

A Literature Review of the Behavioral and Academic Outcomes Attributed to INSIGHTS into  
Children's Temperament

by

Taylor Bair

Honors Thesis

Appalachian State University

Submitted to the Department of Psychology  
in partial fulfillment of the requirements for the degree of

Bachelor of Science

May 2021

Approved by:

**Sandra G Gagnon**

---

Sandra Gagnon, Ph.D., Thesis Director

*Pam Kidder-Ashley*

---

Pam Kidder-Ashley, Ph.D., Second Reader

---

Andrew Smith, Ph.D., Departmental Honors Director

## **Abstract**

In this paper, we examine the literature regarding Sandee McClowry's social-emotional learning intervention, INSIGHTS Into Children's Temperament. INSIGHTS focuses on promoting children's, parents', and teachers' understanding of temperament, which is a biologically based, stable trait that influences the way individuals respond to their environments. By increasing their understanding and teaching participants about effective behavior management strategies, the intervention aims to improve the goodness of fit between children and their environments. INSIGHTS uses puppets, vignettes, discussions, and other methods to explain why certain children react to the same situations in different ways. Eight studies of INSIGHTS were conducted by its developer to evaluate different outcomes, among which were changes in children's behaviors and academic achievement. The findings from the studies reviewed here demonstrate significant reductions in disruptive behaviors and increased academic achievement, specifically for boys and students with certain temperament types, such as high maintenance and shy children. These results support INSIGHTS' potential to address and improve difficult behaviors and academic achievement in schools and at home.

## **A Literature Review of Behavioral and Academic Outcomes Attributed to INSIGHTS Into Children's Temperament**

Children's social-emotional skills are critical as they enter school, and without effective skills, they tend to have greater difficulty learning. Teachers often are not provided with the tools and training to address social-emotional skills in the classroom (McClelland, 2017). In order to promote young children's social emotional development, it is beneficial to provide interventions that target these skills so that the children can succeed as they move through school. Identifying effective intervention strategies that promote young elementary school children's social-emotional development is important for meeting many concerns that parents and educators have regarding children's behavior and learning.

INSIGHTS Into Children's Temperament is an evidence-based preventive intervention that provides a multifaceted approach to supporting children's academic and behavioral development. INSIGHTS helps teachers, parents, and children understand why children react differently in the same situations and encourages adults to focus on the contribution of individual differences to children's behaviors, rather than just trying to punish the behaviors. The purpose of this in-depth literature review was to analyze existing findings about the effects of INSIGHTS on children's behavioral and academic outcomes.

### **Social-Emotional Learning**

Social-Emotional Learning (SEL) programs are school-based preventive interventions that are aimed at improving cognitive, affective, and behavioral skills that are linked to success in academic performance (Elias, et al., 1997; Jones & Bouffard, 2012; O'Connor, et al., 2014b). SEL programs focus on improving emotional recognition and management, acknowledging others' perspectives, starting and maintaining positive relationships, and improving critical

thinking skills when experiencing dilemmas. Motivation, connectedness, and self-regulation are key focal points of SEL programs and are vital to successful learning. With a growing need for “soft skills,” such as social awareness and relationship competence, social-emotional learning helps address these needs in a school setting (Buckle, n.d.). There are many SEL programs that have been researched, but INSIGHTS is unique in its focus on individual differences in temperament.

## **Temperament**

Temperament is a stable, biologically based trait that influences the ways in which individuals respond to their environments. Often referred to as emotional responsiveness or behavioral style, temperament can be understood as the “how” of behavior (Thomas et al., 1968). Numerous researchers have conceptualized temperament in different ways. Regardless of the model, most theorists agree that temperament is an individual difference trait that is rooted in biology, is apparent early in life, and is generally stable across different situations throughout the lifespan (Bates, 1989; Goldsmith et al., 1987; Keogh, 2003; Kristal, 2005). Thomas and colleagues’ (1968) model, which grew out of their classic New York Longitudinal Study, has been widely researched and served as a starting point for other models. Their model comprises nine traits, including activity level, rhythmicity, approach or withdrawal, adaptability, intensity of reaction, threshold of responsiveness, quality of mood, distractibility, and attention span and persistence. Individuals will fall somewhere on the continuum in each of these categories. Based on different constellations of these traits, children in Thomas et al.’s study were classified as easy, difficult, or slow-to-warm (most, but not all children fell into one of those categories). Knowledge of a child’s temperament can help predict the types of behaviors a child will display in various situations (Thomas et al., 1968).

As mentioned, various conceptualizations of temperament exist. Buss and Plomin (1975) defined temperament as inherited tendencies in the nature of individuals' activity, emotionality, and sociability (Keogh, 2003). Rothbart and Derryberry (1981) conceptualized two temperament dimensions: reactivity and self-regulation. Caspi and Silva (1995) identified five temperament types: confident, under controlled, inhibited, reserved, and well adjusted, and Rothbart (2011) conceptualized three broad types of temperament: surgency/extraversion, negative affect, and effortful control.

McClowry (2002) introduced four temperament types that incorporate some of the traits from other theories: negative reactivity, task persistence, approach/withdrawal, and activity. Based on different combinations of these dimensions, children are classified as either social/eager to try, industrious, high maintenance, or cautious/slow to warm. See Table 1 for descriptions of these classifications. Although most children fit into one of these categories, some children do not fall neatly into just one (e.g., some children are considered high maintenance and cautious/slow to warm). These four traits form the basis for INSIGHTS into Children's Temperament.

### **Goodness of fit**

Thomas et al. (1968) found that, along with temperament, the environment has a major impact on children's behavior. Based on the quality of their fit with their environments, children with different temperaments can experience positive or negative academic and behavioral outcomes. Goodness of fit is the degree of compatibility between a child's temperament and the demands and expectations of their environments (Chess & Thomas, 1986; Kristal, 2005). A good fit exists when the environment and the people in it work with the child's temperament, not against it. This compatibility is important, because it can significantly impact the relationships

children experience with those who care for them. The way in which an adult reacts to a child can influence whether there is a good or poor fit (Kristal, 2005). For example, if a child who struggles with transitioning from one task to another is given warnings that the activity is coming to an end and they will start something else soon, they may experience a good fit. If a child is energetic, allowing that child to expend some of that energy before having to sit down to a quiet activity may provide a good fit. A poor fit may exist if an energetic child is constantly told to sit still and is punished for not doing so, without ever having an opportunity to burn off some of their energy. In addition to temperament, goodness of fit is a foundational principle underlying INSIGHTS.

