Using Early Literacy Profiles of Hispanic English Language Learners to Predict Later Reading Achievement

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Background and Objectives

Spanish speakers comprise 80% of the English language learners (ELLs) in U.S. schools, and many of them are considered at risk for academic failure, largely due to low levels of literacy achievement (August & Shanahan, 2006). In order to address this problem, we must be able to identify potential reading problems early so that effective, focused intervention can be provided. Previous research has identified phonological awareness, print knowledge, and orthographic knowledge as robust predictors of later reading achievement for both native English speakers and ELLs (Scarborough, 1998; Chiappe & Wade- Woody, 2002; Lesaux, Koda, Siegel, & Shanahan, 2006). However, much of the research on ELL literacy development has looked at ELLs as a group, without investigating whether there is within-group heterogeneity that affects literacy outcomes. Recent research (Burrow, Caball, Konold, & Invernizzi, 2010) on Spanish-speaking ELLs, however, has shown that not all ELLs represent one homogeneous group in terms of early literacy profiles. Using cluster analysis (Adenderfer & Blashfield, 1985), Burrow et al. demonstrated that Spanish-speaking children in the fall of kindergarten represented a heterogeneous group that could be classified into four distinct clusters using three broad measures of early literacy abilities: phonological awareness, orthographic awareness, and alphabet knowledge. The four cluster profiles were described as: 1) the highest early literacy group (i.e., high performing across all literacy domains), 2) the average phonological and orthographic awareness with high alphabet knowledge group, 3) the average phonological awareness with low alphabet and orthographic awareness group, and 4) the lowest literacy group (i.e., low performing across all literacy domains).

Research Questions

1. Would previous research-established cluster profile patterns remain consistent with the current dataset used (i.e., were the clusters found in previous research similar to profiles of early literacy skills)?
2. If cluster profiles were consistent, how would the three lower ranked clusters perform based on their instructional oral reading levels at the end of first grade, while controlling for other student-level variables?

Participants

A cohort of 1,424 students (49% female, 51% male) from 271 public schools in the Commonwealth of Virginia was followed from kindergarten (fall 2008) through the end of first grade (spring 2010). All of the students were identified by their schools as Hispanic and spoke Spanish at home. Mean age of the participants in the fall of kindergarten was 69 months, and 81% of the participants were classified as economically disadvantaged using the free and reduced price lunch eligibility status. In kindergarten, 96% had no diagnosed disability and 61% were receiving English as a Second Language services (ESL). By the spring of first grade, 93% of participants had no diagnosed disabilities, and 66% were receiving ESL services.

Results

Excluding the highest performing cluster, we modeled the students’ instructional oral reading level (from the PALS for first graders) at the end of the first grade (our dependent variable) on the students identified cluster (independent variable), while holding other student-level variables constant. Cluster dummy variables were modeled with cluster 3 being the reference group. Age in months, our only continuous covariate, was grand mean centered. We used two-level multilevel modeling (i.e., students within schools) using SAS PROC MIXED.

Conclusions

What distinguished cluster 2 from the other two clusters was higher performance on print-related tasks in fall of kindergarten. Although both cluster 2 and cluster 3 had average or above-average phonological awareness in fall of kindergarten, cluster 2 performed significantly better in alphabet knowledge and orthographic knowledge, the two domains made up of print-related skills (i.e., letter names, letter sounds, and phonetic spelling). This finding is consistent with previous research (Hamill, 2004; Scarborough, 1998), identifying writing language skills as the most accurate predictors of later reading achievement, once children have begun formal literacy instruction.

References

See online abstract for complete list.