

The effects of group music making on salivary cortisol, secretory immunoglobulin-A, and positive affect

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Abstract

The purpose of this study was to examine the effects of group music making on selected salivary analytes, as well as self-reported psychological benefits in a small sample of adult recreational musicians. Specifically, this study examined two indicators of immune functioning: Salivary cortisol and secretory immunoglobulin-A (S-IgA). Salivary cortisol is a biomarker indicative of the body's response to stress, while S-IgA is an antibody that is key in protecting the oral cavity, lungs and intestines from invading pathogens. A psychological measure of positive affect was also examined.

To answer the question, "Do adult recreational musicians experience changes in positive affect, salivary cortisol, or S-IgA as a result of group music making?" a repeated measure design was used. Days 1 and 3 used a group music making treatment, while days 2 and 4 used a non-music making control. Subjects ($N=9$) completed a pre and post-test for each data collection point, which consisted of a "Group Music Making Questionnaire," and the "Positive and Negative Affect Schedule." In addition, subjects collected pre and post-test saliva samples using the passive drool method of collection.

Salivary analytes were assayed in duplicate, and mean scores were examined using paired t-tests. Results indicated that subjects experienced an increase in S-IgA [$t(17) = .99, p=.33$], salivary cortisol [$t(17) = .74, p=.46$], positive affect [$t(17) = 1.42, p=.16$], and negative affect [$t(17) = 1.03, p=.30$]. No results were statistically significant, though a larger sample size would allow more statistical power. The surprising increase in cortisol and negative affect as a result of group music making warrants additional research, particularly given that the subjects of this study were involved in music making as a recreational activity.