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Cup stacking (*Speed Stacks*) is a relatively new activity that has been highly promoted at many of the state, regional and national conventions for physical educators. One of the claims of *Speed Stacks* is that participants are "…using both sides of their bodies and brains to develop skills…" (*Speed Stacks*, Inc., 2004) These claims are based on other brain research, but empirical evidence with the task of cup stacking is lacking. The purpose of this study was to empirically examine the electrical activity of the two hemispheres of the brain, as measured by electroencephalogram (EEG), while cup stacking. Participants (N=18) were college-age volunteers who completed two practice sessions (30 minutes each) and one testing session. During the first session the participants were introduced to the task (i.e., the cycle stack) and were allowed to practice. During the second session the participants were shown a video to review the task and practiced for the remaining time. For the third session, the participant was fitted with the EEG electrode cap following the standard electrode placement of the International 10-20 system (Jasper, 1958). The participants then completed five baseline trials (30 seconds each) in which they were asked to stand quietly looking at the cups. Following the baseline, the participants performed five trials for each of four tasks (i.e., the cycle stack using both hands, the cycle stack using only the right hand, the cycle stack using only the left hand, and the cycle stack using both hands with the Mini *Speed Stacks*) the order of which was counterbalanced. Means for the five trials for each condition (i.e., the four tasks and the baseline) were calculated. The dependent variable was a global hemispheric measure obtained by calculating the mean of the frontal, central, temporal, and parietal sites for the left and right hemispheres. The data were analyzed using a 5 X 2 (Condition X Hemisphere) repeated measure ANOVA. The results of the analysis revealed a significant main effect for condition, F (4, 68) = 5.171, p>.05, and a significant interaction, F (4, 68) = 7.736, p>.05. During the left-hand condition, activity in the right hemisphere was larger than the left, while for the right-hand task, the left hemisphere was greater than the right. The results of this study support the claim that cup stacking does utilize both sides of the brain.