ABSTRACT

TITLE:	Psychological vs. Physiological: The Effects of Music in a 30-Min Treadmill Run
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PRESENTED AT:	7th Annual Natural & Behavioral Sciences Undergraduate Research Symposium Program, Fort Lewis College, 2012

ABSTRACT: The "Mozart effect" reported by Rauscher, Shaw, and Ky (1993, 1995) indicates that spatial-temporal abilities are enhanced after listening to music composed by Mozart. Seeing the effects that music has on spatial and temporal skills brings up the question, to what extent does music effect variables in humans? The physiological variables taken into account include the following: blood pressure, lactate concentration in the blood, and heart rate. Very little research is found in a comparative analysis of psychological and physiological effects of music on performance. This research could be very important because it could justify a certain kind of music that helps athletes exude maximal level of performance without feeling fatigued. The purpose of the study is to examine the effects of music on physiological and psychological variables to determine whether the effects of music are physiological, psychological, or a combination of both. We hypothesize that music will have significant changes in RPE, affect, and distance but will not have a significant effect on the physiological functions during a 30-min treadmill run. Five athletic, college-aged (18-21) Fort Lewis College students volunteered to have measurements from heart rate (HR) blood pressure (BP) taken every five minutes in a 30-min run. Each subject repeated the test three times as a (C) control, with (P) preferred music, and (NP) non-preferred music. Music choices were self selected by the subjects by evaluating them using a STOMP-R2. Blood lactate was taken using lancets, latex gloves, alcohol pads, and a Nova Biomedical lactate meter. Samples were taken at the beginning (0min) at halfway (15min), and at the end of the test (30min). A two-way repeated measure ANOVA (with replication) was used to determine significant values within each trial (C, P, NP) and a Tukey's test to determine the intervals that these changes occurred from. Significant values ($p<.05$) were found for HR and BL for time. There was no significance for music and its effect on the physiological functions. In addition, there was no significant data with music in the psychological response of RPE. On the contrary the psychological response of general affect showed significant results between all three musical categories ($p=.003$).