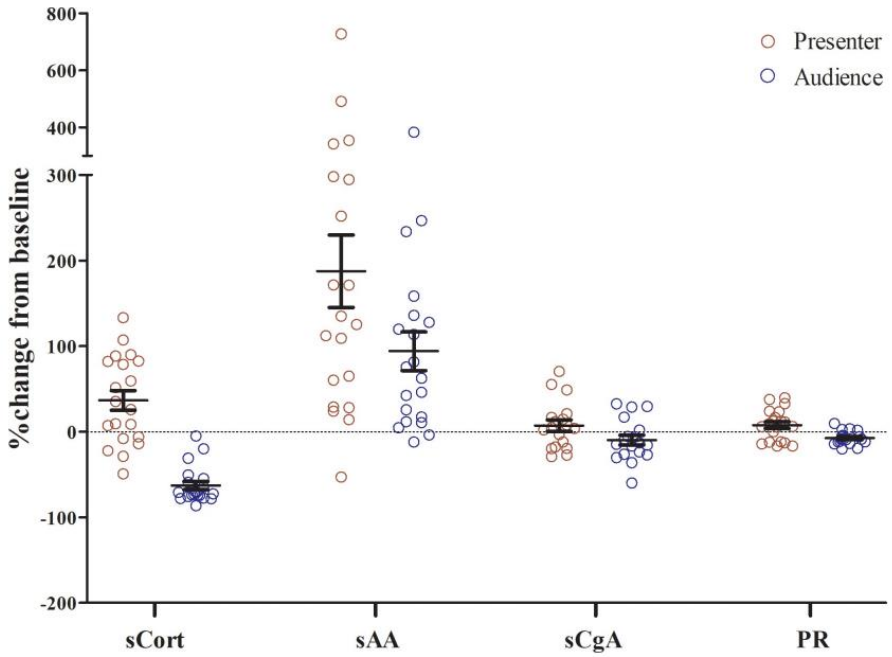
Differential responses of salivary cortisol, amylase, and chromogranin A to academic stress.

Salivary biomarkers have been widely used to help diagnose stress, anxiety, and/or depression. We compared the responses of 3 commonly investigated salivary stress biomarkers that represent the hypothalamic-pituitary-adrenal activity (cortisol; sCort) and the sympathetic activity (alpha-amylase; sAA and chromogranin A; sCgA), using academic oral presentation as a model of stress. Postgraduate dental students attended the seminar class as presenter and audience. The saliva was collected two times: before attending class and after an academic presentation (for presenters) or during the class (for audience). The pulse rates (PR) were also recorded. The results showed that the levels of all three biomarkers, as well as PR, were significantly higher in the presenter group compared with the audience group; however, the changes were most prominent with sCort and sAA. These results suggest more sensitive reactivity to academic stress of sCort and sAA compared with sCgA and that the response of sCgA did not necessarily follow sAA pattern even though both are claimed to reflect the sympathetic activity.



Reference:
Tammayan M, Jantaratnotai N, Pachimsawat P. Differential responses of salivary cortisol, amylase, and chromogranin A to academic stress. PLoS One. 2021 Aug 12;16(8):e0256172. doi: 10.1371/journal.pone.0256172

3: Good health and well-being

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