place. As a result we encourage other to replicate these results as the findings might inform professionals working with team sports.

From an applied perspective the present findings are important, as they give a brief glimpse into why some athletes, in the eyes of their coaches, seem to be stressed in a mastery environment. As evident, stress and performance anxiety might affect performance and hamper the athletes within a mastery climate environment. In a roster period, the coaches should be aware of potential anxiety effects, no matter whether caused by normative success criteria or personal improvement demands. Handling stress is a daily part of being an elite athlete, however coping with stress is still a skill that may be developed as explained by CATS,

and coaches should be sympathetic to why some athletes suddenly perform well below their par. Another implication is that coaches should help the athletes during roster to understand what is expected from them, and how they might advance: When given clear demands it is a lot easier to know whether one has the competence to meet those demands or not, and then decide on actions to diminish the potential gap.

Sport psychologists working in team environments are advised to follow trainings and competitions during different time periods. Not only will they learn more about the players, they might learn more about the team dynamics in addition. In particular, they will gain an opportunity to help athletes overcome different stressors during the season, and also help maintain the right motivation to cope with these encounters. One size does not fit all, however one size might not fit the same player exactly the same way either, depending on where they are both mentally and physically.

### Reference

- Abrahamsen, F. E. & Pensgaard, A. M. (2012). Longitudinal changes in motivational climate and performance anxiety among elite handball players. *International Journal of Applied Sport Sciences*, **24**, 31-42.
- Abrahamsen, F. E., Roberts, G. C., & Pensgaard, A. M. (2008). Achievement goals and gender effects on multidimensional anxiety in national elite sports. *Psychology of Sport and Exercise*, **9**, 449-464.
- Abrahamsen, F. E., Roberts, G. C., Pensgaard, A. M., & Ronglan, L. T. (2008). Perceived ability and social support as mediators of achievement motivation and performance anxiety. *Scandinavian Journal of Medicine & Science in Sports*, **18**, 810-821.
- Arnold, R. & Sarkar, M. (2014). Preparing athletes and teams for the Olympic Games: Experiences and lessons learned from the world's best sport

- psychologists. *International Journal of Sport and Exercise Psychology*, **13**, 4-20.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, **84**, 191-215.
- Cecchini, J. A., Gonzalez, C., Carmona, A. M., & Contreras, O. (2004). Relationships among motivational climate, achievement goals, intrinsic motivation, self-confidence, anxiety, and mood in young sport players. *Psicothema*, **16**, 104-109.
- Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, **41**, 1040-1048.
- Frey, M. (2007). College coaches' experiences with stress - "problem solvers" have problems, too. *The Sport Psychologist*, **21**, 38-57.
- Gernigon, C., d'Arripe-Longueville, F., Delignières, D., & Ninot, G. (2004). A dynamical systems perspective on goal involvement states in sport. *Journal of Sport & Exercise Psychology*, **26**, 572-596.
- Giacobbi, P., Foore, B., & Weinberg, R. (2004). Broken clubs and expletives: The sources of stress and coping responses of skilled and moderately skilled golfers. *Journal of Applied Sport Psychology*, **16**, 166-182.
- Hogue, C. M., Fry, M. D., Fry, A. C., & Pressman, S. D. (2013). The influence of a motivational climate intervention on participants' salivary cortisol and psychological responses. *Journal of Sport & Exercise Psychology*, **35**, 85-97.
- Hogue, C. M., Fry, M. D., Fry, A. C., & Pressman, S. D. (2013). The influence of a motivational climate intervention on participants' salivary cortisol and psychological responses. *Journal of Sport & Exercise Psychology*, **35**, 85-97.
- Kristiansen, E., & Abrahamsen, F. E. Personal losses within a winning team: Motivation, stress, injury and coping through a football season - four case stories. Under review.
- Kristiansen, E., Halvari, H., & Roberts, G. C. (2012). Organizational and media stress among professional football players: testing an achievement goal theory model. *Scandinavian Journal of Medicine & Science in Sports*, **22**, 569-579.
- Kristiansen, E., Murphy, D., & Roberts, G. C. (2012). Organizational stress and coping in U.S. professional soccer. *Journal of Applied Sport Psychology*, **24**, 207-223.
- Kristiansen, E. & Roberts, G. C. (2010). Young elite athletes and social support: coping with competitive and organizational stress in "Olympic" competition. *Scandinavian Journal of Medicine & Science in Sports*, **20**, 686-695.
- Kristiansen, E. & Roberts, G. C. (2011). Media exposure and adaptive coping in elite football. *International Journal of Sport Psychology*, **42**, 339-367.
- Kristiansen, E., Roberts, G. C., & Abrahamsen, F. E. (2008). Achievement involvement and stress coping in elite wrestling. *Scandinavian Journal of Medicine & Science in Sports*, **18**, 526-538.
- Lazarus, R. S. (1966). *Psychological stress and the coping process*. New York, NY: McGraw-Hill.
- McGrath, J. E. (1982). Methodological problems in research on stress. In H.W.Krohne & L. Laux (Eds.), *Achievement, stress, and anxiety* (pp. 19-50). New York: Hemisphere Publishing Corporation.
- Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, **91**, 328-346.
- Nicholls, J. G. (1989). *The competitive ethos and democratic education*. Cambridge, Massachusetts: Harvard University Press.
- Ommundsen, Y. & Pedersen, B. H. (1999). The role of achievement goal orientations and perceived ability upon somatic and cognitive indices of sport competition trait anxiety. *Scandinavian Journal of Medicine & Science in Sports*, **9**, 333-343.
- Papaioannou, A. & Kouli, O. (1999). The effect of task structure, perceived motivational climate and goal orientations on students' task involvement and anxiety. *Journal of Applied Sport Psychology*, **11**, 51-71.

