An Assessment of the Effects of Music Engagement on Pain by Subjective Report

April N. Mancuso (David Bradshaw)
Department of Anesthesiology, University of Utah

Purpose: Pain is the most common cause for people to seek medical attention. This study seeks to explore whether music distraction may provide a cost-effective, non-pharmacological means for pain reduction. This study proposes to determine whether a music listening task is effective for reducing pain. It will also address whether providing pain reports affects the potential effectiveness of the listening task.

Methods: Psychophysiological measures including heart rate, skin conductance, brain waves, blood perfusion, pupil dilation, and respiration were recorded during the experiment while subjects received short (5 milliseconds) electrical stimulations. During the stimulation trials, subjects either performed a music listening task (MUS) or completed no task (control). On completion of the test trials subjects responded to the following questions: 1) Which reporting condition did you prefer and why? 2) Did you notice any difference in a) how painful the stimuli felt between the control and music blocks? b) stimulus intensity c) how much the stimulus bothered you?

Results: 17 male and 7 female subjects participated in this study. Of these, 18 preferred reporting on both the music and the pain at the same time, 3 preferred not reporting on pain at all, and 7 preferred reporting on the pain retrospectively. For general pain, 18 subjects felt that the pain was worse during the control blocks, 6 felt that the pain was worse during the music blocks and 4 subjects felt that the pain was the same in both blocks. For pain intensity, 18 subjects responded that the stimulus intensity felt greater with the control, 2 felt the intensity was greater with the music and 7 felt the pain was equally intense for both the music and the control blocks. For bothersomeness, 11 subjects felt that the stimulus was more bothersome in the control blocks, 4 subjects thought that the pain was more bothersome during the music blocks and 13 subjects felt that the pain was equally bothersome. Psychophysiological measures have not been analyzed, as subject enrollment is ongoing.

Conclusion: Twice as many subjects felt less pain while performing the music listening task. Contrary to expectation, twice as many subjects preferred reporting concurrently on the pain and the music.