### **INSIGHTS Intervention**

INSIGHTS into Children's Temperament is a social-emotional learning intervention designed to improve the social and behavioral development of at-risk kindergarten and early elementary school children. INSIGHTS is grounded in theory and research in temperament, student-teacher relationships, prevention, and goodness of fit, and includes programs for parents, teachers, and students. INSIGHTS instructs parents, teachers, and children about individual differences in temperament, which can enhance goodness of fit and improve behavioral and academic outcomes for children (Cappella, et al., 2015; McClowry, et al., 2005; McClowry, et al., 2010; McCormick, et al., 2019; McCormick, et al., 2015; O'Connor, et al., 2012; O'Connor, et al., 2014a; O'Connor, et al., 2014b).

### **The Teacher and Parent Programs**

The parent and teacher programs include ten, 2-hour, weekly sessions that incorporate didactic instruction, video vignettes, discussion, and homework assignments. Videos portray children who exemplify McClowry's (2002) four temperament types: Social/Eager to Try, High

Maintenance, Industrious, and Cautious/Slow to Warm Up, and also depict common child behavioral difficulties, parent and teacher responses, and behavior management strategies. The teacher and parent programs are the same, except that the teachers are presented with empirical literature underlying INSIGHTS. The programs are divided into three parts: Part 1: The 3Rs of Child Management, Part 2: Gaining Compliance, and Part 3: Giving Control. An outline of the program is provided in Table 2, and the frequencies and durations of sessions are provided in Table 3.

Part 1: The 3R's of Child Management teaches parents and teachers to Recognize, Reframe, and Respond (Sessions 1-3). *Recognizing* a child's temperament is being able to see the differences in how different children react to different situations. *Reframing* a child's temperament is being able to adjust one's own perspective to see how children's different reactions can be regarded not only as concerns, but also as strengths. The caregiver's *response* can be optimal, adequate, or counter-productive to the results they are trying to achieve. The first 3 sessions introduce the concept of temperament, including its influences on children's behaviors and adults' responses.

During Part 1, parents/caregivers complete the School-Age Temperament Inventory (SATI; McClowry, 1995, 2002) while teachers provide ratings for each student on the Teacher School-Age Temperament Inventory (T-SATI; McClowry & Lyons-Thomas, 2009), to measure their children's temperaments. These measures provide profiles that are based on McClowry's four temperament dimensions: Negative Reactivity, Task Persistence, Approach/Withdrawal, and Activity. Different combinations of those dimensions determine a child's classification as either Industrious, cautious/slow to warm up, high maintenance, or social/eager to try. Parents and teachers use the information from the rating scales as the basis for the discussions for the

remaining sessions. For example, a teacher rates one of their students on the T-SATI and that student becomes the "target" child they focus on in discussions and reflections. For homework, participants observe their child/target student to identify temperamental traits and examine their own responses to the children's behaviors. See Table 4 for information about these measures.

Part 2: Gaining Compliance (Sessions 4-7) includes sessions on gaining control, giving recognition, disciplining school-age children, and emphasizing that teachers and parents are people too. Teachers and parents learn about strategies for disciplining non-compliant behavior, addressing repeated behavior problems, and promoting social skills. Part 2 also encourages the use of scaffolding and stretching to help children. Scaffolding is when adults break down challenging situations or tasks into more manageable pieces. Stretching is when a child is challenged but supported so that they can learn to better regulate their reactions to difficult situations.

Part 3: Giving Control (Sessions 8-10) focuses on allowing the children some autonomy and fostering independence. This part is meant to encourage independence, competence, and self-responsibility in the children. The final session focuses on putting all the information from the previous weeks together.

### **The Child Program**

The child program incorporates puppet and drama therapy with video vignettes, problem-solving, and discussions, and is implemented in the classroom in two parts. In Part 1, children learn about temperament and empathy. The puppets demonstrate that each person acts differently in different situations and that people's unique temperaments make some situations easy and others challenging. Puppets illustrate the four temperament types: Hilary the Hard Worker (Industrious), Gregory the Grumpy (High Maintenance), Fredrico the Friendly (Social/Eager to



Try), and Coretta the Cautious (Cautious/Slow to Warm Up), and video vignettes portray their responses to typical daily challenges. Table 1 describes the puppets.

In Part 2, children engage with the puppets and their classmates to learn problem-solving strategies. The puppets, the facilitator, and the teacher provide instruction about self-regulation strategies and engage the children in discussions of hypothetical dilemmas. The children learn to generate solutions to the dilemmas using a stoplight as a guide, in which red is when the dilemma is recognized, yellow is when one thinks about and makes a plan to solve the dilemma, and green is where the individual tries out their plan. Children then continue to work on applying the problem-solving and self-regulation strategies they learned to manage real life dilemmas. In the classroom, the puppets may be used to resolve problems that occur during and between the classroom sessions.

## **Method**

The individual studies described here were conducted as part of large-scale, federally funded clinical trials. The main, overall study is described immediately below, with each individual study described later.

### **Participants**

The large-scale study examined data from a sample of 435 students from 122 kindergarten and first-grade classrooms, primarily over the course of kindergarten and first-grade, with one study evaluating effects through second grade. Student participants were recruited at two points: 329 were recruited in kindergarten and another 106 were recruited during first-grade. Teacher and parent reports of the children's behaviors and academics were collected, along with information about teacher practices, teacher and parent efficacy, and student-teacher relationships. Students came from 22 low-income, urban elementary schools, and 87% qualified

for free or reduced-price lunch programs. Most of the parents were the biological mothers of the children, with only about 8% fathers and 7% kinship guardians. The reported races of the children were 75% Black, non-Hispanic; 16% Hispanic, non-Black; 1% White, and the rest were “other.” The participants’ demographics were similar to those of the student body of each school.

## **Procedures**

The studies focused on children in kindergarten, first, and second grades (ages 4-9 years) and their parents and teachers. Teachers were recruited through 30-minute information sessions. Parents were then recruited from participating teachers’ classrooms during parent-teacher conferences and other contact methods. Once consent was received from parents, assent was obtained from the children.

At the start of each study, behavioral and academic baseline data were collected for the children in both the INSIGHTS intervention group and the control group, which received a supplemental read-aloud program. The INSIGHTS intervention group received ten, 2-hour afternoon sessions that are attended by the parents and teachers, and ten 45-minute classroom sessions for the children. Each study described here measured different variables at different time periods.

