



Investigating How Socioeconomic Status Influences Response to Acute Stress

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Introduction

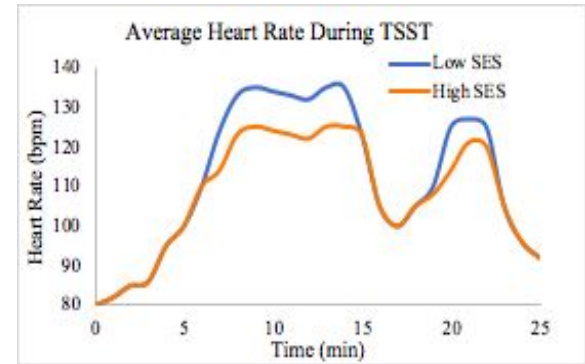
Socioeconomic status (SES) is an important predictor of health and potential illness outcomes. Previous research has identified stress as a link between SES and aversive outcomes (Baum et al., 1999) showcasing how disparities in social class and income persist in education and health (Lantz et al., 2010). In our research, we hope to test how measures of parental SES (education) and subjective social status will influence levels of stress reactivity when participants undergo the Trier Social Stress Task (TSST), which is a laboratory procedure used to reliably induce stress in human participants (Fiocco et. al. 2007). Using electrocardiogram (ECG) measurements of impedance (pre-ejection period, stroke volume, and cardiac output), we are able to examine the activity of the sympathetic nervous system at baseline and during the task to see if SES affects the size of the observed difference in cardiac impedance measures. Additionally, measures in heart rate data will be compared for notable differences in stress levels between differing SES groups.

Methods

Baseline: Collected baseline ECG values of participants (n=11), conducted surveys for parental SES by measures of level of education as well as subjective social status using Macarthur Social Status Scale.
TSST: Conducted TSST with ECG data collected throughout each task (prep, speech, and math)
Post-TSST: ECG collected at time points after the task

Predicted Results

From the literature, it is expected that those with lower parental SES/perceived social status to have greater stress reactivity throughout the Trier Social Stress Task (TSST) . In this experiment heart rate is used as a way to quantify stress levels in the two experimental groups, low parental and high parental SES. With heart rate as the dependent variable, we expect to see the average heart rates of those with low parental status to be higher than the high SES counterparts, indicating higher stress reactivity during the TSST.



Discussion

Future research would be able to examine the actual data from the ECG, as well as continue to continue to test more participants as to obtain more variance in the independent variable.

References

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