

### Abstract 3 Title Page

**Title:** Long-term impacts of the Chicago School Readiness Project on children's behavior in Kindergarten: The moderating role of child baseline characteristics and kindergarten school quality

**Choice of Conference Section:** Early Education

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## Abstract 3 Body

### **Background/Context:**

As ecological models have been increasingly applied to development in educational contexts, the classroom as its own unique system comprising characteristics of teachers, children, and the dynamic relationships between them, has become both a focus of intense study and a target of classroom-based intervention and prevention efforts, particularly with regard to social and emotional skills and behaviors. Exposed to a wide range of economic and psychosocial stressors, children in low-income families face greater chances of developing emotional and behavioral problems. The principal aim of the Chicago School Readiness Project intervention was to improve low-income preschool-aged children's school readiness by increasing their emotional and behavioral adjustment via a key set of classroom processes including the quality of relationships between children and teachers.

### **Purpose/Objective/Research Question/Focus of Study:**

This paper investigates the long-term impact of participation in the Chicago School Readiness Project (CSRP) during the Head Start year on children's behavioral outcomes at the end of their Kindergarten year. The primary questions addressed in the paper are: (1) What is the experimental impact of CSRP on two-year change (from Fall Head Start to the end of Kindergarten) in children's externalizing and internalizing outcomes, controlling for key baseline child, classroom and teacher covariates? (2) Building on recent findings from intervention studies that demonstrate significantly stronger impacts for families facing a greater versus smaller number of poverty-related risks, is the two-year impact of CSRP moderated by child-level baseline demographic covariates (including child gender, race/ethnic background, family socioeconomic risk, and community risk) and baseline levels of behavioral risk? (3) Addressing school factors that may account for enhanced or reduced intervention effects due to the transition to Kindergarten, is the two-year impact of CSRP moderated by school characteristics in Kindergarten?

### **Settings:**

The baseline of CSRP intervention included a total of 35 classrooms at 18 Head Start sites located in seven of the most economically disadvantaged neighborhoods in Chicago. Children were followed to approximately 170 kindergarten classrooms.

### **Population/Participants/Subjects:**

Overall 602 children and 94 teachers participated in the CSRP. In the Fall of the Head Start year, children on average were 4 years old and about half were boys. About 66% of participating children were non-Hispanic Black, 26% were Hispanic, and 8% were members of other racial/ethnic groups. Teachers on average were 40 years old and almost all (97%) were female. About 70% of teachers were non-Hispanic Black, 20% were Hispanic, and 10% were non-Hispanic White.

### **Intervention/Program/Practice:**

The CSRP intervention included three components of services. The first was a 30-hour teacher training focusing on behavior management strategies, which were adapted from the Incredible

Years teacher training module (Webster-Stratton, Reid, & Hammond, 2004). All treatment-assigned teachers were invited to participate in the five 6-hour training sessions held on Saturdays from September to March during the Head Start year. Paired with the training, the second component was the placement of mental health consultants (MHCs) in treated classrooms. MHCs attended classes one morning per week to coach teachers in implementing the behavior management strategies as well as assisting teachers with stress reduction. The third component included individual MHC services for a small number of children (three to four children per class) with high emotional and behavioral problems from March to May in the Head Start year. To ensure that the child-staff ratio was similar across treatment and control classrooms, teachers in the control group were given staffing support by a teacher's aide who only provided an extra pair of hands and eyes during everyday classroom activities for the same amount of time per week as the MHCs in the treatment group.

### **Research Design:**

CSRP randomly assigned a multifaceted classroom-based intervention to two cohorts of Head Start children and teachers in seven of the most economically disadvantaged neighborhoods in Chicago, with Cohort One participating from fall to spring in 2004–05 and Cohort Two from fall to spring in 2005–06. Using a clustered randomized controlled trial (RCT) design and a pairwise matching procedure (Bloom, 2005), we first identified nine pairs of matched sites based on a range of site-level demographic characteristics that were collected by each site and reported annually to the federal government. One site in each matched pair then was randomly assigned to the treatment group and the other to the control group. Two classrooms from each site were initially included. One classroom left after randomization due to Head Start funding cuts. As a result, 35 classrooms (i.e., 18 in the treatment and 17 in the control groups) participated in the CSRP.

