Validity of Alternative Fitnessgram® Upper Body Tests Among Adolescent Students

Background/Purpose

In a society in which the rates of obesity levels have tripled in the past 30 years, the importance of increased fitness levels within the academic setting has become even more critical. The purpose of this study was to investigate the validity of alternative FITNESSGRAM® upper body tests of muscular strength and endurance among seventh and eighth grade males and females.

Method

Adolescent males and females (N = 123) in 7th and 8th grades from two urban middle schools were administered all three FITNESSGRAM® muscular strength and endurance assessments on different days. The recommended test item used to assess students is the 90° Push-up (90°PSU). However, the FITNESSGRAM® provides alternative assessments to measure upper body strength: Modified Pull-up (MPU) and Flexed Arm Hang (FAH).

Analysis/Results

The validity was determined by equivalence reliability estimates for the following comparisons: PSU-MPU and PSU-FAH. Both Percentage Agreement (Pa) and Modified Kappa (Kq) were used to determine the relationships between variables. Males exemplified minimal acceptability for both PSU- MPU and PSU-FAH comparisons. Similar to the male's results, results for females indicated unacceptable reliability estimates for both PSU-MPU and PSU-FAH comparisons.

Conclusions

As a result of this study, it is imperative that physical educators and administrators are aware that implementing the FITNESSGRAM® alternative assessments of muscular

strength and endurance may hinder and/or alter an adolescent's healthy fitness zone classification. Future research regarding the different muscular strength and endurance test items will ultimately promote higher levels of confidence among practitioners when using the different test items interchangeably.