

Final Report
Fall 2012

Peabody Research Institute
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Self-Regulation Measurement Study



From 2009-2012, you participated with us in a research study in Middle Tennessee to find out how the ability to pay attention and stay on-task in the classroom is related to academic success. We created a set of assessments appropriate for preschool children that predict achievement through kindergarten. This report to parents and teachers describes our main findings.

Introduction to the Project



This study was designed to find measures of self-regulation for Pre-K children that are predictive of academic achievement gains and easily used in Pre-K settings. Self-regulation is recognized as a critical skill for young children but there are no commonly accepted measures of it. Such measures are needed for evaluating the effect of preschool programs on the development of this important set of skills. In addition, these measures can screen young children to identify those with weak self-regulation skills that put them at risk for poor academic achievement.



What is Self-Regulation?

When a young child begins school, there are a number of skills that are needed to transition to formal learning and to succeed academically. Early literacy and counting skills provide an important foundation for later reading and mathematics. Also, social skills enable children to interact appropriately with peers and adults at school. There is an additional set of learning skills that allows children to engage in and benefit from the learning tasks and activities they encounter at school. These skills are called **self-regulation**, and research has shown that they have an important influence on a child's success in school.

Self-regulation skills include:

- Attending to instruction and classroom activities
- Remembering instructions and carrying them out
- Problem solving
- Asking for help when needed
- Controlling impulses

Finding a way to measure Self-Regulation

Our goal was to find a series of direct assessment measures to accurately measure these important self-regulation skills. First, we observed children's responses to an initial set of 12 measures and determined which of these was most related to their academic achievement. We also looked at whether or not the measures were too difficult for younger children or became too easy for older children. Using these criteria, we narrowed our initial set to six that met all of our criteria. These measures relate to academic achievement and can be used with both younger and older children.

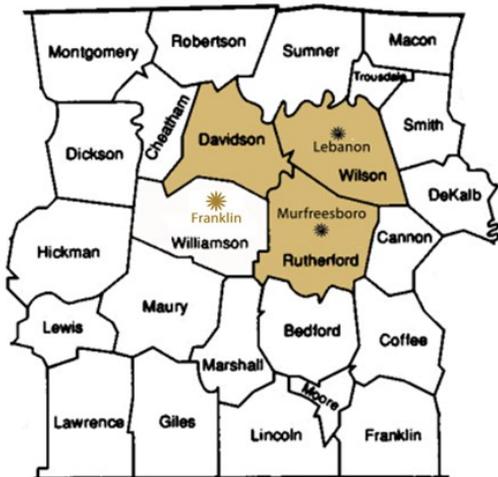
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About the participating counties:

The Self-Regulation Measurement study was fortunate to have participants from Franklin Special School District, Lebanon Special School District, Murfreesboro City Schools, Rutherford County School System, and Wilson County School District as well as five United Way community child care centers in Davidson County.

Tennessee



DISTRICT	NUMBER OF CHILDREN IN FIRST WAVE	NUMBER OF CHILDREN IN SECOND WAVE
Franklin Special School District	28	N/A
Lebanon Special School District	102	92
Murfreesboro City Schools	95	86
Rutherford County School System	134	77
Wilson County School District	105	106
United Way Centers	71	N/A
Total	535	361

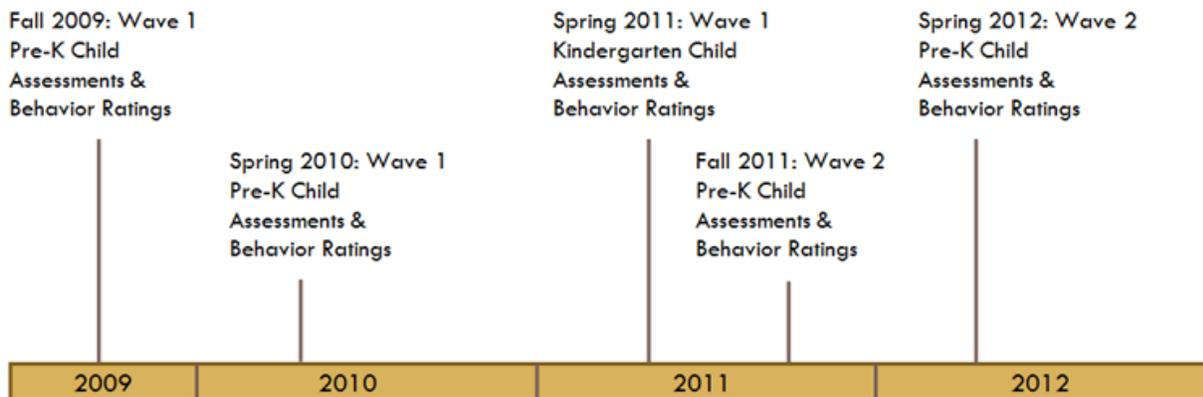


About the participating children:

- In the first wave, 535 children participated during their pre-kindergarten year. In the second wave, 361 children participated in their pre-kindergarten year.
- 488 children from the first wave were tested again at the end of kindergarten.
- The children were four and a half years old when the study began.
- About half the children are boys, and half are girls.

Timeline

Below is the timeline for the Self-Regulation Measurement Study. This timeline shows the Wave 1 child assessments and behavioral ratings which were conducted from Fall 2009 through Spring 2011 and Wave 2 which was conducted during Fall 2011 and Spring 2012.



