

Chase That Feeling: Recent Developments in Music and Sport Research

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This presentation summarises a series of three studies in the area of music and sport. In Study 1, the overall evidence base for music use was evaluated via a meta-analysis of 91 studies published from 1911-2010. A total of 483 effect sizes were calculated based on results from 2,825 participants. Music was associated with significant improvements in physical performance, psychological responses, perceived exertion and physiological functioning. Almost all studies used recreational participants and it remained unclear whether benefits would extend to elite populations. In Study 2, 11 elite triathletes were tested in a repeated-measures laboratory experiment. Participants ran in time to self-selected motivational music, neutral music and a no-music control during submaximal and exhaustive treadmill tests. Time-to-exhaustion was 18.1% and 19.7% longer when running in time to motivational and neutral music, compared to no music. Mood responses and feeling states were more positive with motivational music compared to neutral music or no music. RPE was lowest during neutral music and highest during the no-music control. Blood lactate concentrations were lowest for motivational music. Oxygen consumption was lower with music by 1.0% - 2.7% for identical workloads. Both music conditions were associated with better running economy than the no-music control. In functional terms, the

motivational qualities of music appear to be less important than the prominence of the beat and the degree to which participants synchronise movement to tempo. In Study 3, effects of music were tested on 10 elite ultra-distance walkers and runners competing in 24 hr and 48 hr events. Participants were provided with a 120 min intervention pre-loaded onto iPods™ (30 min each of motivational music, neutral music, audio book and silence) to which they listened three times during pre-assigned 6 hr blocks (hours 6-12, 18-24, 30-36, 42-48). As a group, participants derived a significant performance benefit from motivational music compared to the other three conditions during the crucial 18-24 hr period, with each 400 m lap completed faster, on average, by 14 s (no music), 18 s (neutral music) or 27 s (audio book). No differences in mood responses, feeling states, perceived exertion or heart rate were found across conditions. Individual differences were apparent, with some participants deriving benefits from motivational music and others deriving no benefits or a detrimental effect.

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