## **Facilitator training**

INSIGHTS is a manualized intervention and, as such, adherence to standardized procedures, formal training, and certification are required. Each INSIGHTS facilitator completed a graduate-level course about the theory and research underlying INSIGHTS. The facilitators had graduate degrees in psychology, education, or educational theater and had varied racial and ethnic backgrounds. Over the course of the study, they were trained to deliver the intervention;

experienced facilitators trained new facilitators. Each facilitator conducted all three programs (parent, teacher, and child/classroom) in their entirety in their assigned school.

### **Fidelity**

Intervention fidelity was formally monitored and assessed throughout implementation through consistent training, supervision, and regular fidelity checks using a standardized fidelity checklist. Every facilitator followed scripts, used material checklists, documented sessions, and received continued training and supervision. Any clinical concerns or deviations were discussed in weekly meetings with the developer, and supervision focused on any challenges related to the conducting of sessions, implementation logistics, and participant concerns. The parent and teacher sessions were videotaped and reviewed for content coverage and facilitation effectiveness (Hulleman & Cordray, 2009). In every study, an experienced, masters-level psychiatric nurse conducted fidelity coding to determine the percentage of curriculum covered in the parent and teacher sessions and rated the individual facilitator's skills on a 5-point scale.

### **The Control Condition**

The control condition was a supplemental, after-school read-aloud program. Half the schools participating in the study were assigned to this read-aloud control condition. The students attended 10, weekly 45-minute, after-school reading groups during the same period that the INSIGHTS schools were receiving the intervention. During the control program, teachers read different books aloud to the children each week and then had the children talk and draw pictures about the story. For many of the later studies that will be described, the parents and teachers also attended two 2-hour workshops about methods for improving early reading literacy.

## **INSIGHTS' Effectiveness**

A variety of methods were used to study the effects of INSIGHTS intervention on academic and behavioral outcomes for children, including observations, teacher and parent perception ratings, and standardized tests. See Table 4 for descriptions of the measures used.

Although most of the studies described examined numerous variables, only child behavioral and academic outcomes are reviewed here.

### **Children's Behavioral Results**

In the first study of INSIGHTS, McClowry et al. (2005) used parent/caregiver interviews to examine INSIGHTS' impact on negative and aggressive behaviors in a sample of 148 children ages 5 to 9 years with and without diagnosed disruptive behavior disorders. Prior to implementation of the intervention, parents completed the Disruptive Disorder module of the computerized version of the Diagnostic Interview Schedule for Children (DISC-IV) (Shaffer et al., 2000), which identified 30 of the 91 children in the treatment group (33%) and 12 of the 57 children in the control group (21%) as meeting diagnostic criteria for Attention Deficit/Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), and/or Conduct Disorder (CD). Of note, over half of the diagnosed children (57%) were identified as having ADHD. Parents/caregivers and teachers participated in their respective INSIGHTS programs. To assess the children's behavior problems observed at home, caregivers responded via interview to the Parent Daily Report (PDR) (Chamberlain & Reid, 1987) at baseline and every 2 weeks during the 10-week implementation. The results indicated that parents of children in the INSIGHTS group reported greater decreases in their children's behavior problems at home over the five time periods data were collected than parents of children in the read-aloud control group.

Additionally, INSIGHTS had an even greater effect on the group of diagnosed children than on those without diagnoses.

In a second study, McClowry and colleagues (2010) examined INSIGHTS' effectiveness in reducing negative and aggressive classroom behaviors, as well as improving teachers' classroom management skills and perceptions of students' competencies (cognitive, physical, and peer acceptance). To measure disruptive behaviors, 28 first-grade and 14 second-grade teachers completed the Sutter-Eyberg Student Behavior Inventory (SESBI; Eyberg & Pincus, 1999) for a sample of 151 children, ages 5 to 9 years (74 in first-grade, 42 in second grade). The SESBI measures four subsets of disruptive behavior: overt aggression toward others, emotional-oppositional behavior, attentional difficulties, and covert disruptive behavior. Teacher reports were gathered at baseline and after the intervention. At baseline, boys were reported as having more behavior problems than girls. The post-intervention results suggested that boys in INSIGHTS showed significantly greater improvement in overt aggression toward others and fewer attentional difficulties than girls in INSIGHTS and compared to all children in the read-aloud control group. The results did not show any significant improvements for girls in any of the four subsets of disruptive behaviors. It also was found that teachers in INSIGHTS reported fewer problems managing boys' disruptive behaviors in the classroom than teachers in the read-aloud control group. In contrast, there was not a significant difference in their management of girls' behaviors. In this study, girls appeared not to show the same benefits as boys, which may have resulted from the higher baseline levels of behavior problems in boys, which gave them more opportunity to improve.

In another study, rather than comparing the INSIGHTS group to the read-aloud control group, O'Connor et al. (2012) compared the effectiveness of two versions of INSIGHTS to

examine INSIGHTS' effectiveness in decreasing child disruptive behaviors. In one version, which was considered the parallel model, the parent and teacher sessions were conducted separately, as usual. As with other studies of INSIGHTS, sessions covered the same content, with the exception that the teachers also learned about the empirical literature underlying the program. The other version, which was considered the collaborative model, presented half of the sessions to the parents and teachers together in one group and covered more content about social competencies.

Caregivers provided ratings of their children's negative and aggressive behaviors on the Parent Daily Report (PDR; Chamberlain & Reid, 1987) at baseline and every 2 weeks during the 10-week implementation. At baseline, teachers completed the T-SATI (McClowry & Lyons-Thomas, 2009) to identify the students' temperaments. In this study, O'Connor and colleagues included "Intermediate" among the other temperament classifications. Intermediate children were neither high maintenance nor industrious. In the sample of 202 children, ages 4 to 9 years, it was found that, for both groups, disruptive behaviors decreased from pre-intervention to post-intervention. The greatest decreases were found in the collaborative model. Findings also revealed differences in outcomes for children with different temperaments. Children who were rated by their teachers as having high maintenance and intermediate temperaments showed faster decreases in disruptive behaviors than industrious students during the intervention but demonstrated higher levels of disruptive behaviors at post-intervention. This finding could be explained by the fact that students with high maintenance and intermediate temperaments started out with higher levels of disruptive behaviors than industrious students. Also, high maintenance and intermediate students in the collaborative model showed greater decreases in disruptive

behaviors than high maintenance and intermediate students in the parallel program (O'Connor et al., 2012).

