A comparison of strength and stretch interventions on active and passive ranges of movement in dancers:
A randomized controlled trial

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The grande battement (PROM) and développé (AROM) are integral aspects of dance performance and have been closely linked with artistic virtuoso. The purpose of this study was to assess the effect of three strengthening or stretching interventions on hip and lower limb active (AROM) and passive (PROM) ranges of movement. Thirty-five female dance students (17.00±0.52 years, 61.70±8.48 kg, 164.40±5.49 cm) volunteered. They were randomly divided into three groups: strength training (n=11), low intensity stretching (n=13), and moderate-high intensity stretching (n=11). All groups carried out a six week intervention. The strength training group focused on end of range hip flexor strength; the low intensity and moderate intensity stretch group carried out a series of stretches at 3/10 and 8/10 perceived exertion, respectively. AROM and PROM were measured pre- and post-intervention using 2D video analysis. Repeated measures analysis indicated that all three groups improved their PROM (range increase: 9-20º, p<0.01), and AROM only significantly increased for the strength training and the low-intensity stretch group (p<0.01). The present data show that non-traditional interventions based on strength training and low intensity stretching are beneficial in the development of both active and passive ranges of movement.

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