

## Exploring Preschool Classroom Processes as Predictors of Children's Self-Regulation Skills Development

Children's self-regulation skills are an important part of school readiness. Compared to the literature suggesting a positive relationship between self-regulation skills development and a wide range of socio-emotional and cognitive outcomes including theory of mind (e.g., Carlson & Moses, 2001) and academic skills, specifically mathematics (e.g., Bull, Espy, & Weibe, 2008; Welsh, Nix, Blair, Bierman, & Nelson, 2010), the extant literature on potential antecedents of children's self-regulation skills is limited. We do not have a clear understanding of how the environmental contexts in which children spend their time, specifically the preschool environment, might affect self-regulation development above and beyond maturation and individual child characteristics. Although the *Experimental Evaluation of the Tools of the Mind Curriculum* for the 2010 – 2011 cohort revealed null effects on children's gains in self-regulation skills across the preschool year, other experimental interventions such as the *Chicago School Readiness Project* (Raver, Jones, Li-Grining, Zhai, Bub, & Pressler, 2011), targeting teacher behavior management strategies and stress reduction, suggest that there may be classroom processes at work, independent of curriculum choice, that play a positive role in children's self-regulation skills development.

Using data collected as part of the *Tools of the Mind* project, we are examining classroom-level quality and quantity variables as predictors of children's self-regulation skills gains across the preschool year. Specifically, we are assessing classroom emotional climate, quantity of instructional features (both top-down instruction as delivered and bottom-up instruction as received variables), and quality of instruction features, in particular teachers' instruction level within academic content. Classroom quantity and quality variables are derived from the Child Observation in Preschool (Farran et al., 2010) and the Teacher Observation in Preschool (Bilbrey, Vorhaus, Farran, & Shufelt, 2010), behavioral count measures that include repeated observations and coding across the preschool day. Data are aggregated from three observation occasions throughout the school year.

Multilevel models are being conducted with nesting occurring at the classroom, school, and system levels. Classroom variables are entered individually into the models predicting self-regulation gains along with several child-level covariates in addition to controlling for experimental condition. Results thus far indicate that a more positive emotional climate (including more behavior approving and less behavior disapproving along with more positive teacher emotional tone) is associated with greater self-regulation gains. Quantity of instructional features, specifically the proportion of time teachers and students spent in literacy and mathematics-related activities, predicts greater self-regulation gains. Finally, teachers who instruct with a higher overall instruction level (e.g., basic, inferential, highly inferential) have students with greater self-regulation gains. These results suggest that characteristics of the preschool environment can enhance children's self-regulation skills development. These results have important implications for the design of future early childhood interventions.

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