To evaluate INSIGHTS' impact on younger children's disruptive behaviors and academic development, O'Connor et al. (2014b) used teacher reports with a sample of 435 kindergarten and first-grade students, ages 4 to 7 years. The child, parent, and teacher programs were implemented during the second half of kindergarten and the first half of first-grade. Prior to implementation, teachers completed the T-SATI (McClowry & Lyons-Thomas, 2009). To measure the frequency of students' disruptive behaviors, they also completed the SESBI (Eyberg & Pincus, 1999) at baseline and at five time periods over kindergarten and first-grade. Although the results did not indicate a statistically significant difference in the behavioral outcomes at the final data collection time, there was evidence that INSIGHTS reduced behavior problems in the treatment group during the intervention. In contrast, behavior problems increased for students in the control group. The results of the studies of academic outcomes are presented in the Academic Outcomes section below.

To learn about how INSIGHTS impacts children with challenging temperaments, McCormick et al. (2015) conducted a study of INSIGHTS' effects on behavior problems, along with student-teacher relationships, classroom engagement, and off-task behavior, in children with high maintenance temperaments. At baseline, parents of 435 kindergarten and first-grade children filled out the School-Age Temperament Inventory (SATI; McClowry, 1995, 2002). To measure disruptive and off-task behaviors, 122 teachers filled out the SESBI (Eyberg & Pincus, 1999) at 5 time points: 1) winter of kindergarten year (baseline); 2) late spring of kindergarten year (post-intervention); 3) fall of 1st grade prior to 1st grade intervention; 4) winter of 1st grade after intervention; and 5) late spring of 1st grade. Measures of the other outcome variables noted

above also were completed but are not reported here. The results from the analyses of disruptive behaviors indicated that children in the INSIGHTS group who had high maintenance temperaments displayed decreases in disruptive behaviors over time, whereas high maintenance children in the control group demonstrated an increase in disruptive behaviors.

Additional results from the McCormick et al. (2015) study indicated that off-task behaviors decreased for high maintenance children in INSIGHTS but remained relatively stable for high maintenance children in the read-aloud control. Off-task behaviors, some of which were operationalized as disruptive in nature (e.g., leaving seat, distracting others with movements, calling out, and whispering), were measured by partial interval recording using the Behavioral Observation of Students in Schools (BOSS; Shapiro, 2004). INSIGHTS also improved student-teacher relationship quality (closeness and conflict), which was measured by the 15-item teacher-reported Student-Teacher Relationship Scale (STRS; Pianta, 2001), such that teachers in INSIGHTS reported higher quality relationships with their students by the final data collection point. Relationship quality seemed to be a mediating factor that explained a significant number of the INSIGHTS' effects on disruptive and off-task behaviors.

In a 2015 study, Cappella, et al. examined the effects of INSIGHTS on behaviors at the classroom level, rather than the student level. Observations from 120 kindergarten and first-grade classrooms were used to evaluate class wide behavioral engagement and off-task behaviors. The BOSS (Shapiro, 2004) was completed by a single, trained, data collector in each classroom, who evaluated the behaviors of the students during a morning academic period. Observations were conducted before and after treatment, during the fall and spring of kindergarten and first-grade years. The results did not appear to show any significant main effects for off-task behavior or class-wide engagement, but there were significant grade moderation effects. Kindergarten



classrooms in the INSIGHTS condition showed higher levels of class-wide behavioral engagement than kindergarten classrooms in the attention control condition. First-grade classrooms in the INSIGHTS condition showed lower levels of off-task behaviors compared to first graders in the read-aloud control condition.

### **Behavioral Outcomes Conclusions**

Across the studies, it was found that there are moderate effects of INSIGHTS on students' disruptive behaviors and off-task behaviors. INSIGHTS appears to positively impact the behaviors of children in kindergarten and in first and second grades. In the home, children seemed to show improvements in disruptive behaviors at the individual level (McClowry, et al., 2005), but in the classroom these effects seem to be less pronounced.

Different effects have been observed in different grade levels (Capella et al., 2015). For kindergarteners, INSIGHTS increased behavioral engagement but did not decrease off-task behaviors, whereas for first-graders, INSIGHTS decreased off-task behaviors but did not impact behavioral engagement. These findings suggest that teachers who participate in INSIGHTS may experience different behavioral outcomes, based on their grade level.

While there was some evidence that INSIGHTS reduced overall behavior problems over time in students in the classroom (O'Connor, et al., 2014b), these results were mostly seen for children with high maintenance temperaments (McClowry, et al., 2010; McCormick, et al., 2015). It appears that the most prevalent effects were seen in students with high maintenance temperaments and disruptive behavior disorders, and based on the McClowry, et al. (2010) study, boys seem to show greater improvements than girls. The findings regarding high maintenance temperaments and students with disruptive behavior disorders, so far, are encouraging, since these children tend to be at high risk for discipline problems and difficulty

with relationships. Evidence supporting a collaborative model of INSIGHTS, compared to the standard parallel model, demonstrated even greater improvement in children's behaviors, especially those children with high maintenance temperaments (O'Connor et al., 2012). Overall, there seems to be some evidence to suggest that INSIGHTS decreases disruptive behaviors, but there needs to be more research evaluating how different temperaments react to the treatment and its efficacy in the home versus at school.

### **Academic Outcomes**

In the first study that examined academic outcomes, McClowry and colleagues (2010) measured teachers' perceptions of students' academic and physical competencies. Forty-two first- and second-grade teachers completed the Teacher's Rating Scale of Child's Actual Competence and Social Acceptance (TRS; Harter, 1985) on a sample of 116 children, ages 5 to 9 years. The teachers provided ratings on the TRS, which measures cognitive and physical competence and peer acceptance, at baseline and after the intervention was completed. The results indicated that teachers' ratings of students' competencies increased from pretest to post-test for boys in the INSIGHTS group, but not for those in the control group. Increases in the perceived competence of girls were not observed.

In another study of academic outcomes, O'Connor et al. (2014a) examined the efficacy of INSIGHTS on the academic competence of kindergarten and First-grade students with shy temperaments. At baseline, parents of 345 students, ages 4-7 years, filled out the SATI (McClowry, 1995, 2002) to identify the students' temperaments. Sixty kindergarten and 62 First-grade teachers rated their perceptions of the students' academic skills and critical thinking abilities on the Academic Competency Evaluation Scale (ACES) (DiPerna & Elliott, 2000). ACES data were collected at three different time periods: at baseline when the children were in

the second half of kindergarten (January or February), after the intervention at the end of kindergarten, (May or June), and during the first half of their first-grade year (October or November).

