Scaling Up Pyramid Model Implementation in Preschool and Kindergarten Classrooms: Evaluation Considerations and Preliminary Results

Dominique Tunzi, Elisa Garcia, Melanie Chong, and Erika Gaylor
SRI International

Background

Decades of research have shown that when poor social skills and problem behaviors are left untreated or ignored, there are substantial negative consequences for students, classrooms, and schools (Strain, 2017). Long-term negative outcomes for children with unaddressed social and emotional challenges include rejection and isolation from peers and teachers (Boivin et al., 1995; Dodge et al., 1990); poor academic outcomes (McDougal et al., 1001; Buhs et al., 2006); high incidence of discipline referrals, school dropout, and contact with the criminal justice system (Coie et al., 1995; Gilliam, 2005; Loeber et al., 1998; Moffitt, 2011); and chronic unemployment (Strain & Timm, 2001). These problems are persistent and prevalent, with approximately 10 to 15% of all young children, and up to 30% of young children with risk factors, demonstrating challenging behaviors and social-emotional delays (Egger & Angold, 2006; Kuperschmidt et al., 2000; Qi & Kaiser, 2003).

Moreover, Pre-K teachers report feeling underprepared to address social emotional needs, while acknowledging that these issues are of utmost concern (Alkon et al., 2003; Bennedict et al., 2007; Joseph & Strain, 2003). Consequently, there is an unmet need for ensuring that teachers are equipped to help young children develop the necessary social-emotional skills. In addition, the field lacks information on both the implementation and impacts of efforts to scale-up and sustain district-wide social-emotional learning (SEL) initiatives to support young children's social and emotional development.

Objective

We will present preliminary findings and discuss implementation and evaluation challenges from the first two years of the study.

Setting

This study is taking place in one mid-size urban district and one neighboring rural district.

Participants

Four cohorts are participating, each for two school years, with Cohort A beginning in Summer 2018 and Cohort D concluding in Spring 2022. Across the four cohorts, we expect to have an estimated 1,360 preschool and kindergarten children from a minimum of 136 teachers across 68 schools. Presently, Cohort A includes 425 preschool children and 45 teachers from 29 schools in the urban school district. Children had to be four-years-old by October 15, 2019 to be eligible to participate. Of the participating children in Cohort A, 49% are female, and 62% speak primarily English at home, 20% speak Spanish, 6% speak Arabic, and 12% speak another language.

The Pyramid Model (PM) Intervention

The PM provides early educators with a three-tiered model of classroom strategies that promote social-emotional competence and address challenging behavior of children with and without

disabilities in preschool classrooms (see Figure 1; Fox et al., 2003). The PM includes four components and is based upon research on effective instruction for young children (National Research Council, 2001), the promotion of children's social competence (Guralnick & Neville, 1997; Webster-Stratton, 1999; Hyson, 2004), and the implementation of individual positive behavior support for children with the most severe behavior challenges (Fox, Dunlap, & Cushing, 2002; Fox, Dunlap, & Powell, 2002).

Figure 1. The Pyramid Model, a three-tiered model of classroom strategies that promote social-emotional competence and address challenging behavior of young children.

The first two PM components – responsive interactions and classroom preventive practices – are universal approaches that are delivered to all children in a classroom. The third component – social emotional teaching strategies – offers secondary interventions designed to address the needs of children at risk for problem behavior. The fourth component provides an individualized intervention approach for children with the most severe and persistent challenging behavior. When teachers implement the universal and secondary strategies of the PM, only a small percentage of children are likely to need more intensive supports (Sugai et al., 2000).

In this study, preschool and kindergarten teachers in the treatment condition participate in a two-day training in their first year of participation and receive ongoing biweekly coaching from trained PM coaches and staff. In their second year of participation, teachers receive a one-day booster training and are then asked to implement the PM with less intensive external supports throughout the school year. Teachers in the schools assigned to the control condition are asked to implement their BAU curriculum and activities during both year one and two.

Research Design
To examine the effects of PM on teachers' practices and children's social competence, we are conducting a school-level, cluster randomized controlled trial (RCT). Schools within each cohort are randomized to either the PM (treatment) or to "business as usual" (control) conditions. Additionally, schools are stratified by their overall social-emotional approach (PBIS, Restorative Justice, or SEL foundations) and by the percentage of children who identify as a person of color.

Data Collection and Analysis
During the second year of teacher participation, we collect direct assessments and teacher ratings of children's social-emotional competence, executive functions, problem-solving skills, and academic competence. Direct assessments include Peg Tapping (Diamond & Taylor, 1996; executive functioning), Head Toes Knees Shoulders (Ponitz, et al., 2008;) and Challenging Situations Task (Denham, Bouril & Belouad, 1994). In addition, teachers provide information about their students' social and academic skills using the Social Skills Improvement System (Gresham & Elliott, 2008) and Academic Rating Scale (Rock & Pollack, 2002), respectively. Direct assessments and teacher ratings are completed in the fall (baseline) and spring (endline) for each cohort of students. In addition, classroom observations are completed to monitor fidelity of implementation to the PM. Both intent-to-treat and treatment-on-the-treated analyses will be performed. Three-level HLM models will be used, as students are nested in classrooms and classrooms are nested in schools.

Evaluation and Implementation Considerations and Challenges
In this presentation, we will discuss challenges in designing a rigorous RCT with an intervention that requires intensive professional development and training (e.g., late joiners), challenges in recruitment and retaining participants over two years (e.g., teacher turnover), and lessons learned about how to scale-up an evidence-based model across a district with district staff (e.g., train-the-trainer model for district coaches).

Preliminary Findings
We will present preliminary results from our baseline child assessments and teacher ratings. Data will be analyzed using descriptive statistics, presented overall and by condition.

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