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Research article

Psychophysiological responses in the precompetition period in elite soccer players

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## **ABSTRACT**

This study investigated pre-competition physiological and psychological states of eighteen elite soccer players. Salivary cortisol was assessed during a non-training day and before three league games. Affective states (unpleasant and pleasant, somatic and transactional emotions) were evaluated using the Tension and Effort-Stress Inventory before the three league games. Participants formed 2 groups, 11 starters and 7 non-starters, depending on the starting list established by the coach. All players reported more intense pleasant transactional and somatic emotions than unpleasant ones prior to all games (p < 0.05), and relatively stable profiles of these psychological responses were observed across the three league games. However, salivary cortisol levels increased during pre-game for all players in comparison with the non-training day (p < 0.001). This anticipatory rise was only related to unpleasant somatic emotions (p < 0.001). This demonstrates that cortisol can be used as an index of emotional response to competition.

Key words: Emotions, affect, salivary cortisol

## **Key Points**

Elite athletes perceive the participation to competition as a challenging situation as they experience more pleasant emotions than unpleasant ones in the pre-competition period. This profile is relatively stable across three league games, which is possibly due to the athletes' experience at this level.

- Participation to competition lead to anticipatory acute response of cortisol in the pre-competition period, which potentially prepares the athlete to perform.
- These responses are not related to status player (e.g., starter versus non-starter)
- Physiological stress (e.g. anticipatory rise in cortisol concentrations) is related to negative somatic emotions.
- Cortisol may constitute a measure of emotional response in precompetition period.

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