Pretest results indicated that children with shy temperaments were rated lower by their teachers in critical thinking, language arts, and math than children with different temperament types. There was a significant interaction between treatment, time, and shyness for critical thinking and math skills, meaning that the type of treatment, the amount of time, and whether the student was shy played a role in the effects on critical thinking and math skills. Shy students in the INSIGHTS group showed statistically significant growth in critical thinking and stability in math skills, but not language arts skills, between kindergarten and first-grade, whereas shy children in the control group demonstrated declines in both skills. To explain the difference between the math and language arts results, O'Connor et al. (2014a) proposed that the small-group nature of the read-aloud program may have benefited the shy children in the control group. Additionally, behavioral engagement was identified as a mediating factor, such that when shy children demonstrated more effort, persistence, concentration, and interest in classroom activities, they tended to receive higher ratings of critical thinking and math skills than children who were less engaged. This effect was greater for shy students in INSIGHTS than for their peers in the afterschool reading program.

O'Connor et al. (2014b) examined the effectiveness of INSIGHTS in supporting the academic achievement and sustained attention of a sample of 435 children, ages 4-7 years. To assess math and reading achievement, students completed the Applied Problems and Letter-Word Identification subtests from the Woodcock-Johnson III Tests of Achievement, Form B (WJ-III; Woodcock, McGrew, & Mather, 2001). Sustained attention was measured by the Leiter-

Revised Attention Sustained Task (Leiter-R; Roid & Miller, 1997). Data were collected at 5 time points: 1) winter of kindergarten year (baseline); 2) late spring of kindergarten year (post-intervention); 3) fall of 1st grade prior to 1st grade intervention; 4) winter of 1st grade after intervention; and 5) late spring of 1st grade.

Significant pretreatment differences were found, such that the reading achievement of children in INSIGHTS was significantly lower than that of children in the supplemental reading group. Over the five time periods that data were collected, it was found that math and reading skills and sustained attention increased for children in the INSIGHTS group, but by the final data collection point, which was at the end of the first-grade year, there was not a significant difference in the academic scores of children in INSIGHTS compared to children in the reading control group. Faster progress, however, was made by children in INSIGHTS in math and reading achievement. Elements of self-regulation, sustained attention and behavior problems were evaluated as potential mediators of academic achievement. Results showed that reading achievement for the INSIGHTS group was partially mediated by sustained attention and behavior problems, and math achievement was partially mediated by behavior problems (O'Connor et al., 2014b).

McCormick et al. (2019) used archival data on 1634 low- and high-income students in the fall of their kindergarten year to investigate the effects of INSIGHTS on the likelihood of receiving special education services or repeating a grade by the end of fifth grade. The results showed that students who participated in INSIGHTS were significantly less likely than the control group to receive special education services through the end of fifth grade, but there were no differences in grade retention. The authors proposed that the decrease in receipt of special education services may have resulted in part from improved student behaviors. They also

provided a potential explanation for the lack of significant differences observed in grade retention. They proposed that the strategies taught in INSIGHTS may not have been integrated into the classroom as intended, thereby reducing the impact on academic and behavioral skills that might have prevented students from being held back. McCormick and colleagues (2019) also evaluated whether INSIGHTS had differential effects for low- versus high-income students. Results indicated that students from low-income families who participated in INSIGHTS were less likely to receive special education services than low-income students in the read-aloud control condition. However, that finding did not emerge for higher-income students.

### **Academic Outcomes Conclusion**

The research reviewed here provides a broad picture of how INSIGHTS may impact different areas of academic achievement. Many outcome variables were examined, including perceived academic competence, math achievement, reading and language arts skills, critical thinking, receipt of special education services, and grade retention. While each study looked at different combinations of variables, INSIGHTS consistently showed significant improvements in most areas of academic achievement (McClowry et al., 2010; O'Connor et al., 2014a; O'Connor et al., 2014b; McCormick et al., 2019). It is especially noteworthy that students in INSIGHTS demonstrated more gains in reading than students in the control group, who were engaged in a supplemental reading program.

The positive impact INSIGHTS had on reducing special education services is promising. Although the same finding did not occur for grade retention, the authors' offered a plausible explanation, proposing that if INSIGHTS' strategies are not sufficiently integrated into the classroom the results may not emerge.

Many of the academic increases appear to be linked to behavioral improvements that result from INSIGHTS, such as the mediating effects of improved engagement or decreases in behavior problems (O'Connor et al., 2014a; O'Connor et al., 2014b; McCormick et al., 2019). The positive impact INSIGHTS has on children's self-regulation may also lead to improved interactions with their environment (goodness of fit) that can subsequently promote the development of their academic skills.

It is noteworthy that, across the studies, academic achievement was measured in a variety of ways. There may be inconsistencies between measures of perceived academic competence on the ACES (DiPerna & Elliott, 2000) and actual performance on the WJ-III Tests of Achievement (Woodcock, McGrew, & Mather, 2001) that make it challenging to generalize conclusions about the impact of INSIGHTS on children's academic skills. For example, if O'Connor et al. (2014a) had used standardized tests instead of teacher perceptions of academic competencies, they may have obtained more accurate information about the students' actual academic skills.

As was the case in the studies of behavioral outcomes, INSIGHTS seems to benefit boys' academic competencies more than girls. The differences in teachers' perceptions of boys' versus girls' academic competencies observed by O'Connor et al. (2014a) may be due in part to the way INSIGHTS helps teachers reframe their views about children's reactions in different situations. That reframing may have occurred more for male students, thereby leading to greater perceived competence (McClowry, et al., 2010). More studies are needed to compare INSIGHTS' effects for girls versus boys. INSIGHTS also seems to have differential effects for low- versus high-income students. Given the risks faced by many low-income children, those findings are promising.

Additional research is also needed to compare the impact of INSIGHTS on academic outcomes for children with various temperaments. Shy children in the INSIGHTS group showed greater improvements in critical thinking and math achievement than their shy counterparts in the control group, but they did not demonstrate greater improvement in reading achievement (O'Connor, et al., 2014a). Studies of behavioral outcomes demonstrated greater gains for students with high maintenance temperaments. It would be helpful to discover whether those children's academic skills benefit from INSIGHTS.

