

Role of lyrics in the music-performance relationship: a preliminary study.



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This study addressed the role of the musical constituent of lyrics with reference to a range of psychophysiological variables during submaximal cycle ergometry. In a two-factor repeated measures design, participants ($N = 25$; 20.88 ± 1.42 years of age) performed three 6-min cycling trials at 75% HR max under conditions of music with lyrics (ML), music without lyrics (NL), and a no-music control (NM). Cadence (revolutions per minute; RPM), heart rate (HR) and perceived exertion (RPE) measures were taken at 2-min intervals during each trial. Positive (PA) and negative (NA) affect was assessed before and after each trial. An interaction effect ($p < 0.05$) emerged for RPM which showed that participants cycled at a higher cadence under ML and NL conditions when compared to NM at minutes 2, 4, and 6. No interaction effects ($p > 0.05$) were found for HR, RPE, PA, and NA, although there was a significant main effect ($p < 0.05$) across time points for each of these variables. Specifically, HR and RPE increased from minutes 2 through to 6, while PA increased and NA decreased from pre- to post-trials. Findings showed that music increased participants' cadence during cycling although RPE and HR did not differ across conditions. This indicates that musical accompaniment may elicit enhanced efficiency, as participants pedalled faster while listening to music. No differences in cadence were found between the two music conditions, although the track played with lyrics was rated as being significantly more motivating than the same track without lyrics.

Effects of relaxing and arousing music on imagery for dart throwing.

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The purpose of this study was to examine the effect of relaxing and arousing music during imagery rehearsal on dart-throwing performance. Forty-five volunteer sports science students with intermediate imagery ability, as measured by the Sport Imagery Ability Measure, were matched into three groups: 1) Unfamiliar relaxing music with imagery; 2) Unfamiliar arousing music with imagery; and 3) no music with imagery (control). Unfamiliar music was chosen to minimize the potential confound of past associations. A pre-test-intervention post-test design study was conducted, involving dart throwing at a concentric circles dartboard. To measure state anxiety the CSAI-2R and Sport grid-R were administered before the 40-trial dart-throwing performance pre-test. Participants completed 12 sessions of imagery of accurate dart-throwing, then the CSAI-2R and Sport grid-R were re-administered in session 12 followed by the 40-trial performance post-test. In sessions 1 and 12, HR, GSR, and peripheral temperature were measured. ANOVA revealed a significant main effect for music ($F = 3.25$, $p < .05$, $\eta^2 = .134$). A significant interaction effect was observed for dart-throwing performance across the music conditions ($F = 12.0$, $p < .05$, $\eta^2 = .36$). Paired t tests in each music condition revealed that there was a significant improvement of performance in the relaxing music ($p < .05$) and arousing music groups ($p < .05$), but not in the no-music control group ($p > .05$). In conclusion, relaxing and arousing music both showed improvements in dart throwing performance, although unfamiliar relaxing classical music showed a larger performance increase in this fine motor skill. Self-report and psychophysiological measures of anxiety and arousal showed changes that were consistent with those expected for relaxing and arousing music.

Ergogenic, psychological, and psychophysiological effects of synchronous music on treadmill running.

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Music has been shown to exert various ergogenic (i.e., work-enhancing), psychological (e.g., improved mood), and psychophysical (i.e., lowered perceptions of exertion) benefits during physical activity. When movements are performed in synchrony with music, some of the benefits (e.g., work-enhancement) appear to be amplified