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New Fitness Testing Items for School-based Health-related Fitness Testing Batteries

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Purpose: Regular fitness testing has been a common practice in schools for more than seven decades. This study aims to examine newly proposed testing items that may better suit youth fitness assessment within school-based physical education programs.

Methods: A comprehensive review of previous research related to youth fitness testing was conducted. The study employed a document analysis approach to evaluate alternative testing methods for the five widely used components of physical fitness assessment: body composition, muscular strength and endurance (upper body and abdominal), cardiovascular endurance, and flexibility.

Results: The traditional Body Mass Index (BMI) has been criticized for its inaccuracy, particularly for individuals with greater muscle mass. Bioelectrical Impedance Analysis (BIA) offers a faster, easier, and potentially more accurate alternative for assessing body composition. However, muscular strength and endurance tests such as pull-ups and push-ups remain problematic due to frequent performance errors and the high number of students scoring zero, which complicates progress tracking and increases testing anxiety. Despite these limitations, no feasible or cost-effective replacements have been identified. For aerobic fitness, VO₂max testing provides more precise results but is often impractical

due to financial and equipment constraints. Similarly, no suitable substitute for existing flexibility tests has been found.

Discussion/Conclusions: Although fitness testing standards have been updated over time, the testing items themselves have changed little. The persistence of traditional measures largely reflects the need for simple, inexpensive, and easily implemented assessments in resource-limited school environments.