### **Conclusion**

Overall, studies of INSIGHTS Into Children's Temperament show significant improvements in behavioral and academic outcomes and suggest that INSIGHTS can make significant contributions to classroom interventions and instruction. Through its parent, teacher, and child programs, INSIGHTS addresses the importance of understanding temperament and the reasons people often react differently to the same event. By providing this information to all three groups, the intervention promotes acceptance and understanding, which helps improve children's social-emotional skills. These skills are important for improving behavior problems and relationship quality and seemingly, by extension, academic outcomes. When children have fewer disruptive behaviors, more time is used for learning and instruction, and when the relationship quality is improved, students are able to ask questions and have more meaningful conversations that promote socialization and academic improvement.

### **Limitations and Future Directions**

There are limitations to the current body of research that exists about INSIGHTS. The most prevalent limitation is that INSIGHTS intervention has not been compared to a "no treatment" control group. In each study, INSIGHTS is compared to a read-aloud control

condition. This after-school small reading group may produce its own effects on children's disruptive behaviors and academic performance, because children may gain skills through the attention provided by peers and adults in the small groups, additional reading exposure, and small group peer interactions. It is important that the effectiveness of INSIGHTS is compared to standard classroom practices to determine its true effectiveness, which may be even greater when compared to a no treatment control group.

Another limitation involves measurement. Two studies of academic outcomes measured academic competencies with parent and teacher reports, rather than direct measures of students' skills, such as standardized tests. Teacher perceptions may not align with the actual changes that occurred in the children's actual academic skills. Consequently, the use of teacher perceptions in those two studies may limit the ability to say with certainty that INSIGHTS improved the children's academic skills. However, it is possible that improving teachers' perceptions may influence their instruction. Using a standardized testing measure in addition to teacher ratings would help determine if teachers' perceptions align with students' actual academic improvements.

Further research is needed to address the aforementioned limitations. It also would be beneficial to compare INSIGHTS' effectiveness with different temperament groups and to further examine the collaborative model. The current studies were conducted with urban, low-income students, and additional research may be beneficial to see the effects on a wider variety of demographics, including rural and high-income populations. Other avenues of research include evaluating the long-term effects of INSIGHTS, the extent to which parents and teachers implemented INSIGHTS teachings after the intervention, and children's understanding of age-appropriate social situations. It also might be interesting to study the effects on bullying and peer



acceptance. Although current research is still limited, it is important that more studies are conducted in a wider array of areas to provide the best possible understanding of INSIGHTS and its effectiveness, as well as how it can best be implemented in classrooms to improve outcomes. As a social-emotional learning intervention, INSIGHTS provides the tools to help students further understand and adjust to the social and emotional demands of interacting with peers and adults and shows promise as a successful intervention for addressing behavioral and academic outcomes in young children.

## References

- Bates, J. E. (1989). Concepts and measures of temperament. In G. A. Kohnstamm, J. E. Bates, & M. K. Rothbart (Eds.), *Temperament in childhood* (pp. 321-355). John Wiley & Sons, Ltd.
- Buckle, J. (n.d.). *Social-Emotional learning (SEL): Everything you need to know*.  
<https://www.panoramaed.com/blog/social-emotional-learning-sel>.
- Buss, A. H., & Plomin, R. (1975). *A temperament theory of personality development*. Wiley-Interscience.
- Cappella, E., O'Connor, E.E., McCormick, M., Turbeville, A., Collins, A., & McClowry, S.G. (2015). Classwide efficacy of INSIGHTS: Observed student behaviors and teacher practices in kindergarten and first grade. *Elementary School Journal*, *116*(2), 217-241
- Caspi, A., & Silva, P. A. (1995). Temperamental qualities at age three predict personality traits in young adulthood: Longitudinal evidence from a birth cohort. *Child Development*, *66*, 486-498. doi:10.2307/1131592
- Chamberlain, P., & Reid, J. B. (1987). Parent observation and report of child symptoms. *Behavioral Assessment*, *9*(1), 97–109.
- Chess, S., & Thomas, A. (1986). *Temperament in clinical practice*. Guilford Press.
- DiPerna, J. C., & Elliott, S. N. (2000). *Academic competence evaluation scales*. Psychological Corporation.
- Elias, M. J., Zins, J. E., Weissberg, R. P., Frey, K. S., Greenberg, M. T., Haynes, N. M., Kessler, R., Schwab-Stone, M.E., Shriver, T. P. (1997). Promoting Social and Emotional Learning Guidelines for Educators. *Association for Supervision and Curriculum Development*.
- Eyberg, S.M., & Pincus, D. (1999). *Eyberg Child Behavior Inventory and Sutter-Eyberg Student*

*Behavior Inventory - Revised: Professional manual.* Psychological Assessment Resources.

Goldsmith, H.H., Buss, A.H., Plomin, R., Rothbart, M.K., Thomas, A., Chess, S., Hinde, R.A., & McCall, R.B. (1987). Roundtable: What is temperament? Four approaches. *Child Development, 58*, 505-529.

Harter, S. (1985). *The self-perception profile for children.* [unpublished manual]. University of Denver.

Hulleman, C.S., & Cordray, D.S. (2009). Moving from the lab to the field: The role of fidelity and achieved relative intervention strength. *Journal of Research on Educational Effectiveness, 2*, 88-110. doi:10.1080/19345740802539325

Jones, S.M., & Bouffard, S.M. (2012). Social and emotional learning in schools: From programs to strategies. *Social Policy Report, 26*(4)

Keogh, B. K. (2003). *Temperament in the classroom: Understanding individual differences.* P.H. Brookes.

Kristal, J. (2005). *The temperament perspective: Working with children's behavioral styles.* Baltimore, MD: Paul H. Brookes Pub.

