

## **Influence of Fitness on Stress Reactivity as Measured with the Trier Social Stress Test**

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### **ABSTRACT**

**PURPOSE:** Psychosocial stress is associated with multiple health complaints which a higher cardiorespiratory fitness may reduce stress reactivity. A higher level of fitness may assist in the reduction of stress-related risk factors. Limited studies have investigated the health and cortisol response of promotoras' (Latina community health educators) physical activity (PA) behaviors along the South Texas Mexico Border Region. The aim of this study was to assess the associations of promotoras' fitness on stress reactivity in promotoras. **METHODS:** 17 promotoras' anthropometric measures (body mass index (BMI)), were assessed before performing Trier Social Stress Test (TSST). Salivary cortisol was collected before, 10-minutes, 25-minutes, and 40-minutes post TSST via passive drool method. Self-report PA included Jurca non-exercise assessment of cardiorespiratory capacity. Promotoras also performed a 2-minute step test. All tests were assessed using Spearman correlation analyses at a significance level of .05. **RESULTS:** Participants' average BMI was high ( $31.4 \pm 7.18$  kg/m<sup>2</sup>); 76.5% were overweight or obese, 30% very or extremely obese. Physical functioning levels were low (cardiorespiratory capacity  $26.0 \pm 9.1$  VO<sub>2</sub>/kg/min; step test 77.4 steps/2-minutes). Salivary cortisol levels revealed significant increase at the onset of the TSST and remained significantly elevated at 10-minutes post TSST. In comparison to baseline, cortisol levels remained elevated at 25-minutes and 40-minutes post TSST. **CONCLUSION:** Low levels of cardiorespiratory fitness and high BMI's may have resulted in a slower cortisol recovery time after placing the body under stress in promotoras. Regular physical activity and fitness may attenuate response to psychosocial stress and enable promotoras to achieve a healthier lifestyle.