- Pensgaard, A. M. (2004). Measurement of perceived ability at the elite level . In abstract (pp. 97). Minneapolis, Minnesota, USA: AAASP.: Presented at the AAASP, Association for the Advancement of Applied Sport Psychology.
- Pensgaard, A. M. & Roberts, G. C. (2000). The relationship between motivational climate, perceived ability and sources of stress among elite athletes. *Journal of Sports Sciences*, **18**, 191-200.
- Pensgaard, A. M. & Roberts, G. C. (2002). Elite athletes' experiences of the motivational climate: The coach matters. *Scandinavian Journal of Medicine & Science in Sports*, **12**, 54-59.
- Roberts, G. C. (1986). The Perception of Stress: A Potential Source and its Development. In M.R. Weiss & D. Gould (Eds.), *Sport for Children and Youths* (pp. 119-126). Champaign, IL: Human Kinetics.
- Roberts, G. C. (2012). Motivation in sport and exercise from an achievement goal theory perspective: After 30 years, where are we? In G. C. Roberts & D. C. Treasure (Eds.), *Advances in motivation in sport and exercise* (3 ed., pp. 5-58). Champaign, IL: Human Kinetics.
- Roberts, D. C., Abrahamsen, F., & Lemyre, P. N. (2009). Motivation in sport and physical activity: An achievement goal interpretation. In A. Kaplan, S. Karabenick, & E. De Groot (eds.), *Culture, Self, and Motivation: Essays in Honor of Martin L. Maehr* (pp. 39-68). Charlotte, NC: Information Age Publishing.
- Roberts, G. C., & Papiannou, A. G. (2014). Achievement motivation in sports settings. In A. Papannoi, & D. Hackfort, (Eds), *Routledge companion to sport and exercise psychology: Global perspectives and fundamental concepts* (pp. 49-66). New York: Routledge.
- Roberts, G. C., Treasure, D. C., & Balague, G. (1998). Achievement goals in sport. The development and validation of the Perception of Success Questionnaire. *Journal of Sports Sciences*, **16**, 337-347.
- Seifriz, J. J., Duda, J. L., & Chi, L. (1992). The relationship of perceived motivational climate to intrinsic motivation and beliefs about success in basketball. *Journal of Sport & Exercise Psychology*, **14**, 375-391.
- Smith, R. E., Smoll, F. L., & Cumming, S. P. (2007). Effects of a motivational climate intervention for coaches on young athletes' sport performance anxiety. *Journal of Sport & Exercise Psychology*, **29**, 39-59.
- Smith, R. E., Smoll, F. L., Cumming, S. P., & Grossbard, J. L. (2006). Measurement of multi dimensional sport performance anxiety in children and adults: The Sport Anxiety Scale-2. *Journal of Sport & Exercise Psychology*, **28**, 479-501.
- Spielberger, C. D. (1966). Theory and research on anxiety. In C. D. Spielberger (Ed.), *Anxiety and behavior* (pp. 3-20). New York and London: Academic Press.
- Tabachnick, B. G. & Fidell, L. S. (2007). *Using multivariate statistics*. (5 ed.) Boston, MA: Pearson Education.
- Ursin, H. & Eriksen, H. R. (2004). The cognitive activation theory of stress. *Psychoneuroendocrinology*, **29**, 567-592.
- Williams, L. (1998). Contextual influences and goal perspectives among female youth sport participants. *Research Quarterly for Exercise and Sport*, **69**, 47-57.
- Yoo, J. (2003). Motivational climate and perceived competence in anxiety and tennis performance. *Perceptual and Motor Skills*, **96**, 403-413.