McClelland, M., Tominey, S., Schmitt, S., & Duncan, R. (2017). SEL Interventions in Early Childhood. *The Future of Children, 27*(1), 33-47.  
<http://www.jstor.org/stable/44219020>

McClowry, S. G. (1995). The development of the School-Age Temperament Inventory. *Merrill-Palmer Quarterly, 41*, 271-285. doi:10.1007/s1230-009-9023-8

McClowry, S. G. (2002). The temperament profiles of school-age children. *Journal of Pediatric Nursing, 17*, 3-10. doi:10.1053/jpdn.2002.30929

- McClowry, S. (2020, November 07). Meet the kids. Retrieved March 11, 2021, from <https://insightsintervention.com/meet-the-kids/>
- McClowry, S. G., & Lyons-Thomas, J. (2009). *An examination of the construct validity and reliability of the Teacher School-Age Temperament Inventory*. Paper discussion presented at the American Education Research Association. San Diego, CA.
- McClowry, S. G., Snow, D. L., & Tamis-LeMonda, C. S. (2005). An Evaluation of the Effects of INSIGHTS on the Behavior of Inner-City Primary School Children. *The Journal of Primary Prevention, 26*(6). doi:10.1007/s10935-005-0015-7
- McClowry, S. G., Snow, D. L., Tamis-LeMonda, C. S., & Rodriguez, E. T. (2010). Testing the Efficacy of INSIGHTS on Student Disruptive Behavior, Classroom Management, and Student Competence in Inner City Primary Grades. *School Mental Health, 2*, 23-35. doi:10.1007/s12310-009-9023-8
- McCormick, M.P., Neuhaus, R.M., Horn, E.P., O'Connor, E.E., White, H.I., Harding, S., Cappella, E., & McClowry, S.G. (2019). Long-term effects of social-emotional learning on receipt of special education and grade retention: Evidence from a randomized trial of INSIGHTS. *AERA Open, 5*(3), 1-21. doi: 10.1177/2332858419867290
- McCormick, M.P., O'Connor, E.E., Capella, E., & McClowry, S.G. (2015). Getting a good start in school: Effects of INSIGHTS on children with high maintenance temperament. *Early Childhood Research Quarterly, 30*(A), 128-139. doi:10.1016/j.ecresq.2014.10.006
- O'Connor, E.E., Cappella, E., McCormick, M.P & McClowry, S.G. (2014a). Enhancing the academic development of shy children: A test of the efficacy of INSIGHTS. *School Psychology Review, 43*(3), 239-259.
- O'Connor, E., Cappella, E., McCormick, M., & McClowry, S. G. (2014b). An examination of the

- efficacy of INSIGHTS in enhancing the academic and behavioral development of children in early grades. *Journal of Educational Psychology*, 106(4), 1156-1169. doi: 10.1037/a0036615
- O'Connor, E., Rodriguez, E., Cappella, E., Morris, J., & McClowry, S. (2012). Child Disruptive Behavior and Parenting Efficacy: A Comparison of The Effects Of Two Models Of Insights. *Journal of Community Psychology*, 40(5), 555-572. doi:10.1002/jcop.21482
- Pianta, R. (2001). *Student–Teacher Relationship Scale–Short Form*. Psychological Assessment Resources, Inc.
- Roid, G. H., & Miller, L. J. (1997). *Leiter International Performance Scale - Revised: Examiner's manual*. Stoelting.
- Rothbart, M. (2011). *Becoming who we are: temperament and personality in development*. Guilford Press.
- Rothbart, M. K., & Derryberry, D. (1981). Development of individual differences in temperament. In M. E. Lamb & A. L. Brown (Eds.), *Advances in developmental psychology, Vol. 1* (pp. 37-81). Erlbaum.
- Shaffer, D., Fisher, P., Lucas, C. P., Dulcan, M. K., & Schwab-Stone, M. E. (2000). NIMH diagnostic interview schedule for Children Version IV (NIMH DISC-IV): Description, differences from previous versions, and reliability of some common diagnoses. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39(1), 28–38. <https://doi.org/10.1097/00004583-200001000-00014>
- Shapiro, E. S. (2004). *Academic Skills Problems: Direct Assessment and Intervention*. Guilford Publications.
- Thomas, A., Chess, S., & Birch, H. G. (1969). *Temperament and behavior disorders in children*.

New York University Press etc.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). *Woodcock-Johnson Psychoeducational Battery - Third Edition*. Riverside.

Table 1

*Puppets, Temperament Types, and Characteristics*

<b>Puppets</b>	<b>Temperament</b>	<b>Characteristics</b>
Gregory the Grumpy	High maintenance	<ul style="list-style-type: none"> <li>- High in Negative Reactivity</li> <li>- Low in Task Persistence</li> <li>- High in Activity</li> </ul>
Hillary the Hard worker	Industrious	<ul style="list-style-type: none"> <li>- Low in Negative Reactivity</li> <li>- High Task Persistence</li> <li>- Low in Activity</li> </ul>
Fredrico the Friendly	Social/Eager to Try	<ul style="list-style-type: none"> <li>- Low in Withdrawal</li> <li>- Low in Negative Reactivity</li> </ul>
Coretta the Cautious	Shy and Cautious	<ul style="list-style-type: none"> <li>- High in Negative Reactivity</li> <li>- High in Withdrawal</li> </ul>

*Note:* Summary of the puppets and the different temperaments addressed in INSIGHTS.

Table 2.

*Breakdown of INSIGHTS Intervention Sessions*

	Teacher/Parents	Students
Part 1: The 3R's of Child Management: Recognize, Reframe, and Respond (Sessions 1-3)	<ol style="list-style-type: none"> <li>1. Recognizing difference in child's temperament</li> <li>2. Reframing child's temperament into strengths and challenges</li> <li>3. Caregiver response led to different types of interactions</li> </ol>	The puppets are used to teach about the different temperaments and help children understand that different temperaments can make some situations easy and others more difficult for the individual.
Part 2: Gaining Compliance (Sessions 4-7)	<ol style="list-style-type: none"> <li>4. Gaining Control and compliance through management strategies</li> <li>5. Giving Recognition through reinforcement and promoting social competence</li> <li>6. Disciplining School-age Children based on temperament</li> <li>7. Parents and Teachers are people too and their needs need to be acknowledged</li> </ol>	Using the puppets, facilitator, and teacher, children are taught self-regulation strategies to resolve hypothetical situations.
Part 3: Giving Control (Sessions 8-10)	<ol style="list-style-type: none"> <li>8. Fostering Independence and Responsibility in children</li> <li>9. Reviewing Sessions 1-3 for more complex situations</li> <li>10. Putting all the session together with more complex situations</li> </ol>	Use discussion and the puppets to roleplay to resolve dilemmas that are being experienced in the daily lives of the children.

