
Peter C. Terry ¹, Michelle L Curran ², Costas I Karageorghis ³

¹Division of Research & Innovation, UNIVERSITY OF SOUTHERN QUEENSLAND, Toowoomba, ²School of Social Sciences, UNIVERSITY OF THE SUNSHINE COAST, Maroochydore, Australia, ³School of Sport & Education, BRUNEL UNIVERSITY, London, United Kingdom

Abstract: Research into the effects of music in physical activity contexts has a long history and music use has become almost ubiquitous in sport and exercise contexts. Despite the burgeoning literature on the subject, it remains problematic to make reliable generalisations about effects of music, given the paucity of comprehensive objective summaries of the research findings. The aim of the current study was to conduct a meta-analytic review of the scientific literature pertaining to the impact of music in physical activity domains from 1911 to 2012. A systematic trawl of the literature was conducted that included 13 electronic databases and manual searches of 78 relevant journals, which revealed a total of 200 relevant articles for detailed review. Of these, 106 studies met the inclusion criteria and were entered into the meta-analysis. Overall, 205 effects from 3,170 participants were derived from the studies. Using a random effects model, weighted mean effects and moderating variables were calculated using the Comprehensive Meta-Analysis software. Analyses showed that music was associated with significant beneficial effects on feelings (d = 0.44, p < .001), performance (d = 0.34, p < .001), perceived exertion (d = 0.28, p < .001) and heart rate (d = 0.15, p < .01). Moderator analyses showed that music effects on performance did not vary significantly according to: (a) the gender and age of participants; (b) whether music was used in an exercise or sport domain; (c) whether music was used synchronously or asynchronously; (d) whether music was researcher-selected or self-selected; and (e) according to the quality of the publication outlet. Intensity of physical activity was shown to be a moderating variable, with music providing a significant beneficial effect on perceived exertion for low- and moderate-intensity physical activities (d = 0.41, p < .001) but no significant benefit for high-intensity physical activities (d = 0.08, p = .37). The results were broadly supportive of the conclusions of recent narrative reviews of the use of music in physical activity contexts. Effective use of music was found to yield significant psychological, physical performance, perceived exertion, and physiological functioning benefits. Results of the present study will help to guide music-related interventions and future research endeavours.

Keywords: effectiveness, meta-analysis, music