The effects of a plyometric versus a traditional weight training program on power, strength, and jumping ability in female collegiate dancers.

*Purpose:* The aim of this study was to investigate the effectiveness of a plyometric versus a traditional weight training program on jumping ability, lower body strength and power in female collegiate dancers.

*Methods:* Subjects were 18 female dancers who were recruited from advanced technique classes. Subjects were placed by quasi-random design into one of three groups: plyometric training (PLY, n=6), weight training (WT, n=6), and control (CON, n=6). The PLY group performed 4 plyometric jump exercises twice a week. The WT group performed 3 sets of 6-8 repetitions of 4 lower-body isotonic exercises twice a week. The CON group refrained from strength training. All subjects continued their normal dance classes throughout the study. Subjects were tested pre and post training for lower body strength (1 repetition maximum), anaerobic power (Wingate Anaerobic Cycle Test), and vertical jump. Additionally, dance faculty evaluated subjects for technique and aesthetic quality of dance jumps on a scale from 1-5. A paired t-test was performed to detect statistical differences from pre to post testing. Significance was accepted at p<0.05.

*Results:* Both the PLY and WT groups increased their leg strength (37% and 32%, respectively) and aesthetic jump height (13%). The PLY group increased vertical jump (8.3%). The WT group increased anaerobic power (6%), hamstring strength (23%), and ability to point feet while jumping (20%). There were no significant changes in any variables in the CON group.

*Conclusions:* Both types of strength training (PLY and WT) improve leg strength and jumping ability in dancers. While there may be a greater benefit in actual jump height from PLY training, perceived aesthetic dance quality in jumping is improved with traditional WT training. Therefore, female dancers can benefit from either type of training, and should be aware that dance training alone is not sufficient to increase dance jumping ability.