

## Distinguishing emotion and mood components of pre-competition anxiety among professional rugby players

Research has demonstrated that emotion and mood can be distinguished empirically in line with generally accepted theoretical predictions (Beedie, Lane, & Terry, 2001, *Journal of Sports Sciences*. 19, 69-70). Theoretically, emotion is brief and intense, whereas mood is relatively enduring and unfocused. Emotion results from, and is focused on, specific events, and signals to the individual the state of the environment in relation to goal-directed behaviour; whereas mood does not result from any specific event of which the individual is aware, and signals the state of the self in relation to existential, life issues. The consequences of emotion are mostly behavioural, whereas those of mood are mostly cognitive. Psychometrically, a clear distinction between the constructs has proven problematic, as states such as anxiety may occur as both emotions and moods.

The present study tested the factorial validity of a measure developed by Beedie et al. (2001), the Emotion and Mood Components of Anxiety Questionnaire (EMCA-Q), which is designed to provide separate indicators of emotion and mood responses. The EMCA-Q measures emotion and mood via two five-item scales of statements describing emotion (i.e., anxiety focused on particular events and goals, such as “I am nervous about the event” and “I am anxious about not performing well in this event”) and mood (i.e., anxiety neither caused by nor focused on a particular event, such as “I feel nervous at the moment for no particular reason” and “at the moment I am anxious about life in general”). Participants were professional male rugby players ( $N = 102$ : Age  $M = 26.06$  yr.,  $SD = 3.99$  yr.). Participants completed the EMCA-Q approximately 2 hours before competition.

Three competing measurement models were evaluated using confirmatory factor analysis on EQS V5 (Bentler, 1995: EQS: *Structural Equations Programme Manual*. Encino, CA: Multivariate

Software Inc.). First, a single-factor model was evaluated, which specified that all items loaded onto one anxiety factor (*single-factor model*). This model tested the hypothesis that participants would *not* discriminate between the emotion of anxiety and an anxious mood. Second, a two factor model was evaluated, which specified that items would load on their hypothesised factor (emotion or mood) and that the two factors would be correlated (*correlated model*). This model tested the hypothesis that participants would distinguish between the emotion of anxiety and an anxious mood in line with theoretical proposals, and that emotion and mood states would co-vary. Third, a two-factor model was evaluated, which specified that items would load on their hypothesised factor but that the two factors would not be correlated (*uncorrelated model*). This model tested the hypothesis that participants would distinguish between the emotion of anxiety and an anxious mood in line with theoretical proposals, but that the two states would be independent. It was hypothesised that the correlated model would best fit the data. Model fit was assessed using .... (RCFI), ..... (SRMR), and .... ( $\chi^2$ :df ratio). Akaike's Information Criterion (AIC) was also reported to indicate the relative degree of fit across the competing models and the observed data.

*Table 1: Summary of fit indices and information criteria*

|                    | Two factor<br>correlated | Two factor<br>uncorrelated | Single-factor |
|--------------------|--------------------------|----------------------------|---------------|
| RCFI               | .944                     | .634                       | .953          |
| SRMR               | .060                     | .200                       | .060          |
| $\chi^2$ :df ratio | 1.26                     | 5.41                       | 5.41          |
| AIC                | 24.31                    | 28.51                      | 25.74         |

As the results in Table 1 indicate, the correlated model showed the best overall fit, with *all* indices at acceptable levels by published criteria (Hu and Bentler, 1999, *Structural Equation Modelling*, 6, 1-55), although the single-factor model could also be considered viable. The uncorrelated model

showed a poor fit to the data. It is recommended that researchers seek to replicate these findings in various settings and that the terms *emotion* and *mood* are used with more precision in future studies.

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