### **Data Collection and Analysis:**

CSRP-enrolled children were followed from Head Start programs into kindergarten, with follow-up parent and teacher interviews completed in the fall of the follow-up year (92% had follow-up data from one or more reporters). Preliminary analyses of school-based follow-up data suggest that children made the transition from 35 Head Start preschool classrooms to over 170 kindergarten classrooms. Those schools whose percentage of children meeting ISAT testing criteria (as reported by Chicago Public Schools elementary scorecard) fell lower than one standard deviation below the mean of all elementary schools are coded as “low-performing.” Poverty-related risk is measured by three indicators: family income-to-needs ratios (i.e., less than half the federal threshold in the previous year), maternal educational attainment (i.e., less than a high school degree), and mothers' employment (i.e., 10 hours or less of work per week). Data reflecting poverty-related risk were collected in the fall of both years.

Child behavioral risk was calculated using baseline teacher reports on the Behavior Problems Index with children designated as high having scores higher than 1 standard deviation above the mean. Teachers were given the Behavior Problems Index (BPI; Zill, 1990) in the fall and spring for each CSRP-enrolled child in their classrooms. Other child-level covariates include child gender, race/ethnicity, whether Spanish was spoken at home, whether he/she was in a single-parent family, and his/her behavioral problems in the fall of Head Start.

To account for classroom-level differences in resources and support for children's social-emotional development, both trained observers and teachers provided classroom-level data in the fall. Trained observers, who were blind to randomization, assessed the quality of children's classrooms using the Classroom Assessment Scoring System (CLASS; La Paro, Pianta, &

Stuhlman, 2004) and the Early Childhood Environment Rating Scale, revised edition (ECERS-R, Harms, Clifford, & Cryer, 2003). Using the ECERS and CLASS, observers rated overall classroom quality as well as dimensions of emotional climate, including teacher sensitivity, behavior management, and negative climate. While conducting observations, staff noted the number of children and adults in the classroom. In the fall, administrators at each Head Start site also provided CSRP with access to site-level characteristics. Child outcomes were measured at baseline, the Spring of the Head Start year, and in the Spring of Kindergarten using the teacher report form of the Child Behavior Checklist externalizing and internalizing scales.

To accommodate the nested nature of the design, estimates of intervention impact on change in the primary child outcomes from pre-intervention baseline (Fall, Head Start year) to the 3<sup>rd</sup> time point (Spring, Kindergarten year) were calculated using a series of 3-level hierarchical linear growth models with, and without site fixed effects in HLM 6.02. In these models, Level 1 represents time (i.e., the 3 repeated assessments of the constructs of interest for each child), Level 2 represents the child/teacher/classroom, and Level 3 represents sites (Head Start sites). All child- and /teacher classroom-, and Kindergarten school-level covariates were included at Level 2. Level 3 included a treatment dummy. In addition, as indicated above, we examined a number of cross-level treatment by baseline, and Kindergarten school, covariate interactions.

### **Findings/Results:**

Findings to date through the end of the Head Start year are summarized below. Analyses examining main and interactive intervention effects through the end of Kindergarten will be complete by December 1, 2009. Results after the Head Start year indicate significant treatment effects for teacher-reported and independent observations of children's internalizing and externalizing behavior problems, with effect sizes ranging from  $d = .53$  to  $d = .89$  (Raver et al., 2009). Moreover, there was some evidence for the moderating role of child gender, race/ethnic group membership, and exposure to poverty-related risk, with stronger effects of intervention for some groups of children than for others.

### **Conclusion:**

Previous research has found that the CSRP intervention had significant effects on improving classroom processes as well as children's social-emotional skills, self-regulation, and pre-academic skills, and reducing their behavior problems (Raver et al., 2008; Raver et al., 2009; Raver et al., in press). This paper represents the first report of impact on children's behavior into Kindergarten, and focuses specifically on factors that may enhance or undermine long-term treatment effects.

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