The Role of High-Intensity Interval Training on Anxiety Sensitivity and Self-Efficacy: A Pilot Randomized Controlled Trial
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Abstract
Many Americans do not meet the recommended level of aerobic and muscle-strengthening exercise as demonstrated by data from 2018. Furthermore, levels of anxiety are rising in the U.S., particularly in the young adult population. Previous research has shown that levels of physical activity can have an impact on an individual’s mental health. Exercise has been shown to promote higher levels of self-efficacy (SE) and reduce levels of anxiety sensitivity (AS). However, no study has looked at the relationship between exercise interventions, SE, and AS. The goals of this study were to: 1) examine the relative effectiveness of high-intensity interval training (HIIT) versus moderate intensity continuous training (MICT) and static stretching to increasing SE and reducing AS in the short and long-term, and 2) whether SE mediates the relationship between exercise and AS levels. 42 healthy college aged adults with moderate to high AS were randomly assigned to participate in one of three virtual guided exercise interventions: HIIT, MICT, and a static stretching control. Levels of SE and AS were assessed pre-intervention, post-intervention, and 2 weeks after the intervention. All exercise conditions were effective at reducing AS levels, with no significant differences between groups at the post-intervention time point. Significant differences in pre-intervention and 2-week follow-up AS scores were found only in the HIIT group. Significant increases in SE were found in all exercise conditions, and no differences in SE scores between groups were found at any time point. SE was not found to mediate the relationship between exercise and AS. Results highlight the efficacy of using HIIT to produce long-term reductions in AS and the unique trend of changes in AS and SE in the HIIT group. Future directions and limitations are discussed.

Keywords: exercise, exercise interventions, anxiety sensitivity, HIIT, self-efficacy, MICT