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Quantification of Physical Activity Time in Fifth- through Eighth-Grade Physical Education

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ABSTRACT

With an increased prevalence of lifestyle related morbidities in youth (Kaufman, 2002; Ogden, Flegal, Carroll, & Johnson, 2002), physical activity (PA) interventions have been considered a critical component in a coordinated effort to reverse trends in lifestyle related morbidities (CDC, 1997). Specifically, increasing school site PA is a key component of the coordinated effort (USDHHS/USDE, 2000). Objective, valid and practical assessment of PA is necessary for effective school site PA programs (Kohl, Fulton, & Caspersen, 2000). The goal of this research was to advance surveillance of PA guidelines in physical education.

The aims of this study were to establish pedometer step per minute (SPM) and accelerometer count per minute (CPM) standards that accurately classify fifth- through eighth-grade physical education students as meeting the Council On Physical Education for Children (NASPE, 1998, 2004) and Healthy People 2010 (USDHHS, 2000) physical education activity guidelines. It was hypothesized that SPM and CPM values would be significant and accurate predictors of students classified as achieving or not achieving activity guidelines.

The 175 participants' PA data were collected in 35 classes taught by nine certified teachers at six schools. The System for Observing Fitness Instruction Time (SOFIT; McKenzie, Sallis, & Nader, 1991) PA rating scale was the criterion instrument, and predictor instruments were the Yamax SW-701 pedometer and Bio-Trainer Pro accelerometer. Statistical analysis consisted of Pearson r , receiver operating characteristic curve, and logistic regression techniques. SPM and CPM demonstrated a strong and significant association with SOFIT PA. SPM and CPM were excellent at discriminating between students who achieved and did not achieve PA guidelines.

Findings suggest that pedometry SPM and accelerometry CPM accurately discriminate between students who achieve and do not achieve physical education activity guidelines. In conclusion, it is recommended that pedometry be implemented for surveillance of PA guidelines in physical education.