

The Effects of Training Balance in Teens on Measures of Self-Esteem

Molly Kenny, MS-CCC, Raphael Bernier, PhD

The Samarya Center, Seattle, Washington

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Objective: This pilot study was conducted to assess changes in self-esteem in teens by training the physical act of balancing. Because our sense of balance is directed by many of the same systems that contribute to our overall sense of well-being in this world, including the vestibular system, frontal lobe, and systems of sensory integration, we hypothesized that if we increased the ability to balance, thus appropriately stressing these systems, we would increase scores in self-esteem and possibly attention/concentration.

Methods: Eight typically developing teens (6 girls and 2 boys, with a mean age of 14.89 years) were randomly assigned to an intervention or wait list control group. Pre-test, post-test, and follow-up assessment consisted of standardized measures of self-esteem and attention/concentration. The eight-week intervention program consisted of weekly hour-long sessions with a warm-up period, instruction and practice in balancing poses, including pincha mayurasana, bakasana, warrior III, and ardha chandrasana, and transitions between poses. Post-testing occurred immediately following the intervention. Follow-up assessment of the intervention group occurred eight weeks later.

Results: No baseline differences were found between groups on the self-esteem or attention measures. At post test, an increase in raw scores on reading working memory ability was observed for the intervention group, $t(3) = 3.207$, $p < .05$. The control group showed no significant increases; however, due to limited power, no differences between groups were found on attention/concentration skills or self esteem at post-test. At follow-up, an increase in self-esteem scores was observed for the intervention group, which approached significance, $t(3) = 2.449$, $p = .092$.

Conclusions: The results of this pilot study suggest that there is merit to examining the relationship between competency in balancing and self-esteem development, as well as in aspects of attention/concentration. While the effects of balance training on attention/concentration appear to be immediately observable, the effects on self-esteem may develop over a longer time period. These skills and qualities share brain processes, and it may be possible to increase skills in one area by working indirectly at supporting underlying brain function.