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PREDICTING URBAN ELEMENTARY STUDENT SUCCESS AND PASSAGE ON OHIO'S HIGH-STAKES ACHIEVEMENT MEASURES USING DIBELS ORAL READING FLUENCY AND INFORMAL MATH CONCEPTS AND APPLICATIONS: AN EXPLORATORY STUDY EMPLOYING HIERARCHICAL LINEAR MODELING (180 pp.)

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Contemporary education is experiencing substantial reform across legislative, pedagogical, and assessment dimensions. The increase in school-based accountability systems has brought forth a culture where states, school districts, teachers, and individual students are required to demonstrate their efficacy towards improvement of the educational environment. An awareness of the necessity for identifying students who are at-risk or already failing heralds the implementation of progress monitoring systems that continuously survey acquisition of skills and development of subsequent academic competencies. Early literacy and mathematics skills are understood as essential prerequisites towards future academic achievement, emotional adjustment, and adult quality of livelihood.

Brief, reoccurring informal process assessment practices, such as DIBELS and *Math Concepts and Applications*, may yield a powerful mechanism to accomplish such progress monitoring and data based decision-making objectives. Previous quantitative approaches towards studying the outcomes of school-based data, however, were frequently plagued with methodological shortcomings and violations of statistical

assumptions. Advances in understanding nested or hierarchical organized data allows for analysis of data without many of these confounds.

The present study employed a longitudinal collection from 2002 to 2006 of informal DIBELS and *Math Concepts and Application* assessment results. Repeated measurement of a high-stakes measure, the Ohio Achievement Test subtests in reading and mathematics, were regressed onto informal math and reading assessments with various individual student-level predictor variables in a progressive sequence involving hierarchical linear models (HLM). The intent was to develop a cogent model of predicting high stakes achievement test performance as related to the above variables.

Results were significant for the usage of informal DIBELS measures to predict future high stakes achievement test performance but *MCA* partitioned only a minimal amount of variance in the regression equations. Despite *MCA*'s limited predictiveness, racial differences, special education participation, and overall school attendance were noted to affect mathematics high stakes test performance. In reading, significant performance differences were also noted in special education students. Such findings support previous literature on the utility of DIBELS but are discrepant for *MCA*. Still, these data remind educators of the saliency of early identification practices prior to the onset of reading or mathematics failure.