



**SOURCES AND SYMPTOMS OF STRESS AND
AFFECTIVE STATES AMONG ACADEMY PLAYERS**

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Introduction.

Aspiring Premiership players of the future need to be physically, technically, and mentally excellent in order for them reach and sustain a playing career at the highest level. Players in academies spend endless hours working to improve their physicality, technical skills and tactical awareness, yet perhaps the least amount of time is spent on developing the mental aspects of their performance.

This is surprising, because academy players could potentially be experiencing a large number of performance and non-performance stressors. It is the first time that they have faced the training volumes close to that of full-time players, and many experience a considerable rise in the standard of opposition from school matches to facing international players in the 'A' league. In addition to these performance stressors, they

face a variety of “off the field stressors,” as most of these players are living away from home for the first time and have to cook and look after themselves. Most players also combine their rugby with studying for a degree course, which brings added pressure on this group of individuals.

Previous research by Nicholls and Polman (2007) examined performance stress and coping among players from the England U18 side in a diary study over thirty one days. Overall, the most frequently cited stressors during these thirty one days were physical errors, receiving coach/parental criticism, making a mental error, injury and observing an opponent play well. The most frequently cited coping strategies were blocking, increased effort and taking advice.

In an additional study, Nicholls, Holt, Polman, and Bloomfield (2006) examined stress and coping with a professional team during a period of twenty eight days. During this time the team played two Heineken Cup matches and two Celtic league matches. The most frequently cited stressors were injury concerns, mental errors and physical errors. The most frequently cited coping strategies were increased concentration, blocking, positive re-appraisal and being focused on the task.

There were subtle differences in the findings of these two studies, suggesting that academy players and professional players experience different stressors. For instance, the younger players are more concerned than older professional players about coach/parental criticism and opponents playing well.

However, the two studies by Nicholls and colleagues only examined performance stressors and failed to examine non-performance stressors or how these stressors made the players feel, which is known as affect. This has implications for performance and well-being.

Affect is a measure of how somebody is feeling. A person always feels something, whether that is slightly happy or very depressed - an affective tone is always within the conscious awareness (Kuppens, Van Mechlen, Nezlek, Dossche, & Timmermans, 2007). As such, affect consists of two dimensions (1) Pleasure-displeasure and (2) activation (e.g., highly energetic) and deactivation (e.g., sleepy). Therefore, a player could experience high levels of activation or energy, but this could be pleasurable on one occasion, but negative on another occasion depending on the situation that they are in. In a rugby scenario, a hooker going into the scrum could experience lots of energy, which would help maximise his performance, and he could view this as positive. Alternatively, a fly half who is about to take a kick and is experiencing high levels of energy could view this as being unpleasant, because it could be manifested in anxiety, which is not the optimal state for a goal kick.

Interestingly, negative affective states (e.g., deactivation and displeasure) have been associated with the phenomena of overtraining, which is a consequence of inappropriate training loads and recovery periods that result in depleted performance and maladaptation. Alternatively, overreaching is training that produces short-term (several days) negative symptoms that result in positive training adaptation (Polman & Houlahan, 2004). Additionally, negative affect has also been associated with stress (Thayer, 1986), that is when people experience large amounts of stress and they are likely to report high levels of negative affect (e.g., displeasure).

In summary, the purposes of this paper were to examine the sources of stress and symptoms of stress and affective states on (a) rest days, training days, and match days and (b) fluctuations that occur around matches (e.g., one day pre-match day, match day and one day post-match).

Method.

Participants were sixteen academy players who completed the Daily Analyses of Life Demands in Athletes (DALDA, Rushall, 1990; Appendix A and Appendix B for definitions) and the The Activation Deactivation Adjective Check List (AD ACL; Thayer, 1989) for a period of twenty eight days.

