

## THE CORRELATION BETWEEN CORE STABILITY WITH ARM EXPLOSIVE POWER AND LEG EXPLOSIVE POWER IN BADMINTON ATHLETES

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### **ABSTRACT**

*This study has been undertaken to correlate core stability with Arm and Leg explosive power in badminton athletes. Core stability was assessed using the McGill Core Stability Test. Arm explosive power was measured through the Medicine Ball Throw Test (MBTT) and Upper-Quarter Y-Balance Test (UQYBT), while leg explosive power was evaluated using the Sergeant Vertical Jump Test (SVJT) and Lower-Quarter Y-Balance Test (LQYBT) in 69 participants. A significant correlation ( $p < 0.05$ ) was found between McGill Mean SB/TET scores and MBTT performance, suggesting that core stability enhances upper-body explosive power. Additionally, a strong correlation ( $p < 0.01$ ) was found between McGill Mean SB/TET scores and SVJT, highlighting the importance of core stability in leg explosive power. Weak but positive correlations were observed between core stability and balance measures (UQYBT & LQYBT), indicating the role of core strength in overall movement efficiency*

**KEYWORDS:** *Correlational Study, Core Stability, Arm Explosive Power, Leg Explosive Power, Badminton Athletes*