The Role of High-Intensity Interval Training on Anxiety Sensitivity and Self-Efficacy: A Pilot Randomized Controlled Trial

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INTRO

- Many Americans do not meet the recommended guideline for aerobic and muscle strengthening exercise.[1]
- Anxiety disorders are the most common mental health disorder in the U.S., and rates of anxiety have been increasing in all U.S. adults with a particularly rapid increase in the young adult population.[2-4]
- Anxiety sensitivity (AS) has been implicated as a predictor of the development of anxiety symptoms and disorders and is associated with treatment outcomes.[5-9]
- Self-efficacy (SE) is related to both AS and physical activity.

METHODS

- 42 healthy young adults with moderate to high levels of AS were randomly assigned to 1 of 3 exercise interventions: High-intensity interval training (HIIT), moderate intensity continuous training (MICT) or a static stretching control
- The Physical Activity Readiness Questionnaire (PAR-Q) and Anxiety Sensitivity Index-3 (ASI-3) were used to screen participants
- The ASI-3 and the General Self-Efficacy Scale (GSE) were use at the pre-intervention, post-intervention, and 2-week follow-up assessments

RESULTS

- MICT led to significant reductions in ASI-3 scores from pre-intervention to post-intervention, but these reductions were not maintained at the 2-week follow-up
- HIIT was the only intervention with significant reductions in AS scores from pre-intervention to follow-up
- Significant change in GSE in the MICT group from pre-intervention to post-intervention, but were not sustained at follow-up
- No significant differences in GSE or ASI-3 scores between groups at follow-up

DISCUSSION

- HIIT may lead to greater long-term effects on AS than low and moderate intensity exercise
- The addition of exercise may augment psychological interventions for individuals with elevated AS
- SE may not be a mechanism through which changes in AS are seen as a result of exercise

An acute bout of **high-intensity interval training** led to **significant long-term reductions in anxiety sensitivity (AS)** scores. High-intensity interval training may lead to **changes in AS that are unique** from moderate and low intensity exercise.

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Figure 1.

Estimated Marginal Means of ASI-3 Scores at Pre-Intervention and Follow-Up

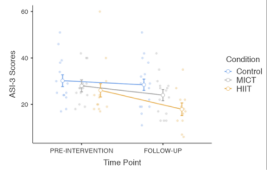


Figure 2.

Estimated Marginal Means of ASI-3 Scores at All Time Points

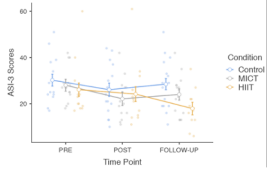


Figure 3.

Estimated Marginal Means of GSE Scores at Pre-Intervention and Follow-Up

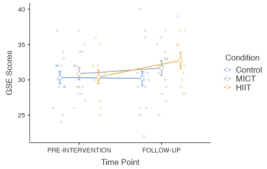
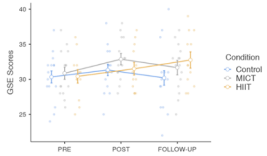


Figure 4.

Estimated Marginal Means of GSE Scores at All Time Points



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