However, due to the time-consuming nature and complexities of converting the AD ACL results into affective states we have included an Affect Grid (Russell, Weiss, & Mendelsohn, 1989, see Appendix C), which we feel will be more useful to coaches and sport scientists working in rugby domains. This is an acceptable method of measuring affective states that is quick, and data can easily be interpreted. Participants are asked to mark the position in the Affect Grid that corresponds to how they are feeling at the present time.

Results.

Rest days, Training days, and Match days

On rest days, players reported that the sources of stress, namely diet, sport, and health, were 'worse than normal', whereas home-life, friends, and recreation were 'better than normal.'

On training days the sources of stress, diet, sport, climate and health, were worse than normal. Fourteen sources of stress were reported as being worse than normal: they were muscle pains, tiredness, need for rest, irritability, throat, internal, unexplained aches, enough sleep, general weakness, skin rashes, congestion, training effort, temper, likeability and running nose.

Five stress symptoms were ‘worse than normal’ on match days (e.g., muscle pains, tiredness, need for rest, throat and unexplained aches) and five symptoms were better than normal (e.g., boredom, interest, training effort, likeability and running nose).

With regards to affect, players remained in the low activation (e.g., sleepy) and unpleasant quadrant of the Affect Grid throughout all rest, match and training days.

Context-specific analysis – one day before match, match day and one day after a match.

Muscle pain, tiredness, need for rest, unexplained aches, general weakness and training effort were ‘worse than normal’ the day after the game than they were on the match day or the day before the match.

Players also reported ‘worse than normal’ levels of tiredness and need for rest on match days and the day after the match in comparison to the day before the match.

Similar to the analysis of rest, training, and match days, the players reported a low activated and unpleasant state for one day before match, match day and one day after a match.

Discussion.

Our results indicate that this sample of academy players “experience stress from a multitude of sources, report numerous symptoms of stress, and can be categorized in a low activated, unpleasant state (e.g., fatigue) which is indicative of overtraining.” (Nicholls et al., in press.) However, it should be noted that this study started towards the end of pre-season, which is a period that is linked to high training loads. This could explain why the players reported many symptoms of stress being ‘worse than normal.’ Despite this, the players entered the season in a fatigued state, suggesting that pre-season training could be altered in order to allow more recovery time.

It is recommended that coaches and sport scientists working within rugby clubs monitor stress and affective states in order to prevent the development of overtraining syndrome and burnout.

It could also be argued that players within academy settings spend more time on the mental side of the game and are taught a range of strategies in order to manage the stress they experience, both during matches and away from the rugby field, in order to maximise performance and emotional well-being.

Applied Implications.

Many of the stressors had altered when we got the results of the study; training volumes had reduced dramatically as the players were now in competition period, which had an

implication on their symptoms of stress. The players had also begun to adapt to life on their own, so their affect would also have changed significantly. The survey provided some valuable information in terms of what affected their moods and the problems they faced, so intervention strategies could be put in place for future players facing the same situation.

Detailed analysis of each respondent enabled the identification of selected individuals to receive some specific one-to-one help to cope with on-field stress, which was particularly helpful for goal kickers and hookers.

Players who demonstrated similar responses to certain situations were grouped together and provided with seminars such as dealing with and reacting to on-field setbacks.

It did give us a very good snapshot of the problems which those players were feeling at that stage of the season and whilst, to an extent, we would want them to feel over-trained during this period, it enabled us to monitor them closely throughout the remainder of the year with a better knowledge of their sources of stress.

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Appendix A: The Daily Analysis of Life Demands in Athletes (DALDA; Rushall, 1990)

INSTRUCTIONS: Please consider the whole of the previous day before CIRCLING the appropriate response alongside each item. Check to make sure you have responded to all the items.

