*Cognitive, emotional and cardiovascular responses when recalling a good and a bad performance in sport*

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**Introduction**

The theory of challenge and threat states in athletes (TCTSA; Jones et al., 2009) outlines that athletes in a challenge state experience higher self-efficacy, more control, an approach orientation, more positive emotions, a more beneficial interpretation of their emotional state, and a more effective cardiovascular reactivity (CVR) pattern (decreased total peripheral resistance and increased cardiac output). In contrast, a threat state is characterised by lower self-efficacy and control, an avoidance orientation, more negative emotions, a less beneficial interpretation of their emotional state, and a less effective CVR pattern (increased TPR and decreased CO). This study examined if athletes respond differently in terms of challenge and threat states to competitions that they performed up to, or above, their standard compared to a competition they performed below their standard.

**Method**

Thirty student-athletes participated in three conditions, preceded by a five-minute resting baseline; a control condition and two experimental conditions, where the participants talked about how they felt just before an important competition they performed to, or above, their expected standard (good performance), and how they felt just before an important competition where they performed below their expected standard (bad performance). Cardiovascular measures using impedance cardiography (heart rate, cardiac output, total peripheral resistance) were obtained during baseline and task. Self-report measures of self-efficacy, control, achievement motivation, emotions and interpretation of emotional state were obtained immediately following each task.

**Results**

Participants scored higher on self-efficacy, control, positive emotions, lower on negative emotions, and interpreted their emotional state as more helpful towards performance when recalling a good performance compared to a bad performance, *p* < .001. Preliminary analyses showed no significant differences for CVR. In general, the patterns of CVR were stable for individuals across the tasks.

**Discussion**

The results demonstrated that there is a difference in how athletes respond cognitively and emotionally when recalling a competition that went well compared to one that did not go well. There were no differences in CVR. The results further indicate that CVR occurs as a stable pattern. Further research in this field can provide insight in how the cognitive elements of challenge and threat states interact with CVR over a longer period of time and impact on performance.

**References**

Jones, M., Meijen, C., McCarthy, P. J., & Sheffield, D. (2009). A theory of challenge and threat states in athletes. *International Review of Sport and Exercise Psychology, 2*, 161-180.