

Introduction

Salivary alpha-amylase (sAA) is emerging as a promising proxy for assessing sympathetic-adrenal-medullary (SAM) axis activity. Past studies have shown that sAA is reactive to physical exercise as well as acute psychosocial stress, such as an evaluative public speaking task (i.e., the TSST). However, it is not known whether a more 'natural' brief semi-structured behavioral assessment, such as the Social Competence Interview (SCI), also elicits pronounced sAA changes.

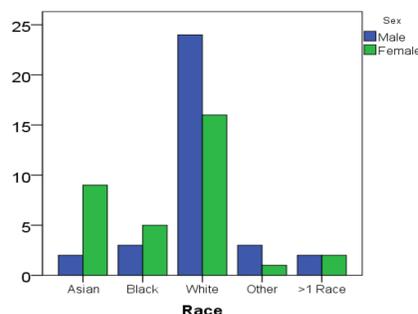
The SCI measures physiologic and behavioral responses to everyday personal stressors. We tested the hypothesis that reliving a personally stressful experience during the SCI would cause sAA to rise steeply and then drop off quickly after the interview. We also hypothesized that a history of social environmental stress (i.e., exposure to violence) during childhood would predict a larger rise in sAA during the SCI.

Hypotheses

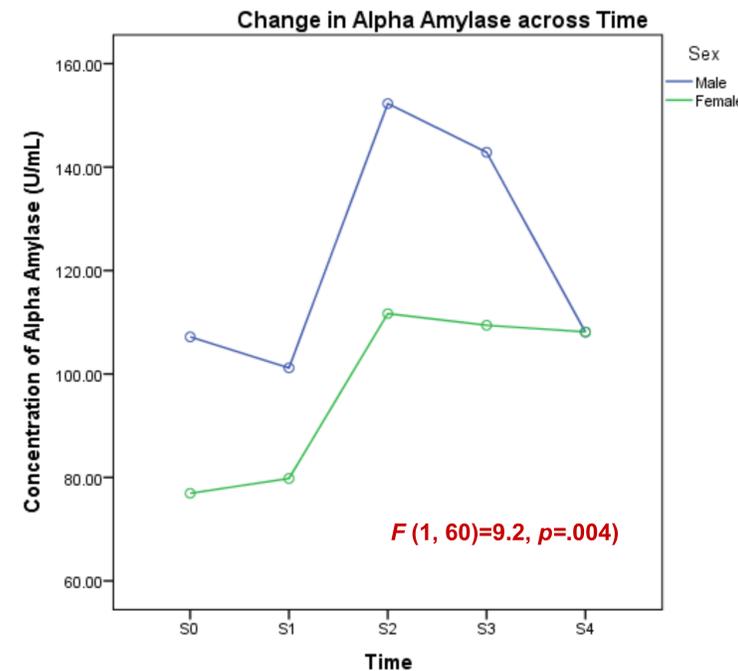
Hypothesis 1: The Social Competence Interview (SCI) will elicit a sympathetic adrenal medullary response, as indexed by salivary alpha amylase reactivity across 5 time points.

Hypothesis 2: Participants reporting exposure to violence during childhood will have a higher salivary alpha-amylase reactivity to the SCI

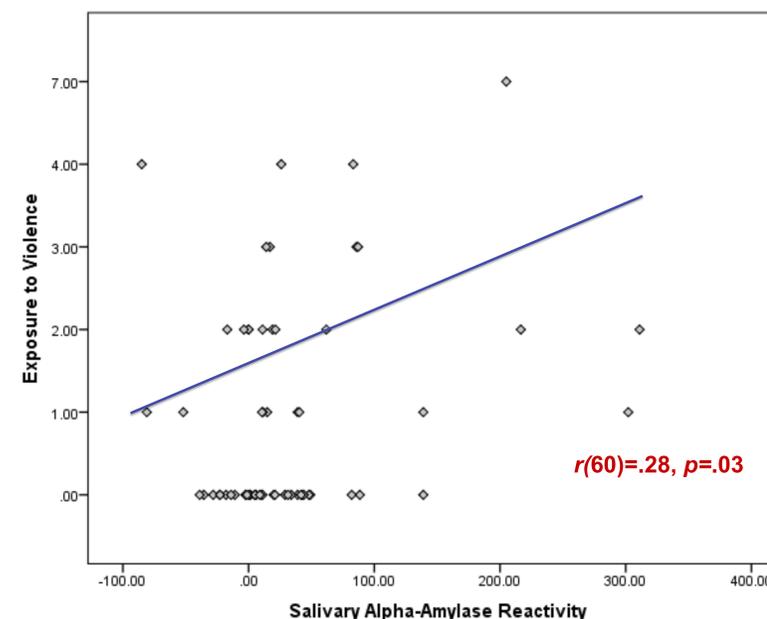
Sample Characteristics



Salivary Alpha-Amylase Reactivity to the Social Competence Interview by Gender



Exposure to Violence and the Salivary Alpha-Amylase Response



Methods

Participants were college students ($n=68$, 50% female, age = 18.8 ± 1.2 years; BMI = 23.5 ± 3.5 kg/m².) recruited through a university research participant pool for course credit.

Exposure to violence during childhood was assessed via self-report using a modified version of the City Stress Inventory (CSI) and saliva samples were collected at four time points using Sarstedt Salivettes (T1: Baseline; T2: Pre SCI; T3: During SCI; T4: Post SCI, T5: 10 min Post SCI).

Results

We found a significant increase of sAA in response to the interview, from T1 to T3 (time effect: $F(58, 1) = 12.48$ $p = 0.001$) that did not vary by sex ($p > .05$).

However, there was a sex difference with regard to the recovery of sAA (change score calculated by subtracting T4 from T3), with males experiencing a rapid decline in amylase back to baseline levels, and females experiencing a sustained elevation of amylase after the interview.

Furthermore, exposure to violence in childhood was positively associated with both peak sAA (T2), $r(56) = .34, p = .01$, as well as rise in sAA (T3-T1), $r(60) = .28, p = .03$.

Discussion

These findings provide further evidence for the utility of the social competence interview as a behavioral assessment and tool for eliciting sympathetic arousal. Moreover, the data bolster support for the hypothesis that greater exposure to social environmental stress during childhood may lead to potential negative health consequences, for example, a more highly reactive SAM system.

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