A = Worse than normal

B = Normal

C = Better than normal

Part A

1.	A	B	C	Diet
2.	A	B	C	Home-life
3.	A	B	C	Work
4.	A	B	C	Friends
5.	A	B	C	Sport training
6.	A	B	C	Climate
7.	A	B	C	Sleep
8.	A	B	C	Recreation
9.	A	B	C	Health

Part B

1.	A	B	C	Muscle pains
2.	A	B	C	Techniques
3.	A	B	C	Tiredness
4.	A	B	C	Need for rest
5.	A	B	C	Supplementary work
6.	A	B	C	Boredom
7.	A	B	C	Recovery times
8.	A	B	C	Irritability
9.	A	B	C	Weight
10.	A	B	C	Throat
11.	A	B	C	Internal
12.	A	B	C	Unexplained aches
13.	A	B	C	Technique strength
14.	A	B	C	Enough sleep
15.	A	B	C	Between sessions recovery
16.	A	B	C	General weakness
17.	A	B	C	Interest
18.	A	B	C	Arguments
19.	A	B	C	Skin rashes
20.	A	B	C	Congestion
21.	A	B	C	Training effort
22.	A	B	C	Temper
23.	A	B	C	Swellings
24.	A	B	C	Likeability
25.	A	B	C	Running nose

Appendix B: Definitions for Daily Analyses of Life Demands in Athletes (DALDA)

Part A (sources of life stress)

1. *Diet.* Consider whether you are eating regularly and in adequate amounts. Are you missing meals? Do you enjoy your meals?
2. *Home-life.* Have you had any arguments with your family? Are you being asked to do too much around the house? How is your relationship with your wife/husband/partner?
3. *Work.* Consider the amount of work that you are doing there. Are you required to do more or less at home or in your own time? Have you had any bad evaluations recently? Think of how you are interacting with team management.
4. *Friends.* Have you lost or gained any friends? Have there been any arguments or problems with your friends? Are they complimenting you more or less? Do you spend more or less time with them?
5. *Training and exercise.* How much and how often are you training? Are the levels of effort that are required easy or hard? Are you able to recover adequately between efforts? Are you enjoying your sport?
6. *Climate.* Is it too hot, cold, wet or dry?
7. *Sleep.* Are you getting enough sleep? Are you getting too much? Can you sleep when you want to?
8. *Recreation.* Consider the activities that you do outside your sport. Are they taking up too much time? Do they compete with your application to your sport?
9. *Health.* Do you have any infections, a cold, or other temporary health problems?

Part B (symptoms of stress)

1. *Muscle pains.* Do you have sore joints and/or pains in your muscles?
2. *Techniques.* How do your techniques feel?
3. *Tiredness.* What is your general state of tiredness?
4. *Need for rest.* Do you feel that you need a rest between training sessions?
5. *Supplementary work.* How strong do you feel when you do supplementary training (e.g., weights, resistance work, stretching)?
6. *Boredom.* How boring is training?
7. *Recovery time.* Do the recovery times between each training effort need to be longer?
8. *Irritability.* Are you irritable? Do things get on your nerves?
9. *Weight.* How is your weight?
10. *Throat.* Have you noticed your throat being sore or irritated?
11. *Internal.* How do you feel internally? Have you had constipation, upset stomach, etc?
12. *Unexplained aches.* Do you have unexplained aches or pains?
13. *Technique strength.* How strong do your techniques feel?
14. *Enough sleep.* Are you getting enough sleep?
15. *Between sessions recovery.* Are you tired before you start your second training session of the day?
16. *General weakness.* Do you feel weak all over?
17. *Interest.* Do you feel that you are maintaining your interest in your sport?
18. *Arguments.* Are you having squabbles and arguments with people?
19. *Skin rashes.* Do you have any unexplained skin rashes or irritations?
20. *Congestion.* Are you experiencing congestion in the nose and/or sinuses?
21. *Training effort.* Do you feel that you can give your best effort at training?
22. *Temper.* Do you lose your temper?
23. *Swellings.* Do you have any lymph gland swellings under your arms, below your ears, in your groin, etc?
24. *Likeability.* Do people seem to like you?
25. *Running nose.* Are you experiencing a running nose?

Appendix C: Affect Grid (Russell et al., 1989)

		stressed		highly active						excited			
unpleasant													pleasant
		depressed		sleepy						relaxed			