Children's Progress in Pre-K and Kindergarten



Children were assessed on the following skills:

Self-Regulation

- ◆ Inhibitory control– the ability to control behavior to remember instructions and do the opposite
- ◆ Attention– the ability to attend to and sustain focus on a learning task
- ◆ Working Memory– the ability to temporarily store and manage information required to carry out tasks

Academic Achievement

- ◆ Literacy– letter word identification, vocabulary, and finishing sentences
- ◆ Mathematics– counting, mathematical concepts, and early math problems

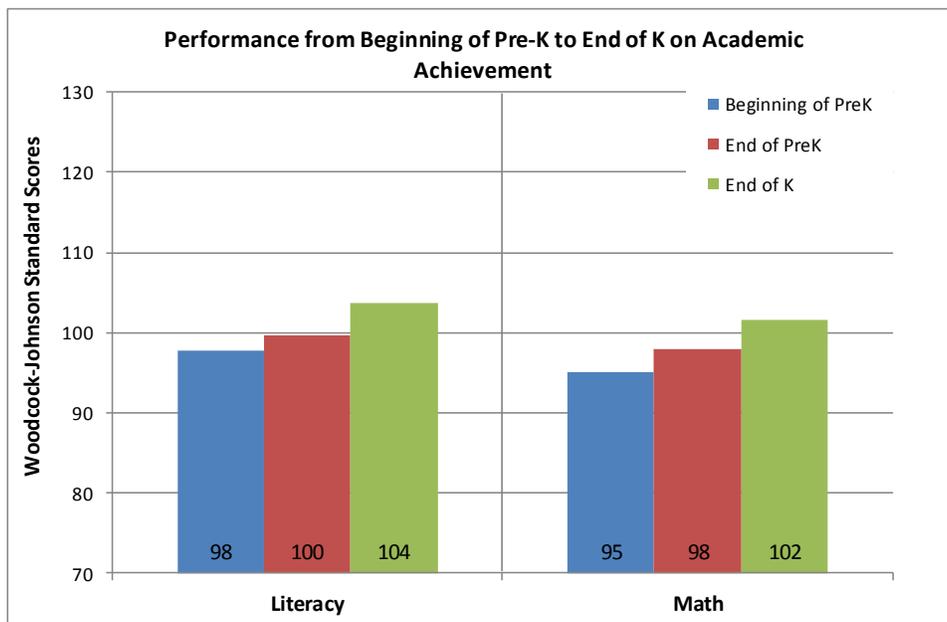
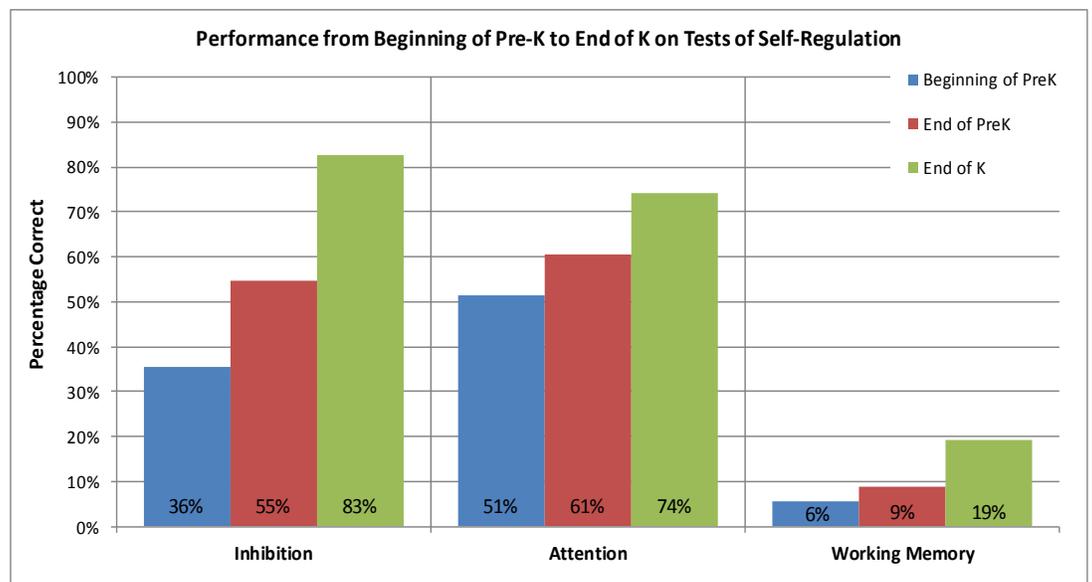
Teachers rated children's behavior in the classroom:

At the beginning of Pre-K:

- ◆ 67% of children rated as having the skills to work independently, comply with and remember instructions, and complete activities

At the end of Kindergarten:

- ◆ 75% of children rated as having the skills to work independently, comply with and remember instructions, and complete activities



Note on Achievement Scores:

Literacy and Math scores are presented in standard scores which are adjusted for a child's age. The average score is 100 at each time point.

Improvement means more growth than children had been making in the previous year.

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Children's Self-Regulation Contributes to Later School Achievement:

The assessments of self-regulation in Pre-K predicted the achievement gains children made in kindergarten in literacy and math. Moreover, gains in self-regulation over the Pre-K year predicted gains in achievement through kindergarten. Children who learn to regulate their learning behaviors gain more from classrooms. Helping children learn to regulate their learning behaviors is an important goal for Pre-K education and for families when children are young. Some of these characteristics of children are established before children enter the prekindergarten classroom, but our study showed that the Pre-K experience in many classrooms improved children's self regulatory skills. This Pre-K effect should help children achieve in school later on.

Adults are important for helping children develop these important skills. It is important to remember that the goal for children should be that they regulate their own learning behaviors, what we call "internal control." Often adults are afraid of letting go of *external* control and children never learn to control themselves. When they do, children become better learners in general.



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About Our Organization:

The mission of the Peabody Research Institute is to conduct research aimed at improving the effectiveness of programs for children, youth, and families.

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