*Note:* Cappella, et al., 2015; McClowry, et al., 2005; McCormick, et al., 2015; O'Connor, et al., 2012; O'Connor, et al., 2014



Table 3

*Intervention Structure*

	Teachers	Parents	Students
INSIGHTS	10, 2-hour workshops	10, 2-hour workshops	10, 45-minute classroom sessions
Control	2, 2-hour workshops	2, 2-hour workshops	10, 45-minute after school meeting sessions

*Note:* Duration and frequencies of sessions in the studies.

Table 4

*INSIGHTS Samples and Measurement*

Studies	Subjects	Measures	Descriptions
<i>McClowry, S. G., Snow, D. L., &amp; Tamis-LeMonda, C. S. (2005)</i>	148 1st and 2nd graders, their parents, and 46 of their teachers	Parent Daily Report (PDR) (Chamberlain & Reid, 1987)	31 items that assess child negative and aggressive behaviors
		Diagnostic Interview Schedule for Children (DISC-IV) (Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000)	assesses three disorders: attention deficit hyperactivity, oppositional, and conduct
<i>McClowry, S.G., Snow, D. L., Tamis-LeMonda, C.S., &amp; Rodrigues, E.T. (2010)</i>	151 1st and 2nd graders (35 not included in analysis, resulting in 116 children), their parents, and 42 of their teachers	Sutter-Eyberg Student Behavior Inventory (SESBI) (Eyberg & Pincus, 1999)	36 item scale using two ratings: 7-point Likert-type scale for teachers to report how often behaviors occur and a yes or no scale to indicate if a behavior is problematic.
		Teacher's Rating Scale of Child's Actual Competence and Social Acceptance (TRS) (Harter, 1985)	Assesses teachers' perceptions of competence using 13 Likert-type items that create three subscales: cognitive competence, physical competence, and peer acceptance
<i>O'Connor, E., Rodrigues, E., Cappella, E., Morris, J., &amp; McClowry, S. (2012)</i>	202 kindergarten, 1st, and 2nd graders, their parents, and 82 of their teachers	Parent Daily Report (PDR) (Chamberlain & Reid, 1987)	31 items assessing behaviors seen in the home setting
		Teacher School-Age Temperament Inventory (T-SATI) (McClowry & Lyons-Thomas, 2009)	34-item, 5-point Likert-type scale of child temperament, evaluating the dimensions negative reactivity, task persistence, withdrawal, and activity

<p><i>O'Connor, E.E., Cappella, E., McCormick, M.P., &amp; McClowry, S.G. (2014a)</i></p>	<p>345 kindergarteners, their parents, and 122 kindergarten and 1st grade teachers</p>	<p>Academic Competency Evaluation Scale (ACES) (DiPerna &amp; Elliott, 2000)</p>	<p>Uses teacher perceptions to assess academic skills through three subsets: critical thinking, language arts, and mathematics</p>
		<p>Behavioral Observation of Students in Schools (BOSS) (Shapiro, 2004)</p>	<p>Assesses the frequency of students' behavioral engagement in academic activities using momentary time sampling</p>
		<p>School-Aged Temperament Inventory (SATI) (McClowry, 1995, 2002)</p>	<p>38-item, 5-point Likert-type standardized scale used to measure child's temperaments, reported by parents, based on four dimensions: negative reactivity, task persistence, withdrawal, and activity</p>
<p><i>O'Connor, E., Cappella, E., McCormick, M., &amp; McClowry, S. (2014b)</i></p>	<p>435 kindergarteners and first graders, their parents, and 122 of their teachers</p>	<p>School-Age Temperament Inventory (SATI) (McClowry, 1995, 2002)</p>	<p>38-item, 5-point Likert-type standardized scale used to measure child's temperaments, reported by parents, based on four dimensions: negative reactivity, task persistence, withdrawal, and activity</p>
		<p>Sutter-Eyberg Student Behavior Inventory (SESBI) (Eyberg &amp; Pincus, 1999)</p>	<p>36 item scale using two ratings: 7-point Likert-type scale for teachers to report how often disruptive behaviors occur</p>
		<p>Applied Problems and Letter-Word ID subtests of the Woodcock-Johnson III Tests of Achievement, Form B (WJ-III) (Woodcock, McGrew, &amp; Mather, 2001)</p>	<p>The Applied Problems subtest evaluates math achievement through simple counting skills and analyzing and solving mathematical word problems. The Letter-Word ID subtest evaluates reading achievement through letter naming and word decoding skills.</p>

		Leiter-Revised Attention Sustained Task (Leiter-R) (Roid & Miller, 1997)	Assesses children's ability, in a repetitive task, to sustain attention to detail
<i>McCormick, M.P., O'Connor, E.E., Capella, E., &amp; McClowry, S.G. (2015)</i>	435 kindergarten and 1st graders, their parents, and 122 of their teachers	School-Aged Temperament Inventory (SATI) (McClowry, 2002)	38-item, 5-point Likert-type standardized scale used to measure child's temperaments, reported by parents, based on four dimensions: negative reactivity, task persistence, withdrawal, and motor activity
		Sutter-Eyberg Student Behavior Inventory (SESBI) (Eyberg & Pincus, 1999)	36 item scale using two ratings: 7-point Likert-type scale for teachers to report how often disruptive behaviors occur
		Behavioral Observation of Students in Schools (BOSS) (Shapiro, 2004)	Assesses the frequency of behavioral engagement and off-task behaviors during academic activities using momentary time sampling
		Student-Teacher Relationship Scale (STRS) (Pianta, 2001)	15-item, 5-point Likert-type scale assessing the teacher-child relationship quality
Cappella, E., O'Connor, E.E., McCormick, M., Turbeville, A., Collins, A., & McClowry, S.G. (2015)	120 kindergarten and first-grade classrooms	Behavioral Observation of Students in Schools (BOSS) (Shapiro, 2004)	Assesses class-wide student engagement and off-task behavior during academic activities using momentary time sampling
McCormick, M.P., Neuhaus, R.M., Horn, E.P., O'Connor, E.E., White, H.I., Harding, S.,	1634 kindergarten students	Receipt of Special Education Services	Administrative data was used at each grade level from kindergarten through 5th grade to determine if special education services were received for non-physical disabilities

<p>Capella, E., &amp; McClowry, S.G. (2019)</p>		<p>Grade Retention</p>	<p>Administrative data was used to determine if a students' actual grade level was behind their expected grade level at any point between kindergarten and fifth grade, indicating that they had been retained</p>
---	--	------------------------	--

*Note:* Descriptions of the samples and measures from the studies of INSIGHTS.