Policymakers and advocates consider early childhood education and pre-schooling interventions as an essential policy lever to narrow socioeconomic gaps in cognitive and social skills at school entry and beyond. A consistent and worrisome finding across early childhood interventions is that initial treatment effects fade over time, with children not receiving the intervention catching up to children who did. One important way research can inform this phenomenon is by developing a stronger understanding of why short-term gains from preschool may disappear or how to sustain the gains from preschool into elementary school. In this interdisciplinary panel composed of scholars in early childhood education, psychology, evaluation, and policy, we examine three common hypotheses explaining why the effects of preschool fade out over time; elementary school instructional quality, elementary school teacher quality, and the underlying skills of non-preschool participants who ‘catch-up’ to preschoolers.

The first paper uses two experimental studies of preschool interventions—Head Start and the Building Blocks mathematics intervention—to examine whether the quality of instruction (i.e. basic and advanced content, total instructional time, and environmental quality rating) in early grades moderate the impacts of preschool on children’s post-treatment cognitive skills. The authors also test whether professional development supports, which build upon the preschool intervention, provided to teachers in kindergarten and first grade moderate fadeout. The findings do not support the hypothesis that better instructional quality mitigates fadeout during elementary school. However, the authors do find that when a preschool intervention is coupled with elementary school teacher professional supports, this eliminates the fadeout of treatment effects between kindergarten and first grade (though fadeout between preschool and kindergarten remained).

The second paper utilizes data from the Voluntary Pre-K evaluation in Tennessee (TN-VPK) matched with school administrative records and data from a new teacher evaluation program to examine the interaction between pre-K participation and teacher quality. Concurrent with findings from paper one, the authors find that for each indicator of first grade teacher quality, students who participated in TN-VPK perform significantly higher than their control group counterparts on academic composite score in first grade, reducing the fadeout of effects. Instead of examining the experiences of preschool participants, the third paper examines whether short-run gains from the preschool intervention, Building Blocks, fade out during elementary school because of differences in relatively stable factors influencing children’s long-term mathematical development. The authors identify a subset of children in the control group with similar post-intervention achievement scores to children in the treatment group, and then test whether their subsequent learning trajectories differed. They find that children in the control group with similar post-test scores to children in the treatment group subsequently outperform children in the treatment group, and this difference was almost completely accounted for by language and literacy assessment scores, measures of children’s underlying skills.

Taken together, these findings suggest that to maximize the impacts of public preschool programs, policies must couple early childhood education experiences with high quality early grades teachers and supports for these teachers that integrate the preschool curriculum with the elementary curriculum.