



Assessment of CVS Functional State in Relation to Psychological Stress in Adolescents.

A collaborative project between

The ABC Study on Heart Disease Foundation
and Liceo Guglielmo Marconi, Conegliano, Italy.

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Introduction

- Psychological stress is a well-documented risk factor for CVD.
- Adolescents, undergoing rapid physical and emotional development, are particularly susceptible to stress, making the assessment of its impact on their CVS crucial.

Aim

- To explore the relationship between psychological stress and cardiovascular function in adolescents.



Methodology

- 250 students of Liceo Guglielmo Marconi, Conegliano were enrolled
- Stratified into 2 groups according to the presence or absence of stress symptoms based on a self-assessment psycho-emotion questionnaire.
- SBP, DBP, RHR and other ECG parameters were evaluated in two different settings and compared between both groups.
- The data were analyzed using adjusted linear regression models.

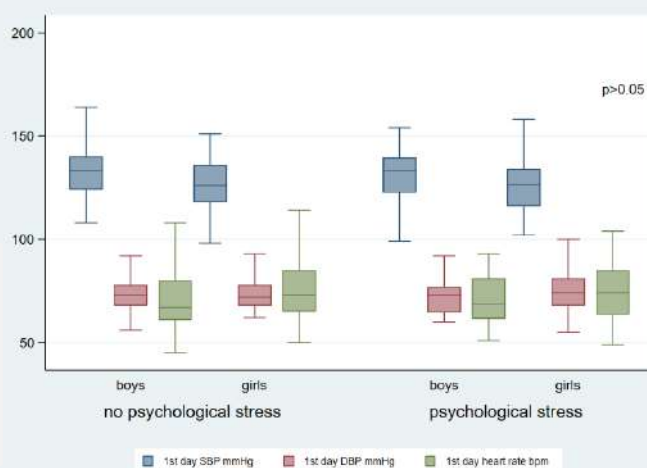


Results

- Mean age: 17 ± 1 years; 53% females.
- 1 diabetic student and 2 with preexisting arterial Hypertension.
- All in sinus rhythm.

Results

- Mean RHR of 73 ± 15 bpm and BP of $129 \pm 13/73 \pm 8$ mmHg.
- 116 (46%) students reported stress, of them (62%) were females.
- 2 groups shared most demographic and clinical characteristics.
- No difference in SBP, DBP, RHR or other ECG parameters between both groups.



- Stress symptoms were not associated with CVS functions:

	β	P value
SBP	-2.1 ± 1.7	> 0.05
DBP	0.4 ± 1.1	> 0.05
RHR	1.2 ± 1.9	> 0.05
PR interval	-5.2 ± 2.9	> 0.05
QRS duration	-1.9 ± 1.4	> 0.05
cQT	1.3 ± 3.3	> 0.05

- Same results for boys and for girls and with repeated parameters' measurements.

Conclusion

- We found no significant associations of psychological stress and CVS functions in adolescents.
- These observations suggest that the association between mental and cardiac health problems develop in later life.