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The effect of music on submaximal cycling

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ABSTRACT

INTRODUCTION:

Athletes frequently report training to music yet there have been relatively few studies that have addressed the benefit of exercising with music.

PURPOSE:

This study examined the effects of popular music on submaximal cycling.

METHOD:

Volunteer men and women (N=30), aged between 18 and 40 years, underwent an initial familiarisation session. Part of this session involved the measurement of maximal oxygen consumption ($V0_2max$). This was then followed by two twenty-minute submaximal cycling sessions, both at 80% of maximal oxygen consumption. Subjects were randomly divided into two groups. Group A cycled without any music and Group B cycled with music for the first submaximal cycling session. A few days later the subjects underwent the same testing procedure, however this time group A cycled to music and group B cycled without music. Subjects served as their own control. During the submaximal procedure heart rate, Borg Scale and lactate responses were assessed. Subjects completed a post-test questionnaire once both submaximal cycling sessions were completed.

The differences between the sessions with and without music with respect to heart rate, Borg Scale and change in lactate were analysed using an appropriate analysis of variance (ANOVA) for the two-period crossover design adjusting for relevant baselines. Testing was set at the 0.05 level of significance.

RESULTS:

It was found that listening to music, while cycling, resulted in no significant changes in physiological variables (change in lactate concentration and heart rate). The average, as well as the instantaneous two-minute intervals of the 10-point Borg scale also yielded no significant difference. However, 66.7% of the subjects, according to the post-test questionnaire, perceived the cycling session with music to be easier than the session without music.

CONCLUSION:

Listening to music, while cycling, may allow individuals to alter their overall, subjective perception of cycling. According to the post-test questionnaire, subjects perceived their overall experience of cycling with music to be easier than cycling without music. This could suggest that cycling to music could act as a positive distracter and motivating force that could thereby increase adherence to training, allowing the cyclist to train longer and harder and thus in the long run perform better in races. However, from a physiological viewpoint, listening to music, while performing submaximal cycling, resulted in no physiological benefit.