

Title: Subclinical Anxiety and Depression, Physical Activity, and Weight Gain in a Longitudinal Observational Cohort of Non-obese Young Adults

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Objective: To investigate the relationships among moderate-to-vigorous physical activity (MVPA), subclinical mental health symptoms, and weight gain in young adults.

Methods: Fifty-nine healthy men and women (age 26.8 ± 4.7 years, body mass index [BMI] 22.4 ± 2.3 kg/m²) were assessed at baseline and after 2 years of follow-up. Weight, BMI, fat mass by dual energy x-ray absorptiometry, anxiety and depression by the SCL-90, and MVPA by accelerometry were assessed. Sex-stratified linear regression models were used to examine associations between baseline anxiety/depression symptoms and body composition change, which were repeated adjusting for baseline MVPA.

Results: In the overall sample, weight, BMI, fat mass, and subcutaneous adiposity significantly increased at Year 2 (p -values<0.05). For women, a higher depression and anxiety score predicted increased weight, BMI, fat mass, and subcutaneous adiposity (p -values<0.05). Controlling for MVPA attenuated these associations to non-significance. For men, MVPA did not alter the associations between anxiety and increased weight, BMI, fat mass, and subcutaneous adiposity (p -values<0.05) or the associations between depression and decreased weight, BMI, fat mass, and subcutaneous adiposity (p -values<0.05).

Conclusion: Subclinical symptoms of anxiety and depression were related to body composition change for young adults. In women, MVPA attenuated these associations to non-significance. MVPA may buffer the adverse effects of depression and anxiety symptoms on young women's weight gain.

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