**Supplemental Materials**

**The Characteristics of Center-Based Classrooms and ECE Settings**

We describe center- and classroom-level characteristics of ECE arrangements serving low-income children with special needs. Center-based classroom variables (reported by the lead teacher in centers only which are likely to have multiple classrooms) include the teacher-reported percentage of classroom students with special needs, and the number of college-level special education courses completed by the lead teacher. Relevant ECE setting-level characteristics (reported by the center director or home-based family child care [FCC] provider where applicable) include percent of children in the ECE setting (center or FCC) with special needs, the number of college-level special education courses completed by the center director or FCC provider, the percentage of teachers in center-based settings with a state certificate in special education, centers’ provisions of ancillary service referrals to families (each of: physical, dental, hearing, vision, speech and language screenings or examinations, developmental assessments, and assessments of social skills or behavior), and whether centers employed each of social workers, family outreach workers, nurses, psychologists, parent education specialists, parent involvement specialists, or speech therapists.

Both center directors and classroom teachers in public school-based pre-k settings that serve doubly vulnerable children in our sample report the highest average percentage of children with special needs, followed by subsidized center-based settings, unsubsidized center-based settings, and then Head Start settings (see Table S2). However, among center-based classrooms, there is far more variation in the proportion of children with special needs in public pre-k and subsidized centers than Head Start (see Figure S1). Thus, although Head Start, on average, enrolls the lowest proportion of doubly vulnerable children of any center-based ECE type, the program’s restrictive regulations ensure that the majority of Head Start classrooms closely adhere to its inclusivity standards. Providers in home-based settings report serving the fewest doubly vulnerable children by a significant margin.

 ECE centers that serve more low-income children with special needs also staff teachers with increased qualifications for teaching these students and provide additional support services for children and families. On average, teachers in public pre-k have completed the most special education courses (*M =* 2.82, *SE =* .68), as have center directors (*M =* 3.68, *SE =* .76). Moreover, programs – namely public pre-k and Head Start – that implement more intensive regulations and have increased resources to provide compensatory supports appear to do just that. Head Start and public pre-k settings are far more likely than either subsidized or unsubsidized CBCs to provide dental, hearing, vision, speech and language, developmental, social skills and behavior referrals to parents, and are both more likely to employ Psychologists (52 percent in public pre-k, 34 percent in Head Start). School-based public pre-k settings appear most likely to employ a speech language pathologist (99 percent), while Head Start settings are most likely to employ a family outreach worker (49 percent).

Table S1

*Setting-level characteristics for low-income children with special needs by ECE setting and type at preschool*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Center-based setting |  | Home-based setting |  | ***p*** |
|  | Head Start |  | Public pre-k |  | Subsidized CBC |  | Unsubsidized CBC |  |  |
|  | *M/%* | *SE* |  | *M/%* | *SE* |  | *M/%* | *SE* |  | *M/%* | *SE* |  | *M/%* | *SE* |  |
| Center-based classroom characteristics |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| No. special ed. college courses completed by lead teacher | .94 | .31 |  | 2.82 | .68 |  | 2.64 | 1.52 |  | .17 | .11 |  | -- | -- |  | \*\*\* |
| % of classroom with special needs | 13.02 |  |  | 45.50 |  |  | 33.18 |  |  | 18.07 |  |  | -- | -- |  | \*\*\* |
| ECE setting characteristics |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| % of teachers with special ed. cert. | 20.38 |  |  | 24.55 |  |  | 16.22 |  |  | 23.29 |  |  | -- | -- |  |  |
| % of center or FCC with special needs | 15.28 |  |  | 38.19 |  |  | 32.90 |  |  | 26.71 |  |  | 2.73 |  |  | \*\*\* |
| No. special ed. college courses completed by center director or FCC provider | 2.85 | .44 |  | 3.68 | .76 |  | 1.06 | .59 |  | 2.34 | 1.48 |  | .16 | .09 |  | \*\*\* |
| Provides ancillary service referrals |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Physical | 57.23 |  |  | 51.35 |  |  | 38.67 |  |  | 35.67 |  |  | -- | -- |  |  |
| Dental | 72.80 |  |  | 45.19 |  |  | 36.65 |  |  | 25.41 |  |  | -- | -- |  | \*\*\* |
| Hearing | 89.12 |  |  | 95.39 |  |  | 71.12 |  |  | 47.81 |  |  | -- | -- |  | \*\*\* |
| Vision | 88.65 |  |  | 95.62 |  |  | 71.36 |  |  | 47.33 |  |  | -- | -- |  | \*\*\* |
| Speech and language | 91.47 |  |  | 95.63 |  |  | 86.59 |  |  | 60.50 |  |  | -- | -- |  | \*\*\* |
| Developmental  | 91.25 |  |  | 96.28 |  |  | 88.30 |  |  | 73.44 |  |  | -- | -- |  | \* |
| Social skills and behavior | 93.58 |  |  | 97.90 |  |  | 95.44 |  |  | 77.96 |  |  | -- | -- |  | \*\*\* |
| Employs the following staff: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Social worker | 27.81 |  |  | 24.86 |  |  | 39.32 |  |  | 23.29 |  |  | -- | -- |  |  |
| Family outreach worker | 48.80 |  |  | 13.27 |  |  | 3.42 |  |  | 0.00 |  |  | -- | -- |  | \*\* |
| Nurse | 41.29 |  |  | 76.86 |  |  | 38.67 |  |  | 23.29 |  |  | -- | -- |  |  |
| Psychologist | 34.38 |  |  | 51.49 |  |  | 12.5 |  |  | 0.00 |  |  | -- | -- |  | \*\*\* |
| Parent education specialist | 24.44 |  |  | 28.61 |  |  | 5.75 |  |  | 0.00 |  |  | -- | -- |  |  |
| Parent involvement specialist | 35.10 |  |  | 29.78 |  |  | 7.61 |  |  | 0.00 |  |  | -- | -- |  |  |
| Speech language pathologist | 34.10 |  |  | 98.79 |  |  | 49.16 |  |  | 23.29 |  |  | -- | -- |  | \*\*\* |

*Note.* Data are drawn from the Early Childhood Longitudinal Study-Birth Cohort (ECLS-B) 9-month kindergarten restricted use data file. N ≈ 1,450. Sample is limited to teachers and settings attended low-income families at the 2-year interview (wave 2) with children defined as special needs at wave 3 and with non-missing outcome data. Classroom descriptives are weighted using jackknife replicate weights WK45T1-90. *Ns* are rounded to the nearest 50 per NCES data security requirements. *\* p<.*05; \*\**p*<.01; \*\*\* *p*.>001



Figure S1

*Density plots of teacher-reported percent of children with special needs by setting type*

*Notes.* Data are drawn from ECE providers and refer to classroom percentages for center-based settings and setting percentages for home-based providers.