

# **Stress in university students and cardiovascular response to academic stressors**

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**Introduction:** University students are frequently exposed to events that can cause stress and anxiety, producing elevated cardiovascular responses. Repeated exposure to academic stress has implications to students' success and well-being and may contribute to the development of long-term health problems. **Objective:** To identify stress levels and coping strategies in university students and assess the impact of stress experience in heart rate variability (HRV). **Methods:** 17 university students, 19-23 years, completed the University Students Stress Inventory, the Depression Anxiety Stress Scales and the Ways of Coping Questionnaire. Two 24h-Holter recordings were performed, on academic activity days, including one of them an exam situation. **Results:** Students tend to present moderate stress levels, and prefer problem-focused coping strategies in order to manage stress. Exam situations are perceived as significant stressors. Although we found no significant differences in HRV (SDNN), between days with and without an exam, we registered a lower SDNN score and a variation in heart rate (HR) related to exam situation (maximum HR peak at 10 minutes before the exam, and total HR recovery 20 minutes after the exam), reflecting sympathetic activation due to stress. **Conclusions:** These results suggest that academic events, especially those related to exam situations, are the cause of stress in university students, with implications at cardiovascular level, underlying the importance of interventions that help these students improve their coping skills and optimize stress management, in order to improve academic achievement and promote well-being and quality of life.

**Descriptors:** Academic stress; university students; heart rate; heart rate variability; coping strategies.