This study examined the way children's engagement with teachers, peers, and tasks in the preschool classroom was related to their gains in self-regulation skills. Children's positive engagement with their teachers was related to increases in their compliance and cognitive control. Children's active and sustained engagement with classroom activities was linked with gains in their emotion management. The combination of children's positive and prosocial engagement with teachers or peers and high task engagement or low negative classroom engagement was linked with greater gains in self-regulation.

The preschool period is a critical time in children's social and emotional development. During these formative years, students substantially improve skills that play a vital role in their social and academic success later in life. In particular, children develop abilities to cope with their environment through self-regulation strategies such as focusing attention, managing emotions, and controlling behaviors.

The gap in self-regulation skills among children entering the school system is wide, with students from impoverished backgrounds often at a disadvantage relative to their peers. This disparity tends to increase over time. Encouragingly, positive interactions that occur in early childhood classroom environments can attenuate the gap, but existing studies have focused on the overall classroom environment rather than the individual experiences of children, making it difficult to understand the specific mechanisms of development.

For these reasons, it is important to define the factors that contribute to self-regulation at an individual level within the classroom. This may help develop an understanding of how different types of interactions promote critical skills and give all children the necessary tools to succeed in school.

The Study

Researchers examined whether children's engagement in the classroom was related to their development of self-regulation skills in a sample of low-income, primarily Hispanic children, a largely understudied group in previous literature.

Participants included 341 children in 100 classrooms across a large urban area of the Southwestern United States. The average child age was slightly less than four-years old. Fifty percent of the children were female, 67% were Hispanic, and the sample was primarily low-income. Four children were randomly selected from each classroom to participate.

**Self-Regulation** includes the ability to manage emotions, control behaviors, and focus attention.

**Emotion Regulation**
The ability to modulate or enhance emotional arousal. This includes self-strategies such as taking deep breaths and the use of external aids such as an emotion thermometer used by a teacher to cue a child to be aware of his or her emotions.

**Behavior Regulation**
The ability to control behavior. This includes following directions (compliance), stopping impulsive responses, and monitoring one's own behavior. In the classroom this includes sitting quietly during a story and walking instead of running to go outside.

**Cognitive Regulation/Executive Functioning**
The ability to plan, focus, and direct attention to tasks and the ability mentally hold and manipulate information. In preschool, this includes children's ability to remember classroom rules (e.g., using inside voices) even when they are excited and to remember multi-step routines (e.g., what to do to get ready for snack).

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To measure self-regulation in both the fall and spring of the school year, trained data collectors directly assessed and observed children's compliance/executive functioning as well as emotion and behavior dysregulation using the Preschool Self-Regulation Assessment. Children's positive and negative engagement with teachers, peers, and tasks were observed in the context of their regular preschool functioning using the Individualized Classroom Assessment Scoring System (InCLASS). In addition, teachers used the Emotion Regulation Checklist and parts of the Teacher-Child Rating scale to assess students' emotion regulation and task orientation.

Findings

Results indicated that combinations of children's engagement with teachers, peers, and/or tasks was related to their development of self-regulation skills. Specifically, positive engagement with teachers was related to increases in compliance and executive control. Researchers also found that children's active engagement in classroom activities was linked with gains in their emotion regulation skills. Furthermore, children with positive teacher and task engagement showed increases in teacher reports of self-regulation. There were no main effects linking children's positive engagement with peers to their development of self-regulation skills during preschool.

Combined aspects of children's engagement were also associated with gains in self-regulation skills. Specifically, children made greater gains in task orientation when they were actively engaged in classroom tasks and were positively engaged with teachers. In addition, children made greater gains in task orientation when they were positively engaged with peers and had low negative classroom engagement. Furthermore, children who were high in negative classroom engagement but demonstrated positive teacher engagement showed greater reductions in dysregulated behavior. Unexpectedly, for children who had low levels of negative classroom engagement, positive engagement with teachers was not linked with changes in dysregulated behavior. Finally, for children who tended to display low task engagement, higher positive peer engagement was linked with greater reductions in dysregulated behavior. Again, unexpectedly, we found that for children who tended to display higher negative classroom engagement, positive peer engagement was not supportive of their gains in self-regulation.

Implications

By systematically observing children's individual engagement in the preschool classroom, researchers can better understand ways to help children learn to focus attention, manage emotions, and control behaviors—skills that are critical for later success in school and life. Findings support the idea that children's engagement with other individuals and with classroom activities can support development of self-regulation skills. The fact that children's engagement with teachers and peers moderated the association between other aspects of children's engagement and gains in self-regulation supports the theory that children's development of self-regulation skills is dependent upon positive and prosocial interactions with other individuals. These results, in concert with recent classroom-based interventions that have been shown to increase young children's self-regulation skills, can be used to inform professional development aimed at supporting teachers in fostering children's self-regulation skills in the early education classroom environment.

Engagement refers to how a child interacts with different aspects of the classroom environment. The inCLASS measures engagement using four domains:

**Positive Teacher Engagement:** the extent to which the child shares a positive connection with the teacher, seeks out the teacher, has conversations with the teacher, and responds positively to the teacher's presence.

**Positive Peer Engagement:** the extent to which a child shares a positive connection with peers, is warmly received by peers, shows socially aware behaviors, displays leadership, and/or engages in conversation with peers.

**Positive Task Engagement:** the extent to which a child is attentive, enthusiastic, inquisitive, confident, and/or persistent with tasks and classroom activities.

**Negative Engagement:** the extent to which the child is noncompliant and aggressive toward the teacher, uncooperative toward peers, and impatient and impulsive, talks excessively, and unable to keep one's hands to self.