ABSTRACT

**Background:** Poor balance, lack of neuromuscular control, and movement ability are predictors of performance and injury risk in sports and physical activity participation. The Functional Movement Screen™ (FMS™) and lower quarter Y-Balance Test (YBT) have been used by clinicians to evaluate balance, functional symmetry, and static and dynamic movement patterns, yet little information exists regarding the relationship between the FMS™, YBT, and physical performance tests (e.g. vertical jump) within the high school population.

**Purpose:** The purpose of this study was to investigate the relationship between the FMS™, dynamic balance as measured by the YBT and physical performance tests (standing long jump, vertical jump, Pro Agility Test) in male and female high school athletes.

**Study Design:** Cohort study.

**Methods:** Fifty-six high school athletes (28 females, 28 males; mean age 16.4 ± 0.1) who participated in organized team sports were tested. Participants performed the FMS™, YBT, and three physical performance tests (standing long jump, vertical jump, Pro Agility Test).

**Results:** Females outperformed males on the FMS™ and YBT, while males outperformed females on the performance tests. In both sexes, the composite FMS™ score was positively correlated with the left and composite YBT scores. Agility was negatively correlated with composite FMS™ in males \( (p < 0.05) \) and the left and composite YBT in females \( (p < 0.05) \).

**Conclusions:** The FMS™ and YBT may evaluate similar underlying constructs in high school athletes, such as dynamic balance and lower extremity power. The results of this study demonstrate the utility of the FMS and YBT to relate multiple constructs of muscular power to an individual's ability to balance. Furthermore, establishing the need for the utilization and application of multiple field-based tests by sports medicine professionals and strength and conditioning coaches when evaluating an athlete's movement and physical performance capabilities. Utilization of multiple field-based tests may provide the first step for the development of injury prevention strategies and long-term athlete development programs.

**Level of Evidence:** 2b.

**Key words:** Functional Movement Screen™, movement system, sport performance, Y-Balance Test