

The Effects of Video Instruction Versus Verbal Instruction on High Intensity Interval Exercise Performance: A Pilot Analysis

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ABSTRACT

It has been indicated that music and motivational videos can have a positive impact on high-intensity treadmill performance in trained athletes. It has also been shown that live or recorded video exercise instructions have an overall positive effect on exercise performance accuracy in upper extremity exercises compared to written or verbal instructions in adults with no shoulder pathologies. It is unclear whether exercise instructions given via a home workout video has any effects on non-equipment based high-intensity interval exercise performance. **PURPOSE:** The purpose of this study was to determine whether exercising along with pre-recorded video instructions positively impacts overall exercise performance in a single bout of Tabata exercise compared to verbal and handout instructions alone. **METHODS:** In this cross-over design, 8 (2F; 6M) sedentary, college-aged (171.5±40.7 lbs; 67.6±3in; 21.3±1.5yrs) individuals participated in two randomized intervention groups: 1) Tabata with video instructions on a computer screen (V) and 2) Tabata without video instruction (NV). The Tabata workout consisted of five total sessions. Each session was composed of two rounds, with each round containing four exercises each lasting 20 seconds followed by 10 seconds of rest. Following the completion of a session, participants were given a 60 second rest period. The total duration of the exercise was 25 minutes. During the recovery period, the participants' heart rate (HR) and ratings of perceived exertion (RPE) were recorded. Prior_(pre) and immediately following the completion of exercise_(post), participants were given the felt arousal scale (FAS) and the 10-centimeter visual analog fatigue scale (FS) to assess participants arousal and overall fatigue. Significant differences ($p < 0.05$) for average RPE for each trial along with the pre and post FAS and FS for each trial was determined using a Wilcoxon Signed-Rank test. Significant differences between HR were analyzed using a Student's T-test ($p < 0.05$). **RESULTS:** The results of the dependent samples Wilcoxon test did not reveal any significant differences between NVFAS_{pre} and VFAS_{pre} ($p = 0.783$), NVFAS_{post} and VFAS_{post} ($p = 0.71$), NVFS_{pre} and VFS_{pre} ($p = .401$), NVFS_{post} and VFS_{post} ($p = 0.401$) and NVRPE and VRPE ($p = 0.779$). The student's t-test also did not reveal any significant differences between NVHR and VHR (174.3 ± 18.4 & 174.3 ± 13.2 BPM; $p = .359$). **CONCLUSION:** The findings of this study suggest that there was no significant difference in exercise performance, arousal, intensity, and fatigue between instructions given visually or verbally. However, the preference of the participants for instruction was verbal rather than visual. Comments from the participants included that the person demonstrating the exercises in the video reduced their self-efficacy, because they could not keep up. Limitations of this study were the small sample size, not counting the number of repetitions for each exercise, and population of the participants. Future research should address these limitations.