

Amir Dana, Elmira Gozalzadeh (2017)

## Internal and external imagery effects on tennis skills among novices

### **Abstract:**

The purpose of this study was to determine the effects of internal and external visual imagery perspectives on performance accuracy of open and closed tennis skills (i.e., serve, forehand, and backhand) among novices. Thirty-six young male novices, aged 15–18 years, from a summer tennis program participated. Following initial skill acquisition (12 sessions), baseline assessments of imagery ability and imagery perspective preference were used to assign participants to one of three groups: internal imagery ( $n = 12$ ), external imagery ( $n = 12$ ), or a no-imagery (mental math exercise) control group ( $n = 12$ ). The experimental interventions of 15 minutes of mental imagery (internal or external) or mental math exercises followed by 15 minutes of physical practice were held three times a week for six weeks. The performance accuracy of the groups on the serve, forehand, and backhand strokes was measured at pre- and post-test using videotaping. Results showed significant increases in the performance accuracy of all three tennis strokes in all three groups, but serve accuracy in the internal imagery group and forehand accuracy in the external imagery group showed greater improvements, while backhand accuracy was similarly improved in all three groups. These findings highlight differential efficacy of internal and external visual imagery for performance improvement on complex sport skills in early stage motor learning.

**Keywords:** mental imagery, imagery perspective, task type, tennis, performance

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